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Faculty of Arts and Humanities

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Technologies of Immersive Experience and Contemporary Fashion Curation: The Study of Jewellery

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Abstract

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Abstract: Immersive experience technology refers to techniques that captivate an audience's attention, allowing them to fully immerse themselves in the display space. This technology provides multisensory stimulation and ensures consistency across different sensory modes. It maintains a balance between the challenge and the audience's ability to cope while providing exhibition information and interactive feedback. Additionally, the information presented through this technology should be of high quality and fidelity, with content that is clear and rich. Immersive experience technology also enables expansive visual coverage within the display space. For fashion curators and designers, it serves as an essential tool and method to showcase exhibits and is indispensable for contemporary fashion curation, making it a subject worth studying. In recent years, exhibitions have evolved as strategic and cultural tools for some luxury brands, with jewellery exhibitions being the primary focus of this thesis. Although innovative jewellery brand exhibitions have emerged, with fashion curators striving to bring breakthroughs through unique perspectives and approaches, the field still faces limitations from a broader perspective. As most of jewellery exhibitions still rely on traditional presentation methods, lacking deeper audience engagement and multisensory experiences. Thus, the central question of this research is how immersive technology can be effectively applied to jewellery exhibitions and the opportunities and challenges it presents for jewellery brands and exhibition institutions. To explore these questions, this thesis will employ a qualitative approach, using semi-structured in-depth interviews, case studies, and speculative design as primary research methods.

Current research shows that immersive technology has been applied in only a few fields, with no studies specifically examining its use in jewellery exhibitions. Therefore, this thesis is crucial and necessary for the fields of contemporary fashion curation and luxury branding. It not only deepens understanding and appreciation of immersive experience technology in contemporary fashion curation but also critically evaluates its impact on jewellery brands and exhibition institutions, contributing to the cultural and strategic development of luxury brands.

Keywords: Technologies of immersive experience, Immersive experience, Immersion, Contemporary fashion curation, Jewellery exhibitions, Jewellery brands.

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Research Thesis: Declaration of Authorship

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I declare that this thesis and the work presented in it are my own and has been generated by me as the result of my own original research.

I confirm that:

1. This work was done wholly or mainly while in candidature for a research degree at this University;
2. Where any part of this thesis has previously been submitted for a degree or any other qualification at this University or any other institution, this has been clearly stated;
3. Where I have consulted the published work of others, this is always clearly attributed;
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7. None of this work has been published before submission

Signature: .....Date:.....

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Definitions and Abbreviations

Jewellery .....Jewellery, while rooted in tradition, aligns with fashion due to its dynamic evolution, reflecting cultural shifts and serving as a medium of personal expression. It positions itself at the intersection of art, fashion, and commerce, offering a lens for understanding broader cultural and market dynamics.

Luxury Jewellery Brands ....These include fine jewellery and haute couture houses like *Tiffany & Co.* and *Cartier*, known for their heritage, craftsmanship, and use of rare materials, as well as mega-brands like *Gucci* and *Louis Vuitton* offering fashion jewellery.

Fine Jewellery and Haute Couture Jewellery These are jewellery categories known for their heritage, exceptional craftsmanship, and use of rare metals and precious stones, distinguishing them from other types of jewellery through their timeless value and cultural significance.

Fashion Jewellery .....Jewellery that features identifiable aesthetics, logos, and brand-defined colours, often accessible to a broader market segment, offered by mega luxury brands.

Jewellery Collections .....A brand's historical jewellery, combining legacy pieces and contemporary designs, reflecting cultural, aesthetic, and historical significance.

Distinctive Products .....Jewellery pieces that represent a brand's core identity, showcasing exceptional design and craftsmanship while communicating the brand's unique values and narrative.

Contemporary Fashion Curation It is a tool for cultural criticism, a means of building and disseminating fashion knowledge, and a strategy for promoting brands. It reflects society, the environment, and the curatorial visions of fashion curators. It is complex and constantly evolving with time.

Immersive Experience .....It's a deeply engaging multisensory experience in which users must fully invest themselves physically, psychologically, and emotionally. To achieve this, the audience must be open to and willing to integrate into new environments or scenarios. The sense of presence in virtual environments is heightened as the audience directs more attention to the experience. The design of the experience should balance challenge and user skill to prevent excessive boredom or frustration while providing immediate feedback to maintain focus and engagement. This emotional state can include both positive and negative reactions, such as fear or anxiety.

Technologies of Immersive Experience. The technologies of immersive experience are designed to attract the audience's attention and fully immerse them in the exhibition space. These technologies provide multiple sensory stimuli and ensure consistency across sensory modalities. The design must balance the challenge presented by the experience with the audience's ability to engage, while also delivering exhibition information and interactive feedback. The information provided should be of high quality and fidelity, with clear and rich content. Additionally, large-scale components should be included in the exhibition space, as a cramped or narrow field of vision can diminish the audience's sense of immersion.

Speculative Design.....Speculative design is a research method used to explore future technology developments and critique current practices (Auger, 2013). In this thesis, it is applied to propose future applications of immersive experience technologies in luxury jewellery exhibitions. The approach is grounded in logical trajectories of emerging technologies and tailored to specific needs. Using 3D MAX software, a speculative jewellery exhibition is designed, focusing on four key technologies: VR/AR, LED/laser projection, binaural audio, and interactive surfaces. The aim is to envision how these technologies can enhance cultural and educational experiences in future jewellery exhibitions.

Chapter 1 Introduction

1.1 Research Background

Contemporary exhibitions have become an integral part of the luxury experience, serving as both strategic and cultural tools for jewellery brands (Arnold, 2011; Hong and Hong, 2014; Jain, 2017; Jelinek, 2018; Pronitcheva, 2018; Schroeder *et al.*, 2014; Seo and Buchanan-Oliver, 2015; Yu and Ko, 2021). These exhibitions not only display products but also act as a medium for storytelling, brand positioning, and consumer engagement. This research project studies jewellery exhibitions in the context of contemporary fashion curation, as this thesis posits that the definition of jewellery is more aligned with fashion. While rooted in tradition, jewellery aligns with fashion through its dynamic evolution, reflecting cultural shifts and serving as a medium of personal expression. This focus highlights the interplay between art, fashion, and commerce, positioning jewellery exhibitions as a lens for understanding broader cultural and market dynamics. The notion of fashion curation is central to this thesis, as exhibitions serve as platforms to contextualise jewellery within broader cultural and fashion narratives.

This thesis will specifically focus on jewellery exhibitions of luxury brands, as jewellery, known for its inherent uniqueness and exclusivity, stands as one of the most significant luxury goods in the market (Dukes, 2021, para.10). The study will include fine jewellery and haute couture jewellery houses such as *Tiffany & Co.*, *Cartier*, *De Beers*, *Van Cleef & Arpels*, and *Bulgari* (Galton, 2021, p.36), as well as mega brands such as *Gucci*, *Hermes*, and *Louis Vuitton* (Galton, 2021, p.37). The position of branded jewellery in the luxury industry has steadily risen since the beginning of the 21st century, prompting luxury brands to expand into the fine jewellery market (Dukes, 2021, para.10). Fine jewellery and haute couture jewellery brands are defined by heritage, fine craftsmanship, and the use of rare metals and precious stones. The mega brands, on the other hand, offer fashion jewellery that features high levels of identifiable aesthetics, iconic patterns, logos, and the brand's defined colours (Galton, 2021, p.36). Even though fine jewellery has been impacted by affordable jewellery, it still retains an irreplaceable position in the jewellery field (Barthes, 2013, p.57). This resilience underscores jewellery's role as not only a luxury commodity but also a cultural artefact that reflects societal values and historical trends (Arnolds, 2011; Cappellieri *et al.*, 2020, p.1; Wu and Gao, 2011, p.1375).

As fashion becomes a dynamic force in the luxury industry and luxury brands continue to penetrate the fine jewellery market, what was once dominated by classical jewellery houses is now experiencing a revival and incorporating modern flavours and timeless materials (Galton, 2021, p.28). This transition highlights the evolving definition of luxury, where tradition meets

technology and sustainability and where younger consumers seek both exclusivity and innovation in their jewellery choices.

Furthermore, jewellery has long been a subject of debate in academic circles, and the ongoing discussion regarding its classification – whether as art or fashion – remains unresolved, highlighting the complexity and multifaceted nature of jewellery (Cappellieri *et al.*, 2020; Galton, 2021; Romãozinho, 2020; *et al.*). Scholars like Cappellieri *et al.* (2020) and Romãozinho (2020) argued that jewellery's artistic value lies in its craftsmanship and aesthetic innovation, while others like Galton (2021) emphasised its functional and commercial role within the fashion industry. This duality makes jewellery a unique lens for studying the convergence of art, fashion, culture, and commerce.

Fashion inherently involves "change", characterised by its dynamic and ever-evolving nature (Craik, 2009, p.5; Wilson, 2003, p.3). This continuous evolution reflects societal trends, cultural shifts, and individual expressions (Craik, 2009, p.5). Much like other luxury goods, jewellery is constantly changing, influenced by temporal variables and circumstances. It mirrors the fashion and trends of its historical context and serves a decorative function for the wearer (Lau, 2012). The design of luxury brand jewellery reflects this dynamic nature of fashion, positioning it as a subset of dress (Eicher and Roach, 1992). For instance, jewellery pieces often act as status symbols or expressions of cultural identity, resonating with trends while retaining their unique identity as timeless objects. As a fundamental component of fashion, dress encompasses all forms of body grooming and adornment (Eicher and Roach, 1992). It is a non-verbal communication system that includes not only clothing but also accessories, jewellery, and hand-held objects (Eicher and Roach, 1992). Consequently, fashion extends beyond clothing but also includes jewellery, ornaments, and other accessories. The focus of this thesis is the contemporary exhibition of luxury brand jewellery, which not only showcases the brand's cultural background, craftsmanship, and design but also reflects specific fashion trends and shifts. Therefore, this research will be conducted within the context of contemporary fashion curation.

This research project centres on the exploration of luxury jewellery collections and distinctive products within the context of exhibitions. The term "collection", in this context, encompasses a brand's historical jewellery, combining both legacy pieces and contemporary fine jewellery. These collections are more than just a display of precious objects; each jewellery item encapsulates its distinct era, carrying profound cultural, aesthetic, and historical significance (Cappellieri *et al.*, 2020, p.4). This significance emerges from the use of precious materials, unique aesthetic sensibilities, and exceptional craftsmanship that define the brand's legacy. Distinctive products, as defined in this research, are jewellery pieces that reflect a brand's core

identity, its cultural narratives, and showcase exceptional design and craftsmanship. These products often stand out due to their ability to communicate the brand's unique characteristics and serve as emblems of its values and vision.

Given the contextual importance of collections and distinctive products, investigating them as exhibits in jewellery exhibitions becomes a meaningful study, allowing for the narrative transmission of stories to the audience. Luxury jewellery collections serve as mirrors reflecting the history and culture of the respective brand, while distinctive products illuminate brand characteristics, cultural elements, and exceptional design and craftsmanship. From a narrative perspective, luxury jewellery collections and distinctive products emerge as curators' primary choices, thus constituting the focal point of this research project. Subsequent case studies in Chapters 6 and 7 and the Speculative Design proposed in chapter 8 will be developed around these two categories.

Advances in technology have become one of the most critical components in the change of fashion curatorial concepts. Specifically, the advent of technologies of immersive experience has revolutionised fashion exhibitions (Grau, 2003). The technologies of immersive experience discussed in this thesis include augmented reality (AR), virtual reality (VR), projection, and interactive panoramic digital screens. These serve as the primary components for creating immersive experiences. Additionally, other technologies, such as audio devices and lighting systems, function as auxiliary tools to enhance the overall experience. These technologies enhance the sensory engagement of visitors with exhibited objects, fostering deeper connections and more engaging experiences. Immersive experiences are not just about visual interaction; they create a deeply engaging multisensory experience where users fully invest themselves physically, psychologically, and emotionally. Through this immersive approach, exhibitions move from passive encounters to dynamic, interactive experiences, transforming the relationship between curators, designers, and visitors. This thesis will examine the integration of immersive experiences in luxury jewellery exhibitions, focusing on how they transform traditional static displays into dynamic, interactive engagements, as explored in the case studies and speculative design chapters. Through the case studies (Chapters 6 & 7) and speculative design (Chapter 8) chapters of this thesis, the aim is to examine how immersive experience technologies can create a deeper connection between the audience and jewellery exhibits. This will demonstrate how these technologies transform exhibitions into dynamic, interactive experiences, redefining relationships among curators, designers, and visitors.

In this thesis, immersive experience technology is defined as a set of tools and techniques that fully engage the audience in an exhibition. These technologies offer multiple sensory stimuli, creating a cohesive experience that engages sight, sound, and even touch. It is important that

the design of these technologies strikes a balance between presenting information and maintaining the audience's ability to process and engage with it. Immersive technologies should provide high-quality, rich content while maintaining a spatial experience that doesn't overwhelm the audience.

The concept of contemporary fashion curation has evolved, shifting its primary focus from the exhibit to the audience (Hansen *et al.*, 2019; Melchior, 2014; Pecorari, 2018). Today, fashion curators are tasked with creating exhibitions that engage and attract diverse audiences, using immersive technologies to enhance interactivity and deepen the impact of their curation. These technological tools are not merely accessories; they have become central to the way curators convey their ideas, disseminate fashion knowledge, and promote brands (Caggianese *et al.*, 2018; Conn, 2010; Debo, 2017; Loscialpo 2016; Vänskä and Clark, 2018; *et al.*). On the other hand, a significant challenge for luxury brands is to serve the luxury concept and offer unique services (Jelinek, 2018). Consequently, luxury brands must adopt new approaches, leveraging the latest technologies to engage consumers and build a loyal customer base (Armitage, 2019; Duggan, 2001; Jelinek, 2018).

For museums and exhibition institutions, the integration of immersive technologies presents significant advantages. They offer a novel means of attracting attention, increasing visibility, and reaching wider audiences. These technologies transform museums and exhibition spaces into more engaging environments, turning them into cultural and entertainment hubs where visitors can unwind and experience exhibitions in a more relaxed, interactive setting (Gilbert, 2002; Lorentz, 2006; Lucas, 2016; Soliman *et al.*, 2017; *et al.*). Additionally, the rise of online immersive experiences has further dissolved the barriers of physical space, allowing institutions to engage global audiences in unprecedented ways (Loscialpo, 2016).

For jewellery brands, technologies of immersive experience provide a multi-sensory experience for consumers, enhancing the luxury experience and creating a compelling sales proposition (Jelinek, 2018). These technologies help establish the concept of brand value for consumers and position luxury brands as strategic tools (Jelinek, 2018). Moreover, immersive technologies enable brands to connect meaningfully with their heritage, values, and customers (Jelinek, 2018). They can attract a larger audience, expand potential consumer bases, and help spread brand culture (Duggan, 2001; Jelinek, 2018). Additionally, these technologies mitigate transportation risks and reduce transfer costs (Pescarin *et al.*, 2018). Based on the above significance of immersive experience technology, this research project believes that it is necessary to apply and study the technology of immersive experience in luxury jewellery exhibitions.

In addition to the technological transformation of exhibitions, it is important to recognise the broader institutional trend in which museums and cultural institutions increasingly collaborate with luxury and fashion brands. This convergence of cultural and commercial interests has become a defining feature of contemporary exhibition practice. As shown in Chapter 2.7, for museums, such partnerships offer financial stability, attract new audiences, and support innovation; for brands, they provide cultural access to heritage contexts traditionally associated with public trust. These collaborations demonstrate a structural shift toward experiential and brand-oriented exhibition formats, where institutional authority and market identity intersect. This institutional development provides an essential backdrop for this study, as it highlights how immersive technologies are increasingly mobilised at the intersection of culture, commerce, and experience in jewellery brand exhibitions.

However, most existing jewellery exhibitions rely on traditional static display methods, showcasing jewellery in locked glass cases, jewellery pads, risers, saddles, or on partial mannequins such as hand or neck models (Pegler *et al.*, 2018, p.316). While these methods are effective in ensuring the safety of valuable jewellery, they make the pieces inaccessible to audiences, limiting interaction and engagement (Lim and Kim, 2018). To address this limitation, fashion curators could consider applying technologies of immersive experience, which allow visitors to virtually interact with jewellery, enriching the experience without compromising the security of physical exhibits.

Moreover, the current types of jewellery exhibitions are uniform, primarily focused on commercial purposes like promotion and sales (Jain, 2017), which often limits their artistic value, though some exhibitions are beginning to adjust in this regard. Lim and Kim (2018, p.172) further classify existing jewellery brand exhibitions into two main types, which are quite limited: retrospectives and product exhibitions, most of which blend these themes in a composite form.

The static nature of these displays is further challenged by the rapid development of the jewellery industry and constant changes in fashion. Angeletti *et al.* (2024) argued that fashion should be presented dynamically, with jewellery designed for dynamic wear rather than being showcased on rigid models. Dynamic displays enable viewers to perceive the interaction between jewellery and the human body, appreciating the combined effects of shapes, materials, design concepts, and intricate craftsmanship. As jewellery brands innovate with pieces featuring multiple ways of wearing and dynamic, interactive elements, traditional display methods have become increasingly inadequate (Lim and Kim, 2018). Examples such as Van Cleef's "Pass-partout" necklace and Chanel's collaboration with Iribe, producing transformable jewellery, underscore the need for more flexible exhibition formats (Cappellieri, cited in Romãozinho, 2020, p.334). Similarly, innovations in materials and designs, which extend

beyond precious metals and gems, highlight the insufficiency of static displays in showcasing contemporary jewellery.

Jelinek (2018) demonstrates that a financial or business-oriented background is not a priority for institutions focused on non-commercial exhibitions, such as those in museums or public galleries. In these contexts, the primary considerations are the aesthetic quality of the exhibition and the experience it offers to the audience. However, in some instances, institutions may prioritise commercial interests by allowing brands to appoint external curators directly or collaborate with exhibition staff, which can compromise the educational purpose of exhibitions. Exhibitions, therefore, need to be curated carefully to establish a brand's presence in contemporary fashion curation, enhancing credibility by connecting it with cultural heritage while balancing commercial and non-commercial objectives (Kapferer, 2015, cited in Jelinek, 2018, p.297).

Despite the advancements in immersive experience technology, critical academic research in this area remains sparse. While some jewellery brands, such as Tiffany & Co. and VCA (a fashion curation agency), have experimented with immersive technologies in their exhibitions, these efforts have largely been underexplored in scholarly literature. This gap in the literature highlights the need for more comprehensive studies that critically analyse the effectiveness of immersive technologies in transforming jewellery exhibitions, both from the perspective of curators and brands. This thesis addresses this gap by critically examining the application of immersive technologies in luxury jewellery exhibitions, aiming to provide actionable insights into how these technologies can redefine exhibition practices.

1.2 Research Gaps, Contributions, Objectives and Questions

Current research indicates that in the realm of contemporary fashion curation, the technologies of immersive experience are primarily studied for their applications in 3D modelling for dynamic displays and digital archive storage to preserve fashion heritage (Andò *et al.*, 2023; Angeletti *et al.*, 2024). While some scholars (Permatasari and Kalbaska, 2022) investigated how digital media and communication technologies disseminate the intangible heritage of fashion in museums and exhibitions, Permatasari and Kalbaska (2022) focused on the knowledge, values, and culture behind the exhibits rather than the tangible aspects of the fashion items themselves. However, they did not specifically address the technologies of immersive experience or concentrate on luxury brand jewellery exhibits. Therefore, this study positions itself as an exploration centred on technology and practice, with a particular focus on the application of immersive technologies in jewellery exhibitions. Its primary aim is to enhance audience experience and sensory interaction. While the research acknowledges the relevance

of broader curatorial discussions, such as narrative authority, reflexivity, and the ethical dimensions of brand collaborations, these issues are not the central focus here.

However, it is important to acknowledge that contemporary jewellery exhibitions do not exist in isolation from wider ethical and historical debates. Recent scholarship has highlighted how curatorial practices aligned with brand strategy can risk narrative selectivity or the omission of complex histories surrounding jewellery production and provenance. Studies by Hofmeester and Grewe (2016) trace the colonial origins of precious materials and the global circulation of luxury goods, while Campolmi (2016) discusses the curatorial responsibility to address sourcing ethics, labour practices, and the cultural implications of exhibiting luxury artefacts. These perspectives provide an essential contextual framework for understanding the socio-political dimensions of jewellery curation. However, this thesis deliberately focuses on the technological and experiential aspects of exhibition-making, rather than undertaking a full ethical or postcolonial critique. Acknowledging these broader debates helps to define the scope and boundaries of this study and situates its contribution within the wider academic discourse on jewellery and fashion curation.

Nevertheless, this research situates its technological investigation within the wider institutional context in which museums and luxury brands are increasingly intertwined. The growing collaboration between public cultural institutions and private luxury houses signals a paradigm shift in exhibition-making, where curatorial and commercial objectives are negotiated through spatial design, audience engagement, and immersive experience. This shift redefines how exhibitions function as hybrid cultural–economic spaces, simultaneously communicating heritage and promoting brand value. Recognising this context clarifies the rationale for focusing on the technological and practical dimensions of immersive exhibitions: it allows the thesis to address how these tools operate within the cooperations, the realities of contemporary museum–brand partnerships. At the same time, the discussion deliberately refrains from a full institutional or political critique, keeping the emphasis on the creative and curatorial implications of technological integration.

Moreover, the technologies of immersive experience present certain challenges for exhibition institutions and jewellery brands. These organisations and jewellery brands need to adjust their budgets and teams to meet both exhibition and technical requirements, emphasising multi-party collaboration to achieve optimal results (Conn, 2010; Debo, 2017). Exhibitions must also balance entertainment and education to avoid excessive criticism, ensuring that audiences are entertained while also gaining educational insights about the exhibition. Additionally, the use of the technologies of immersive experience raises audience expectations (Gilbert, 2002). Meeting these heightened expectations is a crucial consideration for museum exhibition institutions and

brands. Furthermore, the incorporation of virtual technologies does not eliminate the need for physical exhibits (Grau, 2003; Moloney, 2018; Pescarin *et al.*, 2018). Finding effective ways to integrate physical exhibits with virtual technologies remains an important issue. This thesis seeks to address these challenges by analysing how immersive experience technologies can be optimally integrated into jewellery exhibitions in the Speculative Design of Chapter 8, overcoming current limitations and ensuring a balance between physical and virtual elements.

Therefore, this thesis aims to address these gaps in the academic field by critically analysing the status and role of the technologies of immersive experience in luxury brand jewellery exhibitions within the context of contemporary fashion curation. The contributions of this research lie in investigating the specific applications of immersive technologies in luxury jewellery exhibitions, a topic largely unexplored in current literature; exploring the integration of physical and digital experiences to enhance cultural storytelling, brand positioning, and consumer engagement within the realm of fashion curation; filling in the analytical framework for the use of immersive experience technology in academia and providing guidelines for fashion curators to use immersive experience technology in the curating of luxury brand jewellery exhibitions in the industry. In addition, this thesis hopes to expand the research in this field so that when people think of fashion curation, they will not only think of dress or dress brands but also think of jewellery and related brands.

The objectives of this project are:

To understand the contribution and challenges of immersive experience technologies to the cultural and strategic development of luxury jewellery brands and the evolution of contemporary fashion curation.

To examine the current application of the technologies of immersive experience in luxury brand jewellery exhibitions.

To offer recommendations for the future development of technologies of immersive experiences, providing guidelines for the effective application of this technology for jewellery brands and fashion curators.

This thesis raises the following research questions:

(1) How can the technologies of immersive experience be defined in the context of contemporary luxury jewellery exhibitions?

(2) What is the current state of jewellery exhibitions in the luxury industry and the field of contemporary fashion curation?

(3) What role do the technologies of immersive experience play in contemporary luxury jewellery exhibitions?

(4) How can these technologies contribute to jewellery exhibitions within the context of contemporary fashion curation?

(5) What is the necessity of applying these technologies, and what are the associated problems and challenges?

1.3 Structure of This Thesis

To address these research questions, this thesis begins with a literature review presented in Chapter 2: Jewellery Exhibitions Within Contemporary Fashion Curation and Chapter 3: Technologies of Immersive Experience in Jewellery Exhibitions. Chapter 2 establishes the significance and role of exhibitions for jewellery brands, demonstrating the importance of studying jewellery exhibitions in this thesis. It defines the status of jewellery as part of the fashion domain and situates jewellery exhibitions within the context of contemporary fashion curation. Additionally, it explores the definition of contemporary fashion curation, tracing its evolution and examining the pivotal role of technology in this transformation. Chapter 3 introduces the concept of immersive experiences and identifies their role in jewellery exhibitions. It clarifies the requirements for achieving immersive experiences through technology, analysing the potential, challenges, and current state of research regarding their application in jewellery exhibitions.

Chapter 4 outlines the methodology adopted in this thesis, which includes case studies, interviews, and speculative design. It provides a rationale for selecting these methods and details the research process and procedures. Following this, Chapter 5: Professional Opinions on the Immersive Experience Technology of Jewellery Exhibitions presents a thematic analysis of the interview results. It engages in a discussion that compares these professional insights with the perspectives identified in the literature review. This qualitative analysis explores the views and recommendations of contemporary fashion curators, jewellery exhibition organisers, jewellery brand professionals, and immersive technology experts regarding the application of these technologies in jewellery exhibitions. It identifies discrepancies between expert opinions and existing literature and discusses their implications.

Chapters 6 and 7 focus on two case studies: Tiffany & Co.'s "Vision and Virtuosity" (2022) exhibition and three immersive jewellery exhibitions curated by VCA (2023). These case studies critically analyse the effectiveness and applicability of immersive technologies in jewellery exhibitions from a curator's perspective. In Chapter 8, a speculative jewellery exhibition design

is proposed, synthesising insights from the literature review, case studies, and interviews. This speculative design aims to offer recommendations for the future application of immersive experience technologies in jewellery exhibitions. The chapter seeks to achieve the ultimate goal of the study: to provide guidance for future developments in this field for fashion curators, technology experts, museum institutions, and luxury jewellery brands.

Given the limited number of jewellery and fashion exhibitions utilising these technologies, the study focuses on examples from the past decade, including the duration of this research project. This timeframe ensures contemporary relevance while offering a sufficient number of cases for analysis.

Chapter 2 Jewellery Exhibitions within the Contemporary Fashion Curation

This chapter begins by highlighting the significance of this research project by critically discussing the importance of exhibitions for jewellery brands. Following this, the chapter explores the status of jewellery and the definition of contemporary fashion curation. It is observed that the concept of fashion curation has evolved constantly. Consequently, the chapter concludes by analysing the changes in fashion curation from four aspects and examining the underlying reasons for these transformations.

2.1 Exhibitions for Jewellery Brands

Exhibitions are crucial for jewellery brands, as underscored by scholars, serving as a integral part of the luxury experience (Jelinek, 2018; Seo and Buchanan-Oliver, 2015; Yu and Ko, 2021), which is not only a strategic tool (Hong and Hong, 2014; Jain, 2017; Pronitcheva, 2018; Yu and Ko, 2021) but also a cultural tool for jewellery brands (Jelinek, 2018; Lim and Kim, 2018; Schroeder & *et al.*, 2014; Yu and Ko, 2021). Understanding how exhibitions function strategically and culturally for jewellery brands is critical to exploring how these experiences can be enriched or transformed through the integration of immersive experience technologies, which is one of the focuses of this research. Therefore, research and development in jewellery exhibitions will contribute to enhancing and expanding consumers' luxury experience with jewellery brands while strengthening both the strategic and cultural approaches of these brands.

Firstly, exhibitions are a part of the luxury experience. Jelinek (2018, p.294) pointed out that the new concept of luxury has shifted from traditional conspicuous consumption to luxury experience consumption. Multi-sensory experiences embed the long-term strategy of brand differentiation and position in the minds of consumers (Jelinek, 2018, p.294). Jelinek (2018) said that this "tangible" brand expression can be used as a means of communicating "intangible" brand characteristics, such as values, image and identity, which can generate and maintain customer loyalty, build relationships and contribute to brand positioning. This is supported by Seo and Buchanan-Oliver (2015, p.90), who also believed that the luxury experience is an essential way to increase brand value. The experience area reinforces the image of luxury brands and becomes an important part of luxury marketing (Seo and Buchanan-Oliver, 2015, p91).

Yu and Ko (2021, p.2) analysed that consumers often share different brand experiences through social media, and potential consumers have gained luxury brand experiences through social

media. With this trend, luxury brands began to focus on luxury experiences, providing this experience to consumers through different cultural spaces, and exhibitions are one of the important cultural spaces (Yu and Ko, 2021). In addition to the exhibition space, there are also cafes and restaurants set up by luxury brands, Yu and Ko's (2021, p.8) research showed that the exhibition provides consumers with a luxury experience that is more informative, reliable, and interactive than cafes and restaurants. Therefore, luxury brands open their own galleries and showrooms to enhance the brand experience. In this way, they elevate their brand as their own art, open exhibitions to consumers, and deliver value and image through the brand experience (Yu and Ko, 2021). This further underscores the necessity of this thesis, as enhancing the exhibition experience aligns with the prevailing trends and demonstrates their growing importance in the luxury brand landscape.

Secondly, the exhibition is an effective means of publicity for jewellery brands. A jewellery exhibition, if properly planned, can generate plenty of news coverage for stores and events, and this will help jewellery brands gain recognition and improve their reputation in that place (Jain, 2017). Similarly, Hong and Hong (2014, p.864) believed that events (exhibitions, charity events) and brand ambassadors could provide consumers with effective means of promotion, not just limited to the advertisement media, or print media. Events can provide consumers with brand awareness and a luxury experience. In other words, exquisite and selective planning and implementation are crucial in order to perfectly match the dream and value of the brand (Hong and Hong, 2014). Schroeder *et al.* (2014, p.22) supported the idea that exhibitions are an alternative marketing strategy to connect with consumers. Not all brands need to rely on traditional promotions, such as advertising and fashion shows. Research on the application of immersive experience technologies in exhibitions holds great potential as an innovative promotional tool (Jelinek, 2018). By offering consumers an immersive luxury experience through the use of immersive technologies in exhibitions, this approach has the capability to surpass the reach and effectiveness of traditional advertising methods.

Exhibitions can make jewellery more accessible. Hong and Hong (2014) said that events held at art museums and art centres have made luxury jewellery more accessible to the public. Furthermore, the exhibition can also improve accessibility in terms of the understanding and resonance of the jewellery brand. Through this kind of event, the history and culture of the product and brand can be understood and can improve the consensus of the brand. However, Pronitcheva (2018, p.226) stated that for luxury goods, the challenge is not only to make them "easily accessible", but mainly to attract new customers to make up for lost former ones.

Thirdly, museums and galleries are places where culture and art are spread. Jelinek (2018, p.296) believed that luxury has a purely commercial interest in art, and collaboration with

exhibitions is one of the common manifestations. The association between exhibitions and luxury can be seen as an art form, a strategic tool to gain attention, promote the brand, and sell the products. This kind of collaboration could benefit both museums and luxury brands. Consistent with Lim and Kim (2018, p.177), 'brands exhibitions at museums can be seen as making new culture, values, and meanings in days of convergence by communicating with the public and creating additional value for brands and museums.'

There are three potential benefits for jewellery brands in utilising exhibitions as a promotional strategy. Firstly, as a cultural tool, exhibitions can make brand strategies harder to replicate and allow the brand to create a unique competitive advantage. As shown by Jelinek (2018, p.298), exhibitions can create a sensation for products and stores, renew the relevance of a brand, highlight cultural differences, attract new consumers, and raise aesthetic awareness. He said the word "art" can make everything easier to sell (Jelinek, 2018). Secondly, this helps consumers identify brand meaning. Schroeder *et al.* (2014) demonstrated that the symbols of design elements displayed in exhibitions can show the cultural significance and aesthetics behind them and distinguish them from other brands. Pronitcheva (2018) argued that in an increasingly competitive market, brand history is an effective means of differentiating from other jewellery brands, and as a result, the concept of brand history has become a recurring theme in cultural events and museum exhibitions. Thirdly, this can show the artistry of jewellery design. Hong and Hong (2014) stated that exhibitions will elevate jewellery from a product to art and showcase the artistry of jewellery design. Furthermore, the artistic depiction of jewellery in exhibitions can satisfy the sensibilities of the upper class who have long supported and enjoyed art, and reduce their psychological resistance to expensive jewellery, which can create high added value (Hong and Hong, 2014).

For museum institutions, luxury companies can provide funds and bring certain popularity and scale (Jelinek, 2018, p.301). Lim and Kim (2018, p.155) analysed that with the rapid restructuring of neoliberal economic theories, the art industry has received reduced financial support from the government, rationalised its management, and increased the proportion of active marketing to raise its own financial resources. In order to survive the competition, it is important for museums to be recognised by the public. To achieve such competitiveness and administrative results, museums need to plan large-scale exhibitions that attract all kinds of visitors. From the point of view of museums, it takes a large amount of money to run them, and brand exhibitions are useful as a tool to compete with other cultural industries. For museums, the introduction of fashion can increase customer flow and economic sponsors from fashion brands, including jewellery brands. For fashion and luxury brands, museum recognition of fashion can add uniqueness and authenticity to the brand (Clark, 2018, p.164). Museums are able to show brands' longevity, "authenticity", their heritage, connection to art, and their contemporary

relevance (Clark, 2018, p.164). Hence, brands are willing to sponsor and collaborate with museum institutions. Jewellery brands have also been involved.

Melchior and Svensson (2014, p.4) argued that attention to fashion brings not so much money as visibility. Fashion is eye-catching, and when it is displayed in a museum, it is easier to attract media attention (Melchior & Svensson, 2014, p.4). Thus, the potential for fashion to add value in the museum environment does not directly benefit the museum economically but rather because of the diverse media attention, which is often followed by an increase in visitor numbers, investing in the museum's economic growth potential (Melchior & Svensson, 2014, p.4). The increase in ticket revenue hardly covers the cost of producing the museum's fashion exhibitions and running the museum's fashion or costume department (Melchior & Svensson, 2014, p.4). Instead, fashion makes museums newsworthy, both in general publications and in professional fashion media such as magazines, blogs, and other social media platforms (Melchior & Svensson, 2014, p.4). In this way, museums can access more diverse media outlets and potentially attract visitors who are not museum regulars (Melchior & Svensson, 2014, p.4). Similarly, luxury jewellery can also leverage museum exhibitions to gain visibility and attract diverse media attention, making it an effective strategy to engage new audiences and elevate the perception of jewellery as art. Nevertheless, the reality is different once again for museums not in major international cities (Melchior & Svensson, 2014, p.4). Therefore, the analysis cannot be generalised but requires a specific analysis of different circumstances.

2.2 The Status of *Jewellery*: Art or Fashion?

As previously mentioned, exhibitions can showcase the artistic aesthetics of jewellery design, which brings up the debate of whether jewellery should be classified as art or fashion (Cappellieri *et al.*; Galton, 2021; Romãozinho, 2020; *et al.*). This remains a highly controversial issue. Clarifying this distinction is essential for understanding the concept of jewellery exhibitions.

According to Cappellieri *et al.* (2020, p.3), jewellery is ambiguous objects with distinct values, ranging from unrestrained luxury to avant-garde concepts, from a dazzling array of precious materials to potential design value. 'On the one hand, art, with the arrogance of its authorship, on the other, fashion, with the transience of its present, in the middle of the jewel with the defence of precious materials as bastions of eternity' (Cappellieri *et al.*, 2020, p.3). However, with the change in jewellery materials, the value of jewellery is not directly related to the physical cost of materials. That doesn't mean that jewellery made from cheap materials is transitory. Contemporary conceptual design has blurred the boundaries between art, fashion,

and jewellery, and replaced people's emphasis on the intrinsic (financial) value of jewellery with the value of ideas (Galton, 2021, p.24).

Historically, jewellery has been the domain of art, craft, and design (Cappellieri *et al.*, 2020, p. 3). First, it is proposed that jewellery is closely related to art, that many jewellery designers draw inspiration from artworks, and some artists directly dabble in the field of jewellery. For example, Alexandre Calder, Christian Berard, Salvador Dali and Jean Cocteau designed jewellery primarily associated with Dada and surrealism (Romãozinho, 2020, p.334). Fine jewellery and couture jewellery are characterised by their timeless appeal, superior craftsmanship and limited production, which distinguish them from the changeable nature and mass production of fashion design (Romãozinho, 2020, p. 334).

However, as Galton (2021, p. 24) observed, jewellery plays a crucial role in fashion, being creative, wearable, and commercial. Designers often draw on contemporary fashion trends, positioning jewellery as an ornament that reflects personal identity and style (Galton, 2021, p. 43). Romãozinho (2020, p. 329) added that jewellery is closely connected to the wearer, symbolising individuality while also adapting to broader fashion trends. For instance, Coco Chanel redefined the use of jewellery, positioning it as a sign of social status and an accessory designed to enhance the wearer (Romãozinho, 2020, p.330).

When talking about the adornment function of jewellery, an important category in fashion would be discussed – accessory – which is a detachable item that is worn on or carried by the person, but is completely independent of the user (Lau, 2012, p.8). It can be used to protect, hide, or boast, and is an influential symbol representing the wearer's identity (Lau, 2012, p.8). This powerful extension of the human form manifests itself in thousands of different types of objects; but, generally speaking, the four main forms of accessories are bags, shoes, jewellery and hats (Lau, 2012, p.8). From the definition of accessory, jewellery seems to be more inclined to be considered as a part of fashion.

Similarly, Eicher and Roach (1992, p.15) categorised jewellery as a supplement in "dress", a non-verbal communication system that includes both body modifications (e.g., changes to hair, skin, or nails) and supplements like clothing and accessories. Supported by Craik (2009, p.5), 'Fashions change over time but nonetheless are intelligible at a particular moment in time, and their traces (e.g., in archival photographs, paintings, museum collections) can be retrospectively interpreted as revealing characteristics of individuals, groups, and cultures.' This aligns with Wilson's (2003, p.3) assertion that fashion is characterised by rapid and continual stylistic change. All perspectives reinforce the inclusion of jewellery within fashion's system of communication.

Melchior and Svensson (2014, p.5) further supported this connection by emphasising the accessibility and interpretability of dress and accessories. Unlike disciplines requiring extensive knowledge of art history or sociology, jewellery and fashion can be understood through the syntax of the body. They also highlighted the power of fashion exhibitions in engaging the public, enhancing museum appeal, and reaching diverse audiences of all ages and socioeconomic backgrounds (Melchior and Svensson, 2014). This accessibility underscores the suitability of classifying jewellery within the realm of fashion, as both prioritise public interaction and inclusivity.

Therefore, we can infer that fashion is not only limited to dress, but also includes jewellery, ornaments, and other accessories. In addition, jewellery exhibitions can reflect specific fashion trends and changes. Although the object of this research project is the jewellery exhibition of luxury brands, which is related to the commercial and cultural context, special craft and the design of the brand, it is still a place to show “change” and has a close connection with contemporary fashion curation. Thus, this thesis posits that jewellery should be regarded as fashion, based on its evolving definitions, connections to trends, and its integral role in the system of fashion communication. This thesis needs to investigate and understand the context of jewellery exhibitions, which is contemporary fashion curation.

2.3 What Is Contemporary Fashion Curation?

In the past two decades, the discipline of fashion curation has developed greatly (Loscialpo, 2016, p.227). Curation has not only become a means of presenting fashion, but also provides a critique of an increasingly complex, interesting, and pervasive part of people’s lives around the world, and fashion curation is essentially a critical practice (Vänskä and Clark, 2018). More and more academic experts are interested in the theories and thinking of contemporary fashion curation. Teunissen (2016, p.283) believed that fashion exhibitions have become a very powerful medium to propose the potential cultural implications of fashion in an accessible way. At the same time, the fashion industry is using curation as a new practice and a new tool for marketing brands. In addition, fashion curation is focused on showcasing change, embracing new technologies and experiments, and serving as a valuable platform for depicting and experiencing modernity, effectively conveying its essence within an urban context (O’Neill, 2018). As a result, the rising status of fashion curation and the emergence of new academic programmes, books and journals related to fashion curation prove that it is an exciting and growing discipline (Scaturro, 2018, p.22).

However, today there is little direct consideration and analysis of the title of fashion curation as a context for jewellery exhibitions in academic writing, which instead focuses on museum

practice, historical costume or the work of creative designers, curators, and institutions (Vänskä and Clark, 2018, p.12). Given the significance of contemporary fashion curation, it is crucial for this thesis to explore and contribute to academic understanding in this field, providing focused insights into its evolving role and practices. First of all, we need to define the concept of contemporary fashion curation. After reviewing some scholars' (De la Haye, 2014; Smith, 2009; Vänskä and Clark, 2018; *et al.*) discussions on this concept, it is found that this is a controversial issue, and scholars have different understandings of it. Faced with such a complex concept, this section will elaborate on the views and understanding of "contemporary fashion curation" and put forward a new definition. This is crucial to improving the understanding and appreciation of it and to be able to clarify its relationship with the object of this thesis, which is the jewellery exhibition.

Contemporary fashion curation is different from traditional fashion curation. It has changed over time. It is difficult to define when fashion curation came into being, but early museums certainly put more attention on the craftsmanship of clothing. De la Haye (2014, p.11) highlighted that traditional fashion curation often overlooked fashionable garments, focusing instead on craftsmanship and historical significance. Items like trimmings and accessories were prioritised for their craft value, while garments were only included if their textiles were deemed significant or particularly old. This suggests that traditional fashion curation centred on showcasing craftsmanship and historical artefacts rather than the transient nature of fashion trends. It was originally used more specifically to mean "care", especially for museum objects (Vänskä and Clark, 2018, p.2).

Figure 2.1 Exhibition View, *Fashion from Nature*. https://vanda-production-assets.s3.amazonaws.com/2018/04/18/13/14/33/26e4811e-9a4d-40bb-9b01-e91487a934d6/011_2560.jpg [Date of Access: 17/10/2022].

This thesis posits that "contemporary fashion curation" refers to fashion curation in the present time, but in essence, it conveys the curatorial reflections of contemporary fashion curators on the current living environment (Smith, 2009). Curators' thinking is based on current social phenomena and cultural contexts (Smith, 2009), and they will employ contemporary curatorial methods. For instance, a typical example of a contemporary fashion exhibition is *Fashioned from Nature* (2018), presented by the V&A Museum (see Figure 2.1). This fashion exhibition delved into the intricate relationship between nature and fashion spanning 400 years (Fashioned from Nature, 2018). The exhibition showcased historical pieces like earrings made from honeybird skulls, hats adorned with feathers and whalebone, and skirts embellished with beetle wings, emphasising fashion's deep-rooted reliance on animal materials (Fashioned from Nature, 2018). It highlighted environmental concerns, such as the pollution caused by textile dyeing, exemplified by a dress tinted with aniline violet (Fashioned from Nature, 2018). Addressing contemporary issues, the exhibition critiqued fast fashion's contribution to resource waste and pollution, while spotlighting pioneering designers experimenting with sustainable materials and technologies (Fashioned from Nature, 2018). By exploring protest movements advocating for eco-friendly fashion, the exhibition underscored the pivotal role of design in cultivating a more sustainable industry (Fashioned from Nature, 2018).

The curatorial thinking of the above example reflected social problems as well as people's thinking about these challenges and the future. Besides that, it shows that "contemporary fashion curation" is not limited to displaying contemporary design works but can also include traditional historical relics. All the exhibits serve as the curators' reflections on life and the environment today and the curatorial concept of the exhibition. Therefore, the scope of "contemporary fashion curation" is very broad, but it should meet a certain condition: it needs to critically reflect the curation thinking of the current environment or society.

Consistent with Khan (2017), O'Neill (2018), and Vänskä and Clark (2018), contemporary fashion curation serves as a form of cultural criticism. O'Neill (2018, p.107) argued that fashion exhibitions have the potential to provide a self-reflective understanding of dress, probing and challenging normative boundaries. Similarly, Vänskä (2017, p.133) described fashion as a localised cultural phenomenon, suggesting that fashion curation can analyse and critically engage with this phenomenon. However, Khan (2017, p.155) observed that many fashion exhibitions fail to engage critically with fashion or consumer culture, often serving merely as visual displays or scenic experiences. Khan (2017, p.167) emphasised that only by critically examining the intersections of fashion, society, and culture can contemporary fashion curation realise its full cultural significance.

While O'Neill (2008, p.134) noted the academic expansion of fashion curation, transitioning from practice-based approaches to theoretical analyses, there remain unresolved issues, including the precise definition of contemporary fashion curation. To harness its critical potential, fashion curators must focus on creating meaningful discourse that challenges traditional perspectives and generates significant conversations within the field. Jewellery exhibitions, as a relatively underexplored category within fashion curation, present an opportunity for deeper analysis, particularly in how they engage with contemporary cultural and technological dynamics, as addressed in this thesis.

Moreover, contemporary fashion curation is a crucial tool for building and disseminating fashion knowledge and promoting brands. Fashion curation plays a key role in managing and regulating aesthetic experience, building the cultural conditions of institutions and the fashion industry, and building fashion knowledge in academia (Vänskä and Clark, 2018, p.12). Vänskä and Clark (2018, p.167) believed that fashion curation is a professional way of producing knowledge and cultural analysis, which curators then disseminate to people outside academia through the presentation of exhibitions.

Figure 2.2 Exhibition View, (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co.*

The function of display and communication is not only limited to the academic field of cultural knowledge; brand communication and promotion are equally significant. Bai (2017, p.225) argued that contemporary fashion curation is an important medium for brand communication.

At the same time, as an authority on art and culture, the museum will retain its prestige in the luxury industry for a long time to come (Bai, 2017, p.225). Consistent with Jang and Yang (2011, p.1303), nowadays, fashion curators often use a variety of visual communication methods, not only to display dress but also to convey the concept of brands. Furthermore, contemporary fashion exhibitions' purpose is not only to display the simple meaning of objects but also to maximise communication with the audience so as to convey the effect of the creative image of brands (Jang and Yang, 2011, p.1307). This is also crucial for jewellery brands. For example, in the Tiffany brand exhibition *Vision & Virtuosity by Tiffany & Co* (2022) held in London, as shown in Figure 2.2, the curator utilised a significant amount of the iconic Tiffany blue to create the setting, crafting a unique brand atmosphere for the audience and conveying the brand's creative and dreamy vision. This exhibition is one of the key case studies in this thesis and will be analysed and discussed in depth in Chapter 6. Consequently, Chapters 6 and 7 of this thesis analyse existing jewellery exhibitions that have employed immersive experience technologies. Chapter 8 further develops this discussion by proposing a speculative exhibition design, aiming to explore the role and impact of immersive technologies in brand communication and audience interaction.

Based on the above views and discussion, the concept of contemporary fashion curation can be defined as a tool for cultural criticism, a means of building and disseminating fashion knowledge, and a strategy for promoting brands. It reflects society, the environment, and the curatorial visions of fashion curators. This thesis then focuses on jewellery as its primary object within the context of contemporary fashion curation.

The concept of fashion curation is complex and constantly evolving with time. This section's discussion highlights that this evolution has led to significant changes in the field. To explore these changes in depth, the following sections examine four key angles: the role of the curator, the location of fashion exhibitions, the focus on objects and the evolution of curatorial approaches, and the emphasis on cooperation. These perspectives will deepen our understanding of contemporary fashion curation and its relationship with jewellery exhibitions, providing a comprehensive framework for further exploration of these ideas within this thesis.

2.4 The Role of Curator

The evolution of fashion curation and the emergence of contemporary curators have significantly transformed curatorial practice, both in museums and beyond (Clark and de la Haye, 2014; Vänskä and Clark, 2018). Historically, fashion was considered unworthy of collection and display in museums, a perception influenced by its low cultural status and the predominance of male curators in the 19th and early 20th centuries (Clark and de la Haye, 2014,

p.11; Vänskä and Clark, 2018, p.2). However, World War II marked a turning point, as men's enlistment in the military allowed women to assume major roles in the industry, including curation (Vänskä and Clark, 2018, p.2). This shift, combined with the creative influence and dedication of pioneering curators such as Doris Langley Moore, Anne Buck, and Cecil Beaton, propelled the recognition and institutionalization of fashion within museum culture (Clark and de la Haye, 2014).

The role of the curator has also undergone a broader transformation. Traditionally, curators were "invisible" caretakers of classified exhibits (Moloney, 2018; Hansen e*t al.*, 2019, p.3). In contemporary practice, curators are pivotal figures who connect exhibits, audiences, and exhibition spaces in complex and dynamic ways. Independent curators often rise to prominence as stars in the transnational exhibition industry, embodying a shift from the historical "custodian" role to that of project researchers or temporary specialists hired for specific projects (Vänskä and Clark, 2018, p.3; Vänskä, 2017, p.128). Moreover, in the commercial sphere, the title "fashion curator" now encompasses individuals who carefully select, organise, and present narratives in settings ranging from retail spaces to online platforms (Vänskä and Clark, 2018, p.9). This expanded definition blurs the boundaries between traditional curatorship and other roles, as fashion designers and industry insiders increasingly contribute to exhibition design and production (Melchior, 2014).

In the context of jewellery exhibitions, practitioners from jewellery brands are increasingly adopting the role of curators. They apply the same curatorial thinking as contemporary fashion curators, carefully selecting exhibits, crafting compelling narratives, and engaging with the public to highlight craftsmanship and design innovation. This blending of roles suggests that the skills and approaches used in fashion curation are becoming relevant and influential in the curation of jewellery exhibitions as well. This convergence underscores the changing landscape of curation, where boundaries between fashion and jewellery, as well as between traditional and commercial spaces, are increasingly blurred. Jewellery exhibitions, therefore, can benefit from the methodologies and insights of contemporary fashion curation, leading to more dynamic and engaging presentations that resonate with both the public and industry professionals. This alignment is explored in Chapter 5, where interviews with jewellery curators reveal how these practices are implemented in real-world settings, illustrating the practical application of curatorial strategies to elevate jewellery exhibitions.

2.5 The Fashion Exhibition Location

As for the location of the fashion exhibition, traditional fashion exhibitions are mostly in specific buildings like public museums or private museums of fashion brands. Now the fashion

exhibition is not limited to that. Palmer (2018, p.44) argued that fashion curation has evolved from being historically oriented, arranging existing dresses according to period and style, to include thought-provoking, performative, and creative exhibitions in museums, commercial galleries, public spaces, retail environments, and other venues. This shift not only democratises the experience of fashion exhibitions but also broadens the audience reach, offering new opportunities for jewellery brands.

For jewellery exhibitions, this evolution suggests that they can move beyond the traditional confines of museums and galleries. Jewellery brands can leverage public spaces, retail environments, and even temporary pop-up locations to create more accessible and engaging exhibitions. By adopting this approach, jewellery exhibitions can reach a wider and more diverse audience, just as contemporary fashion exhibitions have done. This shift also allows for more innovative and interactive presentations, which can better showcase the culture and craftsmanship of jewellery in a context that resonates with consumers.

In addition, fashion exhibitions can not only be displayed in real physical places but also in the virtual world. Dale (2014, p.199) pointed out that as more and more information has moved to digital formats, the growth of social media has expanded the definition of curation, allowing people to share anything with the world through online technology. Therefore, with the development of technology and informatisation, virtual exhibitions, including fashion exhibitions, have become one of the most significant forms in recent years. This makes it easy for people to enter exhibitions and look at exhibits without leaving their homes, just with a device and an Internet connection. The virtual form makes people realise that visiting an exhibition cannot be restricted by time and place. Especially during the COVID-19 pandemic, the importance of virtual exhibitions has been brought to people's attention. It is an important form of entertainment for people when they cannot leave their homes, and their activities are restricted.

For the jewellery industry, however, the adoption of virtual exhibitions remains limited. This represents a significant opportunity for jewellery brands to explore and innovate within the digital space. By embracing virtual exhibitions, fashion curators can create immersive and interactive experiences that are not constrained by physical boundaries, thus reaching a global audience. This is particularly important in a post-pandemic world where virtual engagement has become a critical aspect of cultural consumption. By aligning with the trends in contemporary fashion curation, jewellery exhibitions can evolve to become more inclusive, innovative, and accessible, whether in physical public spaces or online.

The relationship between the changing locations of fashion curation and jewellery exhibitions highlights a broader trend of breaking down traditional boundaries and expanding the

possibilities for how and where exhibitions are presented. This evolution reflects a shift towards a more flexible, dynamic, and consumer-centric approach to curation, one that jewellery exhibitions can adopt to enhance their relevance and impact in the contemporary cultural landscape. The case studies and speculative designs for this thesis were conducted in traditional galleries and museums, as these spaces can enhance brand impact, as discussed in Section 2.1. However, this thesis also emphasises the flexibility of exhibition locations. Interviews revealed that some jewellery brand exhibitions are held in malls, offering direct engagement with consumers in commercial spaces, while others are exploring innovative online environments, such as metaverses, to create immersive digital experiences. This highlights the evolving nature of exhibition practices and the potential for jewellery brands to diversify their approaches to reach broader and more varied audiences.

2.6 Attention to the Object and Evolution of Curatorial Approaches

The shift in contemporary fashion curation from object-centred displays to more immersive and audience-focused experiences has had an impact on the way exhibitions are conceived and presented, both in the fashion and jewellery sectors. In the traditional fashion exhibition, the museum focused on physical exhibits. As explained by Akiko Fukiko, a Curator of the Kyoto Costume Institute, the early museums (Fukiko's First Period, pre-1970) mainly displayed craftsmanship and historical dresses and accessories (Clark and De La Haye, 2014). In the Second Period (1970s-1990s), museums focused less on actual clothing and more on the creation of visual impressions, and fashion exhibits that could attract and evoke the feelings of visitors and create narratives (Melchior, 2014, p.8). In the Third Period (post-2000), a new curatorial direction emerged, and the narrative display turned into a three-dimensional scene full of props (Melchior, 2014, p.10). A variety of exhibits were displayed in the contemporary fashion exhibition, including historical clothing items, jewellery, and fashion illustrations (Melchior, 2014, p.10). Museums now emphasise visibility through spectacular exhibitions, primarily to create a unique visitor experience and secondly to enhance collection possibilities, resulting in a focus on increased visitor numbers as opposed to 'the preservation of fashion heritage' (Melchior, 2014, p.10).

This chronological evolution, as initially proposed by Fukui and further explored by Clark, de la Haye and Melchior, is further detailed by Jung and Ha (2018), who noted trends in curatorial approaches, such as chronological curation in the 1830s-1910s, the recreation of scenes in the 1920s-1940s, experimental use of mannequins from the 1940s-1960s, and the incorporation of multisensory techniques in the 1970s. From the 1980s, fashion exhibitions increasingly blended

art and fashion, a shift reflective of curatorial practices becoming marketing-driven while still balancing traditional and contemporary approaches.

These changes in contemporary fashion curation parallel developments in jewellery exhibitions. Historically, jewellery exhibitions, like fashion exhibitions, were primarily concerned with showcasing the craftsmanship and historical importance of the pieces. The focus was on the object itself (its design, materials, and provenance). However, as with fashion exhibitions, there is an increasing emphasis on creating a compelling visitor experience in jewellery exhibitions. By incorporating innovative approaches, such as narrative storytelling, interactive displays, and multisensory experiences, jewellery exhibitions can engage visitors on a deeper level, transforming the exhibition from a mere display of objects to a memorable and immersive experience. This approach is evident in case studies of this thesis (see Chapters 6 and 7), where innovative curatorial strategies and immersive experience technologies have been employed to bridge the gap between jewellery brands, visitors and fashion curators. Additionally, through speculative design, proposed in Chapter 8, this thesis explores potential futures for jewellery exhibitions, envisioning how emerging technologies and creative practices might further enhance the experiential and interpretative aspects of these displays.

The shift towards audience-centred curation is also evident in the increased use of advanced technologies in fashion exhibitions, such as sound, light, and interactive digital elements, which enhance sensory engagement and create immersive environments (Pecorari, 2018). However, the adoption of such multisensory technologies in jewellery exhibitions remains limited, suggesting a gap in curatorial practice that could be further developed to enhance the visitor experience and will be addressed in the speculative design for an exhibition in Chapter 8.

Additionally, the shift towards audience-centred curation is particularly relevant in the context of brand exhibitions. For fashion brands, and increasingly for jewellery brands, exhibitions serve not only as cultural displays but also as powerful marketing tools. The focus on the audience becomes crucial, as every visitor is a potential customer. This has led to a blurring of lines between exhibition curation and brand experience, where the goal is to create a strong emotional connection between the brand and the audience through the exhibition. This approach aligns with the broader trend in museums, where there is a growing emphasis on democratising exhibitions and making them more accessible and engaging for a wider audience (Hansen *et al.*, 2019, p2).

Moreover, the commercialisation of fashion exhibitions, while sometimes criticised, has become an economic necessity for museums seeking sponsorships and financial sustainability (Steele, 2008). This trend has led to a balancing act for curators, who must navigate the demands of commercial interests while maintaining the educational and cultural integrity of the

exhibitions. In jewellery exhibitions, this balance is equally important, as curators strive to create exhibitions that are not only commercially viable but also culturally enriching and educational. By adopting flexible and rigorous curatorial methods, jewellery exhibitions can achieve this balance, offering both entertainment and education while conveying brand culture and preserving the accuracy of the exhibition content; an approach that is reflected in the speculative design in Chapter 8.

In summary, the evolution of curatorial approaches in contemporary fashion exhibitions – from object-focused displays to immersive, audience-centred experiences – offers valuable lessons for jewellery exhibitions. By embracing these contemporary curatorial methods, jewellery exhibitions can enhance their appeal, engage audiences more effectively, and create experiences that are both visually compelling and emotionally resonant. The potential for innovation in jewellery curation is significant, and as the field continues to evolve, there is an opportunity to redefine how jewellery is presented and experienced by the public, moving beyond the traditional confines of static displays to create truly memorable and impactful exhibitions.

2.7 The Emphasis on Cooperation

The increasing complexity of contemporary fashion curation has underscored the importance of collaboration among various roles within the curatorial process. In this collaborative environment, curators work closely with designers, artists, marketers, educators, and technicians, forming multidisciplinary teams that contribute diverse expertise to the development of exhibitions. This collective working model is essential in addressing the multifaceted challenges of contemporary fashion curation and has significant implications for jewellery exhibitions.

As Vänskä and Clark (2018, p.2) suggested, fashion curation is a multifaceted activity that thrives on informed and collaborative practices. The shift towards collaborative curation emphasises the open sharing of skills and contributions, fostering a more inclusive and dynamic process (O'Neil, 2018, p.112). This approach transforms curators from solitary figures into project managers who oversee and coordinate the contributions of various specialists, ensuring that the exhibition progresses smoothly and effectively (Vänskä, 2017, p.121). By working in teams, curators can draw on the specialised knowledge of experts in different fields, making the curatorial process more transparent and reducing the risk of project failure (Vänskä, 2017, p.121).

This collaborative approach is particularly significant in jewellery exhibitions, as the integration of disciplines such as design, technology, marketing, and education can greatly enhance the visitor experience. For example, as demonstrated in Section 7.1, curators can collaborate with installation artists to create new, site-specific installations rather than merely showcasing existing works. Such partnerships enable artists to contribute their creative vision to the exhibition, shaping narratives that highlight their talent and innovative connections with the brand (Clark, 2018, p. 159; Melchior, 2014, p. 9).

Moreover, the role of technology in exhibitions is increasingly prominent, requiring curators to work closely with professionals in fields such as digital media, interactive design, and audiovisual production. This collaboration is essential for incorporating advanced technologies that create immersive and multisensory experiences, as seen in the more progressive fashion exhibitions (Pecorari, 2018). For jewellery exhibitions, this could mean developing interactive displays that allow visitors to engage with the pieces in new and innovative ways, enhancing both the educational and emotional impact of the exhibition, and that will be explored in the speculative design in Chapter 8.

Contemporary fashion curators' focus on collaboration reflects a broader shift toward inclusivity and interdisciplinarity in exhibition-making. For jewellery exhibitions, this collaborative approach has the potential to create more innovative and impactful displays that connect with a wider audience. By bringing together diverse expertise, fashion and jewellery, curators can not only highlight the beauty and craftsmanship of jewellery but also craft engaging narratives that resonate with visitors on multiple levels, leaving lasting impressions. As jewellery curation continues to evolve, collaboration will likely play an even more pivotal role in shaping how jewellery is presented and experienced. This thesis embraces this collaborative spirit by drawing on the insights of technologists, jewellery brand industry insiders, jewellery designers, and fashion curators, as outlined in Chapter 5, to develop its final speculative design in Chapter 8.

2.8 Key Factors Driving the Development and Transformation of Fashion Curation

In the previous section, this thesis analysed the specific changes in the concept of fashion curation from four perspectives. This section examines the critical factors driving these changes, providing a comprehensive understanding of the forces shaping fashion curation. These insights are particularly relevant for advancing jewellery exhibitions and informing this thesis's speculative design proposal. While the role of technological development stands out as pivotal – especially in the context of immersive experience technologies – other significant

factors, such as changes in museum practices, democratisation of fashion culture, and the increasing collaboration between museums and the fashion industry, also contribute substantially to this evolution.

First, the incorporation of fashion into museum practices marks a crucial factor in the evolution of fashion curation. Historically, fashion held a marginal position in museums, largely due to its perceived lack of cultural status (Clark and de la Haye, 2014). However, the democratisation of fashion culture, particularly since the 1960s, has prompted a shift in how museums and the fashion world perceive and present fashion (Melchior and Svensson, 2014; Teunissen, 2016). This transition reflects a growing recognition of fashion's cultural and social significance, extending beyond its material artefacts to include its broader societal contexts.

Notably, the rise of influential curators such as Doris Langley Moore, Anne Buck, and Cecil Beaton has played a vital role in elevating fashion within museums (Clark and de la Haye, 2014). Their creative practices and advocacy have helped redefine fashion curation, integrating it into mainstream museum activities and enhancing its public appeal.

Second, fashion's ability to attract diverse audiences and generate media attention has further incentivised its inclusion in museums. As shown in Section 2.1, Melchior and Svensson (2014, p.5) argued fashion exhibitions are more accessible to the general public than traditional art exhibitions, requiring less specialised knowledge to appreciate. This accessibility enhances museums' appeal, enabling them to reach new audiences and secure financial sponsorship from fashion brands (Clark, 2018). However, while fashion's visibility often translates to increased visitor numbers, its economic benefits for museums are less direct. Instead, fashion exhibitions primarily enhance a museum's cultural cachet, making it more newsworthy and appealing to broader media outlets (Melchior and Svensson, 2014, p.4).

Third, the democratisation of fashion has also shaped the development of fashion curation. As Teunissen (2016, p.285) explained, the shift from elite luxury to mass dress culture has broadened the scope of fashion exhibitions, encouraging curators to explore the social and political contexts of fashion. This transition has not only expanded the thematic focus of exhibitions but has also fostered greater inclusivity, reflecting the diverse cultural and societal narratives embedded in fashion.

Finally, most importantly, the shift from traditional to contemporary fashion curation is strongly influenced by advancements in technology and digitalisation. These developments have driven diversification and transformation in curatorial practices (Dale, 2014; George, 2015; Hansen *et al.*, 2019; Jansson, 2019; Loscialpo, 2016). Scholars such as Dale (2014), George (2015), and Jansson *et al.* (2019) argued that the industrial and information ages have significantly

complicated the concept of curation. Digitalization, in particular, plays a transformative role by enabling new forms of multimedia engagement and expanding audience reach. Sikarskie (2016) highlighted the democratising potential of digital technologies, which allow fashion curation to reach broader, more diverse audiences.

As Hansen *et al.* (2019, p.1) observed, globalisation and the rise of web technologies have facilitated cross-border exchanges of people, art, capital, and culture, leading to an increase in culturally significant exhibitions. Technology has also diversified curatorial methods, enriching both content and visitor experiences. Virtual environments, as noted by O'Neill (2018, p.112), have emerged as powerful tools for curators, bridging the virtual and physical realms and offering audiences innovative avenues of exploration.

In summary, the development and transformation of fashion curation result from a complex interplay of factors. This thesis emphasises that the development of technology and digitalisation remains a key influence on contemporary fashion curation, with significant implications for its future evolution. This research project, which focuses on jewellery exhibitions, highlights the untapped potential of technology in this area, making it a crucial avenue for further exploration.

2.9 In Conclusion

This chapter began by elucidating the importance of exhibitions to jewellery brands. Exhibitions are an integral part of the luxury experience, serving as both strategic and cultural tools. They allow brands to showcase their artistry, communicate their heritage, and strengthen consumer loyalty. For museums, jewellery exhibitions generate revenue, enhance visibility, and attract diverse audiences. This dual role underscores the necessity of studying jewellery exhibitions for both brands and museums. The thesis also positions jewellery as part of fashion, emphasising its decorative role in complementing attire and its influence on historical and contemporary fashion trends. Like fashion, jewellery reflects "change", making exhibitions an essential platform for showcasing this evolution. This research situates jewellery exhibitions within the framework of fashion curation, highlighting their potential to narrate both historical and modern perspectives.

Contemporary fashion curation, as defined in this chapter, refers to the evolving practice that includes not only contemporary designs but also traditional artefacts, reflecting current societal and cultural curatorial thinking. It serves as a form of cultural critique, a tool for promoting brands, and a means to disseminate fashion knowledge. This chapter explores four key transformations in fashion curation: the expanded role of curators to include industry insiders,

the diversification of exhibition spaces beyond traditional venues, the shift towards immersive and audience-centred experiences, and the growing emphasis on collaboration with various professionals. At the same time, these developments take place within a broader institutional shift where museums and cultural organisations increasingly collaborate with fashion and jewellery brands. Such partnerships reflect a convergence of cultural and commercial aims, providing museums with financial support and visibility while granting brands cultural legitimacy. This evolving institutional context forms an essential backdrop for understanding the role of immersive exhibitions, where curatorial strategies are shaped not only by artistic or educational goals but also by brand narratives and market considerations.

Against the backdrop of these transformations, this study focuses on the sensory and emotional effects created by branded exhibitions and approaches them from a systems design perspective in order to examine how immersive strategies operate in practice. While acknowledging the significance of these institutional and ethical questions, this thesis deliberately positions itself within a practice-oriented and technological framework. The intention is not to critique the politics of museum–brand collaborations, but to analyse how immersive technologies function within such collaborative contexts to enhance audience experience and engagement. While the research also considers issues of curatorial choice and autonomy in brand collaborations, its purpose is not to provide a critical evaluation of the related ethical or narrative frameworks, but rather to concentrate on how immersive technologies are concretely implemented to enhance audience experience within exhibitions.

Technology and digitalisation are highlighted as vital factors driving the transformation of fashion curation. Advances in digital tools have diversified curatorial methods, enabling richer, more immersive visitor experiences. These innovations hold significant potential for jewellery exhibitions, particularly in integrating virtual and hybrid spaces. However, the jewellery industry has been slow to adopt these advancements, presenting a key area for further exploration. The following chapter will investigate the concept, necessity, potential, and challenges of immersive experience technology, as well as the status and issues of their application in jewellery exhibitions.

Chapter 3 Technologies of Immersive Experience in Jewellery Exhibitions

The immersive experience, whether at contemporary art exhibitions or contemporary fashion exhibitions, is becoming more and more popular. As the simple traditional exhibition can no longer meet the needs of the audience, the form of exhibition needs innovation. Laurberg and Schavemake (2016, p.2) argued that a major part of knowledge production in art museums in the 21st century is the creation of spectacular exhibitions and displays of collections designed to provide unique immersive experiences for the viewer. Whereas static exhibitions previously dominated, museums are increasingly adopting an immersive curation model to engage the public (Laurberg and Schavemake, 2016, p.2). One could argue that this trend is inspired by the need for museums to grow their audiences; to attract and delight larger audiences, as well as generate more revenue, a spectacle is needed (Laurberg and Schavemake, 2016, p.2). As a means of engaging the public, this immersive exhibition mode is a multi-sensory experience, entertaining and interactive (Laurberg and Schavemake, 2016, p.2). Therefore, immersive experience is a very important research direction for contemporary fashion curation and jewellery exhibitions.

As mentioned in the last chapter, technicalisation is one of the most important reasons for the transformation of the concept of fashion curation, which is also an important development trend for fashion curation in the future. Paul (2008, p.23) said that technological developments have brought many challenges to the presentation, collection, and preservation of exhibits. Consistent with Graham and Cook (2010, p.2), curators need to address the challenges and opportunities presented by technology. In addition, Lukas (2016, p.13) believed that the idea of the future resonates strongly with immersive spaces as technologies can bring the audiences a vision of the future. Thus, this chapter explores in-depth and comprehensively the concept of the technologies of immersive experience, as well as what opportunities and challenges these technologies bring to contemporary fashion curation. Additionally, it analyses the current situation of jewellery exhibitions and the issues they face, specifically researching the existing immersive experience technologies that are applied in both fashion and jewellery exhibitions.

3.1 The Concept of Immersive Experience

First, it is essential to clarify the concept of immersive experience, as this will help this thesis identify the technologies that enable its creation and implementation. Immersive experiences have been extensively explored by scholars (Han *et al.*, 2024; Lukas, 2016; Suh and Prophet,

2018; Zhang, 2020) and are generally understood as multisensory encounters that allow the audience to enter a scene, altering their perception of time and space. This thesis, however, focuses on defining immersive experiences from the audience's perspective. User experience, as McCarthy and Wright (2004) noted, is now central to understanding the availability and impact of technology. Consequently, understanding the audience's experience is critical for advancing both the technological and curatorial aspects of immersive technologies in contemporary fashion and jewellery curation. Aligning with Han *et al.* (2024), the emphasis here is on the user's perspective rather than the designer's when considering immersive experiences.

From the user's perspective, immersive experiences are characterised by physical, psychological, and emotional engagement (Han *et al.*, 2024). Key factors include user openness and engagement, which play a pivotal role in fostering immersion. Similarly, Grau (2003) described immersion as an intellectually stimulating process involving mental absorption and transition between mental states. This process reduces the critical distance from displayed content while increasing emotional investment. Handa *et al.* (2012) further expanded on this idea, describing immersion as a state of diminished bodily self-awareness, accompanied by heightened spatial awareness, intense focus, a distorted sense of time, and effortless action. Suh and Prophet (2018) summarised immersive experiences as encompassing both cognitive and emotional responses, including reactions to sensory stimuli and emotional responses to the environment. Attention, as highlighted by Zhang (2020), is a key element in immersion, with the sense of presence in a virtual environment depending on how users shift their focus away from the physical world.

In psychology, the classic theory related to immersion is flow theory, which focuses entirely on the experience of the present moment, known as the flow experience (Nakamura and Csikszentmihalyi, 2009). Based on the application of interactive museum technologies, Chao *et al.* (2020, p.2) introduced the concept of flow experience in the context of experience design:

> Flow experience is an important concept of flow theory, which refers to a feeling of putting personal energy or "body and mind" completely in a certain activity, direct psychological experience and emotional feelings of immersion…When you enter the flow state, you will have a high sense of excitement and fulfilment, you will lose your sense of self-existence and time, and you will have a sense of participation from the heart and a desire to learn the experience.

According to this theory, two things must happen before a person enters a state of flow (Nakamura and Csikszentmihalyi, 2009): First, they must perceive a challenge or opportunity that can extend but not exceed their current skills; second, they must set immediate goals and

receive instant feedback on the progress being made. When in a state of flow, individuals operate at full capacity. The flow state is a highly dynamic yet subtle balance (Nakamura and Csikszentmihalyi, 2009). If the challenge exceeds one's skill level, worry and anxiety take over; conversely, if the skill level exceeds the challenge, complacency and eventual boredom ensue (Nakamura and Csikszentmihalyi, 2009). This emotional shift reflects the continuously evolving relationship between the individual and their environment (Nakamura and Csikszentmihalyi, 2009). Essentially, flow theory suggests that immersive experiences peak when participants engage in activities that strike a balance between challenge and feasibility while maintaining a clear sense of progress and responsive feedback (Li and Huang, 2023).

When the flow theory is applied to the immersive technologies used by fashion curators, a significant issue arises: if these technologies are too simple or too difficult, the audience may feel bored or frustrated, thereby disrupting the immersive flow. However, when these technologies strike a delicate balance between challenge and achievability, they are more likely to fully engage the audience. When the technology is challenging but achievable, audiences are more likely to become fully immersed in the experience.

This thesis argues that there is a strong correlation between flow experience and immersive experience. Thus, this theory can provide a valuable reference and framework for the analysis of immersive experience technologies in the subsequent case study Chapters 6 and 7. However, the original flow theory stems from positive psychology, yet immersive experiences are not limited to positive perceptions and emotional responses – they can also be negative. Suh and Prophet (2018, p.84) listed specific emotional responses audiences may experience during immersion, which can be positive, such as joy, happiness, hope, and confidence, as well as negative, such as fear, anxiety, anger, panic, and boredom.

In conclusion, this thesis defines immersive experience from the audience's perspective as a deeply engaging multisensory experience where users must fully invest themselves physically, psychologically, and emotionally. To achieve this experience, the audience must be open and willing to accept and integrate into new environments or scenarios. Additionally, the sense of presence in virtual environments is enhanced as the audience allocates more attention to resources. At the same time, the design of the experience should maintain a balance between challenge and user skill to avoid excessive boredom or frustration and provide immediate feedback to help users stay focused and maintain a high level of engagement. This emotional state is not limited to positive reactions but may also include negative emotions such as fear or anxiety.

3.2 The Necessity of Technologies for Immersive Experience

In the previous section, through a discussion of the definition of immersive experiences, this thesis gained insight into what is it like for audiences to enter a state of immersion during an immersive experience. This section will explore the necessity of technology in providing audiences with immersive experiences and the conditions that technology needs to meet to engage audiences in a state of immersion.

Lukas (2016) pointed out that as people's demands for sensory stimulation increase, immersive experiences and technology are becoming increasingly inseparable. Consistent with the views of Yu and Wang (2020), the use of technology breaks the outdated presentation methods and linguistic modes of traditional museum exhibitions, introducing innovative spatial narrative techniques. Technology not only affects the thinking and behavioural patterns of conventional media and audiences but also alters people's perception of exhibits in the exhibition space, presenting them in new impressionistic forms (Yu and Wang, 2020). By integrating visual, auditory, tactile, and other multisensory experiences, technology enhances audiences' intuitive feelings in museums, allowing them to gain a deeper understanding of the content (Yu and Wang, 2020). Stogner (2011) supported this view, asserting that contemporary technology has immense potential to create immersive experiences for exhibitions by enhancing sensory participation and establishing deeper cognitive and emotional connections with the exhibits. Moreover, new technologies for immersive experiences can attract a larger audience, increase engagement, and extend the memory of the exhibition (Stogner, 2011). Therefore, it is evident that technological development is one of the factors influencing curatorial practices and museum changes, playing a crucial role in immersive experiences.

However, this raises the question of what conditions technology must meet to provide an immersive experience in jewellery exhibitions. Zhang (2020) stated that the sense of immersion is closely related to sensory richness and the degree of reality illusion. The technical system needs to evoke sufficient "perceived realness" to create a non-mediated perception illusion so that even if the experience is technologically driven, users can ignore the presence of the technology and feel a strong sense of reality (Zhang, 2020). Slater and Wilbur (1997) analysed that providing an immersive technical system requires five characteristics: inclusivity, extensiveness, surroundings, vividness, and match. These elements have been instrumental in both analysing case study exhibitions and shaping speculative designs by highlighting the technological priorities needed to create immersive jewellery exhibitions.

First, inclusivity refers to the full engagement of attention resources and sensory modalities in the virtual world (Slater and Wilbur, 1997), which requires that in the exhibition space,

technology should cut off, pause, or isolate information from physical reality. Second, extensiveness means that the simulation provided by the virtual world can accommodate and adapt to all sensory modalities (Slater and Wilbur, 1997). Third, surroundings indicate that the virtual environment provided by the technical system is panoramic and not limited to a narrow field of vision (Slater and Wilbur, 1997). Fourth, vividness refers to the fidelity of the stimuli, meaning that the technology needs to provide high-quality information, with content and interface being clear and rich (Slater and Wilbur, 1997). Finally, match refers to the coherence and consistency of sensory modalities in technological stimuli, collectively creating a realistic and unified experience (Slater and Wilbur, 1997).

Combining the definition of immersive experience from the audience's perspective in the previous section and the discussion above, it can be concluded that technology needs to meet the following conditions: technology design should attract the audience's attention and fully immerse them in the exhibition space, provide multiple sensory stimuli, and ensure consistency across sensory modalities. The design of the technology should maintain a balance between the challenge and the audience's ability to cope while providing exhibition information and interactive feedback. This information needs to be of high quality and fidelity, with clear and rich content. Additionally, large-scale components should be provided in the exhibition space, as a cramped and narrow field of vision can affect the audience's sense of immersion. These will all be considered in the speculative design for an exhibition in Chapter 8. These conditions will also serve as an analytical framework for the examination of the case study exhibitions discussed in Chapters 6 and 7.

3.3 The Potentials and Challenges of Immersive Experience Technologies

The integration of immersive experience technologies into jewellery exhibitions is revolutionising how exhibitions are designed, experienced, and understood. These technologies offer the potential to transcend the limitations of traditional static displays by providing dynamic, multi-sensory experiences that engage visitors on a deeper level. Through these innovations, curators can create more interactive and accessible exhibitions, bridging the gap between the audience and the intricate cultural, social, and historical narratives embodied by fashion and jewellery. However, alongside these exciting potentials come significant challenges, including the risk of overshadowing the authenticity of physical exhibits, the logistical complexities of integrating new technologies, and the need to balance educational content with entertainment. This section explores the multifaceted nature of immersive experience technology, critically examining how it can enhance and transform fashion and

jewellery curation while highlighting the issues that must be carefully navigated to preserve the integrity and purpose of exhibitions.

The application of technologies of immersive experience enables a multi-sensory experience and addresses some limitations of static displays, where static displays can be difficult to effectively convey contextual narratives related to body, identity, social, cultural, and economic aspects, which may be as important as the exhibited objects (Loscialpo 2016, p.229). Especially for fashion exhibitions, the use of mannequins or body form busts often results in static configurations, making it difficult to showcase the visual dynamics that are integral to contemporary fashion (Debo, 2017, p.79). Similarly, in jewellery exhibitions, the intimate relationship between jewellery and the body adds another layer of complexity. The absence of interaction with exhibits, coupled with the challenge of reproducing the "missing bodies" that jewellery is designed to adorn, parallels the constraints faced in fashion curation. This limitation can restrict visitors' sensory engagement with the pieces and their deeper understanding of the materials and craftsmanship (Pecorari, 2018, p.183). Davies and Jefsioutine (2001, p.5) pointed out that it is intrinsically better to wear jewellery than to display it out of context in a display case or as a two-dimensional photographic reproduction in a book. As a three-dimensional object designed and intended to be worn, jewellery can only be fully appreciated and understood when fully displayed on the body.

Additionally, incorporating digital technologies to create immersive experiences in fashion and jewellery exhibitions offers numerous advantages, particularly in mitigating the risks associated with transporting delicate and valuable items. As Pescarin *et al.* (2018, p. 3) highlighted, moving an exhibition from one location to another is a complex and time-consuming endeavour. The physical handling of fragile exhibits increases the potential for damage, while transportation itself incurs significant costs. Immersive digital technologies provide an effective alternative by enabling large-scale dissemination of fashion, jewellery and culture without the need for physical relocation. This approach not only reduces logistical challenges but also allows for greater accessibility, reaching a global audience without compromising the safety of the original artefacts.

However, the integration of these technologies into exhibitions raises critical questions about the balance between technological innovation and the preservation of the exhibits' authenticity. Loscialpo (2016) argued that while digital displays can enhance the viewer's experience, they cannot fully replace the presence of physical jewellery. The experience offered by digital technologies is, at best, a secondary or mediated one, lacking the "unmediated experience" that curators traditionally strive to provide. This tension between innovation and authenticity is particularly relevant in the context of fashion and jewellery exhibitions, where the materiality,

craftsmanship, and historical context of items play a crucial role in their appreciation. This is where Benjamin's (1935) concept of "aura" becomes particularly relevant, as it helps to frame the unique and irreplaceable qualities that make physical jewellery so captivating.

Benjamin (1935) demonstrated that mechanical reproduction technology not only expands our visual experience but also facilitates the fast and large-scale dissemination of works of art around the world. This technology enhances the exhibition value of artworks, serves the political struggle, and acts as a tool for publicity and agitation (Benjamin, 1935). From Benjamin's point of view, technical reproductions increase the opportunities for exhibitions and can meet a large number of needs, which applies not only to art but also to fashion. However, Benjamin (1935) also argued that this kind of reproduction makes the "aura" of the artwork disappear. It is essential for us to understand what "aura" is. Throughout Benjamin's full text, he has never made a clear definition and concept of the word "aura", but we can still summarise some of its basic characteristics from the content to grasp this concept. This thesis believes that "aura" means unique and authentic. The time and space of the original are unique, and no perfect copy can reproduce its essence (Benjamin, 1935). In the context of contemporary fashion curation, "authenticity" refers to the inherent historical value and meaning embedded within the jewellery itself, which is inseparable from its original creation (Benjamin, 1935). Additionally, "aura" is a sense of distance, which is precisely the difference in cultural background and appreciation perspectives caused by the time and space span of the social and historical environment between the artworks and the viewer (Benjamin, 1935). It is this kind of distance and difference that creates the infinite charm of the artwork itself. This inaccessibility is indeed an important quality of the object of worship. Although the distance creates a certain barrier, because of this distance, people have a vague sense of mystery about the jewellery. People are curious because of this sense of mystery and put themselves in a place to think and experience, while because of historical environmental reasons, they can never fully fit with it, and this dazzling "aura" is born from this.

The concept of "cult value" is also one of the significant characteristics of "aura" (Benjamin, 1935). Benjamin (1935) believed that art originated from religious activities, and "cult value" represents the traditional, ritualistic, or religious significance of artworks, contributing to their "aura." Reproduction frees artworks from their dependence on rituals. Therefore, whether the reproduction of artworks through technology is beneficial is a question worthy of consideration and research. This issue is explored in Chapter 5 through the perspectives of the interviewees.

The integration of immersive experience technologies into jewellery exhibitions can revolutionise how audiences engage with and appreciate these intricate works of art. By shortening the distance between the viewers and the exhibits, these technologies allow for a

deeper understanding and connection to the pieces on display, effectively establishing a bridge of communication between the viewers, designers, and curators. As Caggianese *et al.* (2018, p.625) illustrated, modern technologies of immersive experience have been employed to create new digital resources, overcoming the limitations of traditional exhibitions. This approach is particularly valuable in jewellery exhibitions, where the minute details and craftsmanship can be highlighted in previously unimaginable ways. Writing about fashion curation, Vänskä and Clark (2018, p.19) supported this perspective, noting that these technologies resonate powerfully among contemporary curators and designers, enhancing the viewer's experience and interaction with fashion and jewellery displays. Moreover, in jewellery exhibitions, where the storytelling aspect is crucial to conveying the historical and cultural significance of pieces, immersive technologies can enhance the 'power of display.' As Loscialpo (2016, p.226) discussed, these technologies improve the efficiency of delivering the story and meaning behind each exhibit, which is particularly vital in exhibitions where the history and symbolism of jewellery brands need to be communicated effectively. Additionally, the use of mobile technology required by Augmented Reality (AR) and Mixed Reality (MR) enables visitors to explore intersections between the physical exhibition space and the digital realm, thereby providing a more comprehensive understanding of the jewellery on display (Loscialpo, 2016, p.239).

Despite these advantages, the implementation of immersive experience technologies in fashion and jewellery exhibitions is not without its difficulties. One of the primary challenges is the significant adjustment required in museum budgets and staffing. Specifically, when trying to integrate new technologies, museums need to ensure that exhibitions, collections, and communication are not isolated in the museum organisation (Debo, 2017, p.84), which requires museums to readjust their budgets and teams and require staff at all levels of the museum organisation to change their attitudes and perspectives (Debo, 2017, p.73). For example, in the budget allocation, the proportion of the budget for technology needs to be increased, and the team needs to increase professional technicians to ensure the effective application of technology. Although some museums have already shifted their focus from physical objects to new forms of technological display or interactive media to engage audiences (Conn, 2010), there is still tension between the presentation of physical objects and technical interpretation (Moloney, 2018, p. 53). Hence, in such an established museum environment, the use of new technologies and interactive media is complex and requires careful navigation (Moloney, 2018, p.54).

Immersive experience technologies have the potential to transform jewellery exhibitions, offering visitors unique and unforgettable experiences that transport them to different times and places, while also delivering a certain entertainment value. Jelinek (2018) noted that the primary

appeal of 3D products lies in their ability to entertain, engage, and provide enjoyment. In jewellery exhibitions, where the intricate details of craftsmanship are crucial, these technologies, such as 3D VR interfaces, enhance the experience of telepresence, making visitors feel as if they are physically present in a different environment, allowing them to appreciate the nuances of the jewellery pieces in a more profound way. Pegler *et al.* (2018, p.324) supported this, emphasising that technology-enabled experiences can leave a lasting impression, with visitors becoming personally engaged with the displays, effectively making the objects on display a part of their experience. This interaction transforms jewellery exhibitions into dynamic, multi-sensory events where curators can effectively "sell" the cultural and artistic value of the exhibits to an audience eager for both education and entertainment.

Additionally, technologies of immersive experience can give visitors a dynamic, multi-sensory, and unique experience. Gilbert (2002, p.11) argued that museums and exhibitors feel immersive exhibitions are a good solution to capture the audience's attention and provide unforgettable experiences. Schmitt (2019, p.825) agreed that sharing experiences can be more fascinating and that technologies of immersive experience can create unique experiences for consumers. Moreover, immersive experiences contribute to the dissemination of culture and enhance the educational significance of exhibitions and museums. According to many researchers, such as Calvet *et al.* (2019), although technologies of immersive experience have not been widely used in the field of education, its effects in the field of education have been proven to be satisfactory through experiments. This is consistent with Lee *et al.* (2013, p.400), who believe that technologies of immersive experience can make learning in museums more effective and interesting. For jewellery brands, Jelinek (2018, p.294) believed that creating a multi-sensory experience for consumers can create a strong sales proposition, the concept of brand value, and the strategic tools for positioning luxury goods. He explained that technologies of immersive experience will play a role in luxury, finding the right way to connect with the brand's own heritage and values and those of its customers (Jelinek, 2018).

However, it is worth asking whether it is necessary to overemphasise entertainment in order to attract visitors by blindly using curatorial methods of immersive experience. As the functions of museums and exhibitions evolve to include entertainment, it is vital not to lose sight of their primary role in education and cultural dissemination. Gilbert (2002, p.12) raised concerns that the excessive use of immersive technology could make exhibitions too "Hollywood" or reduce them to mere marketing tools, potentially stripping them of their educational and cultural significance. This concern is particularly relevant in jewellery exhibitions, where the focus should remain on the historical, cultural, and artistic importance of the pieces rather than solely on their entertainment value. If immersive technologies are used solely for entertainment

without integrating deeper cultural expressions, they risk reducing the exhibition's ability to convey the true meaning and significance of the jewellery on display.

Moreover, the use of immersive technologies in jewellery exhibitions also presents a new strategy for exhibition publicity and brand engagement, particularly for luxury brands. These technologies not only enhance the visitor experience but also serve as powerful tools for expanding the reach and appeal of jewellery exhibitions. For example, as visitors immerse themselves in the virtual environments created by these technologies, they experience a reduction in stress and negative emotions, making the exhibition experience even more appealing (Soliman *et al.*, 2017, p.9). Lorentz (2006) added that immersive spaces can help people temporarily escape from the stresses of daily life, providing a sense of relief and engagement that is particularly attractive in luxury settings. Furthermore, Lucas (2016) suggested that immersive spaces resonate strongly with futuristic ideas, allowing jewellery exhibitions to not only showcase the heritage and craftsmanship of the pieces but also to project a vision of the future, aligning with the luxury brand's identity and values. These ideas will inform the analysis of case studies in Chapters 6 and 7, which evaluate the effectiveness and limitations of existing implementations of immersive experience technologies in luxury and fashion curation contexts, providing a foundation for further innovation. Additionally, these concepts will be applied and expanded upon in the speculative design proposals presented in this thesis, where immersive experiences are imagined as key strategies for creating engaging and emotionally impactful jewellery exhibitions.

Immersive technologies can extend jewellery exhibitions beyond the physical space, allowing potential visitors to explore the exhibition virtually (Loscialpo, 2016, p.239). This not only broadens the audience but also offers luxury brands a novel way to connect with their customers, providing a "built-in" marketing strategy as noted by Duggan (2001, p.259). By leveraging these technologies, luxury jewellery brands can position themselves as forward-thinking and innovative, creating a strong sales proposition and fostering brand loyalty. As Jelinek (2018) pointed out, the challenge for luxury brands lies in using these technologies to serve the luxury concept and offer unique experiences that resonate with their heritage and customer base.

Nevertheless, the development of immersive experience technologies in fashion exhibitions has significantly heightened audience expectations. As the number of fashion exhibition venues increases and diverse technologies are employed to enhance these exhibitions, visitors have been "trained" to expect a sophisticated level of immersive experience (Moloney, 2018, p.42). This shift aligns with Grau's (2003) observations, which suggest that people often become fatigued and dissatisfied with experiences that engage only a single sense. As technology

continues to advance, audiences are demanding more complex and multi-sensory stimulation. As a result, fashion and jewellery curators face the ongoing challenge of continually introducing fresh content and innovative experiences to captivate and attract more visitors. Curators must adapt to these heightened expectations, Pescarin *et al.* (2018) emphasised, by integrating cutting-edge technologies and offering new, engaging experiences that resonate with increasingly tech-savvy audiences. This evolution in audience expectations underscores the importance of creativity and innovation in the curation of jewellery exhibitions, pushing curators to explore new ways to leverage immersive technologies to keep their exhibitions relevant and exciting, ideas that are explored within the speculative design in Cahpter 8 of this thesis.

This thesis believes that while immersive experience technology presents challenges, the potential benefits are immense if fashion and jewellery curators actively and thoughtfully respond. To address the risk of overshadowing the authenticity of physical exhibits, curators can integrate technology in ways that complement rather than replace physical jewellery. For instance, curators could use AR to overlay digital narratives onto physical objects, enriching the viewer's understanding without detracting from the original pieces. To manage the logistical complexities, museums could adopt a phased approach to technology integration, starting with smaller-scale implementations to assess their impact and refine strategies before expanding. Collaborating with tech experts and allocating resources to staff training can also help ensure a smooth integration process, allowing curators to effectively leverage these tools. In balancing education and entertainment, curators should focus on creating experiences that are both engaging and informative. This can be achieved by curating interactive exhibits that encourage active learning, such as VR experiences that allow visitors to explore the historical context of a piece in a more immersive way. By strategically addressing these challenges, fashion and jewellery curators can unlock the unlimited potential of immersive technology, creating exhibitions that are not only captivating but also deeply educational and culturally enriching. Chapter 8 will propose a speculative design that incorporates and develops these suggestions specifically for jewellery exhibitions.

3.4 Research on Technologies of Immersive Experience Technology in Jewellery/Fashion Exhibition

As mentioned in the Introduction, most of the current jewellery exhibitions employ traditional exhibition methods, and the jewellery exhibitions that used technologies of immersive experience are quite limited. Therefore, the following sections will introduce some immersive experience techniques and discuss their application and research in both contemporary fashion and jewellery exhibitions.

3.4.1 Projectors

Projectors are large, high-resolution, tiled displays that extend to walls, ceilings, and floors (Majumder *et al.*, 2000, p.117). These have a number of advantages over traditional display screens (Majumder *et al.*, 2000, p.117): First, the high resolution and wide field of view (FOV) of such displays make them useful for visualising scientific data and complex open environments. Second, it can be used as an immersive surround display to create a compelling sense of presence and immersion in virtual environments. Third, life-size objects allow a natural interaction between the viewers and the virtual object, which makes it an excellent tool for collaborative spaces.

Figure 3.1 Exhibition View, the Use of an Auxiliary Projector in the Exhibition, (2022) Yimeng Li, *Fashion Masculinities: The Art of Menswear*.

Projection technology offers high flexibility, allowing for projections in small areas to supplement exhibition content or in large areas to create immersive virtual spaces for the audience. In contemporary fashion exhibitions, the use of projectors has notably increased (Capacete-Caballero *et al.*, 2013, p.337). For instance, upon entering the exhibition hall of *Fashioning Masculinities: The Art of Menswear* (V&A 2022), audiences encountered “Spitfire” (1988), a film by renowned British choreographer Matthew Bourne, projected on a wall opposite them (see Figure 3.1). This film, performed by New Adventures dancers, parodies men’s underwear advertisements and mail-order catalogue photography (Fashioning Masculinities:

The Art of Menswear, 2022). The projection not only complemented the exhibition's content but also served as an auxiliary tool to enhance the immersive experience. In contrast to this targeted projection used to supplement the exhibition content, the final room of the "Fashioning Masculinities" exhibition showcased three iconic gowns with projections covering the surrounding walls as a background (Figure 3.2). Here, a specially commissioned monumental film by Quentin Jones in collaboration with Cadence Films was projected. The moving images surrounded the audience, fully immersing them in the exhibition. In this context, projection technology played the primary role in creating an immersive experience. Capacete-Caballero *et al.* (2013, p.337) argue that such uses of projection technology not only enhance static fashion displays but also foster creative communication between exhibits and viewers by producing an immersive environment in fashion exhibitions.

Figure 3.2 Exhibition View, Three Iconic Gowns with Projections Covering the Surrounding Walls as a Background (2022) Yimeng Li, *Fashion Masculinities: The Art of Menswear*.

Techniques like surround projection, where images are projected across expansive surfaces, demand meticulous design and programming for seamless integration on a computer site (Stokes-Rees, 2019). Similar to the aforementioned technology, TeamLab utilises projections to animate diverse surfaces, including walls, floors, mirrors, and even visitors. For example, as shown in Figure 3.3, curated by TeamLab, *VOGUE: Inventing the Runway* (2024) projects high-definition, multi-screen runway scenes onto the walls and floors of the exhibition space.

Accompanied by rhythmic music that sets the mood, the exhibition showcases the history of fashion runway shows, allowing visitors to experience the evolution from the intimate haute couture salons of the early 20th century to today's unforgettable pop culture events (VOGUE: Inventing the Runway, 2024). Stokes-Rees (2019) noted that as digital art transcends material limitations, the physical structure housing projection equipment becomes crucial; digital art blends with the background, fusing the virtual and physical realms and erasing the boundaries between external and internal spaces. This convergence transports the vast external world into confined spaces, providing audiences with an immersive experience through 3D sensory stimulation and perceptual illusions (Stokes-Rees, 2019).

Figure 3.3 Exhibition view, Projecting High-definition Multi-screen Runway Scenes on the Walls and Ground of the Exhibition Space (2024) Yimeng Li, *VOGUE: Inventing the Runway* https://images.lightroom.uk/uploads/2024/05/LIGHTROOM_VOGUE-DIGITAL-AW-1920x1080-blank.jpg?fit=1536%2C1536 [Date of Access: 20/12/2024].

Projectors are also commonly employed in jewellery exhibitions as a curatorial technique. However, there is a lack of in-depth academic analysis regarding their use in this specific context. Therefore, Chapters 6 and 7 offer a more detailed exploration of how projectors can enhance the immersive experience in jewellery exhibitions. Furthermore, in Chapter 8, the speculative design proposal presents more tailored applications of projector technology for jewellery exhibitions.

3.4.2 Audio Devices

Creating an immersive environment in exhibitions is not only reliant on visual elements but also on the use of sound (Capacete-Caballero *et al.*, 2013, p.337). The effect of sound combined

with moving images is intended to give the audience a greater sense of the static exhibits on display (Capacete-Caballero *et al.*, 2013, p.337). Background sounds play an important role in immersive exhibitions (Gao *et al.*, 2022; Loureiro *et al.*, 2019). The use of different kinds of audio and even headphones for output can make the atmosphere of the overall exhibition more diverse, and also help the works (such as the fashion film in the V&A's Masculinities exhibition, mentioned above) to be full of vitality and change (Gao *et al.*, 2022). Therefore, audio devices are also one of the essential technologies for creating immersive experiences.

There are many kinds of audio player choices, such as point-and-click sound, surround sound, heavy bass, and high treble players (Gao *et al.*, 2022, p.2632). Curators need to select the device according to the exhibition content and space, and control the direction of sound, source, and specific texture (Gao *et al.*, 2022, p.2632). Specifically, curators choose different background sounds and devices according to different exhibition themes, production methods and visual presentation, and all of these are related to whether the audiences can feel the intensity of "immersion" in immersive exhibitions (Gao *et al.*, 2022, p.2632).

Audio devices are also widely used in fashion and jewellery exhibitions; the exhibitions mentioned above, *Vision & Virtuosity by Tiffany & Co.* (2022) and *Fashioning Masculinities: The Art of Menswear* (2022), both employed a variety of audio technologies, such as directional speakers and surround sound systems, to provide background sounds that matched the thematic elements of the exhibitions. These audio devices were strategically placed to enhance the atmosphere of different sections within the exhibitions, ensuring that the soundscapes aligned with the visual content on display.

Gao *et al.* (2022, p.2632) illustrated that the addition of sound not only enables the audience to experience the direct dynamics of the exhibition environment and narrative but also allows them to engage with a multi-sensory experience, where the combination and movement of all senses are integrated. This multisensory engagement reinforces the overall dynamics of the exhibition. As visitors move from one hall to another within the same exhibition, different spaces combined with varying background sounds can evoke diverse and rich emotions, creating a more immersive and memorable experience (Gao *et al.*, 2022, p.2632). Loureiro *et al.* (2019, p.22) supported the idea that background sounds can deepen the audience's memory of exhibits. They argued that appropriate audio elements can provide visitors with a pleasant exhibition experience, helping them to focus on the exhibits and strengthening memory formation (Loureiro *et al.*, 2019, p.22).

However, Loureiro *et al.*'s (2019, p.33) research showed that background sounds may also adversely affect the audience's evaluation of exhibits. It seems that sound distracts from the emotional interaction associated with the exhibition experience and the beauty associated with

the exhibits, which may overemphasise the skills required for the interpretation of exhibits (Loureiro *et al.*, 2019, p.33). Therefore, the background sound needs to match the style of the exhibition and not become a stronger sensory stimulus than seeing the exhibits (Loureiro *et al.*, 2019, p.33). This is a core factor for the exhibition or exhibits to receive good reviews, which can help to memorise the contents of the exhibition and increase the probability of recommending visits (Loureiro *et al.*, 2019, p.33). When a match between exhibits and audio does not occur, it can lead to unfavourable reviews (Loureiro *et al.*, 2019, p.33). Consistent with Gao *et al.* (2022, p.2632), sounds, like projections, should serve the theme of the exhibition, stimulate the audience's senses, and give the audience an emotional atmosphere before entering the world created by curators.

So how can fashion curators use sound technology to determine whether it matches the style of the jewellery exhibition and choose the appropriate background sound, equipment, direction sources and textures? One method to evaluate the suitability of sound in exhibitions is the exploratory approach proposed by Voegelin (2014), known as soundwalks. This practice involves curators walking through the exhibition space, reflecting on the acoustic environment and considering alternative curatorial strategies. During a soundwalk, curators assess how sound interacts with the exhibition space, existing audio elements, and the natural environment of the venue. By questioning the role of sound in shaping the audience's experience, curators can determine the most appropriate sound design for the exhibition.

It is the responsibility of the curator to carry out the soundwalks, enabling the curator to explore the multi-dimensionality, timeliness, and complexity of the place and to participate in the multi-modal interaction of the work (Voegelin, 2014). This approach allows the curator to re-examine the exhibition space and see the exhibition as a whole, focusing on the connection between the inside and outside of the space and the environment. However, this method bears a qualitative, subjective nature, and is based on the curator's personal aesthetic and experience. In instances where a curator may lack breadth of experience or possess a singular aesthetic inclination, could this approach then devolve into instability? This thesis believes that the dynamic interchange between curators, brands, and designers could inject a sense of objectivity into the curatorial decision-making process. This synergy tempers the subjectivity inherent to a curator's individual perspective, fortifying it with a balanced amalgamation of diverse insights. Based on the preceding discussion, this thesis integrates this key element into the research methodology. It analyses insights gathered from interviews with industry experts, technicians, and fashion curators (see Chapter 5) to develop a speculative design for jewellery exhibitions that minimises subjectivity and ensures a more objective and comprehensive approach. Additionally, the specific method of soundwalks is incorporated into the speculative jewellery exhibition design (see Chapter 8) to demonstrate its practical application.

3.4.3 Virtual Reality

Virtual Reality (VR) is a simulation that uses computer graphics to create a realistic world. In addition, the composite world is not static but responds to user input, such as gestures and commands. This defines one of the core features of VR: real-time interactivity (Burdea and Coiffet, 2003, p.3). Characteristically, 'An aesthetic impression of immersion is a primary characteristic of virtual reality' (Grau, 2003, p.201). Hertz (2008, p.5) said, 'In fact, the emphasis in virtualism lies on techno-aesthetic issues linked to such notions as cognition, synaesthesia, and sensory immersion.' Therefore, this thesis believes that VR is characterised by immersion, interaction and multi-sensory experience.

Figure 3.4 Online exhibition view, Virtual Reality Exhibition "Daydreams", A 2020 Pandemic Creation for Remote Viewing of Winchester Gallery, (2020) Yimeng Li and Yating Gao, *Daydreams*.

VR can be classified as non-immersive VR and immersive VR (Suh and Prophet, 2018, p.79). The former is a technology that does not require users to wear any equipment, but a computer or phone screen to display the VR content (Suh and Prophet, 2018). As illustrated in Figure 3.4, the online VR exhibition Daydreams was designed by myself during the 2020 pandemic using software to model the internal structure of the Winchester Gallery. Visitors can explore the exhibition by clicking the link (https://720yun.com/t/ebvkOwflp1w%3Fscene_id=54365047?scene_id=54365043) through their computer or mobile phone. This allows people to view the exhibits at home without having to go out. This VR technology could be applied to online fashion and jewellery exhibitions of brands, institutions, and museums through 3D modelling. Especially during the pandemic of COVID-19, when people's travel and social interaction were limited, online exhibitions became

one of the choices for people to be entertained and learn about culture. Thus, studying the innovative use of this technology was particularly important for fashion curators during the pandemic. In contrast, offline jewellery exhibitions involve significantly higher costs encompassing inventory, space rental, and equipment. Virtual exhibitions are not constrained by physical venues, allowing for an unlimited number of audiences, and can remain accessible 24 hours a day. Additionally, online viewers have the opportunity to interact with each other, fostering a dynamic and interactive virtual experience.

While offline exhibitions primarily rely on physical displays, immersive VR offers a new dimension by requiring users to wear a head-mounted display, allowing their reactions to be observed and recorded in a fully immersive, controlled environment (Suh and Prophet, 2018). In a part of the exhibition, *Alice Curiouser and Curiouser* (2021) at the V&A, curators displayed the story in a virtual environment by using head-mounted displays (see Figure 3.5). Through this device, the audience becomes Alice and goes through her adventure experience in the first person. For example, the audience would experience the body getting bigger or smaller after eating a cake.

Figure 3.5 Exhibition view, Immersive VR Experience in Alice: Curiouser and Curiouser, Exploring Adventures Through Head-Mounted Displays (2021) Yimeng Li, *Alice Curiouser and Curiouser*.

For jewellery exhibitions, VR could transform a jewellery exhibition by allowing visitors to virtually “try on” pieces, experience the craftsmanship up close, or explore the intricate details of each piece in ways that physical displays cannot provide. Additionally, in jewellery exhibitions, VR technology has the potential to preserve and present delicate items that are too fragile or valuable for frequent handling or extended display. According to Martin *et al.* (2019,

p.61), VR can play a crucial role in ensuring the sustainability of archives, particularly for light-sensitive or fragile pieces. Jewellery, often composed of delicate materials, is subject to similar restrictions, necessitating careful management of exhibit safety. VR technology effectively addresses these challenges by allowing visitors to closely examine and appreciate jewellery pieces without risking damage to the originals. For instance, virtual replicas of iconic pieces could be displayed in a VR environment, offering detailed views of the craftsmanship while preserving the physical integrity of the actual jewellery. This approach enhances both the preservation and accessibility of valuable jewellery collections. Moreover, in creative jewellery exhibitions, immersive VR can enrich the visitor experience by placing the pieces within the context of the designer's inspiration. Through VR, audiences can explore the environments, historical periods, or cultural influences that shaped the creation of the jewellery, deepening their understanding and appreciation of the works on display.

However, this approach aligns with the discussion in Section 3.3 regarding the importance of authenticity in jewellery exhibitions. While immersive VR can enhance the display, combining it with real jewellery provides a more authentic and impactful experience. Thus, fashion curators must carefully consider how to integrate technology with traditional display methods based on the nature of the exhibits. Balancing the use of immersive VR with the physical presence of authentic jewellery is essential for creating an engaging and authentic exhibition experience. Moreover, Yoo *et al.* (2017, p.273) indicated that although VR technology is constantly updated and developed, the content provided by it still makes the audience clearly distinguish the difference between reality and virtual objectives, and makes the audience feel unacquainted and distant to the virtual environment. How to improve the technology to reduce this sense of distance is an important issue for scholars and fashion curators to consider at present. Besides that, experts also need to eliminate vertigo, a side effect caused by the audience wearing head-mounted displays. Although technical research is ongoing, no fundamental solution has been found so far (Yoo *et al.*, 2017, p.289).

In summary, the pros and cons of using VR headsets in jewellery exhibitions highlight a complex landscape. While immersive VR offers a secure and engaging experience, challenges related to authenticity and technical limitations present significant further development direction. This thesis adopts a speculative design approach (see Chapter 8), incorporating not only the insights of industry professionals as shown above but also considering future trends in museum technology in relation to VR. It explores how current technological limitations might be resolved to enhance the visitor experience. Furthermore, to address the issue of authenticity, this research considers the integration of real jewellery with virtual experiences, aiming to create a more balanced and enriched exhibition.

3.4.4 Augmented Reality

Augmented reality (AR) technology combines real-world elements with virtual ones. Utilising real-time interactivity and 3D registration technology, an augmented reality environment consists of 3D images or animations that can be integrated with real-world objects in the same environment, offering an enhanced yet authentic view (Rochlen *et al.*, 2017). AR differs from VR in that it provides users with a more realistic environment than virtual reality. This is because some of the objects observed are real and some are virtual, giving rise to the closely related term "mixed reality [MR]" (Rochlen *et al.*, 2017). What this has in common with VR is real-time interactivity. Generally, the characteristics of AR can be summarised as the combination of virtual and reality, real-time interaction, and placing virtual objects in three-dimensional real space. Figure 3.6 shows the use of AR technology in *Tiffany & Co's Vision & Virtuosity* (2022) exhibition. After the audience scanned the QR code through their mobile telephones, a 3D model of the yellow diamond necklace appeared on the camera of their mobile devices. The audience can interact with the necklace by taking selfies, combining the real environment with the virtual exhibits. This example will be analysed in more detail in Chapter 6.

Figure 3.6 A selfie with a virtual yellow Tiffany diamond necklace Through AR Technology. (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

In the fashion industry, the application of AR technology is a major advancement that can address the limitations of traditional fashion experiences and enhance user satisfaction (Jayamini *et al.*, 2021). Jayamini *et al.* (2021, p.3) explained that the need to spend a lot of time trying on products, skin disorders and privacy issues in fitting rooms have all led to digitisation

within the fashion industry. In addition, online shopping surged as brick-and-mortar retail stores closed during the COVID-19 pandemic (Jayamini *et al.*, 2021, p. 3). However, customers shopping online cannot verify whether the product is suitable for them, which has increased the demand for AR, and in the past few years has attracted more interest in academic research, leading to the development and introduction of applications such as virtual fashion shows, virtual exhibitions, virtual fitting rooms, digital jewellery, virtual stylists, and virtual magazine catalogues (Jayamini *et al.*, 2021, p. 8).

However, much of the research on AR technology remains in the developmental stage and has not yet been fully integrated into current practices (Jayamini *et al.*, 2021, p. 8). As noted by Lee and Bae (2013, p. 3169), AR faces challenges in interaction systems with transparent displays and objects in the background, leading to duplicated and overlapping images. On the other hand, VR offers a heightened sense of realism due to its immersive three-dimensional environment. In contrast, Mixed Reality (MR) allows users to interact with exhibits and access information using readily available mobile devices, without the need for a head-mounted device. This interaction also enables users to take photos or videos with the exhibits for sharing on social media platforms. Compared to immersive VR technology, MR is less costly, more accessible, interactive, and more engaging. Researchers anticipate that the industry will become increasingly data-driven, sustainable, digital, and streamlined, with AR technology holding significant potential for the future (Jayamini *et al.*, 2021, p. 8).

3.5 In Conclusion

This chapter explored the concept of immersive experiences, defining them as multi-sensory engagements that require full physical, psychological, and emotional involvement. For such experiences to succeed, audiences must remain open-minded and willing to immerse themselves in new environments. Additionally, their allocation of attention and the immediate feedback provided by the exhibition play a crucial role in maintaining focus and a sense of presence. Drawing on flow theory, this chapter emphasised the importance of balancing the challenges posed by immersive designs with the audience's skills to avoid boredom or frustration. Emotional responses evoked during these experiences can range from positive reactions to negative emotions, such as fear or anxiety, underscoring the complexity of creating effective immersive exhibitions. Technology serves as an indispensable tool in delivering these immersive experiences. It enhances sensory engagement, enables cognitive and emotional connections with exhibits, and creates innovative narrative spaces that attract visitors, increase interaction, and extend the memorability of exhibitions. However, certain conditions must be met for immersive technologies to achieve their potential. These include providing multi-

sensory stimulation with consistency across sensory modalities, balancing the delivery of exhibition information with interactive feedback that aligns with audience capabilities, ensuring high-quality and rich content, and offering a surrounding visual field that envelops the audience in the exhibition environment.

Building on this foundation, the chapter analysed the application of projectors, audio equipment, VR, and AR technologies in jewellery and fashion exhibitions. Projectors demonstrate high flexibility, allowing for supplemental displays in small areas or large-scale immersive environments that transform exhibition spaces at a relatively low cost. Audio equipment, often overlooked, plays a critical role in shaping emotional responses and the exhibition's overall atmosphere. Proper sound design, guided by exploratory techniques such as soundwalks, ensures that the auditory elements align with the exhibition's theme, enhancing the audience's engagement without detracting from the exhibits themselves. VR technology offers both non-immersive and immersive formats, from virtual tours to virtual try-on experiences, providing innovative ways for audiences to explore craftsmanship while preserving the physical integrity of valuable jewellery. However, challenges like sensory detachment and dizziness must be addressed for broader adoption. AR technology, which integrates real and virtual elements without requiring head-mounted devices, enables interactive features such as virtual jewellery try-ons, but still faces technical limitations such as image duplication and overlap.

Looking ahead, the next chapters build on these insights. Chapters 6 and 7 explore case study exhibitions, critically demonstrating how immersive experience technologies have been effectively applied in jewellery exhibitions, while Chapter 8 will present speculative designs that integrate these technologies in innovative ways to enhance engagement, storytelling, and cultural resonance in jewellery displays.

Chapter 4 Methodology

This research project adopts a multi-method qualitative approach to understand the significance of immersive experiences provided by technologies in jewellery exhibitions, particularly within the context of the luxury industry and fashion curation. The limited availability of information in this area necessitates in-depth exploration through methods such as observation, interviews, and follow-up meetings (Njie and Asimiran, 2014, p.35). As Kawamura (2020, p.39) noted, qualitative analysis is appropriate when research aims to understand phenomena that do not require precise measurements, such as fashion-related inquiries. This aligns with the project's focus on gaining insight into immersive technology's impact on brand jewellery exhibitions, where understanding is prioritised over quantification. Qualitative methods are chosen because they allow for a comprehensive exploration of complex and under-researched phenomena, such as the role of immersive experience technologies in enhancing exhibition experiences (Njie and Asimiran, 2014, p.35). These methods provide the necessary depth to capture the nuances of this curatorial practice. This methodological approach supports the study's objectives: describing the use of immersive experience technology, evaluating its effectiveness, and interpreting its impact on luxury brand exhibitions. This helps to assess innovation in fashion and jewellery curation, particularly in how such technologies transform the audience experience (Njie and Asimiran, 2014, p.36).

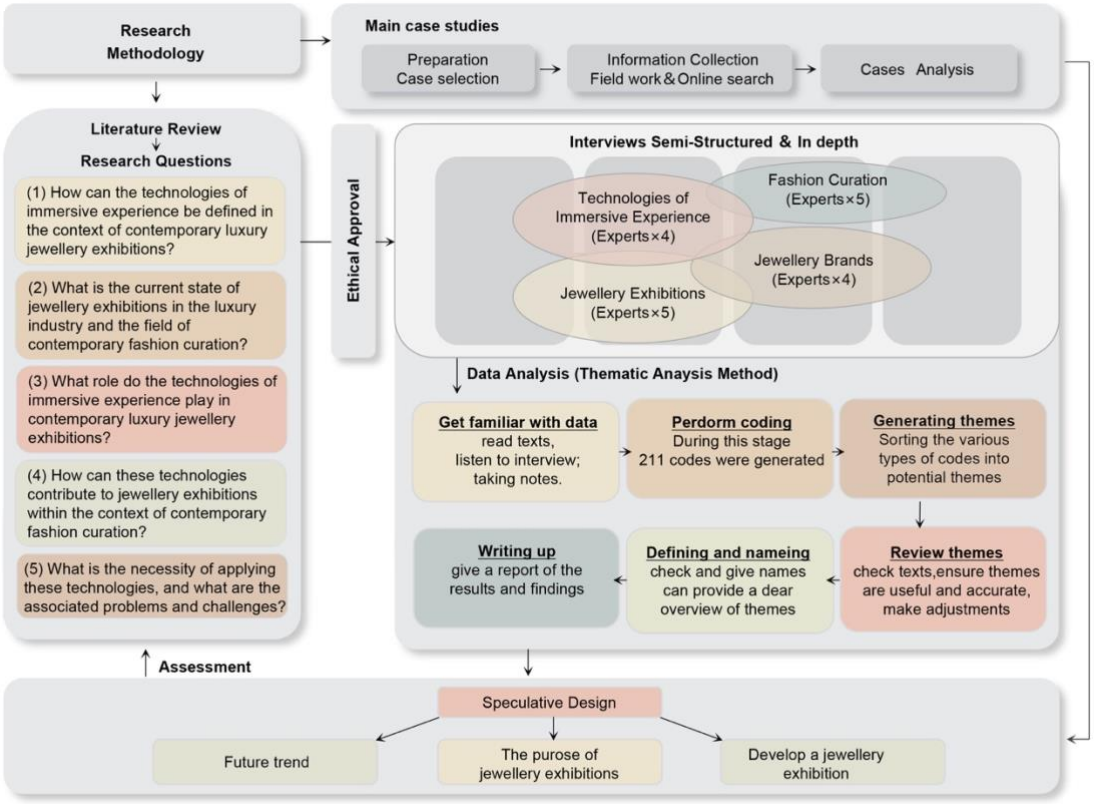

Figure 4.1 Research Method Design. (2024) Yimeng Li

The overall method design followed a structured approach, carefully tailored to the study's objectives. As shown in Figure 4.1, the selected methods were particularly appropriate for this research because they combined theoretical grounding, detailed practical analysis, and expert insights. First, a literature review was conducted to explore potential answers to the research questions through the studies of other scholars (see Chapters 2 and 3). This step was essential to establish a theoretical framework, identify knowledge gaps, and ensure the research built upon the existing body of work. Next, analytical case studies were employed to investigate contemporary brand jewellery exhibitions utilising immersive experience technologies. Case studies were chosen for their ability to provide a focused, contextualised analysis of real-world examples, which is especially important given the relatively limited number of such exhibitions over the past decade. By selecting two cases, the study enabled an in-depth exploration of these cases, generating insights that broader or less detailed methods might overlook. The rationale for selecting these two cases is detailed in Section 4.1 below. Following this, interviews were conducted with industry professionals from fields such as immersive experience technology, fashion curation, jewellery exhibitions, and branding. Interviews were selected for their ability to capture firsthand insights and expert opinions, which are invaluable for understanding the practical applications and future potential of immersive technologies in luxury jewellery exhibitions. These qualitative discussions allowed the study to incorporate diverse perspectives and actionable recommendations. The research then synthesised findings from the literature review, case studies, and interviews, testing and refining insights to create a cohesive understanding of the topic. Finally, speculative design-based suggestions were developed, drawing from the synthesised findings and considering future trends in immersive technology. This speculative approach was particularly suitable for exploring innovative applications of these technologies in luxury brand jewellery exhibitions. By combining these methods, the study ensures a robust and comprehensive approach. The specific qualitative research methods used, along with the rationale for their selection, are explained in detail below.

4.1 Case Study Method

For this project, I chose two case studies to gain a comprehensive understanding of the use of immersive experience technology in contemporary jewellery exhibitions. The case study approach allows for the collection of multiple forms of qualitative data, offering deeper insights into the phenomena under investigation (Heale and Twycross, 2018, p.7). By focusing on specific exhibitions, I was able to narrow a broad and complex topic into manageable research

questions, enabling an in-depth exploration of how immersive technologies are implemented in real-world settings. This approach was particularly valuable because it provided a holistic view by collecting data from various sources, including field visits and online research. As Baxter and Jack (2008, p.544) emphasised, the use of diverse data sources ensures that the phenomenon is explored from multiple perspectives, revealing a more nuanced understanding. In this thesis, the investigation of individual immersive jewellery exhibitions through these methods was essential for understanding the challenges and opportunities posed by the integration of technology in luxury exhibitions.

I chose two clear case studies because they provided valuable insights into the use of immersive experience technologies in luxury jewellery exhibitions, which is central to my thesis. The first case study, *Vision & Virtuosity by Tiffany & Co.* (2022), was particularly relevant because it showcased how a globally renowned luxury brand integrates immersive technologies to enhance the narrative of its jewellery collections. My research initially involved a field visit to this exhibition, allowing me to experience first-hand the immersive elements and observe how they interacted with the brand's storytelling, design, and visitor engagement. This personal experience was crucial for analysing the practical use and impact of immersive technologies.

The second case study focused on exhibitions by designed and staged by VCA, an influential organisation known for curating exhibitions and events for luxury brands. This case study relied on online sources, and I analysed three key exhibitions orchestrated by VCA as a comprehensive example of how one agency integrates immersive experiences into luxury jewellery presentations. VCA's exhibitions were selected because of their innovative approaches and their alignment with the research's focus on luxury, brand culture, and immersive design.

These two case studies were particularly relevant and beneficial for my research for this thesis as they allowed for the examination of different curatorial methodologies and immersive technologies across three distinct brands (besides the Tiffany & Co. of the first case study, the VCA curated three exhibitions for Cartier and Louis Vuitton). They allowed for the examination of different curatorial methodologies and immersive technologies across distinct contexts. It is important to clarify that Tiffany & Co. was analysed as a luxury jewellery brand creating its own branded exhibition, whereas VCA was studied in its role as an external curators team for exhibitions showcasing luxury jewellery. A key part of this research was the individual analysis of each exhibition's use of immersive technologies, exploring how these elements contributed to the overall visitor experience and brand storytelling. Moreover, by comparing these two case studies, I was able to investigate commonalities and differences in the use of immersive experience technology in luxury jewellery exhibitions. This comparison helped to highlight the

diverse ways in which technologies of immersive experience can be implemented and their varying levels of impact on the exhibition's success.

The main objects in my analysis were organised according to the types of technologies employed in the case study exhibitions: augmented reality (AR), projection, audio devices, and interactive panoramic screens. Each of these technologies was analysed in detail to understand how they contributed to creating a multi-sensory and immersive experience in jewellery exhibitions.

When considering each technology, the analysis was framed by the definition of immersive experience technologies, as discussed in section 3.1. These refer to technologies that engage the audience's attention, fully immerse them within the exhibition space, offer multi-sensory stimulation, and ensure consistency across sensory modalities. The technology must deliver exhibition information and provide interactive feedback while maintaining a balance between the challenges it presents and the audience's ability to respond. Additionally, these technologies must offer high-quality, high-fidelity content that is clear and rich, while the spatial design of the exhibition should support immersion, as a narrow field of view can reduce the audience's sense of immersion.

In summary, evidence derived from multiple case studies is generally considered more robust and reliable than that from a single case study, as it allows for a broader exploration of research questions and theoretical advancements (Heale and Twycross, 2018, p. 7). In this thesis, given the limited number of immersive jewellery exhibitions that fit the research criteria, a hybrid approach was adopted. One case study was based on a physically attended exhibition, while the second relied on secondary online materials. Although relying on online sources for the second case study introduces the possibility of deviation in understanding, this limitation was mitigated through careful selection and triangulation of resources from multiple platforms, such as information from official websites, reports on different platforms and sharing on social media. This thorough screening process enhanced the credibility and reliability of the secondary data. While each approach – physical observation and reliance on secondary data – has its own limitations, they complement one another, offering different kinds of information that collectively contribute to answering the research questions.

In terms of ethical considerations, there were no formal interviews and talks with the staff and visitors when doing the fieldwork for the case study, and this part does not include any participants. Hence, there are no issues with the informed consent and privacy of participants. When collecting visual data, I tried to avoid showing any faces of visitors and tourists in pictures or videos. For secondary data, I made sure to use publicly available secondary data and

information and correctly cited the source by using the Harvard format. In addition, I strictly reviewed and verified the collected data to ensure that it was accurate and reliable.

In addition, interviews with relevant experts were conducted to provide further depth and context, helping to bridge any gaps left by the limitations of relying on online data. As shown below, these expert interviews offered valuable insights that enhanced the understanding of the research questions, allowing for a more nuanced interpretation of the immersive technologies used in the exhibitions.

4.2 Interviews

This thesis employed in-depth, semi-structured interviews in order to explore industry professionals' perspectives on the use of immersive experience technology in jewellery brand exhibitions. The aim was to supplement the subjective analysis from case studies and gain deeper insights into the application and impact of these technologies from those involved in jewellery, fashion curation and immersive experience technologies.

Semi-structured interviews were selected for their flexibility, which allows participants to provide open-ended answers, while the researcher can pose follow-up questions to explore areas of interest in more depth (Kawamura, 2020, p.72). This method strikes a balance between structured and unstructured interviews, offering both consistency in question themes and adaptability to the interviewees' responses. The ability to adjust phrasing, language, and even the sequence of questions enables the researcher to delve into emerging topics that are particularly relevant to the study.

While the flexibility of semi-structured interviews is beneficial, it also requires careful management to avoid interviewer bias and to ensure the accuracy of responses. Kawamura (2020, p.65) stressed that interviewers must be mindful not to influence interviewees' answers and should strive to maximise the precision of the questions. To mitigate potential biases, the researcher must be well prepared and ensure a neutral tone throughout the interview process (Kawamura, 2020, p.72). Given the diverse backgrounds of the interviewees, which included variations in nationality, professional experiences, and linguistic preferences, it was also essential to consider their language needs. For instance, Chinese interviewees were interviewed in their native language to ensure comfort and clarity, with their responses later translated into English. This approach helped to respect individual preferences and enhance the accuracy of data collection. To maintain the integrity of the data, all interviews were recorded with participants' consent.

In order to address the research questions thoroughly, 12 participants were selected across four key areas relevant to this thesis: immersive experience technology, fashion curation, jewellery exhibitions, and jewellery branding. The participants in this thesis are all healthy adults over the age of 18. The selection process prioritised experts who had cross-disciplinary experience, such as those involved in both jewellery exhibition curation and immersive experience technology. Experts exclusively focused on one of the four areas were also included to ensure the breadth of perspectives. This balance allowed for representation from all necessary fields.

Interviewees were recruited through social media (Instagram, WeChat, Redbook and Messenger) and email. Participants need information about the research before they agree to the interview. In accordance with ethical guidelines, I sent the participant information sheet and consent form to potential participants when I contacted them. This allowed them to make an informed decision on whether to participate in an interview. The consideration period was two weeks, so participants could have enough time to consider whether they were interested in this research and whether they had time to arrange interviews. After two weeks, I sent a follow-up email giving participants an additional one week to decide whether to participate.

Ethics approval for the study was secured through the ERGO process prior to participant recruitment, ensuring that all ethical concerns were thoroughly addressed, and the ERGO number is 71462. Given the niche nature of the fields studied and the prominence of some curators and experts interviewed, a few participants expressed willingness to be identified in the research. Interviewees were asked prior to the interviews whether they consented to their names being used in the final thesis or publication. For those who declined, anonymity was ensured by replacing their names with numerical codes (e.g., P1, P2, P3) based on the order of the interviews. This approach facilitated the clear citation of participant opinions in the thesis while adhering to ethical standards of confidentiality. Since the majority of participants opted for anonymity, all participants in this thesis have been assigned codes to ensure readability and ease of understanding. However, those who consented to be identified will be mentioned and acknowledged with gratitude in the Acknowledgements section. Their backgrounds and areas of expertise are provided in Table 4.1 and Table 4.2.

Table 4.1 Interviewees' background, (2023) Yimeng Li

P1	Works at the Creative Innovation School of Xiamen University, focusing on design disciplines. Involved in research, library management, and organising design-related exhibitions within the school. Exhibitions primarily target students and teachers.

P2	Works in Shenzhen, specialising in planning and operating exhibitions, particularly in the art and trendy IP sectors. Previous experience as an independent curator for small-scale IP exhibitions.
P3	A lecturer at Xiamen University's School of Creative Innovation. Involved in exhibition-related tasks, communication with curators, and exhibition design.
P4	A project manager in marketing planning, specifically in the jewellery industry. Manages brand marketing, product marketing packaging, and promotion. Organises exhibitions with varying durations and investment costs.
P5	Engaged in marketing for Chow Tai Fook's (a famous jewellery brand in China) sub-brand. Responsible for the overall planning of large-scale events and exhibition curation within the brand.
P6	A final year PhD student at the University of Southampton, researching nostalgia and its induction methods, particularly using virtual reality.
P7	Works as a designer in the Chow Tai Fook jewellery brand, focusing on the daily design of jewellery.
P8	Formerly worked in event planning and space operation for an exhibition organisation in Hangzhou. Currently works in an artist's studio in Shanghai, handling the media aspect.
P9	Pursuing a master's degree in Cultural Heritage and Museology at Fudan University, specialising in jewellery exhibitions in luxury contexts.
P10	Works in marketing for an auction company in the UK. Involved in concept planning and exhibition design, with previous research on curation of online/virtual exhibitions.
P11	A jewellery designer in the start-up phase of a brand, graduated from Goldsmiths University, combining studies in jewellery and interactive design.
P12	Previously focused on jewellery appraisal and IT-oriented 3D modelling during a Ph.D. Now involved in digital advertising creation for jewellery and co-creating a virtual jewellery exhibition with a partner.

Table 4.2 Interviewees' basic information, (2022) Yimeng Li

Name/code	Interview time	Keywords	Technologies of Immersive Experience	Fashion Curation	Jewellery Exhibitions	Jewellery Brands

P1	26/03/2022	Curator/Fashion curator		✔		
P2	02/04/2022	Curator/Fashion curator		✔		
P3	06/04/2022	Curator/Fashion curator		✔		
P4	10/04/2022	Chow Tai Fook; marketing; events planner			✔	✔
P5	10/04/2022	Chow Tai Fook; marketing; events planner			✔	✔
P6	16/05/2022	Researcher in psychology and virtual reality	✔			
P7	21/052022	Chow Tai Fook; Jewellery designer				✔
P8	22/05/2022	Curator/Fashion curator		✔		
P9	15/06/2022	Researcher in Jewellery exhibitions; Museology			✔	
P10	10/07/2022	Curator; Virtual reality	✔	✔		
P11	05/08/2022	Jewellery exhibitions; Jewellery designer; VR; AR	✔		✔	✔

P12	05/08/2022	Jewellery exhibitions; VR; AR	✔		✔	

Before conducting the interviews, I initially contacted the participants to schedule convenient interview times. The interviews themselves were conducted using multiple formats, including face-to-face meetings, Teams, WeChat, and telephone. It is crucial to establish a rapport with the interviewees from the outset. This begins by briefly introducing myself as the researcher, outlining the purpose of the project, and explaining why the interviewee's participation is important. Kawamura (2020, p. 54) emphasised that participants need to be clearly informed about who the researcher is, what the research project entails, and the objectives of the interview. Additionally, participants must be assured that all shared content and information will remain confidential (Kawamura, 2020, p. 54). This approach helps to build trust, alleviating any tension or anxiety that could lead to inaccuracies in the responses or memory bias due to nervousness (Kawamura, 2020, p. 54).

Once trust and a positive rapport were established with the initial interviewees, a snowball sampling approach was employed to identify additional experts in relevant fields. Among them, P1, P2, P4, P6, P7, P8, and p11 are initial participants, and P3, P5, P9, P10, and P12 are participants obtained through the snowball method. This method allowed for expanding the pool of interviewees through recommendations and referrals, further enhancing the quality of data collection (Kawamura, 2020, p. 54). Snowball sampling is particularly effective for accessing specialised and interconnected professional networks (Kawamura, 2020, p.40), such as those in fashion curation and immersive experience technology. Starting with initial contacts – many of whom were professionals familiar to the researcher of this thesis – additional participants were recruited through recommendations. This method proved advantageous for reaching experts in the niche area of jewellery exhibitions and immersive experience technology, which can be difficult to access via traditional sampling methods.

However, snowball sampling is not without its criticisms, particularly regarding selection bias and lack of external validity (Parker *et al.*, 2019, p.4). The non-random nature of this approach means that the sample may not fully represent the broader population. To mitigate this, careful consideration was given to the diversity of the participants' backgrounds and experiences to reduce homogeneity and increase the reliability of the insights gathered (Parker *et al.*, 2019, p.5). Additionally, while snowball sampling proved useful for accessing difficult-to-reach populations, it is important to acknowledge its limitations. As Parker *et al.* (2019, p.4) point out, snowball sampling is a form of convenience sampling, which may lead to selection bias. This bias stems from relying on personal networks, which can limit the diversity of the sample.

Moreover, because participants are often introduced by existing contacts, there is further risk of homogeneity within the sample, such as all participants coming from similar professional backgrounds or organisations.

Despite these challenges, snowball sampling remains a suitable method for qualitative research, where the focus is on depth of understanding rather than statistical generalisation (Parker *et al.*, 2019, p.4). For this thesis, I took care to vet participants' backgrounds to ensure that a range of perspectives and experiences were represented. By striving for diversity in the sample, the research aimed to reduce the impact of selection bias and enhance the robustness of the findings.

Interview questions were tailored to align with the specific expertise of each participant (see Appendix A). For instance, immersive technology experts were asked about their experience with applying these technologies in exhibitions, while curators were asked about their design and implementation processes. In cases where interviewees had expertise in multiple fields, the questioning was adapted to explore their interdisciplinary experiences. Care was taken to phrase questions clearly and avoid leading language, ensuring that the responses reflected the participants' genuine views (Kawamura, 2020, p.72).

The questions designed for interviews were differentiated according to the four specific roles of Technologies of immersive experience, Fashion curation, Jewellery exhibitions and Jewellery brands, with different questions being asked of interviewees according to their areas of expertise. During the interviews, questions were adjusted or added as the conversation developed, ensuring flexibility and relevance to the discussion. For interdisciplinary experts, interview questions were adapted to cover multiple areas of their expertise to ensure that comprehensive insights were gained. Questions need to be clearly expressed, avoiding ambiguity when asking questions so that researchers can obtain the desired information and answers (Kawamura, 2020, p.72). Furthermore, I explained and extended the questions, but I tried not to use obvious leading words in order to avoid bias. This basic structure was followed by the warm-up, general questions and specific questions for all interviews.

The interview was expected to last around 30 minutes. This thesis did not involve any sensitive topics, and the interviewees could answer the questions easily and freely. Taking notes and recording is a key step. Interview notes were completed immediately during each interview, as human memory fades quickly (Kawamura, 2020, p.55). Therefore, some notes, thoughts, and reflections of the researcher of this thesis were added to the transcript documents. After the interviews, if the researcher found any doubt or problem with the interview content, a follow-up interview for clarification would take place. Additionally, participants could contact the researcher by email to ask for a copy of the thesis or publications associated with the research

project. To prevent content loss and protect respondents' information and content, stored content was backed up and encrypted in the iCloud and OneDrive. When sharing or moving personal data, a SharePoint site was created for the use of the researcher and supervisors. Audio/video-record was transcribed, and it would be destroyed following transcription.

After completing all twelve interviews, I reviewed and classified the content based on participants' responses, following Kawamura's (2020, p.41) recommendation that "data analysis begins with a review of the research proposal or plans with which the work began". Overlapping and repetitive content were consolidated, while divergent or conflicting content was identified and noted. I then analysed and discussed the data using a thematic analysis approach.

Thematic analysis was chosen for its clarity, simplicity, and suitability for qualitative research, as it does not require extensive theoretical or technical knowledge, such as that needed for discourse or conversational analysis (Javadi and Zarea, 2016, p.38). This method provides systematic elements for data analysis, enabling researchers to connect the frequency of themes to the broader context, enhancing the accuracy and depth of the study (Alhojailan, 2012, p.40). Additionally, thematic analysis allows for the presentation of similarities and differences between participants' perspectives, offering the reader a more comprehensive and nuanced understanding of the findings (Alhojailan, 2012, p.43).

Concept of Immersive Experience	Current Status of Immersive Exhibitions	Main Reasons for the Limited Use of Immersive Technology and Challenges
P2: Setting the scene is indeed one aspect of immersive experiences, but the so-called technology, in my understanding, refers to some display forms related to screens, digital technology, and the like. Popular technologies like the Metaverse are creating scenes that differ from real life. Unlike church or some installations or scene reproductions we create, these technologies are recreating your real life, making you recall your memories. However, experiences like teamLab are completely detached from real life. They might present a fantasy state, creating a feeling of escapism, which is the most significant difference.	P1: In China, there should be some, but relatively few. Another reason might be that my personal activity area is limited, resulting in me having less exposure to immersive experiences. Such exhibitions probably mostly appear in places like shopping malls, for instance, Bao Long has its art gallery, and they might exhibit immersive exhibitions like Van Gogh's Starry Night. Apart from exhibitions, there are also immersive performances. I had the opportunity to experience an immersive exhibition called "Xiamen Joy" before the pandemic.	P1: Major cities are more inclined to host immersive exhibitions, while smaller cities, especially second and third-tier cities, are relatively less involved in such activities. This could be because major cities have more resources and audiences, making it easier to support innovative experiences. Additionally, the theme of immersive exhibitions might also be a factor. Personally, I think such exhibitions are more suitable for themes related to appreciating paintings or physical objects. Well... I don't know how to put it. In the current situation, immersive exhibitions might focus more on visual arts, such as paintings and art displays.
In previous offline exhibitions, when we talked about immersive experiences, we usually referred to sensory stimuli such as sound, light, electronic technology, and smells, creating a comprehensive immersive experience. I reviewed some tech exhibitions, like the Xiaomi technology exhibition at the Today Art Museum. Although it may not be perfect, personally, I think it's a positive attempt. Such exhibitions try to create an immersive experience by showcasing technology and artificial intelligence perceptions.	P2: Well, in fact, major brands have widely adopted this technology in fashion exhibitions.	P1: Yes, it's a big city. Although it has a strong artistic atmosphere and many people visit exhibitions, it might be limited by technological capabilities. On one hand, there might be a lack of advanced technology for direct and in-depth experiences. On the other hand, the immersive experiences provided are relatively simple, relying mainly on basic projection technology. Compared to international standards, there might be a lack of some advanced technological elements, such as 3D simulation and more sophisticated integration of items with backgrounds. These factors may contribute to the lag in technology and content for immersive exhibitions.

Figure 4.2 Partial themes and raw data, (2023) Yimeng Li

Guided by Javadi and Zarea (2016), I began by reading and listening to the interview data to familiarise myself with its content. I took notes and wrote down initial ideas, which formed the basis for codes that were extracted and grouped into themes. Partial examples of these themes

and codes are shown in Figure 4.2, while the complete raw data table is included in Appendix C. Through this process, I generated 24 themes. To ensure accuracy, I reviewed the themes by comparing them with the texts and codes, identifying relationships, and removing duplicates. I refined and defined the theme names to ensure they were clear, precise, and reflective of their core ideas, as detailed in Table 4.3. Finally, I analysed and discussed the data corresponding to these themes in detail in Chapter 5, providing a comprehensive interpretation of the findings.

Table 4.3 24 Data themes, (2023) Yimeng Li

Theme 1: Background	Theme 2: Concept of the Contemporary Curation	Theme 3: The Role of a Curator
Theme 4: The Most Important Thing for a Curator	Theme 5: Current Trend of Curation	Theme 6: Commonly Used Curation Method
Theme 7: Concept of Immersive Experience	Theme 8: Current Status Immersive Exhibitions	Theme 9: Main Reasons for the Limited Use of Immersive Technology and Challenges
Theme 10: Is It Necessary to Use Technologies for Immersive Experience?	Theme 11: Advantages of Using Technologies of Immersive Experience	Theme 12: Commonly Used Technologies of Immersive Experience
Theme 13: Disadvantages of Using Technologies of Immersive Experience	Theme 14: Technologies of Immersive Experience for Fashion/Jewellery Brands	Theme 15: Audience Consideration
Theme 16: Concept of Jewellery	Theme 17: Concept of Jewellery Brand	Theme 18: Exhibitions for Jewellery Brands
Theme 19: Current Status of Jewellery Exhibitions	Theme 20: Concepts of Customers' Luxury Experience	Theme 21: Essence of Luxury Brands' Experience
Theme 22: If Technologies of Immersive Experience Could Enhance the Luxury Experience	Theme 23: Haptic Technology	Theme 24: Future Trends and Suggestions of Jewellery Exhibitions

However, the thematic analysis also has some issues to pay attention to. Firstly, if researchers study some parts selectively, they are likely to ignore others. Thus, a comprehensive study of data is needed to obtain an overall understanding (Javadi and Zarea, 2016, p.36). Second, unprofessional, and simplistic views sometimes undermine the value and effectiveness of thematic analysis, making analysis results desirable and positive. Hence, scholars should always be neutral when applying thematic analysis as a research method (Javadi and Zarea, 2016, p.38). Third, as a qualitative analysis method, it also has the risk of subjective inference

and personal bias. Therefore, it is necessary to avoid personal inference and specific bias on the research content and pay attention to the explicit and potential content of the text and information (Javadi and Zarea, 2016, p.38). Fourth, 'researchers need to avoid anecdotalism, which means that one or several limited samples of the phenomenon when they are idiosyncratic are manifested in a theme' (Javadi and Zarea, 2016, p.39). While this does not mean that a few examples cannot be interesting or enlightening, it is important not to describe them as major themes (Javadi and Zarea, 2016, p.39). Finally, thematic analysis is the interpretation of others' behaviour through the researcher's understanding. In addition, as my mother tongue is Chinese, there may be bias in understanding English expressions or translating Chinese into English. Thus, researchers need to pay attention to context when understanding (Javadi and Zarea, 2016, p.39).

4.3 Speculative Design

Speculative design, which Auger (2013) describes as a research method that allows us to contemplate the future development of technology and critique current practices, was chosen for this research project because it meets one of the study's objectives: to propose future development suggestions for the application of immersive experience technology in luxury brand jewellery exhibitions and to critique current applications. However, it is important to avoid wild speculation, which is not based on logical trajectories or is unconstrained by real-life rules (Auger, 2013, p.12). This thesis needs to base speculative design on the iterative logic of emerging technologies and tailor it to the complex needs of specific groups (Auger, 2013, p.12).

This thesis combines the literature review, case studies, and interviews to design a speculative jewellery exhibition based on future trends in technologies of immersive experience to offer ways of curating jewellery exhibitions for museum institutions and luxury jewellery brands. This speculative design will be tailored to the needs of jewellery brands and museum institutions, based on the iterative logic of immersive experience technology. 3D MAX software was used to design and create a 3D speculative jewellery exhibition. Due to its powerful 3D design capabilities, this software is widely used in scene creation, interior and exterior rendering, and craft creation (Sun, 2021). Hence, this thesis considers 3D MAX software an appropriate tool to present the design effects of the speculative exhibition. However, due to the limitations of the researcher's operational skills, some presentations may not achieve the ideal design effect. This requires continuous iteration of the final visual effects to avoid this problem.

4.4 In Conclusion

This thesis employed a multi-qualitative method to comprehensively understand how immersive experience technology is applied in fashion curation for jewellery exhibitions, its significance, and its impact on brands and exhibitions. This chapter outlined the chosen methods undertaken to conduct the research. This comprised case studies, interviews, and speculative design to provide a diverse and comprehensive analysis of the subject.

The chapter explains the process of adopting a case study approach, which was chosen for its ability to provide in-depth insights into specific instances of immersive experience technologies in jewellery exhibitions. Case studies allow for a detailed exploration of complex phenomena within luxury jewellery exhibition contexts, making them particularly suited to understanding the multifaceted applications and impacts of such technology. Two cases were selected: one focusing on fieldwork to collect primary data and the other relying primarily on secondary materials. This combination broadened the scope of the study and enhanced its diversity by integrating both firsthand observations and established findings.

Case analysis was applied using the definition of immersive experience technology provided in this research as the analytical framework. To address the relative subjectivity of case studies, in-depth semi-structured interviews were conducted with experts to gather insights on the application of immersive experience technology in jewellery exhibitions, thereby improving the objectivity of the research. Thematic analysis was used to analyse the interview content. Finally, a speculative design was produced to illustrate and validate the conclusions and viewpoints presented.

Since the interview method was employed to balance subjectivity and objectivity, presenting the perspectives of the interviewees and building discussions around them is crucial. The next chapter focuses on presenting the interviewees' perspectives. These views were displayed under different themes and discussed both the similarities and differences between the interviewees' opinions, scholars' opinions, and my own viewpoints.

Chapter 5 Professional Opinions on the Immersive Experience Technology of Jewellery Exhibitions

The previous chapter outlined the methodology of this thesis. Among the various methods employed, interviews play a critical role. Analysing and discussing the data collected from these interviews is essential for validating the conclusions drawn from the literature review. Table 4.3 summarises the interview data into 24 key themes derived from insights provided by 12 industry professionals (a full analysis of each theme is presented in Appendix C). Building on the information presented in Table 4.3, this chapter selects and categorises these themes for further exploration.

This chapter identifies and critically analyses eight key themes in detail: Exhibitions for Jewellery Brands, The Current Situation of Jewellery Exhibitions, The Concept of Immersive Experience, The Use of Technologies for Immersive Experience, Potentials of Using Technologies for Immersive Experience, Challenges of Using Technologies for Immersive Experience, Commonly Used Technologies for Immersive Experience, and Future Trends and Suggestions for Jewellery Exhibitions. By synthesising these findings, this chapter directly addresses the research questions from the side of industry experts. Incorporating the perspectives of interviewees, the discussion not only validates and enriches the findings from the literature review but also lays the groundwork for the analysis of case study exhibitions presented in subsequent chapters. It should be noted that while the interviews touch on curatorial choices, brand narratives, and include critical discussions on the use of technology, the analysis approaches these issues from an experiential and design perspective. The emphasis is placed on understanding how technological and spatial strategies shape visitor engagement, sensory perception, and emotional response within branded jewellery exhibitions. This focus reflects the thesis's overall positioning as a technologically and practice-oriented study that seeks to explore how immersive technologies can enhance exhibition experience, rather than providing an ethical or curatorial critique.

5.1 Exhibitions for Jewellery Brands

Section 2.2 above discussed the role, purpose, and significance of exhibitions for jewellery brands. Gaining a deeper understanding of these aspects helps guide the design of immersive experience technologies tailored to the core objectives of jewellery brands. Consequently,

during the interviews, insights were gathered from experts with diverse perspectives on the role that exhibitions play for these brands.

For instance, P4, a project manager in marketing planning specifically within the jewellery industry, emphasised that:

> the significance (of exhibitions) for the brand… it can be understood as making an ordinary product appear extraordinary. The significance of a brand is reflected in brand premiums. Due to the branding, a product that may not have been so expensive can be priced higher through packaging, brand, and concept. This is similar to the situation with luxury goods, where products with initially lower costs are sold at higher prices through brand elements like logos.

P4 highlighted that exhibitions are a powerful tool for shaping consumer perceptions and building brand image. Additionally, P5, a marketing professional for a sub-brand of Chow Tai Fook, noted that exhibitions serve as strategic marketing initiatives, driving customer attraction and sales generation. This aligns with P4's view and underscores the dual purpose of exhibitions: promoting brand image while generating revenue. Together, their insights confirm that exhibitions are a key component of the jewellery industry's marketing strategies.

However, both P4 and P5 stressed that the conversion of exhibition audiences into consumers is not immediate. P4 pointed out that exhibitions require a long-term commitment and regular repetition to effectively build and maintain brand recognition. This highlights the importance of exhibitions as an ongoing platform for communicating brand identity, values, and heritage. According to P5, this gradual transformation fosters consumer loyalty and engagement, solidifying the exhibition's role as an investment in long-term brand equity.

P7, a jewellery designer at Chow Tai Fook, and P8, a former event planner with exhibition management experience, expanded on these perspectives. P7 observed that exhibitions add value to brands by shaping consumer perceptions and cultivating loyalty, ultimately driving long-term returns on investment. P8, now managing media for an artist's studio, highlighted the strategic nature of exhibitions for market penetration and brand impact. For example, the Vision & Virtuosity exhibition by Tiffany & Co. in China, discussed further in Chapter 6, illustrates how exhibitions can serve as strategic tools to enter new markets, enhance brand awareness, and strengthen brand presence. These insights demonstrate that exhibitions are not merely marketing tools but also vital elements of strategic planning for achieving long-term business goals.

Additionally, for museums and exhibition institutions, fashion brand exhibitions are an opportunity to attract more visitors and generate financial value through corporate sponsorships and cross-brand partnerships (Bai, 2017; Clark, 2018, p.164; Geczy and Karaminas, 2013, p.4; Vänskä, 2017, p.128). This connection was supported by P8, who noted that collaborations with fashion brands bring additional visibility and resources to institutions, fostering mutual benefits. However, some scholars argue that fashion does not belong in museums and should not be afforded the same status as art (Vänskä and Clark, 2018; Geczy and Karaminas, 2013, p.4), and this could be extended to jewellery. This tension reinforces the need for careful design and positioning of exhibitions to balance artistic and commercial interests.

These findings from both the literature and the interviews lay the groundwork for speculative design discussed in Chapter 8, particularly in envisioning immersive experiences that align with the multifaceted roles of exhibitions. Exhibitions, as identified by interviewees, serve to promote brand identity, connect with consumers, drive sales, and achieve strategic market objectives. Their insights directly inform the conceptualisation of immersive experiences that not only captivate audiences but also deliver long-term business and cultural value. In addition, the discussion in this section helps this research gain a deeper understanding of their purpose. By integrating the perspectives of industry professionals, this research ensures that the speculative designs proposed in Chapter 8 address the core objectives of exhibitions, such as enhancing brand image, fostering consumer engagement, and driving long-term business growth.

5.2 The Current Situation of Jewellery Exhibitions

The previous section confirmed the importance of studying jewellery exhibitions for jewellery brands. Therefore, understanding the issues present in jewellery exhibitions through interviews with industry experts is crucial for identifying areas for improvement and proposing solutions. By addressing these specific challenges, this thesis aims to provide targeted recommendations within the speculative design (see Chapter 8) to enhance the effectiveness of jewellery exhibitions in achieving branding, marketing, and audience engagement objectives. Although the Introduction chapter analysed scholars' research on the current state of jewellery exhibitions, the time gap between when such studies were conducted and the present day may limit their relevance to the current industry landscape. To bridge this gap, this thesis examined the perspectives of industry experts, offering timely insights into the evolving practices and challenges within the field.

Both the opinions outlined in the introduction (Pegler *et al.*, 2018, p.9; 2022) and most of the interviews highlighted the dominance of traditional display methods in jewellery exhibitions, such as showcasing pieces in glass cases. While this approach is valued for its safety and clear presentation of jewellery, it often limits interactivity and engagement (Lim and Kim, 2018). For instance, P11, a jewellery designer in the early stages of establishing a brand and a graduate of Goldsmiths University with a background in jewellery and interactive design, stated, 'I feel that many offline exhibition formats are relatively fixed, and these technologies offer an alternative way to present exhibits, enriching the offline exhibition experience.' P10, who works in marketing for an auction company in the UK and has expertise in concept planning and exhibition design, highlighted Sotheby's 2022 Power & Image: Royal & Aristocratic Tiaras Exhibition. In this event, dynamic lighting technology was employed to create focused visual effects, drawing attention to the tiaras' intricate details and enhancing the emotional resonance of the audience experience. This demonstrates how even within the constraints of traditional glass case displays, creative applications of technology can significantly elevate the viewer's experience.

While the literature shown in the introduction chapter primarily focuses on the static and passive nature of current exhibitions, the interviews provide a more optimistic outlook, emphasising the potential of immersive experience technologies. For instance, P7 discussed that:

> I think big jewellery exhibitions like those all have immersive experiences. Just the level or rich degree is different. And then I think it can go further like using some of the newer technologies. I haven't seen anything like this. Like the jewellery we can only look at and can't touch, as well as we can't wear it. If we designers want to feel the sense of wearing jewellery, we have to go to retail stores. Will it be possible to use VR or other equipment to allow each visitor to experience the feeling of the jewellery on the body? I think I will be more interested in this.

This difference in emphasis suggests that although the literature documents the current limitations, industry practitioners are already considering innovative approaches to overcome these challenges.

Moreover, the literature points to challenges in collaborations between museums and luxury brands (Pronitcheva, 2018), which was also reflected in the interviews. P9 discussed the difficulties in such collaborations in China, including resistance to showcasing luxury brands and the relative rarity of such joint exhibitions. P9 also mentioned that the experience in this type of collaboration is limited, as most joint exhibitions only began in China in the 1980s. The

literature highlighted that brand exhibitions often focus on commercial promotion, while museums and galleries prioritise aesthetics, education, and visitor experience (Jelinek, 2018). P9 echoed this view, noting that jewellery exhibitions, especially in China, often focus on brand history and design style, reflecting a generally commercial approach. However, there is a growing emphasis on collaborating with art institutions like museums as a way to enhance brand credibility (Kapferer, 2015). P8 mentioned exhibitions like those by Gucci, which create a more immersive experience by using aesthetic tones and atmospheres that go beyond mere product displays. P8 said:

> And then it was different from any fashion exhibition I'd ever seen. It emphasised more on the artistic tonality of Gucci's products. For example, there was a Hollywood scene with many camera devices. Audiences would take pictures inside. But you wouldn't know it was about Gucci from that scene alone; people need to know the exhibition content, then they would understand how it related to each other.

The exhibition, titled The Artist is Present, does not appear to have any information available online, nor are there any records of it in P8's archives. However, based on P8's recollection, the exhibition was a collaboration between luxury brands and the art, designed to elevate the brand's credibility and public image.

5.3 The Concept of Immersive Experience

After understanding the potential of immersive experience technology in breaking through traditional exhibition methods commonly used in jewellery exhibitions, this section will further elaborate on the concept of immersive experiences. Consistent with Han *et al.* (2024), P3, a lecturer at Xiamen University's School of Creative Innovation with a focus on exhibition-related tasks, communication with curators, and exhibition design, emphasised that immersive experiences rely on comprehensive engagement of the senses. These experiences primarily stimulate dominant senses such as vision and hearing, to create a virtual or enhanced perception of reality. Similarly, P2, an expert based in Shenzhen specialising in planning and operating exhibitions, particularly in the art and trendy IP sectors, with prior experience as an independent curator for small-scale IP exhibitions, stated that technologies such as Virtual Reality (VR), Augmented Reality (AR), and digital projection play a crucial role in this process. These technologies reshape and enhance the audience's perception, allowing them to feel an experience that is either close to reality or even surpasses it in specific environments.

As shown in Section 3.1, immersive experiences not only engage audiences on a sensory level but also deeply influence their psychological and emotional responses (Handa *et al.*, 2012; Suh and Prophet, 2018). Emotional reactions may not be limited to positive feelings like pleasure or curiosity but could also include negative emotions such as anxiety or fear triggered by complex scenarios in the immersive environment (Suh and Prophet, 2018). Psychologically, audiences' attention is entirely focused on the virtual or augmented scenes, diminishing their awareness of the real environment (Handa *et al.*, 2012; P2, 2022). P8 added a critical factor: immersive experiences involve a conceptual understanding of the content being displayed. The conceptual design of an exhibition or experience profoundly impacts how audiences comprehend the exhibition content and emotionally resonate with it. A well-developed concept helps audiences interpret the content more effectively and form stronger emotional connections, thereby enhancing the sense of immersion (P8, 2022). This conceptual depth adds intellectual challenges to the experience, increasing emotional engagement and encouraging deeper reflection. However, according to flow theory (Nakamura & Csikszentmihalyi, 2009) discussed in Section 3.1, maintaining immersion requires balancing challenges with audience skills. Designs should engage through challenge, provide immediate feedback, and foster progress.

Regarding the exhibition environment, interviewees P2, P3, and P11 all emphasised that the atmosphere plays a crucial role in creating an immersive experience. Elements such as lighting and sound can help create a specific ambience, drawing the audience deeper into the experience. For example, P2 reflected:

> The environment plays a crucial role in immersive experiences. For instance, I visited an exhibition in the UK, maybe called "108 Stand" (I somewhat forgot the exact name), where the environment was dimly lit with flickering lights, creating a theatrical atmosphere. There weren't many visitors, adding to the complete immersive feeling. In a relatively quiet and dark environment, attendees can focus more on experiencing the impact of the exhibition. Some exhibition designers manipulate lighting and sound effects to create a unique atmosphere, allowing attendees to be fully immersed in the exhibition's ambience.

Finally, a key theme highlighted by P2, P3, and P12 is the vital role that technology plays in creating immersive experiences. According to P2, technologies such as screens and digital interfaces are fundamental to setting the scene and enhancing sensory stimulation. This view aligns with Lukas (2016) and Yu and Wang (2020), who argue that contemporary technologies redefine audience engagement by integrating multi-sensory experiences, allowing for deeper cognitive connections with the content on display. Therefore, technology is essential for

delivering immersive experiences. The next section will focus on discussing the necessity of technology.

5.4 The Use of Technologies for Immersive Experience

Both the literature review (Lukas, 2016) and insights from most interviewees consistently highlight the growing integration of technology and immersive experiences in response to increasing audience demand for sensory stimulation. As discussed in Section 3.2, the incorporation of multiple sensory modalities – such as visual, auditory, and tactile stimuli – enhances audiences' intuitive perception of exhibition content, fostering a deeper understanding and emotional connection to the exhibits (Yu and Wang, 2020; Stogner, 2011). This aligns with P3's perspective:

> In earlier offline exhibitions, immersive experiences typically involved sensory elements like sound, light, electronic technology, and even scents, creating a holistic experience. I've reviewed some tech-based exhibitions, such as the Xiaomi Technology Exhibition at the Today Art Museum. While not flawless, I personally view it as a positive attempt to craft an immersive experience by integrating technology and artificial intelligence perceptions.

Furthermore, technology reshapes audience interaction with exhibits, transforming traditional static displays into dynamic and impressionistic experiences. By leveraging spatial narrative technologies, exhibitions break free from conventional constraints, attracting a broader audience while enhancing engagement and retention (Stogner, 2011).

Interview participants also widely acknowledged the importance of technology for creating immersive experience. For example, P1, a member of the Creative Innovation School at Xiamen University, specialising in design disciplines and organising exhibitions for students and faculty, stated, 'Digitisation opens up more possibilities, including programming and richer presentations of displayed items. Through technological means, curators can creatively expand the definition of existing artworks. Therefore, adopting a digital approach is essential to creating a richer and more engaging exhibition experience.'

P6, a final-year PhD student at the University of Southampton researching nostalgia and its induction methods, particularly through virtual reality, along with P10, stressed the ubiquity of technology and its role in overcoming the limitations of traditional displays. For instance, the use of light and digital screens can enhance the atmosphere of an exhibition space, creating a more dynamic form of storytelling. P2 and P3 reflected on the benefits of technology for public

acceptance, noting that high-tech methods can enhance the appeal and innovation of exhibitions. However, they both emphasized that the necessity of technology should be determined by the exhibition's theme and content, rather than being a one-size-fits-all solution. Therefore, in certain situations, technology is not just an option but a necessity to improve the quality of the experience.

Although technology is seen as an essential tool for enhancing immersive experiences, both academic literature (Slater and Wilbur, 1997; Zhang, 2020) and interviews (P8, P10, P12) suggest that relying solely on technology is insufficient to create a successful immersive experience. To achieve true immersion, technology must meet a specific set of conditions. As discussed in Section 3.2, technology design should engage the audience, fully immerse them in the exhibition, and provide consistent sensory stimuli. It must balance challenge with the audience's ability to engage, offering high-quality, clear, and rich information with interactive feedback. The exhibition space should also include large-scale components to avoid limiting the audience's sense of immersion.

Interviewees P8 and P12 – who previously focused on jewellery appraisal and IT-oriented 3D modelling during their PhD and are now involved in digital advertising for jewellery and co-creating a virtual jewellery exhibition – shared this perspective and emphasised that when creating a sense of immersion, there needs to be a balance between the quality of content and the form of presentation. Over-reliance on technology can overshadow the artistic value of an exhibition, so the use of technology should enhance, not replace, the core content of the exhibition. Similarly, P10 noted that while technology may be necessary to overcome location and logistical constraints, its use should be based on the specific needs of the exhibition rather than being applied universally.

This thesis argues that technology is essential for creating immersive experiences, regardless of the exhibition's context. P10 noted that adding visual or auditory technology can significantly enhance the emotional impact of storytelling. In line with this, Gao *et al.* (2022, p. 2630) argued that contemporary immersive exhibitions are comprehensive, combining new media technologies, sensory experiences, and interactive elements to present a novel form of expression that provides extraordinary audience experiences. For example, *Tiffany & Co.'s Vision & Virtuosity exhibition* (2022) recreated scenes from the movie *Breakfast at Tiffany's* (1961), using physical props, background decorations, audio technology (background music), and digital screens to play clips from the movie. In this case, technology played an auxiliary role, enhancing the overall experience. With the increasing demand for sensory stimulation, simple visual stimuli alone can no longer provide audiences with a truly immersive experience. Even in

exhibition spaces where immersive technology is not the primary focus, integrating various sensory stimulation technologies to offer multi-sensory experiences, interaction, and different modes of information delivery is necessary. Therefore, this thesis concludes that technology is indispensable in creating engaging, immersive experiences, whether it serves as the main focus or as a supporting tool in the exhibition space.

5.5 Potentials of Using Technologies of Immersive Experience

By combining the literature review and interview findings, this section clearly observes the multifaceted impact and profound significance of immersive experience technology in fashion curation and jewellery exhibitions. Firstly, the literature in Section 3.3 emphasised that immersive experience technology offers unprecedented possibilities for multi-sensory experiences, particularly in overcoming the limitations of traditional static displays (Loscialpo, 2016; Debo, 2017; Pecorari, 2018). The application of such technology addresses the shortcomings of static exhibitions in effectively conveying deeper narratives related to the physicality, identity, and socio-cultural and economic backgrounds of fashion and jewellery (Loscialpo, 2016; Debo, 2017; Pecorari, 2018).

The interview data supports these arguments, with several respondents – P2, P8 and P9 – highlighting how immersive technology can significantly enhance the audience experience, helping them better understand the underlying meaning of the exhibits. In jewellery exhibitions, in particular, immersive technology enhances audience interaction and provides detailed displays of the items, thereby greatly improving both the educational value and perceptual effects of the exhibition (Caggianese *et al.*, 2018; Loscialpo, 2016). P12 highlighted how his technology not only allows viewers to closely observe the craftsmanship of jewellery but also overcomes the spatial and temporal limitations of traditional exhibitions, extending the viewing experience through digital means.

However, the literature also raised concerns about whether the introduction of technology might diminish the “authenticity” and “aura” of the exhibits (Benjamin, 1935). In interviews, P10 mentioned that jewellery in physical exhibitions creates an “aura” through lighting and other effects, with the physical distance enhancing its mystery and perceived value. This aligns with Benjamin’s (1935) notion of the uniqueness and irreplaceability of art. As discussed in section 3.3, while virtual exhibitions can enhance the experience through technology, the “mediated experience” they provide cannot fully replace the unmediated experience of seeing the actual physical items (Loscialpo, 2016).

On the other hand, luxury brands are deeply rooted in their long history, exquisite craftsmanship, and distinctive design styles – elements that form the core of their cultural value. Through immersive technology, brands have the opportunity to vividly present these elements to the audience. P3 noted that through virtual reality, brands can create a "digital narrative" that showcases their history, design philosophy, and cultural background in a more innovative way. This digital storytelling not only appeals to younger audiences but also enhances the brand's sense of futurism and technological advancement. However, P2 cautioned that an over-reliance on technology could sometimes weaken the brand narrative, similarly noted above in the last section through the opinions of P8 and P12; if immersive technology becomes the focal point rather than a supportive tool, it may overshadow the cultural value of the brand itself. Brands must ensure that the use of technology enhances the presentation of the exhibits rather than allowing audiences to become lost in the dazzling effects of the technology and neglect the cultural story behind the brand. This resonates with Benjamin's (1935) discussion of "cult value", wherein luxury brands must maintain their unique cultural significance and ritualistic value rather than turning exhibitions into mere visual spectacles or tech showcases.

Interestingly, P10 argued that technology can, in fact, amplify the aura of jewellery, arguing that in the virtual world, viewers gain access to jewellery in ways that may not be feasible in real life, such as wearing it. This creates a psychological perception that what is unattainable becomes inherently more desirable. As a result, technology enhances the aura and mystique surrounding jewellery. Khan (2017, p.164) argued that fashion exhibitions increase the cultural valuation of fashion, further deepening its allure, a concept that can be applied to jewellery exhibitions. For brands, telling stories ideologically helps create an authentic atmosphere (Bjrkman, cited in Khan, 2017, p.164). In this way, brands can make their messages easily understood and remembered by audiences while cultivating a compelling "aura" (Weischer *et al.*, cited in Bai, 2017, p.215). These insights provide a foundation for the case studies discussed in the following two chapters, where the integration of technology to enhance the aura and desirability of jewellery will be explored. Additionally, this thesis will incorporate these ideas into a speculative design (see Chapter 8), investigating how virtual and interactive elements can be employed to craft immersive experiences that resonate with audiences while elevating the perceived value of jewellery.

Additionally, the advantages of immersive technology in enhancing interactivity and accessibility are undeniable, particularly in terms of cost-effectiveness, safety, and cross-regional reach, according to P6, P11 and P12. Virtual exhibitions, in particular, break down spatial and temporal barriers, allowing jewellery exhibitions to remain accessible 24/7 and

reach a global audience, greatly expanding the exhibition's impact and the brand's audience base (Loscialpo, 2016). Through AR and VR, brands can not only showcase traditional craftsmanship and history but also use the virtual realm to create visions of the future that align closely with their identity and values (Lucas, 2016). P7 supported this idea, noting that technologies like VR could allow visitors to virtually wear and experience jewellery, addressing limitations such as the inability to touch or try on pieces in traditional exhibitions. This would not only offer a more engaging experience but also make the exhibition more appealing to both designers and audiences. By leveraging such technologies, brands could bridge the gap between physical and virtual experiences, deepening emotional connections with their audiences.

In conclusion, immersive experience technology brings a new dimension to fashion and jewellery exhibitions, enhancing the depth and breadth of audience engagement. However, in the application of such technology, brands and curators must strike a balance between technological innovation and the "authenticity" of the exhibits, ensuring that the use of technology enhances rather than dilutes the cultural and artistic value of the pieces on display. The next section presents the challenges and issues that need to be addressed when applying this technology.

5.6 Challenges of Using Technologies of Immersive Experience

First and foremost, adjustments in museum budgets and staffing are primary obstacles to its implementation. The literature in Section 3.3 highlighted that when museums introduce new technologies, they must ensure coordination between exhibitions, collections, and internal communication, often requiring budget restructuring and the hiring of additional technical staff (Debo, 2017). In the interviews, P4 and P5 further emphasised how budget constraints can impact the effectiveness of immersive exhibitions. P4 stated: 'Yes, having money can indeed solve many problems; that's a fact. As long as you have enough funds, almost anything is achievable. However, the issue is that when you're trying to accomplish many things within a very limited budget, the situation becomes quite challenging.' P5 argued that: 'The most common difficulty we have is that we want better results, and we don't have enough budget to do it. That's the most realistic problem. In terms of creativity, it's relatively easy to solve, and our team, including our advertising agency, can come up with a lot of great ideas.' Limited budgets often prevent exhibitions from achieving their desired technological outcomes, P1 observed, particularly in second- and third-tier Chinese cities, where resources and technological capabilities are more restricted.

Another challenge lies in the complexity of the technology itself and the variability in user acceptance. Although technological advancements have raised audience expectations for immersive experiences (Moloney, 2018), interviewees P3 and P6 pointed out that issues such as the weight of VR equipment, low resolution, and poor interactivity can negatively affect the audience experience. Additionally, user acceptance of new technology varies, with P3 and P11 mentioning resistance among certain groups, particularly older individuals, who may find operating complex devices inconvenient. These points will be discussed in more depth in section 5.7.

It is worth noting that P9 raised the limited acceptance of jewellery exhibitions in mainstream museums. This is partly due to the niche nature of jewellery exhibits, which often require highly personalised display formats and technical support. Over-reliance on immersive technology in jewellery exhibitions may weaken the cultural and educational functions of the exhibit, a concern that was discussed in the previous section (P2, P8, P12). Gilbert (2002) warned that if exhibitions become overly entertainment-focused, they risk deviating from their core mission of cultural preservation. In the context of jewellery exhibitions, placing too much emphasis on entertainment can dilute the communication of the jewellery's historical and cultural background, which runs counter to the primary objectives of mainstream museums.

Nevertheless, rising audience expectations for multi-sensory and interactive experiences continue to drive curators toward greater innovation. P2 pointed out the issue of content homogenisation, warning that the widespread application of technology could lead to a lack of innovation, while academic literature suggested that the evolution of immersive technology has shifted audience expectations, compelling curators of fashion and jewellery exhibitions to consistently introduce novel content to capture audience interest (Pescarin *et al.*, 2018).

In conclusion, while immersive experience technology holds great potential for fashion curation and jewellery exhibitions, its application faces several challenges, including budget constraints, technological complexity, and the risk of diminishing cultural messaging. Curators must strike a balance between maintaining the cultural value of exhibitions and effectively leveraging technological innovation to meet the evolving expectations of their audience.

5.7 Commonly Used Technologies of Immersive Experience

Scholars and interviewees alike have discussed the application of specific immersive experience technologies in contemporary exhibitions, noting their great potential for jewellery

exhibitions. These technologies include projection, audio systems, VR, AR and interactive digital screens. This section discusses these techniques specifically in detail.

Projection technology is widely considered to be one of the primary methods for creating immersive experiences (Majumder *et al.*, 2000; Capacete-Caballero *et al.*, 2013). P2 and P4 each emphasised its use in exhibitions, highlighting how projection can enhance static displays or create a more dynamic, immersive atmosphere by surrounding the audience with moving images. In contemporary fashion curation, projection plays a significant role, sometimes dominating the space by covering entire walls to shape the environment (Capacete-Caballero *et al.*, 2013). Aligning with this perspective, P10 noted that combining projection with moving imagery and music can create captivating visual narratives, helping viewers engage more deeply with the exhibition's theme. P1 and P3 mentioned that using projectors as supplementary elements is a cost-effective and low-complexity method for enhancing exhibitions, while P4 pointed out that holographic projection as a main immersive experience technology, though more expensive, adds a higher level of immersion. As discussed in section 3.4.1, TeamLab's use of immersive strategies has recently gained widespread popularity. P2 confirmed that these approaches facilitate deeper engagement with exhibits. However, P4 raised concerns about the "immersive experience" becoming a marketing gimmick, with some fashion and jewellery brands over-relying on this tactic to attract visitors, which resonates with points made in Section 3.3 above. Both P2 and P9 expressed reservations about the increasing trend of exhibits relying heavily on similar multimedia and technological approaches. They noted that this reliance often leads to a lack of innovation and originality, reiterating concerns previously highlighted about the risks of overemphasising technology. P2 emphasised that curators must strike a balance to ensure technological elements enhance rather than overshadow the content of exhibits.

Interactive digital screens also play a vital role in immersive experiences. P2 noted that such screens are widely used in immersive exhibitions, inviting audiences to engage directly with the content. These interfaces often offer more than simple visual displays, incorporating touch feedback, dynamically changing visuals and providing real-time updates, which enhance the viewer's sense of immersion. P2 said: 'interactive and new multimedia exhibition forms can better help the audience understand, aligning more with modern exhibition needs. These interactive and multimedia elements play a supplementary role in exhibitions, presenting content more vividly.' For example, as shown in Chapter 6, visitors can use touchscreens to explore the backstory of the designs, view fashion show videos, or virtually try on the jewellery. These interactive screens transform the exhibition experience from passive observation to active participation.

P10 highlighted how audio guides can complement the exhibition narrative, using music and sound to enhance immersion and guide the audience's understanding of the exhibit's significance. According to P10, synchronised audio can effectively evoke emotions, thereby enriching the immersive experience. This indispensable nature of audio technology as a component of immersive experiences is highlighted by Capacete-Caballero *et al.* (2013) and Gao *et al.* (2022). Integrated with visual content, audio – whether through background music or specific sound effects – deepens the emotional connection between the audience and the exhibition.

VR technology offers unprecedented levels of interaction and immersion in contemporary exhibitions. It can be divided into immersive and non-immersive forms (Suh & Prophet, 2018), with non-immersive VR being accessible through mobile devices or computers, making it ideal for online exhibitions. The COVID-19 pandemic highlighted the advantages of online exhibitions, as global audiences could participate without being physically present. Online platforms not only eliminated geographical barriers but also provided a cost-effective solution, as noted by P11. Additionally, in the context of online exhibitions, the digital format significantly expanded the reach of jewellery exhibitions, drawing in broader audiences, as P4 observed. Despite these benefits, concerns about the creativity of online exhibitions have emerged. Many simply replicate offline exhibits without introducing new, engaging experiences. P10 argued that simply moving physical content online does little to enhance audience engagement, while P12 emphasised the need for more imaginative approaches. To address these challenges, this thesis argues that curators must incorporate innovative elements, such as recreating images, integrating music, and refining interface designs to create richer, more interactive experiences. The implementation of advanced technology in online exhibitions faces further challenges, particularly due to the scarcity of specialised studios capable of developing these high-tech elements for jewellery displays. P11 pointed out that this gap limits the adoption of cutting-edge solutions. Moreover, as P12 noted, creating high-quality online exhibition systems, especially in terms of achieving detailed 3D reconstructions and realistic rendering, remains a complex task. These technical challenges highlight the ongoing need for advancements in digital curation to meet the growing expectations of audiences.

Immersive VR, on the other hand, is particularly suited for short, intense experiences where users can enter virtual environments through headsets, offering a realistic exhibition setting (Suh and Prophet, 2018). P6 noted that VR headsets provide a highly realistic experience in a safe environment, allowing users to interact with valuable exhibits without the associated risks of handling real materials. For example, virtual exhibitions provide a secure way to showcase expensive jewellery, minimising theft risks. However, as P3 observed, VR technology is still

costly to implement, particularly when it comes to input devices and achieving high-precision 3D modelling. P12 and P6 acknowledged improvements in screen resolution and VR affordability, indicating future potential for wider adoption. Nonetheless, VR's technical limitations remain, particularly for jewellery exhibitions. P12 pointed out that:

> The sense of reality is still not real enough. For example, it is difficult for us when we try to make the simulation of diamond fire colour, and it is relatively easier to make jade or relatively pure gemstones. Due to the limit of computing power, the simulation of transparent materials has been a relatively difficult problem. We have been trying to simulate various gemstones and jewellery materials recently, like opal and diamond fire colours, which are particularly difficult to simulate.

In addition to visual accuracy, P12 also mentioned the limitations of VR in replicating the tactile experience of real objects. Even with advancements in haptics, the sensation is far less realistic than that of physical materials. VR can only simulate auditory and visual senses, but not touch, taste, or smell, limiting the overall immersive experience. Both P3 and P11 also discussed the challenge of user acceptance, with potential resistance to new technologies (technophobia) being a notable obstacle. P3 emphasised that user interest and willingness to embrace innovation are critical for success, while P11 suggested simplifying interaction steps and optimising hardware to cater to less tech-savvy audiences, particularly the elderly.

AR offers a more accessible and interactive approach by blending virtual objects with the real world. For instance, visitors can scan QR codes with their smartphones to superimpose virtual jewellery onto real-world settings, enhancing the exhibition experience (Rochlen *et al.*, 2017). P12 gave some examples: '*Chow Tai Fook* has also made 3D displays of virtual diamond rings. In addition, other jewellery exhibitions like Tiffany's you mentioned before will combine online and offline. Bvlgari's exhibition (Bvlgari Magnifica Roma, 2021) in Shenzhen had a similar approach, with a music fountain in the space, and a wish coin thrown by scanning a QR code with a mobile phone. This technology works by linking the scanned QR code to an interactive digital feature, which allows visitors to virtually "throw" a coin via their smartphone screen and make a wish, adding a playful and symbolic element to the experience.' AR is generally more affordable than VR and enjoys higher user acceptance, making it suitable for a wider range of exhibitions. However, P12 pointed out a critical limitation: the mixed reality (MR) experience on smartphones remains flat, lacking the depth perception provided by binocular parallax, which hinders fully immersive interaction with objects displayed on transparent screens.

In conclusion, while immersive technologies offer immense potential for fashion and jewellery exhibitions, each technology comes with its own set of challenges, including cost, technical

limitations and the need to balance innovation with content. Curators and brands must carefully navigate these issues to create meaningful and engaging experiences that enhance rather than detract from the cultural and educational value of their exhibits.

5.8 Future Trends and Suggestions for Jewellery Exhibitions

Following discussions of the current state of the relationships between curators, jewellery exhibitions and immersive technologies, this section discusses the forecast of the future trend provided by these interviewed experts and offers their suggestions for the development of immersive experience technology in jewellery exhibitions. This can provide development advice to future professionals and guidance to scholars on the future research direction, and it informs the speculative design propositions in Chapter 8 of this thesis.

P9 suggested that the cultural relics in museums be merged with the brand collection, combining the brand narrative and the cultural relics to create a comprehensive narrative. This would help to make the jewellery accessible to the audience. In the future, jewellery exhibitions could therefore be transformed into educational and culturally immersive experiences. The emphasis on educational activities and the development of cultural and creative products underscores the broader purpose of jewellery exhibitions, which, in addition to displaying precious cultural relics, also includes engaging and educating visitors. Similarly, P10 emphasised that immersive experiences and narratives need to be consistent in jewellery exhibitions. Unnecessary elements need to be minimised to create a focused and inviting environment for visitors to appreciate the jewellery in a carefully curated setting. In addition, P10 emphasised the importance of multi-sensory aspects, especially background sounds, which are needed to complement the exhibition narrative. However, the hearing impaired need to be considered to make the exhibition inclusive.

P12 discussed technology, saying that it provides the most effective immersive experience through MR, and acknowledged the unique characteristics of AR and VR, but recognised that both have drawbacks. P6 discussed AR as a potential technology for the future of the exhibition, which is capable of combining virtual elements with real-world environments. This thesis argues that AR is a more suitable immersive experience technology for jewellery exhibitions compared to VR and MR. Both VR and MR typically require the use of head-mounted devices, and the audience interacts with the environment primarily through a first-person perspective, and they couldn't see themselves wearing jewellery. In contrast, AR offers a more user-friendly experience, particularly for special groups, such as the elderly. AR does not require bulky or potentially uncomfortable headsets, which can be physically taxing or disorienting for older

users. Instead, AR relies on more familiar and accessible devices, such as smartphones or tablets, making it easier for seniors to engage without the need for extensive technical know-how or adaptation. Additionally, AR minimises sensory isolation by allowing users to remain aware of their physical surroundings, reducing the risk of dizziness or discomfort, which are common issues with VR. With AR, audiences can also see themselves wearing virtual jewellery in real-time, creating an intuitive and engaging interaction.

Therefore, in the Speculative Design section presented in Chapter 8, AR technology is prominently featured and plays a dominant role in the proposed designs. By leveraging AR, the designs aim to enhance accessibility and provide a more inclusive and personalised exhibition experience. This choice aligns with the goal of making immersive technologies practical and enjoyable for a wider range of audiences, while also showcasing the potential of AR in revolutionising jewellery displays. This will be discussed further in Chapter 8.

The insights of P2 and P11 offer valuable recommendations for the future of exhibition design, emphasising the need for a balanced and thoughtful approach to integrating interactive and multimedia elements. P2 highlighted the lasting impact of interactive experiences, noting that such elements can make exhibitions more engaging and memorable. However, P2 also cautioned against the growing trend of homogenisation, where exhibitions increasingly rely on similar multimedia strategies, such as those popularised by TeamLab, as discussed in the last section. This overreliance risks stifling innovation and creating a lack of diversity in exhibition formats.

To address these concerns, P2 recommended striking a balance between traditional static displays and modern interactive approaches. While static methods, like display cases and timelines, remain effective for certain content – such as historical or text-heavy themes – interactive elements can complement these by vividly presenting content and enhancing audience engagement. This hybrid approach not only caters to diverse audience preferences but also aligns with the specific needs of different exhibition themes.

Expanding on this, P11 emphasised the importance of content-driven flexibility in exhibition design. Curators must move beyond one-size-fits-all solutions and tailor technical elements and narrative strategies to the unique requirements of each exhibition. This involves carefully selecting and integrating multimedia features that enhance, rather than overshadow, the core content.

In short, future jewellery exhibitions should focus on providing educational and culturally immersive experiences. Curators can integrate museum artifacts with jewellery, combining

traditional static displays with interactive multimedia elements to deliver comprehensive narratives enriched with educational activities. Ensuring consistency between the immersive experience and the exhibition's narrative is essential. Supporting technologies, such as background audio, should be emphasised as part of the immersive experience. Exhibitions must also prioritise inclusivity, considering minority groups in their design. AR, as a primary technology for delivering immersive experiences, holds significant potential. However, curators need to adapt strategies flexibly based on different themes and exhibition content. While the interviewees provided general recommendations, the speculative design chapter delves deeper into the future application of technology in jewellery exhibitions, offering a foundation for designing more informed and innovative immersive experiences.

5.9 In Conclusion

In conclusion, this chapter conducted an in-depth analysis of eight key themes derived from interviews with industry professionals, providing valuable insights into the application of immersive technologies in jewellery exhibitions. By categorising and synthesising these themes, the discussion validated and enriched the findings from the literature review, highlighting the opportunities, challenges, and future development recommendations associated with adopting immersive experience technologies.

These insights are interpreted from a technical and experiential perspective, emphasising how immersive technologies function as tools for enhancing audience engagement and sensory experience within branded jewellery exhibitions. Rather than evaluating curatorial ethics or institutional narratives, this interpretation situates the study within a practice- and design-oriented framework that prioritises the experiential dimensions of exhibition-making. By adopting this position, the analysis reflects on how technological mediation can shape meaning, affect, and participation in contemporary jewellery displays, thereby reinforcing the thesis's focus on the intersection between technology, practice, and audience experience. The insights gained from this chapter, combined with the literature review, form the foundational framework for analysing the case studies presented in subsequent chapters. The next chapter applies this framework to conduct a comprehensive and critical analysis of two case studies, offering further depth and synthesis of the research findings.

Chapter 6 A Critical Analysis of Technologies of Immersive Experience in the Exhibition *Vision & Virtuosity*

Before examining Tiffany's "Vision & Virtuosity" exhibition, it is important to clarify the focus of this case study. This chapter explores how immersive technology can be applied in exhibitions to enhance audience engagement, convey brand heritage, and create memorable experience effects. Although the analysis of this exhibition involves curatorial choices and narrative decisions, the analysis here focuses more on the practice and technical implementation of immersive technologies and their impact on the visitor experience, rather than conducting a critical assessment of curatorial or ethical frameworks.

The use of immersive technology in contemporary jewellery brand exhibitions remains relatively limited, yet certain innovative examples provide valuable insights into its potential to enhance brand storytelling, audience engagement and cultural significance. This chapter examines *Tiffany & Co.'s Vision & Virtuosity* exhibition (2022), held in London to celebrate the brand's 150th anniversary, as a case study. This exhibition represents a compelling example of how a luxury brand can integrate immersive technologies within a carefully curated narrative to showcase its heritage and creativity.

The *Vision & Virtuosity* exhibition is divided into seven meticulously designed sections, each tracing *Tiffany & Co*.'s journey from its founding in 1837 to the present. These sections highlight notable creations by former designers like Jean Schlumberger, the Blue Book fine jewellery collection, engagement rings, jewellery featured in the movie *Breakfast at Tiffany's*, the Diamond jewellery collection, and the iconic "Tiffany Diamond", a giant yellow diamond. Together, these sections combine historical archives, advertising photography, and iconic jewellery pieces to narrate the brand's evolution and impact.

This chapter focuses on three sections that incorporate immersive experience technologies: The World of *Tiffany & Co.*, Tiffany Love, and The Tiffany Diamond. Through a critical analysis of these sections, the chapter explores how immersive technologies are employed to enhance the exhibition's narrative and visitor engagement. By examining these examples within the broader context of immersive experiences in luxury jewellery exhibitions, the chapter aims to uncover valuable insights and provide recommendations for the future use of such technologies in the industry.

6.1 "The World of Tiffany" – Exploring the immersion provided by the projectors

The first utilising technologies of the immersive experience section of this exhibition is centred around the theme "The World of Tiffany", emphasising *Tiffany & Co.*'s profound influence on popular culture across diverse domains such as film, literature, sports, and music, spanning over a century. The exhibition also explored how *Tiffany & Co.* has been referenced in creative works by numerous artists, filmmakers and writers, showcasing its cultural impact across multiple artistic domains (Vision & Virtuosity by Tiffany & Co., 2022). The aim of this exhibition room was to celebrate this significant heritage of the brand (Vision & Virtuosity by Tiffany & Co., 2022).

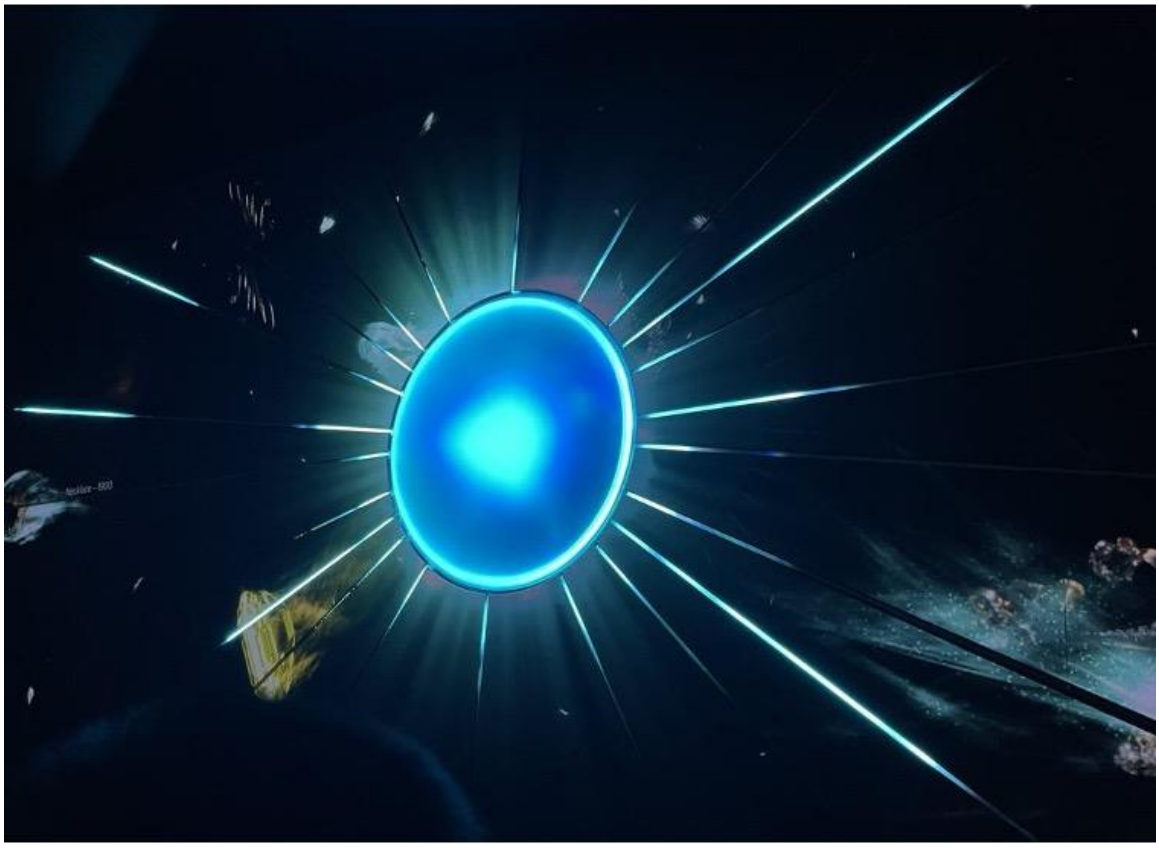

Figure 6.1 Exhibition View, Blue Planet Projection Installation (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co.*

In line with the theme of this section, the curators allocated one wall for displaying relevant exhibits throughout the exhibition space, like photos of celebrities wearing the brand's jewellery and hand-drawn drawings of jewellery designed by famous artists, while the opposite wall was dedicated to an immersive installation (depicted in Figure 6.1). Large chairs were strategically placed between the two walls to offer seating and respite for the audience. The exhibits on the

left wall showcased the relationship between *Tiffany & Co.*'s jewellery and popular culture, including collaborations with experts from various fields, such as the beloved Elsa Peretti Bone Cuff, the Paloma's Graffiti collection and Tiffany's legendary sports trophies (Vision & Virtuosity by Tiffany & Co., 2022). Designs and photographs featuring celebrities and their related designed jewellery works were also exhibited. On the right wall, the curators installed a glowing blue planet emitting beams of light of varying lengths. A projector was used to project a video depicting gems rolling from the central blue planet into the universe in the background (figure 6.1).

The scale of the projected video is a crucial factor in determining the immersive potential of a projector installation. Larger projections can occupy the viewer's field of view, creating a sense of being surrounded by the content and enhancing the immersive experience. This principle was evident in the exhibition, where the projection not only filled the right wall but interacted with the glowing planet, amplifying its immersive potential.

A similar concept is found in panoramic images, which also rely on large-scale images occupying the viewer's field of view. However, panoramic images additionally aim to surround the visitor, providing a 360-degree illusory space (Grau, 2003, p.33). The technology employed in exhibitions resembles that used in movie theatres. Dernie (2006, p.10) suggested that contemporary audiences perceive art, fashion, film, architecture, and design as interconnected domains of intent. Technology now seamlessly transitions between film, theatre, and presentation environments (Dernie, 2006, p.10). Digital and media projection technologies or dedicated large screens are often employed in modern exhibitions and retail settings to establish a familiar connection with the public (Dernie, 2006, p.10). Projection can transform a space by using dim lighting to blur the boundaries of the real environment, allowing the audience to become immersed in an entirely different space. The controlled use of light, colour, sound, and moving images helps create these simulated or fictional environments (Dernie, 2006, p.10). Therefore, the brightness of the lighting is another critical factor, as it affects the sharpness and visibility of the projected content. In Tiffany's case, the dim lighting elevated the projections' visibility and sharpness while obscuring the room's real-world elements, transforming it into a different environment.

Gobbato (2021) stated that lighting can create an atmosphere, define exhibition space, and protect and enhance exhibits. In addition, dynamic lighting can interact with visitors and enhance their interactive experience. Lee *et al.* (2019, p.2) argued that a dim environment can enhance the immersion of the space and obtain high-quality projection results. Therefore, this thesis believes that ambient lighting plays a significant role in the immersive experience of any

type of immersive technology. As discussed in Section 3.1 on the concept of immersive experience, once technology brings an immersive experience to the audience, it can allow the audience to enter another space and time. As in the case of "The World of Tiffany", the curators try to take the viewer into a different Tiffany universe.

Grau (2003, P44) proposed that inconspicuous projected boundaries are also essential for creating immersive experiences. By obscuring the boundaries and transitioning from horizontal to vertical orientations, the limits of the image are extended. Although Grau's (2003) research was focused on the origin of the panorama, the fresco, this thesis suggests that this view is also applicable to projection because the projection is essentially a 2D picture projected onto the wall. Visible projection edges can break the illusion and diminish the immersive effect. Ensuring seamless integration of the projected content with the surrounding environment is vital. In "The World of Tiffany", the projection was mapped onto the three-dimensional blue planet decoration on the wall, integrating with the surface to add depth to the projected video, transforming the flat imagery into a three-dimensional representation. In this way, the curators created an illusion of blending a colourful, three-dimensional foreground with a two-dimensional background image, enhancing the flat representation with a third dimension. These layers disrupt the viewer's perception of what they see as a result of the technology while augmenting their perception of the environment. Thus, the deformation of the projection screen plays an important role in enhancing the sense of immersion. As shown in Figure 6.1, by integrating the projection with physical objects, the curators blurred the boundaries between two- and three-dimensional representations, creating an interactive space that engages the audience on multiple sensory levels (Basballe and Halskov, 2010). This approach fosters sense-making, engaging conversations, and playful participation, which are crucial for deepening the audience's connection with the exhibition (Basballe and Halskov, 2010).

Furthermore, the content and concept of the projection play a significant role. In this case, technicians created an animation depicting gemstones moving outward from the blue planet, evoking a sense of being in space. However, it is worth noting that due to technical limitations, the sharpness of the video is restricted, resulting in a less-than-crisp image, which may affect the audience's overall experience. Cadet *et al.* (2022) argued that the quality of immersion is the result of a combination of factors, such as visual field, head tracking, and visual fidelity, which are considered to be the core elements of immersion. Zheleva *et al.* (2020) confirmed that video quality affects viewers' immersive experience. Thus, this thesis believes that video quality is a significant factor influencing immersion in any form of immersive experience technology.

Additionally, the projection created a visually stunning atmosphere, engaging viewers by conveying abstract ideas in an immersive way. Pertaining to the exhibition's theme, the collaboration between jewellery brands and other fields, such as film, literature, sports, and music, was an exciting concept that the curators translated into spatial design. The glowing blue planet radiating light and emitting gems represented the brand's ambition of extending beyond fashion and luxury. It is interesting to note that although the installation is conceptual and abstract, the projected gems appear realistic. Regenbrecht and Schubert (2002) suggested that a high degree of realism combined with attempts at spatial effects can enhance the illusion of changing spatial and temporal dimensions.

However, it is worth considering whether abstract images diminish the illusion, particularly in the context of the Tiffany exhibition. Qin and Xu (2022, p.1) argued that abstract images lack practical intuitive meaning but serve as expressions of feelings or images, creating an atmosphere and artistic conception that curators or artists wish to convey, while also triggering the audience's imagination and associations. This thesis believes that projecting realistic scenes can strengthen the viewer's illusion of a location change, while abstract scenes can extend the audience's imaginative capacity and stimulate their thinking. In the case of the Tiffany exhibition, this projection does appear to achieve these effects. Realistic scenes enhance the sense of being transported to another place, while abstract scenes allow for a more personal and interpretative engagement, encouraging deeper reflection and imaginative exploration related to the space theme.

Nevertheless, the immersive effect of the installation is limited, as most viewers spend more time observing the exhibits opposite the installation, paying little attention to it. This space primarily serves as a resting area for the audience. When visitors become fatigued from exploring the contents of the exhibition showcases, they take a seat on the benches provided. The dim environment and soothing music offer a tranquil and comfortable resting space. In terms of the installation's effect, it serves as a supplementary tool rather than the central focus of the exhibition space.

Considering the above analysis of factors influencing the immersion of the projection installation, it is clear that the use of projection technology in another section of the exhibition (Figure 6.2) fails to provide a strong immersive experience. This room, titled "Blue Book", is dedicated to showcasing the brand's meticulously crafted fine jewellery featured in the Blue Book, created by artisans from renowned jewellery studios. Unlike the "The World of Tiffany" (the blue planet) room, the focus here is on the ultimate refinement of craftsmanship and design. The primary exhibits in this section are the fine jewellery pieces from the Blue Book, with

projectors used as supplementary narrative tools, supporting the themes and showcasing the design and creation processes. The purpose of projections in this section of the exhibition does not appear to be solely about creating immersion. Instead, its role is more documentary, aimed at providing informational and contextual support for the hand-drawn designs and jewellery on display. But we can compare the use of projectors for different curatorial purposes.

Figure 6.2 One of the small projections in the Blue Book Section to Illustrate the History Film Related to the Brand (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

Based on the preceding discussion, it is evident that the projector cannot be regarded as the primary immersive technology in this context. One significant factor is the relatively small scale of the projection. As noted earlier, larger projections occupy a greater portion of the audience's visual field, which is key to enhancing the immersive effect. This reinforces the points made in section 3.2 regarding immersive experience technology, which requires a substantial portion of the audience's visual field to enhance the sense of immersion. In this case, the projections are no larger than an A4 sheet of paper, which diminishes their overall impact in relation to the larger-scale objects and jewellery exhibits. Furthermore, the projections consist of several short films, rather than a single continuous reel, which may reduce the cohesion needed to engage the viewer fully.

This situation highlights another critical aspect of using projectors: brightness. The high ambient light levels in the space, combined with the visible edges of the projection, reduce the illusion of being transported to another time and place. Balsom (2013, p. 39) supported this assertion, noting that exhibition spaces generally feature elevated light levels, allowing visitors to move freely and engage in conversation with companions. While these interactions may exude a sense of cultural sophistication, they often lack the allure and immersion characteristic of cinema (Balsom, 2013, p. 39). In contrast, the cinematic experience is marked by darkness and anonymity (Balsom, 2013, p. 39). The vastness of the screen and the subtle rhythm of flickering projectors serve to enhance the film's impact, capturing the audience's attention and engagement (Balsom, 2013, p. 39). In the Blue Book section, however, the screen is much smaller compared to Balsom's concept of a 'vast' screen, further limiting the immersive experience. This emphasises that ambient light and screen scale are vital elements for projectors to achieve immersion in exhibition spaces.

Furthermore, the projection screen is flat, so the projected image is flat, making it difficult for the audience to fully immerse themselves. While the curators provided various sensory stimuli, including visual and auditory elements, these did not fully transport the audience to different times or spaces. The main focus of the space is not the projection but the hand-drawn designs of the collection and jewellery as shown above. As a multi-sensory assistive technology, it enriched the audience's understanding rather than completely immersing them in a different environment. The emphasis on hand-drawn designs and jewellery as the centrepiece suggests that the projection was designed more for educational support than for an immersive engagement.

6.2 "Tiffany Love" – The Combination of Technologies

The theme of the second immersive room is "Tiffany Love" and centres around the iconic Tiffany engagement "ring" introduced by Charles Lewis Tiffany in 1886 (Vision & Virtuosity by Tiffany & Co., 2022). He innovated by presenting a round bright diamond in a six-grip setting, a process that maximises the fire and brilliance of the diamond (Vision & Virtuosity by Tiffany & Co., 2022). This quality is significant because it directly enhances the visual appeal of lights when they interact with reflective surfaces like diamonds, amplifying the sparkle and brilliance within the showcases. The space displayed some extraordinary and unique diamond rings that the brand designers have brought to clients over the years, reflecting the brand's vital connection to people's daily lives and cultural customs based on love (Vision & Virtuosity by Tiffany & Co., 2022). Therefore, with diamond rings as the main focus and love as the theme, this room utilised

various elements to create a romantic and immersive space for the audience. Key features included projection equipment that provided the signature Tiffany blue lighting, physical props that enhanced the romantic atmosphere, and a digital panoramic screen paired with an interactive device for an engaging audience experience. The touch interfaces allowed further interaction with the digital screen, while background sound and music heightened the auditory stimulation, perfectly complementing the overall ambience. These technologies worked together as an integrated whole, despite their individual functions.

First and foremost, the curator's strategic use of lighting played a key role in achieving an immersive effect, especially by creating the iconic Tiffany Blue lighting that permeates the entire space. As mentioned earlier, while dim lighting can enhance the audience's sense of immersion, this depends on the surroundings not being part of the projection. Since the entire room is designed as a whole immersive space, the surrounding environment does not interfere with the audience's illusion, and brighter lighting does not affect their sense of immersion. Ajmat *et al.* (2011, p.196) demonstrated that the lighting in the exhibition hall is carefully designed to meet the visitors' visual needs, contributing to their comfort and enjoyment of the experience. The environmental conditions of the venue are key factors in creating a suitable exhibition space for both visitors and exhibits (Ajmat *et al.*, 2011, p.196). Therefore, lighting in the exhibition room is an essential component in the effort to create an immersive experience for visitors and align with the theme of the exhibition space. Additionally, as shown in Figure 6.3, the iconic Tiffany Blue helps enhance brand recognition. Besides lighting, elements such as the three-dimensional and physical vines decorating the walls (discussed further below) and the background colour of the large screen are all unified with Tiffany Blue.

Figure 6.3 Exhibition View, Immersive Room “Tiffany Love”, with Tiffany Blue Lighting, and Interactive Romantic Atmosphere Created by Projection, Panoramic Screen and Props (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

The six-grip diamond settings are emblematic of Tiffany’s craftsmanship and are central to this identity. Symbolising love and commitment, the six-grip settings lay the foundation for a romantic atmosphere within the space. This romantic imagery, like the six-grip settings, plays a crucial role in strengthening Tiffany’s brand image by narrating the history and origins of the designs, resonating deeply with the audience. Tiffany’s brand has always been associated with iconic love stories and symbols of romance, which are vital in building emotional connections with customers. By evoking these emotions, the brand enhances its appeal as a symbol of enduring love. Combined with Tiffany Blue as a prominent feature throughout the space, the physical design merges with digital immersive technologies. This approach not only reinforces the symbolic importance of iconic craftsmanship but also deepens the audience’s emotional connection with the brand and its aesthetics. According to Mogaji and Mogaji (2021, p.87), brand identity is defined by the inclusion of specific and customised physical elements that differentiate the brand from others. Brand identity helps support, express, communicate, integrate, and visualise the essence of the brand (Mogaji and Mogaji, 2021, p.87).

The physical props in the space were carefully selected and designed to create a romantic atmosphere for visitors. Vines hanging on the walls played a key role, with projectors illuminating the physical vines and casting their reflections onto the walls, while a panoramic digital screen mirrored these vines with digital counterparts, extending and enhancing the exhibition space. Specifically, to further heighten the illusion, projectors cast shadows of the vines onto the floor, producing dappled reflections reminiscent of sunlight and simulating the movement of wind, making the reflections appear to dance. Here, projectors are an assistive technology that helps increase the realism of space, thereby enhancing the sense of illusion and immersion. The curators also designed unique display cases resembling large circular magnifying glasses, with small engagement rings placed at their centres (as shown in Figure 6.4). Although these cases did not physically enlarge the rings, their suspended design allows visitors to view the rings from multiple angles. This thoughtful combination of elements creates a cohesive, immersive environment that deeply engages visitors.

Figure 6.4 Exhibition View, A Six-Grip Diamond Ring Hangs in the Middle of A Special Transparent Display Case (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

During my visit, many visitors interacted with and took photos of the space. If some of the visitors share their photos on social media, the use of the iconic Tiffany blue in these photos further amplifies brand recognition, increasing both awareness and promotion. Moreover, the

immersive space of the exhibition is the most suitable space to mobilise the audience's multiple senses. Mogaji and Mogaji (2021, p.87) highlighted that consumers engage with a brand identity through the five senses: touching, holding, listening, seeing, and moving within the space. These sensory interactions are effectively facilitated by immersive experience technologies. In this room, visitors can interact with digital screens (discussed in detail below). While they cannot physically hold the six-grip diamond rings in this "Tiffany Love" space, the next smaller room offered an opportunity to try them on. Visitors were further immersed through background music, captivating visual effects, and the freedom to explore and move throughout the space.

Brand identity is particularly emphasised because it can help a brand stand out from the many brand choices of consumers (Mogaji and Mogaji, 2021, p.122). Brands will be recognised in a competitive market (Mogaji and Mogaji, 2021, p.122). A brand with a strong identity can build brand loyalty and repeat purchases because it helps the consumer's choice process (Mogaji and Mogaji, 2021, p.122). Brands should make sure their identity is consistent, which requires a creative, conscious effort to achieve, and is fully reflected in this exhibition space, through the integration of immersive and physical design elements that uniquely highlight Tiffany's craftsmanship and emotional narrative of love.

Nevertheless, how to use immersive technology to effectively mobilise the senses in the exhibition space is to be considered. The interactive component of the large digital panoramic screen was a key feature of the space. This component combined panoramic views with interactive digital screens to form an immersive space with effective multi-sensory engagement. In this exhibition, visitors enjoyed the interactive components of being able to draw and send their creations on the panoramic screen, and the visitors' painted patterns would float in real time to the end of the panoramic screen. When the viewer was not using the interactive installation, the panoramic digital screen would play fluttering blue petals that echo the vines hanging from the ceiling (see Figure 6.5). Since the colour and vines of the virtual space inside the panoramic digital screen are consistent with the real space outside, this technology blurs the boundary between virtual and reality and extends the space of the exhibition hall. Grau (2003, p.7) suggested that interactive media changed our concept of images and became a multi-sensory interactive experience space with a time frame. In a virtual space, the parameters of time and space can be modified at will, allowing the space to be used for modelling and experimentation (Grau, 2003, p.7). Grau said, 'The media strategy aims at producing a high-grade feeling of immersion, of presence (an impression suggestive of "being there"), which can be enhanced further through interaction with apparently "living" environments in "real-time"'

(2003, p.7). Such a virtual space is created on the panoramic digital screen.

Figure 6.5 Exhibition View, Interactive Panoramic Digitlal Screen, Blurring Virtual and Reality with Real-time Patterns and Fluttering Blue Petals (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

In this large digital component, the relationship between the audience and interactive immersive media also needs to be considered. Here, I see the relationship between the audience and the interactive immersive media as a kind of interface. In Tiffany's interactive media installation, the interface is a small digital touchscreen on which the viewers can draw patterns on the small digital touchscreen and send them to the panoramic screen, the small digital touchscreen is an intermediary between the viewer and the digital panorama. Shanbaum (2019, p.6) defined the digital interface as a threshold, an intermediary, and a boundary, but more specifically, it is not just a log-in screen, a joystick or a screen interface. It is a technology that mediates the relationship between entities and the aesthetic objects they produce, as well as the machine-based technological processes that take place beneath the surface (Shanbaum, 2019, p.6). Shanbaum (2019, p.6) believed that interfaces act as intermediaries between viewers, curators, and the exhibits through the interactive properties, thereby creating an interconnected relationship and influencing the behaviour and perceptions of those interacting with the interfaces. To be more specific, the interface allows the audience to become co-creators rather than passive viewers. By interacting with the digital touchscreens, users can alter and contribute to the exhibit, making them active participants in shaping the

immersive experience. This interaction affects their behaviour, encouraging them to engage more deeply with the exhibit, and it influences their perception of the brand and its narrative, as they are no longer simply observing but actively contributing to the artwork. The act of creation on the interface personalises the experience for each viewer, establishing a more intimate and dynamic relationship with the exhibit.

Shanbaum (2019, p.58) focused on the concepts of subjectivity, identity, and embodied self, positioning the relationship between body, technology, and identity as a co-constituted and synergistically produced experience. These relationships are important in interactive new media installations. In this exhibition, when the audience does not engage with the interactive interface, the immersive installations function passively. Specifically, the large panoramic screen, which serves as a central feature, paired with audio equipment and physical props, provides a visually and auditorily rich experience that transports the audience to imagined locations and moments. In this state, the audience remain passive observers, akin to traditional film or digital art installations, where the content unfolds independently of their presence or input. The audience is a passive viewer, much like in traditional film or digital art installations, where the content unfolds independently of the viewer's presence. However, when the audience triggers the interactive interface, the entire technological component shifts from a passive immersive space into an active interactive media device. At this point, the relationship between the audience and the technology changes. The audience's actions directly influence the content being displayed, making both the audience and the technological component co-creators of this immersive space, where they become an integral part of the device. Their gestures, choices, and interactions shape the visual and experiential outcome, creating a dynamic feedback loop between the audience and the installation. This transition from a third-person perspective to a first-person role as creator means that the audience's body becomes an extension of the technology, while the technology becomes an extension of the body. This interaction not only changes the content being presented but also transforms the audience's sense of immersion – now they are part of the immersive space itself, blurring the boundaries between human and technology, observer and participant, and deepening their connection to both the exhibit and the space itself.

Inside the exhibition hall, while the exhibition space successfully created a romantic and immersive space and shaped and reinforced the brand identity through a multi-sensory experience, the lack of specific content about the brand and its six-prong setting techniques left visitors with limited information to take away from the experience other than photos of the interactive components and interactive feedback from the panorama digital screen. It is important for the curators to balance the immersion of the space with providing relevant

information about the brand and its products. In addition, whether the overly commercial setting and obvious advertising intentions of the exhibition are appropriate for the audience remains to be critically discussed. As curator P10 said, curators combine stories with technologies of immersive experience to allow the audience to have a narrative experience. However, when the exhibition deviates from its core storyline, such as through overtly promotional elements, it risks disrupting the immersive experience, leaving the audience feeling disconnected or distanced from the intended narrative. Overall, the curators created an immersive experience within the exhibition space, transforming the environment into a romantic world that could deepen visitors' memories of the brand's iconic Tiffany blue and diamond ring-setting craft.

6.3 "The Tiffany Diamond" – SAR and AR

The third immersive space highlights one of the largest and rarest yellow diamonds ever found by the Tiffany brand. Therefore, this space was themed as this yellow diamond necklace. The rough stone was cut into a cushion-shaped diamond with 82 sides, 24 more than the traditional 58. Due to its rare and unique cutting process, it remains one of the Tiffany brand's most important and iconic diamonds to this day. As a result, the space features a single, standout exhibit displayed prominently in the centre, housed in a bright and uniquely crafted display case shaped like a diamond. This distinctive shape of the display case not only highlights the exhibit but symbolises its value and rarity. Surrounding this central display, curators have designed an immersive, diamond-like structure that enhances the visiting experience using a combination of dynamic lighting, projectors, audio equipment, and cutting-edge AR technology, as shown in Figure 6.6.

Figure 6.6 Exhibition View, Immersive Space Showcasing Tiffany's Iconic Yellow Diamond, Central Diamond, Shaped Display Case with 3D Mapping Projection on the Top (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

In this space with the theme of the yellow diamond necklace, the use of projectors to display large images of yellow diamonds on the ceiling from different angles was a creative approach by the curators. Unlike traditional displays, the use of three-dimensional projection screens, designed as diamond-like structures, introduced an innovative visual experience to the exhibition. This approach made the projected diamonds appear as if they were floating in mid-air, creating an illusion of depth and space that standard flat screens cannot achieve. Typically, projection screens are flat, but by giving them a three-dimensional form, the boundaries of the images are softened, allowing viewers to feel as though they are part of the projection itself. As discussed above in Section 6.1, this technique can also give flat projection videos a three-dimensional appearance, blending projection and physical objects together and breaking the boundaries between two and three dimensions. The diamond-shaped structure of the showcase and the projection screen is not only a visual centrepiece but also emphasises the theme of "special diamond cutting", which is a key focus of the exhibition. This unique cutting style symbolises precision, craftsmanship, and exclusivity, aligning with the exhibition's emphasis on the rarity and exclusivity of yellow diamonds. However, unlike in Section 6.1, where three-dimensional objects were added to a two-dimensional plane, here the projection

screen is fully three-dimensional. This creates an effect similar to "projection mapping", adding depth and richness to the experience. By showcasing the intricacies of diamond cutting in this way, the exhibition reinforces the brand's distinctiveness and exclusivity, enhancing the audience's perception of its luxury and craftsmanship. The immersive experience created through the three-dimensional projection further strengthens this connection, with curators aiming to engage the audience more deeply with the brand's identity and values (Basballe and Halskov, 2010; Grau, 2003).

Projection mapping or video mapping are other names for spatial augmented reality (SAR), which is part of the MR Continuum (Nikolakopoulou *et al.*, 2022, p.1025); a mixed reality classification that defines a continuum ranging from entirely real to entirely virtual environments (Milgram and Colquhoun, 1999). According to Milgram and Colquhoun (1999), AR is closer to the real end, augmenting real scenes with digital content. The primary characteristic of SAR lies in its capability to transform any surface or multiple objects into a display by projecting videos or images, and its ability to project narrative content or artistic expression onto objects or buildings (Nikolakopoulou *et al.*, 2022, p.1025). The advantage of using this type of technology in a specific field is that it allows for the enhancement of spatiotemporal information on the 3D surface being projected, and it facilitates the simultaneous participation of multiple users in a shared and sensory-rich visual space when they are using the SAR (Nikolakopoulou *et al.*, 2022, p.1025).

In this way, the projected content shows the true 3D depth of the projection surface in all directions (Lee *et al.*, 2019). 3D virtual objects can display accurate perceptual depth and appearance and can be applied in many applications such as telepresence (which refers to the use of technology that allows a person to feel as if they are in a different location or environment, typically used in remote meetings or events where individuals can interact with each other and their surroundings in real-time, despite the physical distance), promotion of new products and digital exhibitions. It could enhance visitor immersion and interest, especially in a museum environment (Lee *et al.*, 2019). This SAR technology is also appropriate for this exhibition section of the Tiffany exhibition in that by projecting the dynamic illustration of the yellow diamond onto the three-dimensional diamond structure, the curator can amplify the charm of the yellow diamond and enhance its 'aura' (see discussion in Section 5.5 above). The diamond structure 3D projection screen divided the projected diamond into several pieces. This ensured that visitors were unable to discern the 3D projection interface when viewed up close, encouraging them to step back and view the exhibition from a distance. Curators designed this technology to add an engaging element to the exhibition, aiming to spark visitors' curiosity about the objects and encourage them to explore further.

Using the diamond structure 3D projection screen had the extra benefit of avoiding a detachment experience due to low accuracy. Enlarging the video would result in an unclear image, low-precision diamonds in the video, and it would affect the overall quality of the exhibition. However, since viewers cannot identify objects when viewed up close, they only felt the movement of light and shadow on the ceiling, which was enough to create an immersive and engaging experience. While, as mentioned in Section 3.2, the quality of the projected image will directly affect the audience's sense of immersive experience, so video quality has always been a technical difficulty to overcome and optimise (Slater and Wilbur, 1997).

In addition, when applying SAR technology, curators need to pay attention to the neglect of the exhibition content and value while overemphasising the dazzling effect (Li and Ito, 2021, p.1). In the case study exhibition, this balance was successfully achieved. Since the projection was integrated as part of the display structure and placed on the ceiling, it did not draw much attention to the visual effects of the technology itself. Instead, it functioned as a cohesive element of the overall display. The centrepiece of the entire installation remained the yellow diamond within the showcase. This exhibition design effectively supported the underlying narrative of the brand's rarity and exclusivity. The intricate details of the yellow diamond's unique cutting techniques were beautifully highlighted and more explicitly connected to the overarching themes of heritage and artistry through the distinctive showcase design. While the projection's video quality was not exceptionally high-definition, it did not detract from the overall impact. This lower quality was mitigated by the 3D projection interface and the cohesive design of the installation.

Besides this, within this exhibition section, there was a separate small room, into which visitors could walk and where everything was black except for a mirror attached to the wall and a light strip to illuminate the visitor's face when taking photos in the mirror. A QR code was placed on the wall of the room, allowing visitors to scan it with their mobile devices using the brand's app to access a 3D virtual version of a yellow diamond necklace. This is AR (Augmented Reality) technology, which refers to a medium that combines real places and virtual content with new technological devices, which is an attractive medium used in museums (Rhodes, 2015, see also section 3.4.4). Augmented real places and objects are seen through a screen (Rhodes, 2015). This technology both expresses and transforms our contemporary relationship with the virtual (Rhodes, 2015). Virtual images can be associated with real places and objects (Rhodes, 2015). The boundaries of the real world can almost be invaded in the sense that AR technology overlays digital objects onto physical environments, creating a hybrid space where the virtual interacts with the tangible. This blending of realities transforms the perception of the physical space, as visitors experience the virtual necklace in their real-world surroundings, blurring the line

between what is real and what is digital. Using the QR code in conjunction with AR technology is a particularly effective way to create interactive experiences, as it allows visitors to easily access digital content relevant to the exhibition.

The technical team developed a highly accurate 3D model of the necklace, nearly identical to the real one, which could be moved and resized to match the wearer's movements in the camera. This added a sense of realism and enhanced the overall experience for visitors. A technical expert from the field of jewellery, interviewee P12, acknowledged the complexity of this kind of technological development, stating that the natural fire colour of diamonds is the most difficult to simulate when modelling, and the simulation of transparent materials has been a more difficult problem due to the limitation of computing power. Technicians need to explore how to make the same optical effect as the real gem and even make a higher fire colour with a higher refractive index. This is also one of the reasons why only the yellow diamond necklace could be experienced in virtual trying on in this exhibition. Due to technical difficulties, jewellery is difficult to achieve in 3D digital mass production. Additionally, the dark space helped to neutralise distractions from the surrounding exhibition environment, allowing visitors to focus entirely on the virtual necklace and fully enjoy the interactive experience. Interviewee P10, a description indicated that if the room is very bright, it will block the physical aura of the jewellery. The discussion in section 6.1 above also confirms that dim environments can highlight exhibits and enhance immersion.

This section incorporated AR technology to allow visitors to interact with the exhibits in a more immersive and interactive way. Viewers can wear virtual necklaces and take selfies with their mobile devices. These selfies automatically carry the brand logo, and when people share these photos with others, it's easy for people to notice the jewellery brand (see Figure 6.7 and Figure 6.8). The selfies generated by the AR could be analysed as the networked image which Cox *et al.* (2021) perceived as an extended ontology, a combination of social and technological elements. The networked image is defined as a composition of material and social foundations computed, including infrastructure, code, algorithms, and physical elements. Cox *et al.* (2021) pointed out that through the interaction between humans and machines, the networked image becomes an agentive relationship, capable of moving or existing outside of computation. This networked image is considered to be multimodal and transmedia, embodying specific manifestations of network relationships within it. Thus, AR plays an intermediary role in the process. The networked image helps brands communicate and interact with social media.

Figure 6.7 Exhibition View, QR code for Accessing AR Features (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

Figure 6.8 A selfie with a virtual yellow Tiffany diamond necklace (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

In addition, AR technology represents a significant advancement in its application to the fashion and jewellery industries, addressing the limitations of traditional user experiences and enhancing engagement (Jayamini *et al.*, 2021). As discussed in section 3.4.4 above on AR, this technology can provide consumers with the opportunity to virtually try on, addressing limitations such as time, location, and COVID-19. The technology was equally applicable in this exhibition, which broke the traditional way of displaying jewellery and enabled the audience to 'wear' expensive yellow diamond necklaces. Nevertheless, when curating an exhibition

incorporating AR technology, curators must consider how to incorporate this technology and achieve a balance between physical and virtual exhibits. Keil *et al.* (2013, p.685) illustrated that in most current applications, normally AR is often isolated because it can usually only work on a single exhibit, or because it is designed to replace the landscape of existing digital media. However, in the design of museums, while encompassing multiple mediums, curators need to ensure that the result is a completely seamless, flowing experience (Keil *et al.*, 2013, p.685). Hence, the application of AR technology to exhibitions faces challenges. First of all, in the case of the Tiffany exhibition, the exhibition hall was only for the yellow diamond necklace – this one independent exhibit, where the application of isolated AR technology was appropriate. Second, technicians used computer vision (CV) technology to track the portrait, so that the necklace can be accurately worn on the neck of the audience and move with the movement of the user. Finally, the curators positioned a member of staff beside the QR code to teach the audience the interaction paradigms needed to understand and follow handheld AR in the exhibition. In addition, combining physical and virtual items can create a more dynamic and engaging display, as visitors can observe the physical items up close while also experiencing the virtual items in an interactive manner. Carefully curating and displaying relevant items can also enhance the overall visitor experience and ensure that the exhibition is both visually appealing and informative.

6.4 In Conclusion

This chapter conducts an in-depth analysis of the technology used in three immersive spaces within *Tiffany & Co.*'s Vision & Virtuosity exhibition. In the first space, "The World of Tiffany", projectors dominate the viewer's field of vision, creating an enveloping sense of immersion. Dim lighting and blurred boundaries enhance the effect, while three-dimensional projection surfaces add depth to the images, converting flat visuals into dynamic 3D representations. The projected content effectively combines abstract and realistic elements, enhancing the audience's presence and imagination.

In the second room, "Tiffany Love", a combination of technologies creates a fully immersive space where bright lighting and Tiffany blue dominate. Panoramic screens and interactive interfaces are the primary contributions of this room. The screens extend the exhibition space, while touchscreens transform passive viewers into active participants, enabling them to interact with the virtual environment and become part of the space itself.

In the third space, "The Tiffany Diamond", SAR (Spatial Augmented Reality) and AR (Augmented Reality) technologies are key features. The 3D diamond-shaped projection interface showcases

the yellow diamond necklace, while the AR feature allows visitors to virtually try on the necklace, providing an up-close experience without risking damage. This interaction enhances the "aura" of the jewellery while promoting brand dissemination through networked AR images with embedded logos. However, due to technical limitations, this AR technology was only applied to a single exhibit.

The analysis of these three spaces reveals the exhibition's innovative integration of immersive technologies to engage audiences, blur physical and virtual boundaries, and promote brand values. The next chapter will examine how curatorial agencies design immersive experiences for luxury brands, broadening the understanding of current technologies used in jewellery exhibitions.

Chapter 7 A Critical Analysis of VCA's Uses of Technology

Building on the analysis of the use of immersive technologies in *Tiffany's Vision & Virtuosity* exhibition, this chapter examines how immersive techniques are incorporated into exhibition designs curated by VCA, a leading global curatorial agency specialising in luxury jewellery and fashion exhibitions. Specifically, this chapter critically analyses how technologies such as sound installations, visual projections, and lighting are employed by VCA to construct immersive spaces that effectively convey brand narratives and create artistic atmospheres closely tied to the jewellery on display.

The focus is on three exhibitions curated by VCA: *The Sound of Cartier* (2021), *Louis Vuitton High Jewellery Exhibition* (2021), and *Louis Vuitton High Jewellery Exhibition* (2022). These case studies illustrate the practical implementation of immersive technologies to shape audience experiences, enhance brand storytelling, and explore the potential of multisensory stimulation through the collaboration of art and fashion. This chapter also reflects on the challenges of balancing artistic and commercial elements to maintain the cultural capital and economic value of luxury jewellery brands within such exhibitions. Therefore, while curatorial and commercial considerations inevitably influence exhibition design, the analysis here concentrates on the technical and experiential effects of immersive technologies.

7.1 Auditory and Visual: *SOUNDS OF CARTIER*

At the core of Cartier's fine jewellery collection exhibition, *Sounds of Cartier* (2021), is the artistic collaboration with renowned sound artist Sergey Filatov, who in 2021 won the prestigious *Kandinsky Award for Artist of the Year* (VCA, 2023). Filatov created several sound installations for the exhibition, inspired by Cartier's fine jewellery collection, while the curatorial team at VCA were responsible for the accompanying visual projections and curating the whole exhibition. These visual elements complemented Filatov's auditory works, aligning with the thematic elements of the jewellery, and together they offered the audience an immersive experience dominated by sound and vision. This synergy between Filatov's artistic contributions and VCA's curatorial expertise underscores the interdisciplinary collaboration driving the exhibition. Each section of the exhibition emphasised the theme of jewellery collecting, with sound and visual representations of the artworks speaking to the aesthetics of jewellery (Sounds of Cartier, 2021). Drawing on themes of "animal fables", "vibrant colours" and "art deco" influences, and optical effects achieved through geometric combinations, the exhibition

highlighted contrasting combinations of coloured gemstones and the intricate assembly structures characteristic of Cartier's iconic pieces (Sounds of Cartier, 2021).

The techniques employed by the curators in general, as discussed in section 3.4.2, focused on using audio technology as an auxiliary tool to enhance narrative coherence, create atmospheric spaces, and provide sensory stimulation for visitors. In contrast, Filatov's approach centred on crafting auditory installations as standalone artistic exhibits, which became the central focus of the exhibition.

Historically, auditory elements have often been overlooked in exhibitions, which were traditionally perceived as places of silence (Bubaris, 2014). Supporting this view, Zimmermann *et al.* (2008) observed that auditory systems often remain invisible within exhibition spaces. Yet, contemporary research highlights the significance of sound in creating immersive experiences (Gao *et al.*, 2022; Loureiro *et al.*, 2019). The use of diverse audio delivery methods, such as spatial sound systems or headphones, can transform exhibition atmospheres, making them dynamic and mutable (Gao *et al.*, 2022). By incorporating both auditory and visual elements, Sounds of Cartier provides an exemplary case study of how sensory dimensions can be harmonised to enhance immersion and engagement.

Figure 7.1 Sergey Filatov (2021) SPHEROPH ONE Installation – Brass Spheres and Transparent Case with Binaural Sound Effect, *Sergey Filatov & Cartier*. 3 December. Available at: https://vimeo.com/652763376#_=_ [Accessed: 5 October 2023].

Upon entering the exhibition hall, visitors are greeted by a modest space with exposed red brick walls that connect with the exterior. The initial focal point was the SPHEROPH ONE (Filatov, 2021), an installation comprising two Earth-shaped brass spheres (see Figure 7.1). The sound emitted by these spheres was rhythmic, resembling the motion of a pendulum. However, the

sound was not produced by an actual pendulum; instead, it resulted from the continuous resonance of the brass shells, triggered by internal pulses (Sounds of Cartier, 2021). Positioned between the two brass spheres was a transparent display case framed in brass with gold rims, showcasing Cartier's fine jewellery (see Figure 7.1). The use of brass in both the spheres and the display case created a visual harmony with the raw, industrial style of the room. Subdued lighting contributed to the immersive and friendly ambience. In contrast, the relatively cold, focused illumination within the display cases served to highlight the fine jewellery on display, drawing attention to its intricate details and emphasising its significance within the exhibition. When visitors stood in front of the display case, the sound from the two brass spheres, positioned to the left and right, created a binaural auditory effect, resulting in spatial hearing in both ears. This effect, known as binaura, refers to the process of hearing with both ears and encompasses all the spatial cues derived from the listener's ears, head, and body. Rather than leading to this concept, binaural sound is an auditory effect caused by the spatial arrangement of sound sources (Roginska and Geluso, 2017, p.49). As Roginska and Geluso (2017, p.49) note, 'binaural audio is perhaps the easiest spatial effect to capture, but the hardest to realise in postproduction.' Notably, the binaural presentation used in the exhibition did not rely on headphones or simulate internal sound sensations. Instead, it delivered sound to each ear through different directional channels, creating a spatial effect without using the recording technique that simulates sound perceived through a real or artificial human head. This technique bypassed the conventional practice of employing binaural mannequins or head-like structures for sound recording. Lapini *et al.* (2018) said that contemporary binaural technology is designed to intricately manipulate sound within the human ear, resulting in an immensely potent stereo-immersive encounter. As such, the inclination of both institutions and private enterprises to integrate binaural technology into the realm of cultural heritage is burgeoning. Therefore, binaural technology also has great potential and room for development in fashion and jewellery exhibitions. Although the above discussion of technology explained that auditory technology is an assistive technology and tool to provide immersive experience, binaural technology can provide a more three-dimensional auditory effect and enhance the auditory sensory stimulation in immersive experience.

The installation SONORS (Filatov, 2021), positioned opposite the first part (SPHEROPH ONE), consisted of delicately crafted metal "petals" folded into wing-like shapes, emitting a lilting chirp that evoked the animal world (Sounds of Cartier, 2021). The gallery space housing these installations was moderate in size, providing enough room for visitors to move freely while maintaining a cohesive auditory and visual experience. The subtle resonance of the steel plates materialised unpredictably at different points in the room, mimicking the sounds of insects or birds in their habitats (Sounds of Cartier, 2021). This auditory design created a connection to

elements of nature, subtly linking to several jewellery pieces in the exhibition inspired by fauna, such as Cartier's iconic panther and bird motifs. These animal-themed designs were showcased among a broader collection of fine jewellery. The soundscape and visual features of the installations did not directly narrate the stories of specific jewellery pieces but instead enriched the immersive environment, enhancing the overall sensory engagement. By reflecting elements of the natural world, the design resonated with the artistry of Cartier's animal-themed jewellery while remaining consistent with the exhibition's overarching narrative of craftsmanship and luxury.

The installations simulated the sounds and forms of natural creatures, emitting scattered sounds that emerged unpredictably from various points in the room, similar to how sounds in nature might be dispersed and difficult to pinpoint. For instance, the chirping of birds or the rustling of leaves seemed to originate from different directions, enhancing the immersive effect. If visitors closed their eyes, the audio environment transformed the space, making it feel like a lush jungle soundscape. The gallery itself, a curated artificial environment, was reimagined into a natural auditory landscape, providing an experience distinct from typical urban or gallery settings. Even without visual stimulation, the carefully positioned audio sources around the space were capable of creating a strong sense of immersion. By varying sound intensity, direction, and distance, the exhibition mimicked the way humans naturally perceive sound in everyday life. Visitors could perceive sounds such as rustling leaves or distant insect calls as though they were occurring in specific, realistic locations, crafting a spatially dynamic, auditory immersion. This example reiterates the undeniable potential of audio technology to provide immersion in exhibitions. Such potential cannot be ignored when curating sensory experiences.

However, as noted in Section 3.2, immersive technology is defined as stimulating two or more senses to create an engaging experience. Does this case challenge that definition by relying heavily on auditory stimulation to engender immersion? The curators and the collaborating artist answered this question by integrating additional sensory inputs. Near the SONORS installation, a full projection screen covered the rough, exposed walls. This screen displayed slow-moving spots of light resembling a starry sky, transforming the physical gallery space into a celestial one (as shown in Figure 7.2). While the starry projection itself was abstract, its shimmering visual elements echoed the brilliance of the fine jewellery on display, suggesting a connection between the celestial starlight and the luminous qualities of the gemstones. Though the projection was secondary to the auditory focus, it played an auxiliary role, proving that a multi-sensory experience – integrating sound and visuals – provides deeper immersion than a single-sensory one.

Figure 7.2 Sergey Filatov (2021) *Sergey Filatov & Cartier* with Celestial Starry Projection – Enhancing Immersion with Visual Elements that Reflect the Brilliance of Jewellery. 3 December. Available at: https://vimeo.com/652763376#_=_ [Accessed: 5 October 2023].

Moving further into the exhibition space, the curators introduced an additional layer of immersion through a curved panoramic screen displaying the same slow-moving starlight projection as the earlier installation. Positioned centrally before this screen were three art installations collectively titled "Beam Dynamics" (Filatov, 2021). These installations comprised diamond-shaped prisms, as shown in Figure 7.3 and Figure 7.4, where the multi-faceted central structure interacts with beams of light to create refracted projections onto the panoramic screen. Each prism, crafted to mimic the geometry of a gem, captures and refracts bright laser beams from three light sources positioned adjacent to the prisms. The interplay of the prisms with the laser beams produces a dynamic and dazzling visual display, evoking the brilliance and reflective qualities of Cartier's fine jewellery. The curved panoramic screen enhances this sensory experience, casting the refracted light in tandem with the projected starry night sky. This synthesis of light, motion, and reflection transforms the exhibition space into an optical wonderland, blending the artistic narrative with the jewellery's inherent symbolism of radiance and precision. The prisms at the centre of "Beam Dynamics" (shown in Figure 7.3) focus on the ideas of light and reflection, which are key to the appeal of jewellery. Just like how gemstones interact with light, the prisms reflect and bend light, creating a visual experience that echoes the way fine jewellery shines and sparkles. This interplay of light in the installation highlights the beauty of materials and mirrors the captivating effect that jewellery has when it catches and reflects light.

Figure 7.3 Sergey Filatov (2021) Close-Up of "Beam Dynamics" Installation, Diamond-Shaped Prism Interacting with Light Beams to Create Refracted Projection. *Sergey Filatov & Cartier*. 3 December. Available at: https://vimeo.com/652763376#_=_ [Accessed: 5 October 2023].

Figure 7.4 VCA (2021) Distant View of "Beam Dynamics" Installation, Prisms and Panoramic Screen Creating a Light Display. *Sounds of Cartier*. Available at: https://thumb.tildacdn.com/tild3732-3161-4566-b463-623239313938/-/resize/922x/-/format/webp/305x.jpg [Accessed: 6 October 2023].

When discussing immersion, the flow theory (Nakamura and Csikszentmihalyi, 2009) from positive psychology is highly relevant, as it supports the idea that immersion requires multi-sensory stimulation. This theory, introduced earlier in Section 3.1 when exploring the concept of immersive experience, will now be examined in relation to the exhibition's use of immersive techniques. According to flow theory, immersive experiences reach their peak when the

activities participants engage in strike a balance between challenge and feasibility, while providing clear feedback and progress (Li and Huang, 2023). Applied to the curatorial techniques in this exhibition, an important observation arises: if the immersive elements are either too simple or too difficult, they may cause the audience to lose focus, either out of boredom or frustration, thus breaking the immersive flow. However, when the technology used in the exhibition strikes a balance – challenging but not overwhelming – the audience is more likely to remain fully engaged and immersed in the experience. For instance, a purely auditory experience could become too simple, whereas incorporating visual elements alongside sound enhances the experience, providing enough complexity to keep the audience engaged without overwhelming them. It's also important to consider other elements like the clarity of the exhibition's narrative, the ease of navigation through the space, and the simplicity of the interior design. In this particular VCA-designed exhibition, the spatial layout is straightforward and intuitive, ensuring that the auditory art installations, such as SONORS, and the jewellery displays are clearly connected. The narrative is not overly complex, and the use of projections and lighting does not clutter the space but rather adds to the immersive atmosphere. This multi-sensory approach aligns perfectly with the principles of flow theory, demonstrating how a carefully balanced sensory experience can engage visitors more deeply in the exhibition.

Journeying further through the open exhibition space, audiences encountered the "Fruit of Time" (Filatov, 2021), an area that displayed a collection of jewels strung together like fruit shapes. The artist created this sound installation based on inspiration from jewellery, with ripe fruits moving on high stems. The interplay of cylindrical jewellery display cases with sound installations, staggered in height and distributed throughout the space, forged a multi-tiered auditory landscape (see Figure 7.5). Central to the installation were spherical devices that vibrated with sound, adding a tactile dimension to the auditory experience. These vibrations symbolised the gradual emergence and vitality of the fruits as if they were on the brink of coming to life. From the ceiling's zenith, light cascaded directly onto the installation and jewellery showcase, casting an interplay of shadows that stretch and traverse the ground – a moving "fruit" and display cases akin to an aperture in motion. The projection of starlight extends from the previous space into this space, enriching the multi-sensory stimuli while heightening the visitor's sensory engagement. However, the content remains understandable, allowing visitors to connect it with the form and dynamics of the jewellery, the installation, and the sound. Therefore, the overall use of multiple technologies enhances the audience's immersion in this "Fruit of Time" section of the exhibition.

Figure 7.5 VCA (2021) "Fruit of Time" Installation – Sound and Light Interplay with Cylindrical Display Cases and Vibrating Spherical Devices. *Sounds of Cartier*. Available at: https://thumb.tildacdn.com/tild3230-6538-4561-a433-643663346262/-/resize/922x/-/format/webp/205x.jpg [Accessed: 6 October 2023].

As visitors advance through the exhibition, they encounter two preceding installations, "Direct Ascension" and "Around Its Own Axis" (Filatov, 2021), before arriving at the immersive climax of the final space. "Direct Ascension" draws inspiration from celestial geometry, using sculptural sound elements based on the facets of jewellery pieces (Sounds of Cartier, 2021). These elements are transformed into rhythmic, high-frequency patterns that echo the cosmic harmony of the celestial sphere (Sounds of Cartier, 2021). Additionally, "Around Its Own Axis" features revolving aluminium arcs that produce delicate percussive sounds (Sounds of Cartier, 2021). Designed as a programmed percussive composition, this mechanical rhythm alternates between activity and pauses, creating a dynamic and contemplative auditory experience (Sounds of Cartier, 2021). While these installations contribute to the exhibition's narrative of blending jewellery with sound and movement, my analysis will focus on the final space (see Figure 7.6), "In Parallel Touch" (Filatov, 2021), as it offers a completely immersive experience. This section integrates sound, visuals, and jewellery into a cohesive sensory environment.

Figure 7.6 Sergey Filatov (2021) "In Parallel Touch" Installation – Jewellery Necklace Surrounded by Sound Installations with Starlight Projection Above. *Sergey Filatov & Cartier*. 3 December. Available at: https://vimeo.com/652763376#_=_ [Accessed: 5 October 2023].

"In Parallel Touch" consists of three sound installations featuring suspended glass "drops" that swing within the space like pendulums. These glass drops, shaped like transparent water droplets, are suspended from brass devices positioned above circular quartz discs. Their irregular movements generate interactions with the quartz discs, producing a complex, meditative soundscape that reveals the acoustic properties of quartz (Sounds of Cartier, 2021). These installations are arranged around a jewellery necklace, poised atop a stand, corresponding to the white form in the centre the image. Together, they form a tableau that places the necklace in a symbolic dialogue with the sound-producing drops. Above this central arrangement, a flat, circular projection cloth is mounted on the ceiling, where projected starlight creates the visual illusion of a three-dimensional celestial dome. This effect blurs the spatial boundaries of the room, immersing visitors in a universe of light and sound. As the pendulum-like installations sway, accompanied by a symphony of rhythmic sounds, the ambience becomes hypnotic, soothing the heart's tempo (Sounds of Cartier, 2021). This fully immersive space transforms the viewer's experience, blurring the line between reality and reverie and situating them within the "universe" of this exquisite jewellery collection.

Overall, the artist Sergey Filatov successfully connects his art installations with the jewellery exhibits and the entire exhibition space, creating a cohesive and immersive experience. The audiovisual elements of the exhibition reflect the principle of multi-dimensionality and continuous change. These themes align with Cartier's long-standing tradition of jewellery

design, encompassing historical trends, technological advancements, and aspirations for the future – all of which are embodied in every aspect of the installations (Sounds of Cartier, 2021). Each section of the exhibition contributed to an overarching theme: "animal fables", "colourful", and "art deco"-inspired jewellery collection. The sound and visual representations of the artworks captured the design philosophy of the jewellery, incorporating motifs such as animal fables, vibrant colours, and optical effects achieved through geometric combinations of cuts within individual pieces. Additionally, the contrast of coloured gemstones and the architectural structures of the gallery space further emphasised exhibits and the theme of the exhibition. Here, sound was not merely an art form in itself but also served as a medium to convey the essence of the jewellery brand and its exhibits to the audience. As highlighted by Cluett (2014), sound occupies a multifaceted role: it can function as material for creation, develop as a standalone medium, or provide critical support to other artistic and curatorial expressions.

In addition to the art installations engaging the auditory senses, the technology of the visual senses – projection – played a vital role in creating this immersive exhibition. The Tiffany case study (Chapter 6) previously explored key factors for crafting immersive experiences through projection technology. Building on those insights, the *Sounds of Cartier* exhibition featured a larger-scale projection system that further enhanced the audience's sense of immersion. In this exhibition, the projectors served as assistive technologies, enriching the sensory and immersive dimensions of the experience. The curators designed the projection content to resemble a unified, moving starry sky. This design added dynamism to the exhibition while retaining a sense of grounded elegance and simplicity, ensuring that the focus remained on the central elements: the jewellery exhibits and sound installations. This approach aligns with Nakamura and Csikszentmihalyi's (2009) "Flow" theory, which emphasizes the balance between challenge and comprehension. By presenting visually engaging but straightforward content, the exhibition elevated the audience's engagement without overwhelming their ability to process and enjoy the experience. This nurturing of positive psychological engagement exemplifies the principles of flow theory. Moreover, the exposed walls and structure of the exhibition site itself required creative solutions, and the projectors fulfilled a dual purpose beyond their immersive role. They were instrumental in embellishing and partitioning the multiple connected, open spaces of the venue. By maintaining the same projection content throughout, the diverse sections of the exhibition were unified into a thematic continuum, interlinking the various areas and underpinning the overarching theme.

The *Sounds of Cartier* (2021) is the result of cooperation and communication between the artist, curators from VCA, and the brand. The three parties represent the views of different actors, and the VCA agency acts as a bridge, connecting artists and brands and facilitating communication.

But is this cooperation really totally beneficial? Ryan (2007, p.11) explained that the fusion of fashion and art has now become a widespread trend, with brands strategically investing in art to enhance their cultural and economic capital. Curation is seen as an important tool for creating cultural capital and economic value for both brands and designers (Vänskä and Clark, 2018, p.168). Although the blurring of high art and popular culture has been criticised by scholars, as shown in Sections 2.2 and 2.7 (Geczy and Karaminas, 2013; Miller, 2007; Vänskä and Clark, 2018), for fashion brands, such cooperation can increase brand awareness, exclusivity, authenticity and authority. For museum institutions, the use of fashion as a means of attracting visitors gains monetary value through corporate sponsorship and cross-brand opportunities (Bai, 2017; Clark, 2018, p. 164; Geczy and Karaminas, 2013, p.4; Vänskä, 2017, p. 128). Furthermore, *Sounds of Cartier* (2021) indicated that artists can also draw inspiration from fashion products. This reflects a positive attitude, suggesting that for art, aligning with fashion can adapt to shifts in creative expression and bring more possibilities to the art world (Geczy and Karaminas, 2013, p.4). However, this case study introduces a new perspective for critique – does collaboration with artists in exhibitions inadvertently overshadow the "aura" of jewellery and brands, causing the audience's attention to gravitate towards the art rather than the jewellery exhibits? Although the sound installations are inspired by the jewellery exhibits and intricately intertwined within the display, the diverse forms of artworks coupled with multi-sensory stimuli imbue the art with a dynamic vitality and ever-evolving essence (Gao *et al.*, 2022), thus deepening the audience's memory of the artworks (Loureiro *et al.*, 2019, p. 22). In terms of presence, the volume of jewellery exhibits is naturally constrained by their functional parameters, while artworks are unencumbered by such limitations, confined only by available display space. The artworks within this *Sounds of Cartier* exhibition possess a larger physical volume, occupying a more substantial fraction of the audience's field of view. Moreover, unlike jewellery exhibits, the artworks featured in this exhibition tend to be more abstract, requiring additional time for reflection and interpretation. Therefore, the cooperation between art and fashion in this context, and the form such cooperation takes, still warrants more in-depth exploration and consideration.

7.2 *Louis Vuitton High Jewellery Exhibitions*: The Key Role of Lighting

For three consecutive years, *Louis Vuitton* (LV) has employed the VCA agency to curate exhibitions showcasing their fine jewellery collections. Two of these exhibitions incorporated immersive spaces. This section will analyse the *Louis Vuitton High Jewellery Exhibitions* held in 2021 and 2022. The 2021 exhibition featured LV's fine jewellery collection titled Stellar Times, drawing inspiration from a distant galaxy (Louis Vuitton High Jewellery Exhibitions, 2021). The exhibition space, which appears to be a limited-sized gallery room based on available images,

epitomised the theme by offering an intuitive representation of a starry sky. The curator intentionally designed the exhibition to obscure the perception of the room's size. The dim lighting and the vast universe projection were crafted to create an illusion of expansiveness, leading the audience to feel as though the space extended infinitely, far beyond its actual physical dimensions. This exhibition example differs from the spatial elements used in the Cartier exhibition discussed in the previous section. While Cartier's starry sky projection functioned as an auxiliary technology to enhance sensory engagement, the starry sky projection in this LV exhibition served as the primary technology, creating the central immersive experience. Figure 7.7 illustrates the curator's design, portraying the space as a celestial expanse. The upper part of the room is enveloped in darkness, fostering the illusion of an endless void. Scattered across the dark ceiling are radiant stars, which create the sensation that the audience is standing beneath a cosmic canopy, with the Milky Way seemingly within reach.

Figure 7.7 VCA (2021) Figure 25: "Stellar Times"– Celestial-Themed Gallery Space with Starry Sky Projection and Jewellery Displays. *Louis Vuitton High Jewellery Exhibitions 2021*. Available at: https://thumb.tildacdn.com/tild3430-6334-4739-b831-373230383438/-/resize/800x/-/format/webp/additional_format.jpg [Accessed: 15 December 2023].

Beneath this celestial sky, the "Stellar Times" jewellery is displayed in showcases arranged both against the walls and centrally within the gallery space, as seen in Figure 7.7. These cases feature sets comprising necklaces, rings, earrings, and occasionally matching brooches. Each jewellery set is carefully illuminated with pinpoint lights directed precisely onto the items. The lighting is meticulously controlled, maintaining an even and focused range to avoid disturbing the darkness above. If the illumination range of the light was too large, the effect of the dark sky

would be diminished. This deliberate contrast between the dark sky and the luminous jewellery below creates a captivating effect. The carefully arranged lighting transforms the jewellery into part of the galaxy, like nearby stars complementing the tiny stars on the ceiling. The interplay of light projects intricate reflections from the display platforms onto the exhibition hall walls. These mottled reflections add layers and depth to the exhibition space, enhancing the immersive experience.

In this space, the curator employed both conventional non-technical elements, such as deep purple walls simulating the cosmic halo, and advanced technical methods like projection and lighting to recreate the stars and elevate the physical aura of the jewellery. This thesis suggests that the projector plays an important role in the recreation of the scene, and lighting also plays a significant role in shaping the immersive experience of the space. As Ajmat *et al.* (2011, P195) have argued, "light fulfils a highly regarded double role: to reveal the object itself" (physiological function) and "to generate ambience" (significance function) where the statement is produced and, therefore, it takes part of the statement in an implicit form. Similarly, Hurlbert *et al.* (2020, p.1) argued that lighting not only illuminates the visual details and emotional impact of exhibits for visitors but also safeguards the exhibits, ensuring their integrity. Furthermore, lighting plays a crucial role in enhancing the overall aesthetic and emotional experience of visitors (Hurlbert *et al.*, 2020, p.1).

The overall light of the exhibition space of the "Stellar Times" display is dim, similar to that discussed in relation to the case study of the Tiffany exhibition in Chapter 6, and the dim light helps the projector create a sense of atmosphere and enhances the illusion for the viewer – that they were in another place and time, thus enhancing the sense of immersion. Additionally, the dimly lit environment effectively accentuates the showcased jewellery exhibits. Interviewee P10, who works in marketing for an auction company in the UK and is involved in curation with prior research on the curation of online and virtual exhibitions, supported the idea that overly bright rooms can obscure the physical aura of jewellery. According to Miller & Miller (2005, p12), 'Exhibits should always be brighter than the background and graphics around them. Exhibits should be on stage, the centre of attention. Two-to-one is a good rule. Artifacts should be twice the intensity of the background'. Miller and Miller (2005, p.12) further explained that nothing in the space should be more than twice as bright as the most dimly lit exhibit in the gallery. More of the museum's visual problems, however, are caused by glare from over-lit areas than by low light. Thus, even the spotlights on the jewellery should be carefully calibrated to avoid excessive brightness.

The spotlights employed by the curators in "Stellar Times", as depicted in Figure 7.7, effectively accentuate the exhibits, emphasising their central position without causing undue glare. The

carefully focused illumination highlights the small areas around the jewellery, enhancing the refracted light of the gems. As per Miller and Miller (2005, p.11), spotlights with precise control allow light to be placed exactly where the curator intends, without spilling onto surrounding walls, while effectively illuminating the exhibits. This approach ensures that lighting is directed and controlled to provide even illumination, ensuring that each exhibit becomes the focal point of interest. The lighting design, as shown in Figure 7.7, ensures that each piece of jewellery receives lighting of suitable size, direction, and intensity, guaranteeing the optimal presentation of each exhibit.

However, environmental conditions, including lighting, can impact exhibit properties during the exhibition, potentially leading to deterioration (Ajmat *et al.*, 2011, P195). Organic materials like documents, letters, and textiles are particularly susceptible to light damage. Conversely, fine jewellery, predominantly composed of durable materials such as diamonds, rubies, sapphires, and precious metals, exhibits high stability. Consequently, lighting considerations for fine jewellery primarily revolve around achieving desired effects, without significant concern for exhibit protection and preservation from the effects of light. Nevertheless, if high jewellery is displayed alongside clothing or is made from materials requiring additional protection, considerations for exhibit preservation due to lighting become pertinent.

In a manner akin to the environment depicted in Figure 7.8, VCA employed a similar design strategy for another *Louis Vuitton exhibition* in 2022, as exemplified in Figure 7.8. This exhibition aimed to showcase LV's exceptional brand design and craftsmanship, featuring fine watches, evening gowns, and high jewellery (Louis Vuitton High Jewellery Exhibitions, 2022). The space further supports the discussion on lighting levels and material types, illustrating how design choices can influence perception and presentation. While the design shares similarities with the 2021 exhibition, it is unclear whether this 2022 exhibition took place in the same gallery, as no specific details about the venue have been provided. The dark ceiling was used to expand the spatial perception of the exhibition hall, with lights subtly and evenly distributed across its surface. These lights, though standard, were encased in transparent geometric fabric, transforming them into unique visual elements. This treatment softened the light and allowed it to shift to a pale blue hue, enhancing the atmospheric effect. Below, cuboid-shaped display cases utilised top-to-bottom spotlighting to precisely illuminate the exhibits, ensuring each piece was prominently displayed without overwhelming the space.

Figure 7.8 VCA (2022) Celestial-Inspired Design with Soft Lighting with Geometric Fabric. *Louis Vuitton High Jewellery Exhibitions 2022*. Available at: https://thumb.tildacdn.com/tild3663-3133-4633-a363-363261396363/-/resize/922x/-/format/webp/24022022_shumovphoto.jpg [Accessed: 15 December 2023].

Nevertheless, as highlighted earlier, lighting serves a dual purpose – not solely to accentuate exhibits and create ambience but also to reinforce spatial themes and narratives (Ajmat *et al.*, 2011; Hurlbert *et al.*, 2020). The lighting design in this 2022 exhibition (shown in Figure 7.8) falls short in aligning with the exhibition's theme compared to the 2021 exhibition (Figure 7.7). While the lighting contributes to the overall ambience of the exhibition hall, the absence of a cohesive story and theme results in a lack of meaningful association. Noteworthy is the absence of discernible elements in the exhibition space that reflect the brand's design and thematic essence.

Alternative applications of lighting are, however, evident in another section of this 2022 exhibition. As depicted in Figure 7.9 and Figure 7.10, the curator transformed LED lights into several enlarged LV four-pointed star symbols. This section of the exhibition featured a room that was dimly lit, with the lights emitting a soothing blue glow that gradually intensified from a distance to near proximity. The space was devoid of unnecessary elements, featuring solely a row of LV four-pointed star logo LED lights. In this environment, these lights took on the appearance of art installations, with the dim surroundings accentuating and emphasising their central position in the room.

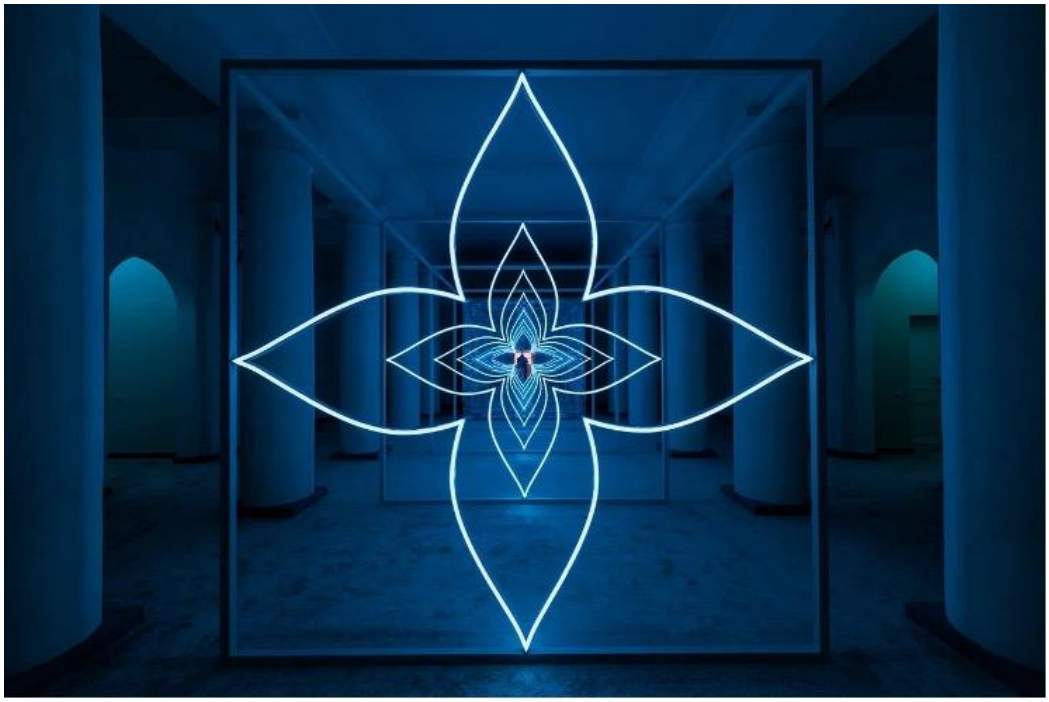

Figure 7.9 VCA (2022) Close-Up of LED Lights Forming Enlarged LV Four-Pointed Star Symbols. *Louis Vuitton High Jewellery Exhibitions 2022*. Available at: https://thumb.tildacdn.com/tild3032-6161-4235-a134-353734623633/-/resize/922x/-/format/webp/24022022_shumovphoto.jpg [Accessed: 16 December 2023].

Figure 7.10 VCA (2022) Distant View of LED Lights and LV Four-Pointed Star Symbols. *Louis Vuitton High Jewellery Exhibitions 2022*. Available at: https://thumb.tildacdn.com/tild3666-6465-4636-b238-613631343830/-

/resize/922x/-/format/webp/24022022_shumovphoto.jpg [Accessed: 16 December 2023].

Kerman (2011, p.4) emphasised that the use of LEDs in museums and exhibitions has minimal physical impact on the exhibits themselves. Furthermore, LEDs have demonstrated significant potential in enhancing the emotional experience of museum visitors. LEDs offer a wide array of colours without the need for filters, enabling precise adjustments in lighting design for exhibitions. Consequently, LEDs can foster imaginative spaces, evoke curiosity, and serve as effective tools or aids for creating immersive experiences. Zhuo *et al.* (2023, p.290) affirmed that LED devices can establish immersive environments, altering the audience's perception of their surroundings and amplifying emotional responses. Installation art, through the use of LED devices, can craft unique emotional experiences, allowing the audience to engage with the art in ways unattainable through traditional two-dimensional graphic art (Zhuo *et al.*, 2023, p.290).

In this 2022 *Louis Vuitton High Jewellery exhibition*, the curators used LED devices to create three-dimensional installations, aiming to immerse the audience in the artwork as soon as they entered the room. First, when the audience walked into the dimly lit room, they were enveloped by the blue glow of the installation. As they approached the lights, the sense of depth in the installation appeared to shift, creating an illusionary change in their perception. The LEDs did more than just light up the space; they transformed the audience's perception of depth and spatial awareness. Additionally, the room's minimalist design directed all focus toward the light installation, prompting the audience to move freely, explore, and view the piece from various perspectives. This immersive setup invited visitors to engage with the brand on both a physical and emotional level. However, it must be noted that while this installation is innovative, it cannot be entirely regarded as art. In this instance, the curators enlarged the LV logo and presented it creatively, but did not effectively reflect the overarching theme of the exhibition – design and craftsmanship.

From a brand-centric standpoint, the deliberate emphasis on the brand logo signifies a positive strategic move. The logo serves as a potent vehicle for expressing brand identity, playing a pivotal role in communicating brand image and values (Ha, *et al.*, 2020). Janiszewski *et al.* (2001, p.19) stated that a substantial body of evidence supports the idea that repeated exposure to abstract and nonsensical symbols amplifies the positive impact of stimuli. Notably, research indicates that exposure effects extending to sensory elements such as smell, food, and sound contribute to strengthening and stabilising the stimulus (Janiszewski *et al.*, 2001, p.19). While this visual material makes it challenging to ascertain whether the exhibition's curator incorporated other sensory stimuli, the recurrent emphasis on the brand logo contributes to enhancing the audience's positive perception of the brand. As articulated by P4,

a curator from a jewellery brand, the final objective for brands in all exhibitions is sales. Consequently, VCA, serving as the brand's curatorial agency, steers all curatorial decisions with a steadfast brand-centric perspective. Like the discussion of Cartier in section 7.1, the collaboration with artists is also a strategy of the brand.

However, viewed through the lens of fashion curation, an excessive emphasis on commercial considerations risks overshadowing the connotation and thematic essence of the exhibition. As articulated by P3, a lecturer at Xiamen University's School of Creative Innovation, who is involved in exhibition-related tasks, communication with curators, and exhibition design, this is the prioritisation of form over content. Consistent with a point discussed in Sections 2.6 and 6.2, an overemphasis on commerciality has faced substantial criticism within the academic realm. P9, a master's degree student in Cultural Heritage and Museology at Fudan University, specialising in jewellery exhibitions in luxury contexts, critically underscored the fact that fashion exhibitions that collaborate with brands are restricted by museums due to the commercial display of brands in fashion exhibitions. Moreover, P10 argued that the commercial elements could disrupt the exhibition's narrative flow and diminish the audience's immersion in the experience.

An additional factor that warrants attention in relation to the *Louis Vuitton High Jewellery* exhibitions is that both events are exclusive brand salons catering to VIP customers invited by LV. Access is restricted, with non-invited individuals not permitted entry (Louis Vuitton High Jewellery Exhibitions, 2022). The exhibition features a dedicated space for VIPs, offering refreshments and opportunities to try on jewellery. Consequently, the primary purpose of these exhibitions is sales-oriented, providing a luxurious experience to a select audience. The exhibitions' thematic elements, design, and craftsmanship are personally explained to visitors through one-on-one interactions with sales staff, offering hands-on experiences – something that no technology can replace. As P12, a jewellery expert and technical specialist, discussed, this personal interaction remains irreplaceable in creating a meaningful and immersive experience.

In totality, VCA, as a curatorial agency frequently collaborating with brands, achieves exhibition outcomes aligned with brand requisites. Insights from interview research reveal that brands prioritise consumer experience, with sales as the ultimate goal (P4; P5). The VCA employs conventional immersive technologies like projectors, sound equipment, and lighting, while more advanced technologies such as VR and MR are notably absent. This may be due to technical constraints, budget limitations, or the specific focus on a VIP customer demographic. Given that the target audience has direct access to trying on jewellery during the salon experience, there is less reliance on technology for indirect experiences. In comparison, the

Tiffany exhibition used AR to allow virtual try-ons of jewellery. However, if the exhibition were to expand its audience base, MR and VR technologies could emerge as viable and accessible options. Moreover, Bonetti (2019) suggested that creating immersive environments through technologies like VR and AR can stimulate brand engagement, increase consumer desire, and enhance brand positioning. Additionally, MR and VR technologies have the potential to elevate customisation and personalised services (Altarteer and Charissis, 2019). While customers in the high jewellery salon can receive these services through sales staff, the lengthy wait times for the final finished product may be mitigated by immediate visualisation offered by MR and VR technologies. The absence of such technologies in the exhibition setting is likely attributed to the state of technological maturity and budgetary constraints.

Lastly, a recurring issue with exhibitions curated by the VCA agency is the insufficient prominence and depth of narrative content. Curators are required to establish a comprehensive narrative structure for the exhibition theme (Ke and Xiaodong, 2021). Multiple interviewees (P1, P3, P10, *et al.*) underscored the critical role of narrative in immersive exhibitions, emphasising its capacity to deepen the exhibition's connotation and enhance the audience's understanding of both the exhibition and the brand. Regrettably, the three instances of VCA exhibitions, even with the inclusion of artists' works presenting diverse abstract concepts, fall short of achieving a profound comprehension of the exhibits for audiences due to the lack of a complete narrative structure.

7.3 In Conclusion

In this chapter, a critical analysis of VCA's use of technology in three jewellery exhibitions highlights the significant role technology plays in creating immersive spaces. Through sound installations, visual projections, and lighting, VCA successfully conveys the brand's narrative while creating an artistic atmosphere closely tied to the jewellery. The *Sound of Cartier* exhibition, which combines sound art and visual projections using binaural audio technology, creates a multisensory immersive environment. While enhancing audience engagement, this approach underscores the value of sensory stimulation, aligning with "flow theory" in positive psychology, which suggests balancing challenges and feasibility to maximise immersion. However, the interplay between art installations and jewellery displays may shift the audience's focus, sometimes overshadowing the jewellery itself, which calls for reflection on its impact on the brand's cultural and economic value.

In the *Louis Vuitton High Jewellery Exhibitions*, lighting played a crucial role in creating immersive experiences. The 2021 "Stellar Times" exhibition employed starry sky projections and spotlighting to evoke a cosmic environment, with lighting carefully designed to highlight the

jewellery while maintaining the dark sky above, integrating the pieces into the overarching galactic narrative. In contrast, the 2022 exhibition utilised similar lighting strategies but incorporated LED elements featuring the LV logo as an art installation, further emphasising the brand's image. Despite the visual impact, the exhibition lacked a cohesive narrative theme, weakening the emotional connection with the audience. The commercial focus, particularly in the VIP-exclusive salon events, overshadowed the cultural depth of the exhibition, highlighting the challenges of balancing commercial and thematic goals. However, the discussion in this chapter has focused on the experiential and technical dimensions of these exhibitions. Observations regarding the balance of commercial and artistic elements are considered in relation to the practical implications for spatial and technological design, which are aspects that support curatorial presentation but are not discussed here in terms of curatorial intent or narrative authorship. This is because the central concern of this thesis lies in how immersive technologies shape audience experience and spatial perception, rather than in analysing the curators' authorial narratives. By maintaining this focus, the discussion remains aligned with the thesis's position, which is to investigate technology as a mediator between jewellery, space, and audience perception.

In the next chapter, the jewellery exhibition will be explored through speculative design, combining the findings from the literature review, insights from expert interviews, and the analysis of case studies. This approach aims to guide future exhibition development and offer improvements to the application of existing immersive technologies in jewellery exhibitions.

Chapter 8 Speculative Design

The case study exhibitions analysed in Chapters 6 and 7 have examined how different technologies contribute to immersive experiences, identifying how each exhibition has its strengths and limitations. Building on these analyses, this chapter seeks to integrate the discussions from the literature review, expert interviews, and exhibition case studies to propose innovative perspectives and frameworks for advancing immersive experience technologies in jewellery exhibitions.

In doing so, this chapter explicitly aligns with the overall position of this thesis. As outlined in Chapter 1, this research is centred on technology and practice, with a particular focus on the application of immersive technologies in jewellery exhibitions to enhance audience experience and sensory interaction. To explore this objective, this research adopts speculative design as a methodological and conceptual framework. Chen and Fu (2021, p.305) define speculative design as a research method that contemplates the possibility of future design, focusing on the potential application of technology in future life and its impact on societal development. The purpose is to break free from conventional constraints and present diverse possibilities for the future evolution of the research object; in this instance, technologies of immersive experience in jewellery exhibitions (Chen and Fu, 2021, p.305). Speculative design directs attention to the future by concretely expressing, thinking, and imagining through design. Leveraging the interactive, experiential, and inspiring characteristics of design, it effectively encourages audiences to analyse, criticise, and rethink current technologies, fostering contemplation about the future of technologies and facilitating transcendental innovation (Auger, 2013, p.12; Chen and Fu, 2021, p.305).

However, speculative design has its challenges. Auger (2013, p.12) notes its strong speculative tendency, often involving imaginative guesses that create fantastical, technology-centred dreams without being grounded in logical trajectories or real-life constraints. Thus, when employing speculative design, it is essential to ensure that it remains tethered to a plausible future, grounded in logical iterations of new techniques (Auger, 2013, p.12). This chapter and proposed exhibition design will adhere to this principle, drawing on the existing paradigm, current immersive experience technology, and inferred future developments for imaginative exploration. To address this exploration, the chapter focuses on four immersive technologies: virtual reality/augmented reality (VR/AR), LED/laser projection technology, binaural audio technology, and interactive surfaces. These technologies have been selected based on their prominence in the literature and case studies, as well as their potential to enhance immersive jewellery exhibitions. Furthermore, drawing from the interviews conducted, this thesis highlights

that future jewellery exhibitions should prioritise experiences that provide educational and cultural immersion, addressing the growing desire among audiences for meaningful engagement with cultural narratives. By incorporating these immersive technologies with such objectives, this chapter envisions a speculative design proposal that aligns technological innovation with the broader goals of jewellery exhibitions.

8.1 Future Trends in Immersive Experience Technologies

This section analyses the future trends in curatorial practices for jewellery exhibitions and the use of immersive experience technologies in exhibition design. First, during the interviews conducted for this thesis, experts provided insights into the future development trends of jewellery exhibitions, as discussed in Section 5.8 above. The analysis suggests that future jewellery exhibitions should focus on providing educational and culturally immersive experiences, integrating museum collections with jewellery and utilising interactive multimedia to deliver a cohesive narrative and educational activities. Curators should prioritise consistency between immersive experiences and storytelling, using background sound to enhance the experience. MR and AR technologies hold substantial potential for creating immersive experiences, though curators need to adapt strategies flexibly to suit different themes and exhibition content. However, the suggestions from interviewees were quite general, highlighting the need for a deeper understanding of how future technologies will be applied in jewellery exhibitions to realise these trends fully.

In the realm of future technology trends, many organisations have conducted analyses and made forecasts. CambridgeSeven (2023), a well-known company celebrated for its diverse cultural initiatives, has curated a list of ten key technologies to address emerging trends in museum and exhibition settings, including personalisation and wearable devices, augmented and virtual reality, gesture technology and non-touch interactives, mobile technologies, indoor GPS tracking systems, artificial intelligence, LED/laser projection technologies, virtual touring, flexible exhibit platforms, and augmented reality selfie moments. These technologies aim to provide immersive digital experiences, enhance visitor journeys, optimise wayfinding, and streamline operational processes. Many of these projections resonate with discussions in Chapters 6 and 7, where their applications in jewellery exhibitions were explored in depth. For instance, AR was recognised as pivotal for creating interactive and personalised visitor experiences, enabling audiences to virtually “wear” jewellery and have selfie moments. Similarly, LED and laser projection technologies were discussed for their ability to create dynamic and visually compelling spaces, combining lighting effects with 3D projection interfaces to enhance narrative depth and experience layers. These technologies align closely

with CambridgeSeven's broader forecast of more personalised and responsive museum environments that leverage interactivity and digital innovation.

Museums + Heritage (2022), a professional community encompassing curators, academic experts, and technologists, offers complementary insights into future trends. They emphasise innovations such as projection mapping, binaural audio, digital twins, and holographic displays as transformative tools for museum practices. These innovations reflect many of the themes analysed in this thesis. For instance, projection mapping, previously discussed in Section 3.4.1 for its potential to transform exhibition spaces, aligns with the immersive techniques highlighted in the exhibitions examined in Chapters 6 and 7. Similarly, binaural audio was explored as a tool for crafting engaging soundscapes that complement visual narratives, enhancing the immersive qualities of exhibitions, which have also been discussed in Chapter 7. Digital twins were identified as an effective means of addressing the challenges of preserving and showcasing delicate or valuable artefacts like jewellery, allowing for highly detailed 3D replicas that can be explored by audiences in innovative ways (Museums + Heritage, 2022). Museums + Heritage (2022) also underscores the importance of technologies like mobile apps and virtual reality in expanding access to exhibitions, creating opportunities for remote engagement, and enhancing on-site visitor experiences.

Meanwhile, Electrosonic (2024) boasts over 55 years of expertise in crafting innovative experiences that merge architecture, narrative, and technology, enriching people's lives through immersive environments. Drawing upon data collected from the 2021 Quantitative Research (Museum Innovation Barometer), Electrosonic (2023) sheds light on the rationale behind integrating new technology into museums, the current landscape of museum development, and the anticipated trajectory of technology within museum settings. Leveraging insights from these organisations, this thesis combines these insights with interview content to forecast future trends in the application of these technologies within jewellery exhibitions.

These organisations all emphasise the increasing convergence of these technologies, which were central to the discussions in Chapters 6 and 7. Their overlapping focus on AR/VR, projection mapping, and interactive interfaces underscores the central role of these tools in redefining how jewellery exhibitions engage and educate their audiences. Building on these insights, the subsequent sections of this chapter will explore the speculative potential of key immersive technologies – AR, projection systems, binaural audio, and interactive surfaces – offering a vision for their future application in jewellery exhibition design.

8.1.1 Virtual reality (VR)/Augmented reality (AR)

CambridgeSeven (2023) highlighted the expanding role of virtual reality (VR) in museum experiences, noting that VR can go beyond enhancing physical spaces and even extend to virtual exhibitions accessible from home technology interfaces. Augmented reality (AR), similarly, offers the ability to overlay virtual worlds onto the physical space of the exhibition, bringing digital experiences directly into the real world (CambridgeSeven, 2023). This concept was discussed in in Section 3.4.4, where the potential of AR in merging virtual and physical spaces was already acknowledged. Furthermore, with social media platforms playing a central role in modern communication, sharing images and experiences from exhibitions has become an essential part of the visit (CambridgeSeven, 2023). In this context, AR can offer personalised experiences, such as virtual "fittings" or allowing visitors to place themselves in historical moments or immersive scenes, creating memorable "Instagram moments" that visitors are eager to share on social media (CambridgeSeven, 2023). This aligns with Electrosonic's (2023) assertion that museums are increasingly leveraging AR and VR technologies to offer customised visitor experiences, incorporating these elements into apps accessible via mobile devices. These innovations allow visitors to co-create their own experience within the exhibition, which is integral to both engagement and sharing.

As discussed in Section 5.7, both VR and AR technologies still face significant technical challenges, particularly when it comes to simulating jewellery in 3D models. However, should these challenges be overcome, the creation of extensive 3D jewellery databases could become a reality, enabling visitors to virtually 'wear' jewellery pieces in an immersive and interactive setting. The speculative design approach in this chapter envisions that overcoming these technical barriers could transform the way audiences engage with exhibitions, enhancing personalised experiences where virtual jewellery can be integrated into both physical and digital realms. For instance, resolving current modelling and simulation limitations could lead to the development of a vast, interactive 3D jewellery collection, offering visitors an enriched, highly engaging experience that blends digital and physical realities. To address this, "digital twin" technology, as outlined by Museum + Heritage (2022), offers a solution. By capturing objects in 3D through advanced photography and scanning techniques, museums can create accurate virtual models of exhibits. These virtual objects can be rotated, manipulated, and explored in more detail, allowing visitors to engage with the exhibit in a way that traditional displays cannot provide. The "digital twin" speeds up the creation of these 3D models, making it easier to build vast databases of jewellery pieces that can be interacted with virtually. This approach fits neatly with the speculative design ideas discussed in this chapter, as it opens the door for future exhibitions to present an expansive virtual jewellery archive, overcoming current limitations in creating realistic 3D models.

Furthermore, the future of VR and AR technologies will focus on making these experiences more accessible and user-friendly for a broader audience, including those who may find current devices challenging, such as elderly users. Future developments will likely include the simplification of VR and AR interfaces to make them more intuitive, ensuring that a diverse range of visitors can interact with the technology comfortably. For example, VR headsets may evolve to become wireless, lightweight, and more ergonomic, reducing issues like vertigo and ensuring a more comfortable experience for all visitors. The trend is already moving towards mixed reality (MR) technology, which combines elements of both VR and AR, allowing users to easily switch between immersive and augmented experiences with a simple pair of glasses. While these advancements are speculative, evidence of ongoing development can be found in the increasing number of MR devices being tested and marketed by tech companies like the Apple Vision Pro, although it still has a lot of room for development (Blackman and Harley, 2024). These technologies are poised to transform how immersive exhibitions are experienced, bringing them closer to realising the immersive, interactive environments envisioned in speculative design. The successful integration of MR, as discussed in Section 5.7, could eliminate the need for bulky headsets, further enhancing user comfort and expanding the potential for these technologies in the future of jewellery exhibitions.

8.1.2 LED/Laser Projection Technology

Experts are actively exploring advanced lighting and laser projection technologies to create dynamic and immersive museum environments (CambridgeSeven, 2023). Future developments are expected to refine projection resolution and expand the use of Spatial Augmented Reality (SAR) technology and 3D projection to enhance spatial interaction. These advancements hold promise in addressing the homogenisation concerns raised by interviewee P2 (2022), providing curators with tools to craft more innovative and varied exhibition experiences.

One key avenue for innovation lies in developing imaginative projection content. For example, curators can use projections to recreate iconic or thematic scenes that resonate with the brand's heritage or design philosophy. In *Tiffany & Co.'s Vision & Virtuosity* exhibition, if projections were used to recreate the atmosphere of the famous *Breakfast at Tiffany's* scene, rather than relying solely on physical props to recreate the scene as shown in Figure 8.1, the recreated scene would be more dynamic, vibrant, and realistic.

Figure 8.1 Exhibition View, A re-creation of *Tiffany's Breakfast* movie scene, (2022) Yimeng Li, *Vision & Virtuosity by Tiffany & Co*.

However, imaginative content must not function in isolation; it must harmonise with the architectural features of the exhibition venue and the nature of the exhibits themselves. As noted by Museums + Heritage (2022), 3D projection has the capability to animate architectural characteristics, bringing specific shapes and structures vividly to life while illuminating bespoke installations designed for the exhibition. For example, in a jewellery exhibition, 3D projection could emphasise intricate display structures or transform a minimalist venue into a richly textured environment that mirrors the ornate craftsmanship of the showcased pieces.

Interactive dimensions are another area where projections hold transformative potential (Museums + Heritage, 2022). By integrating sensing technologies with projection tools, visitors could engage in interactive experiences that respond to their presence and actions. For instance, sensing devices could detect gestures or movements, enabling visitors to interact directly with projected content. At Tiffany's jewellery exhibition, for example, visitors could have interacted with projected movie characters, blending the allure of cinematic storytelling with the displayed pieces, if the appropriate technology had been implemented. Furthermore, sensing technology could facilitate group interactions by enabling projections to move dynamically in response to collective interests from visitors. This creates a collaborative and

responsive exhibition environment, enriching the visitor experience through shared engagement and discovery.

Moreover, a tailored approach to projector usage is pivotal in tackling homogenisation. Projectors can serve dual roles, switching between auxiliary narrative devices and primary atmospheric tools depending on the exhibition's thematic needs. For example, they can be used to project a designer's sketches, notes, or inspiration boards to complement the storytelling aspect of an exhibit. Alternatively, they can envelop an entire space in vivid projections that evoke the mood or theme of the exhibition, such as simulating the glimmer of jewels under a spotlight or creating an abstract, dreamlike environment inspired by a designer's creative journey.

In summary, the integration of advanced projection technologies with sensing tools opens new possibilities for engaging and interactive exhibitions. These advancements, when combined with creative content and architectural harmony, will allow curators to craft personalised and immersive experiences that captivate diverse audiences, transforming how exhibitions connect with their visitors.

8.1.3 Binaural Audio Technology

Museums + Heritage (2022) proposed binaural audio technology as a means to replicate the sounds naturally heard by humans, creating an immersive 3D audio experience. This innovation allows visitors to feel as though they are truly part of the exhibition environment. Such auditory techniques were explored in Case Study 2 in Chapter 7, where the interplay of sound design significantly enhanced the immersive experience of jewellery exhibitions. Notably, jewellery curator P10 (2022) underscored the importance of carefully curated background sounds in exhibitions, not only to deepen immersion but also to avoid overwhelming or alienating visitors.

Electrosonic (2023) supports this notion, highlighting that 78% of respondents from museums and exhibition institutions prioritised investment in audio and video technologies. This emphasis aligns with the broader trend of using immersive technologies to enrich visitor experiences. Furthermore, inclusiveness is a critical consideration in the development of exhibition technologies. For instance, addressing the needs of marginalised groups, such as the hearing impaired, is essential to ensuring equitable access to exhibitions. Exhibition institutions must strive to design experiences that allow diverse audiences to engage fully with the content.

To achieve this inclusiveness, future exhibitions could integrate innovations such as visual conversational agents, essentially virtual tour guides, which provide textual or visual information as an alternative to audio guides. These agents can bridge the gap for visitors who

might not benefit from audio technology. Similarly, sensors could translate audio rhythms or vibrations into tactile experiences, enabling visitors to feel the rhythm of sounds in the exhibition through physical interaction.

Binaural technology, when paired with visual technologies like projectors and lighting, can further elevate the immersive experience. As discussed in Chapter 7, this multisensory approach can create a state of "flow", where visitors are both challenged and satisfied by the cohesive integration of sensory elements. For example, audio effects must align seamlessly with visual projections to support the exhibition's narrative and theme without causing distractions. In the *Vision & Virtuosity by Tiffany & Co.* exhibition, the use of synchronised sound and visuals allowed the narrative to come alive, engaging visitors on multiple sensory levels.

Future exhibition design will likely see binaural audio working in harmony with other immersive technologies, such as AR and 3D projections, to deliver experiences that are not only engaging but also inclusive. Curators must carefully curate these technologies to ensure they are consistent with the exhibition's style and narrative, enhancing immersion while fostering accessibility for all audiences.

8.1.4 Interactive Surface

Electrosonic (2023) highlights that the application and innovation of interactive interfaces rank among the most significant future development priorities for museum and exhibition professionals. A prominent example is the large digital panoramic screen in the *Vision & Virtuosity by Tiffany & Co* exhibition, discussed in Chapter 6. This screen served as an interactive centrepiece, allowing visitors to draw and see their creations rendered in real-time. This feature blurred the boundary between the virtual and the real, expanding the spatial dimensions of the exhibition space. While this innovation significantly enhanced multi-sensory engagement, such real-time interactivity may sometimes present challenges, such as latency or limitations in recognising user inputs, which could disrupt the experience for some visitors.

The relationship between audiences and interactive media positions visitors as active participants, fostering a dynamic and interconnected environment. However, as discussed more broadly in Chapter 6, exhibitions like *Vision & Virtuosity* must find a balance between creating immersive experiences and providing informative content. In cases where exhibitions prioritise visual spectacle and interactivity over substance, visitors may be left with a limited understanding of the brand's history or the contextual significance of exhibits. This commercialisation-driven approach risks alienating audiences by creating a sense of disconnection from the narrative purpose of the exhibition. Future exhibitions need to carefully blend immersion with educational and narrative depth to avoid undermining the audience's

sense of engagement. For instance, integrating sensing technologies into interactive interfaces can transform the exhibition space into a responsive environment. This could enhance the functionality of panoramic screens by making them more dynamic and capable of delivering layered sensory experiences.

Interactive technologies like GestureTek, Kinect, and RadarTouch demonstrate the possibilities of such advancements. GestureTek enables gesture-based interaction, allowing users to engage with digital systems through movements and gestures (Zhao, 2019). Kinect, developed by Microsoft, uses depth-sensing cameras and motion capture to facilitate hands-free interaction without the need for wearable devices or controllers (Zhao, 2019). RadarTouch employs rotating infrared (IR) laser range finders to detect touchless, multitouch interactions on or near large planar surfaces, making it ideal for expansive interactive spaces (Schwirten e*t al.*, 2010). CambridgeSeven (2023) predicts that these technologies will become more cost-effective while improving in sensitivity and accuracy. The use of non-touch and proximity sensor technologies, such as RadarTouch, not only offers more sophisticated interactions but also aligns with the evolving post-COVID-19 health considerations by reducing contact points and minimising the risk of infection. By incorporating such innovations, future exhibitions could deliver engaging, inclusive, and safe interactive experiences that appeal to a broad audience.

8.2 Concept of Speculative Design

Based on the definition of jewellery exhibitions provided in the introduction chapter of this thesis, the target brands for this speculative jewellery exhibition design are high-end luxury jewellery brands with a long history and rich brand culture. These brands possess distinctive craftsmanship and, in order to stay relevant in a rapidly changing market, actively pursue innovations in their crafts and products. This speculative design is specifically tailored to jewellery brands that meet these criteria, offering valuable insights and inspiration for how they might approach future jewellery exhibitions.

Regarding the exhibition's concept, it will be titled *Jewelscape: A Journey Through the Brand's Evolution*. The purpose of this proposed exhibition, as discussed in Section 2.1, is to highlight a luxury jewellery brand's identity, culture, and heritage while fostering ongoing interaction and connection with consumers. This approach not only helps shape the brand's image but also promotes its growth, increases sales, and enhances market penetration, all while attracting new consumers. The aim of this speculative design is to transform the traditional jewellery exhibition experience by proposing the integration of advanced technologies with historical narratives, craftsmanship, and innovative products. This exhibition concept is intended as a flexible template that could be utilised by luxury jewellery brands broadly, enabling them to

bridge their rich histories with future innovations, strengthen consumer engagement, and enhance brand loyalty. Additionally, the exhibition is designed to meet the evolving needs of contemporary jewellery brands and address changing consumer expectations. By leveraging cutting-edge exhibition technologies, this design aligns with the strategic and cultural roles of jewellery exhibitions, aiming to boost brand awareness, deepen customer engagement, and weave a compelling narrative around craftsmanship, culture, history, and innovation.

8.3 Exhibition Floor Plan

This research design situates the jewellery exhibition within the Sainsbury Gallery space at the Victoria and Albert Museum (V&A Museum) but could be adapted to other similarly sized venues internationally. London is one of the world's major fashion cities, and as the commodity chains underpinning the fashion industry become increasingly global and complex, museums play a key role in fostering the creation of fashion cities today (Bide, 2021). The V&A Museum is an essential venue for the dissemination and interpretation of fashion in this fashion-forward city (Bide, 2021). Its outstanding reputation for curating fashion exhibitions adds substantial value to the exhibition's context and credibility. Additionally, the V&A houses a renowned jewellery collection, further solidifying its importance in representing the history of jewellery design. This unique role enriches the exhibition by positioning it within a broader historical and cultural narrative of jewellery artistry and craftsmanship.

In particular, the Sainsbury Gallery has an impressive history of hosting large-scale fashion exhibitions, including iconic shows such as *Christian Dior: Designer of Dreams* (2019) and *Gabrielle Chanel. Fashion Manifesto* (2023). These events underscore the gallery's capacity to attract significant audiences and provide an international platform that aligns with high standards for fashion and jewellery exhibitions. The selection of the Sainsbury Gallery is motivated by its reputation, design, and technical capabilities, making it an ideal venue for showcasing jewellery within a broader context of fashion and cultural history. Figure 8.2 highlights the floor plan of the Sainsbury Gallery, marked in green.

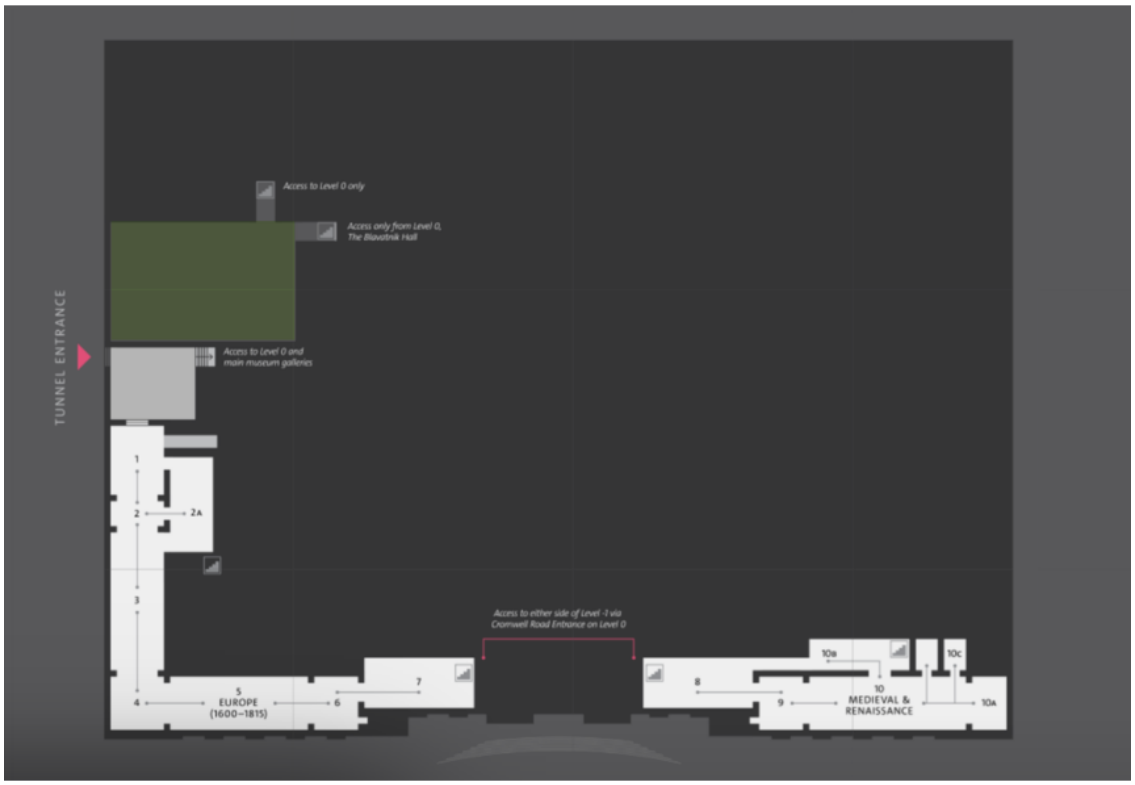

Figure 8.2 V&A Museum (2021) V&A Digital Map / Interactive Museum Floor Plan. Available at: https://www.vam.ac.uk/features/digitalmap/?zoom=1.7041806190775004&latlng=-4033.7960454570757%2C4451.6342640866515 [Accessed: 18 February 2024].

As shown in Figure 8.3, the exhibition gallery is proposed to be divided into five spaces: Room 1 – Heritage Hall, Room 2 – Craftsmanship Gallery, Room 3 – Culture Behind, Room 4 – Innovation Section, and Room 5 – Final Interaction Space. The design of each space will be explained in detail in the following section on the Audience Journey Map Design. I designed the exhibition plan as a single route to be taken by visitors because, due to the large amount of exhibition content and complicated technologies, the design methods of double routes and multi-routes would increase the complexity of the exhibition and make the curatorial narrative difficult for audiences to understand. The simple approach of a single route design allows the audience to have a complete experience flow when visiting the exhibition. In addition, the spatial distribution takes into account the volume of the technologies of immersive experience used to allocate the size of the space.

Figure 8.3 Floor Plan of the “Jewelscape: A Journey Through Brand’s Evolution” Exhibition (2024) Yimeng Li.

8.4 Audiences’ Experience Design

As illustrated in Figure 8.4, the audience’s complete visiting process and experience design are divided into four phases: the Pre-Exhibition Phase, Arrival & Registration Phase, Visiting Exhibition Phase, and Reflections and Post-Exhibition Phase. To provide a clearer explanation of each phase, I have broken the process into separate images for better visualisation. Firstly, as shown in Figure 8.5 below, in the Pre-Exhibition Phase, online advertisements should be placed on major social media platforms, blogs, and exhibition websites to promote the exhibition and achieve one of the curatorial purposes: attracting more visitors. In addition to online advertising, personalised invitations should be sent to the brand’s VIP customers and members of museums and exhibition institutions, offering customised invitations and pre-booked exhibition offers. These include a digital introduction to the exhibition theme and discounts on exhibition tickets and related products. Additionally, curator talks can be organised for VIP customers to provide deeper insights into the exhibition. These talks can be paired with exclusive private viewings, which help maintain a comfortable visitor flow, prevent overcrowding, and ultimately enhance the overall visiting experience. This approach aligns with the exhibition’s goal of creating an enriching and accessible environment.

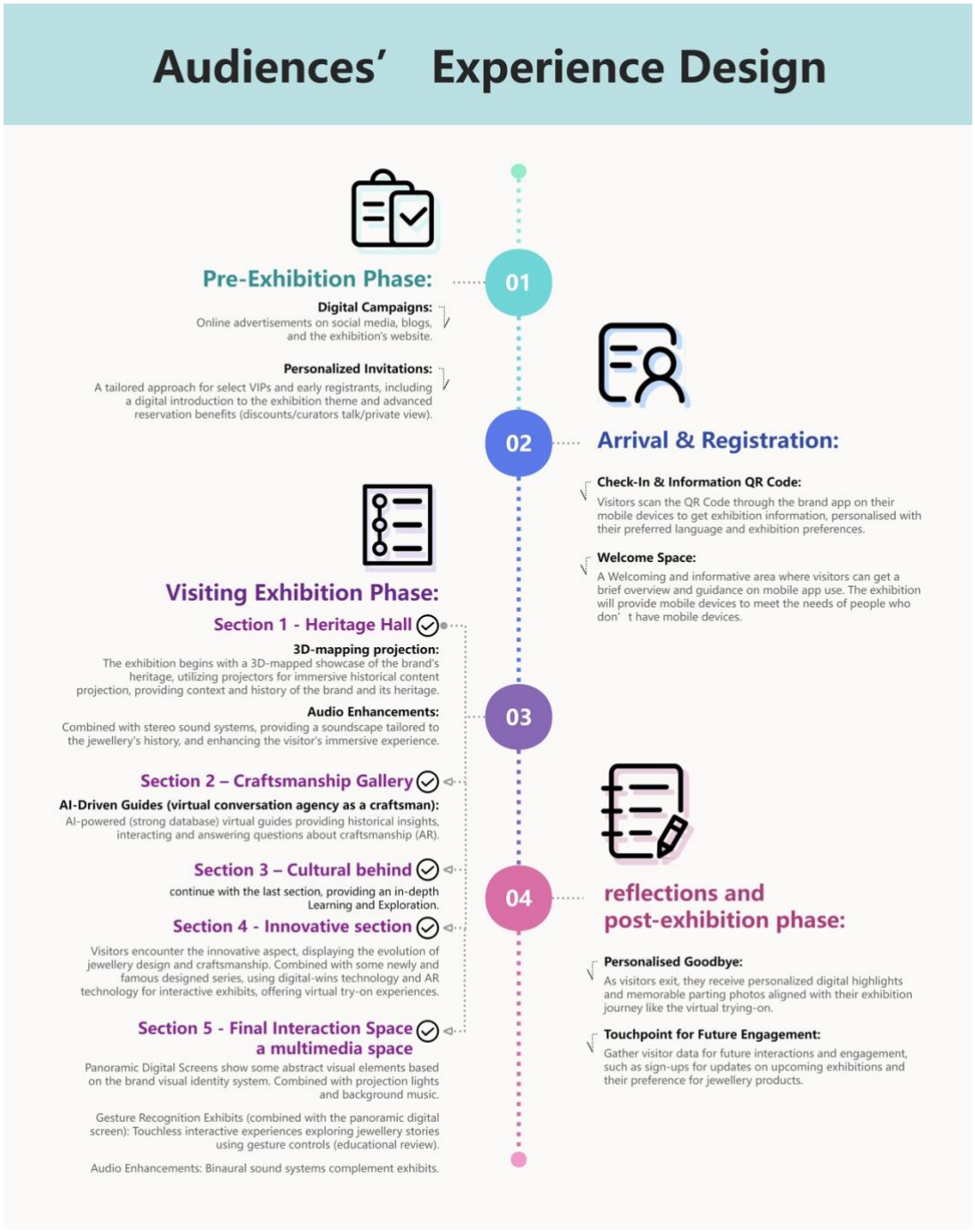

Figure 8.4 Audiences' Experience Design, Showing the Details of the Entire Process (2023)

Yimeng Li

Figure 8.5 Audiences' Experience Design, Showing the Details of the First Two Phase: Pre-Exhibition Phase and The Arrival & Registration, (2023) Yimeng Li

In the second phase, Arrival and Registration, the design focuses on accessibility, personalisation, and user-friendly support to enhance the visitor experience from the outset. Visitors will scan a QR code at the check-in point, with guidance from staff, to access exhibition information at the entrance to the Sainsbury Gallery, selecting their preferred language. The decision to offer QR code scanning is based on the convenience and immediacy it provides, allowing visitors to quickly access exhibition details at the entrance. By providing exhibition information in multiple languages, the design ensures that visitors from diverse backgrounds can fully engage with the content. This is especially crucial in a global city like London, where the exhibition is expected to attract a broad international audience. Visitors without mobile devices can rent one at the check-in area. Since not all visitors, especially older adults, may have smartphones or feel comfortable using mobile apps, offering rental devices ensures that these guests are not excluded from the digital experience and can access all content and features equally, promoting inclusivity. This aligns with the discussion of Sections 5.8, 8.1.3 and 8.1.4, where exhibition technologies should be accessible to diverse groups, including those with disabilities. For example, as mentioned earlier in Section 5.8, future technologies like visual conversational agents or tactile systems could ensure that even visitors with hearing impairments can engage with content effectively, enhancing the overall inclusivity of the experience.

Additionally, the adjacent welcome space serves as a valuable orientation point, where staff can provide personal guidance and a quick tutorial on the mobile app. This space addresses any

initial uncertainties visitors may have and offers a reassuring human touch, helping them feel confident in navigating the digital aspects of the exhibition.

In the third phase, the Visiting Exhibition Phase, audiences will enter the first of the five exhibition 'rooms' – the Heritage Hall (Figure 8.6). Here, 3D mapping projection technology will be used to display dynamic historical content through high-quality projectors, vividly narrating the brand's story and evolution. This space is designed to offer a fully immersive experience, combining visual storytelling with projection technology that occupies a broad scope of the audience's visual field, making the brand's heritage both tangible and emotionally resonant. Historic street scenes or architectural reconstructions are projected as dynamic background screens, creating an evocative atmosphere that provides an overview of the brand's history and heritage. As part of this speculative design, I created Figure 8.6 to visually represent the immersive experience envisioned for this phase of the exhibition. I aimed to depict the dynamic reconstruction of the brand's history as showcased through projections, ensuring an engaging and authentic experience for the audience. The carefully chosen black-and-white colour scheme was designed to evoke a sense of nostalgia. This approach seeks to enhance the audience's emotional resonance and the immersive quality of the exhibition, aligning with the overall objectives of the speculative design.

Figure 8.6 Heritage Hall, 3D Mapping Projection Technology with Stereo Sound System, (2023) Yimeng Li

As discussed in both Section 3.4.1 and Section 6.1, the projector in this space plays a central role in creating an immersive experience. The boundaries of the projections are intentionally blurred, a design choice that dissolves the division between virtual and physical spaces,

allowing them to blend. This fusion brings the outside virtual world into the confined space, connecting the audience with the brand's historical journey depicted in the virtual scenes. The dimmed lighting in the room further enhances the prominence of the projected content, intensifying the sense of immersion and achieving a high-quality projection effect. By incorporating 3D historical street scenes and architectural reconstructions, the projections add depth and create the illusion of an environment, transporting audiences to different eras of the brand's story. Customised designs ensure the projections align precisely with the architectural structure of the room, adapting to the space.

The video content is carefully curated to showcase key moments from various stages of the brand's historical journey, featuring photographs and videos synchronized with a thoughtfully selected background soundtrack. The high quality of the projection content enhances the authenticity of the immersive experience, allowing the space to transform both temporally and spatially, immersing the audience in the brand's evolution. However, the space deliberately excludes the integration of sensing devices with the 3D projection, as excessive interactivity could interfere with the delivery of the brand's historical narrative. This approach aligns with the thesis's definition of immersive experience technology, which emphasises a balance that ensures content remains accessible without overloading the audience with cognitive challenges.

The audio design for this section also plays a critical role in enhancing the immersive experience. This space employs a stereo sound system. This decision stems from the nature of the Heritage Hall's design, where audio is primarily used to complement the visual narrative rather than simulate a fully immersive spatial audio environment. A stereo sound system was chosen for its ability to deliver high-quality, directional sound while maintaining simplicity in execution. This choice aligns with the exhibition's focus on blending historical storytelling with synchronised visual and auditory elements, without overwhelming visitors or detracting from the primary visual focus. The stereo system ensures clarity and balance in audio delivery, making it easier to match the rhythm of the music with the shifting imagery, thereby creating a flowing cadence that captivates attention and elevates the overall experience. While binaural audio technology is highly effective in creating an enveloping, 3D auditory landscape, it may not always be necessary or practical for every exhibition setting. In this context, where the emphasis lies on supporting a visually led narrative, stereo sound offers an optimal balance between technical feasibility and enhancing multisensory engagement. Additionally, it ensures inclusivity by catering to a broad audience, including those who may not experience the full effect of binaural audio due to individual hearing differences.

The background audio dynamically changes in response to the visual transitions of the projection, enhancing dimensionality and realism within the space. To ensure that the audio complements the spatial and visual style, the fashion curator conducts a “sound walk” during the setup. This involves experiencing the audio from an audience’s perspective, carefully evaluating the placement, sources, volume, and dynamic transitions of the surround sound. This meticulous approach ensures that the audio synchronises with the visuals, creating a harmonious and engaging atmosphere that enhances the multisensory experience.

In the second room is the Craftsmanship Gallery, as shown in Figure 35. This space offers visitors the opportunity to scan a QR code to access an AI-powered virtual assistant via AR technology. As discussed in Section 8.1.1 VR/ AR, this integration of AR technology enhances the overall exhibition experience by merging the physical space with dynamic digital content. The AI assistant, accessible via mobile devices, provides detailed insights into the complex craftsmanship processes behind the brand’s creations. It draws from a comprehensive database of the brand’s craftsmanship knowledge, offering historical context, answering questions, and fostering an interactive, engaging experience that deepens the understanding of jewellery-making techniques. This technology is easily accessible to visitors via their smartphones or other mobile devices. The AI assistant appears as a visible option, often prompted through visible signage or QR codes placed near the exhibits. It is designed to be unobtrusive yet easily discovered, allowing visitors to engage with it at their own pace.

Visitors can access historical context, explore technical details, and engage in a personalised learning experience through the AI-powered virtual assistant. The assistant’s functionality ensures visitors have the flexibility to engage at their own pace, fostering an interactive connection that deepens their understanding of jewellery-making techniques. In Figure 8.7, a visitor is shown using their mobile device to interact with the AI assistant, accessing information about the jewellery-making process. The AR technology facilitates the integration of modern tools within the traditionally styled space, where mobile devices serve as compact, convenient bridges between the world of craftsmanship and advanced digital experiences. This interaction enhances the immersive experience, reinforcing the brand’s commitment to innovation while respecting its traditional roots.

Figure 8.7 Room 2 – Craftsmanship Gallery – Visitor Engaging with AI Assistant on Mobile Devices, Exploring the Jewellery-Making Process (2023) Yimeng Li

The room is designed with a brown colour palette to create an immersive atmosphere that reflects the traditional jewellery-making environment. Brown was specifically chosen to mimic the colour of raw wood, commonly used for workbenches and tool handles in jewellery workshops. This choice authentically represents the physical spaces where artisans craft luxury jewellery, drawing inspiration from the materials and textures typically found in such settings. The earthy essence of the colour evokes a sense of craftsmanship and strengthens the connection to the artisan workspace, which is crucial in understanding the meticulous nature of luxury jewellery. As jewellery designer P7 (2022) stated, craftsmanship is the cornerstone of luxury jewellery, where each piece is a result of both skilled hands and innovative techniques. This importance of craftsmanship in the luxury jewellery context is emphasised by the use of this colour and the space's design, reinforcing the high-quality artisan skills involved in creating each jewellery piece.

By incorporating these visual elements, the design immerses visitors in the ambience of a workshop, allowing them to connect with the artisanal expertise that defines the brand. Through this detailed interaction, visitors gain an in-depth appreciation of both the craftsmanship and innovation that come together to produce these high jewellery pieces.

AR technology plays a pivotal role not only in the Craftsmanship Gallery but also in subsequent exhibition spaces, creating a continuous immersive journey not only in the Second Room but also across the Third and Fourth Room. The design of the third room, Culture Behind Gallery, aims to create an environment that reflects the brand's deeper emotional and aesthetic roots,

using colour and a romantic atmosphere to immerse visitors in its cultural identity. By continuing to use the AI-driven AR virtual assistant, now embodied as the brand's founder, the experience becomes more personalised and narrative-driven. This approach allows visitors not only to connect with the brand's craftsmanship but also to engage with the values and emotions that define its identity.

The choice of deep blue tones reflects the brand's values of elegance and timeless beauty, as blue conveys both sophistication and depth, as shown in Figure 8.8. This colour creates a calm, reflective space that invites visitors to slow down and connect deeply with the content. Romantic lighting and a dimly lit environment further enhance this sense of immersion; as analysed in Section 7.2 in relation to the case study exhibitions, fashion curators often use lighting to evoke a spatial sense of mystery and allure, keeping visitors emotionally engaged.

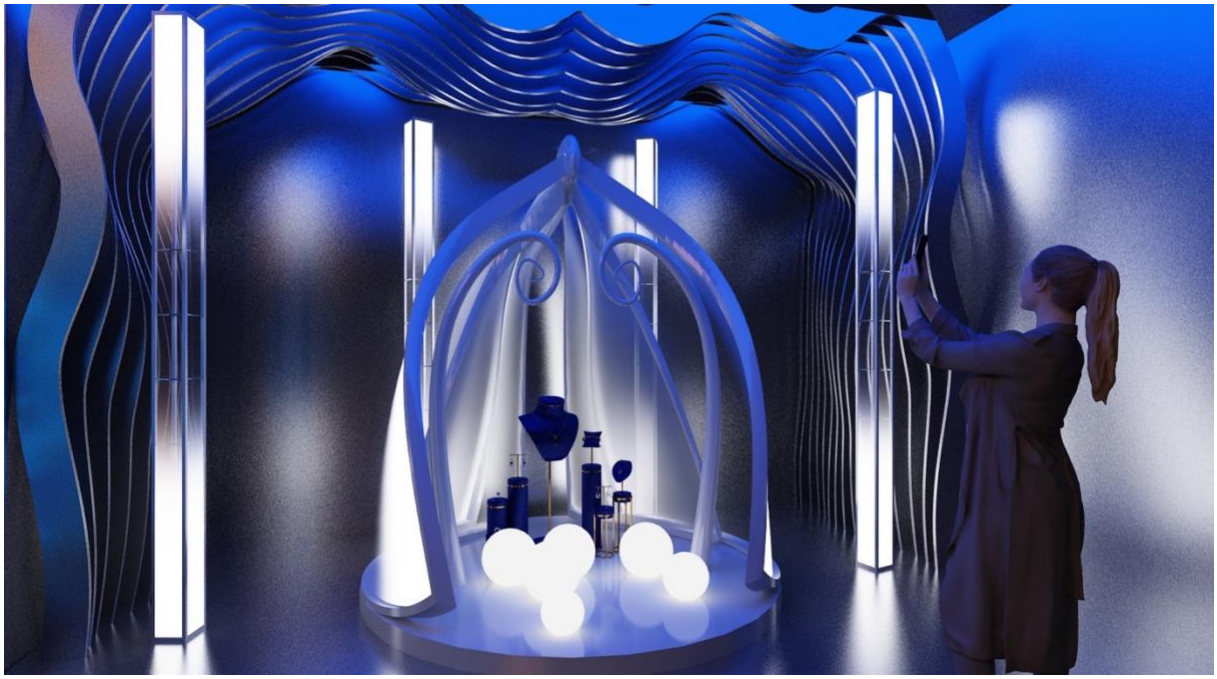

Figure 8.8 Room 3 – Culture Behind, Immersive Experience with Deep Blue Tones and Romantic Lighting, Featuring AI-Driven AR Virtual Assistant as the Brand's Founder (2023) Yimeng Li

A special showcase highlighting particularly important jewellery designs of the brand adds structure to the experience, aligning with the gallery's romantic style, and guiding visitors to explore specific stories or concepts tied to the brand's culture (see Figure 8.8). The continued use of AR on mobile devices allows visitors to interact with the virtual assistant at their own pace, enabling a flexible, interactive learning experience that provides deeper insights into the brand and its jewellery exhibits.

The design of the Innovation Section, shown in Figure 8.9, aims to immerse visitors in a dynamic, interactive experience that highlights cutting-edge jewellery design and craftsmanship. By

integrating AR (Augmented Reality) and Digital Twin technology, this space invites visitors to interact with 3D virtual models of jewellery exhibits from the brand. These virtual 3D models showcase intricate design details, offering viewers an intimate, interactive connection with the jewellery. The innovative virtual fitting experience allows visitors to “try on” jewellery pieces via several large screens, enhancing engagement and creating a personalised connection with the displayed jewellery.

Figure 8.9 Room 4 – Innovation Section, Interactive AR and Digital Twin Technology for Virtual Jewellery Fitting and Enhanced Visitor Engagement, (2023) Yimeng Li

This experience builds upon lessons learned from the previous case study analysis of the Tiffany exhibition in Chapter 6, in which a single jewellery piece (the yellow diamond necklace) was showcased using AR technology. By extending this concept, the speculative exhibition offers a more expansive interaction, allowing visitors to virtually try on various pieces of jewellery from the brand’s collection in a bigger interface. The virtual 3D models dynamically follow the movements of the viewer on screen, shifting with lighting and reflection effects to simulate the natural brilliance of the gems. This interactive fitting experience is both safe and hygienic, ensuring a worry-free experience for both visitors and the jewellery pieces.

Visitors can also choose to take selfies with these virtual pieces and share them on social media. As analysed in the Tiffany exhibition, this approach amplifies the experience by encouraging social sharing, blending physical and digital realms, and extending the exhibition’s impact to online audiences. Strategically placed digital screens throughout the hall make information and interactive features accessible to multiple visitors at once, enriching the

educational aspect of the exhibition by providing the background and innovative processes behind each piece.

AR technology serves as the cohesive thread that ties together the Craftsmanship Gallery, the Culture Behind Gallery, and the Innovation Section. In the second room – Craftsmanship Gallery – AR provides educational insights into jewellery-making techniques, blending physical exhibits with digital storytelling. In the third room – the Culture Behind Gallery – it brings cultural narratives to life, connecting visitors to the brand's emotional and historical roots. In the fourth room – the Innovation Section – AR enables immersive virtual try-ons, showcasing the brand's innovative approach to design. This unified approach creates a seamless journey through the brand's craftsmanship, culture, and innovation. Visitors experience the evolution of jewellery design, the artistry behind each piece, and the cultural significance of the brand, leaving them with a deeper appreciation of its legacy and forward-thinking vision.

The final room of the exhibition referred to as the Interaction Space (as shown in Figure 8.10) is a comprehensive multimedia area centred around a panoramic digital screen designed to create a large-scale, fully immersive environment. The panoramic screen serves as the main immersive experience technology of the room, offering visitors an enveloping visual experience that occupies a large field of view, making them feel as if they are entering the world of the brand. By incorporating the visual identity elements of the brand, such as colours, patterns, and logos, into the visual content displayed on the screen, the aesthetics and culture of the brand are subtly and powerfully reinforced.

Figure 8.10 Room 5 – Final Interaction Space – A Multi-Sensory Space with Panoramic Digital Displays, Gesture Recognition, and Binaural Audio (2023) Yimeng Li

In this space, panoramic digital screens serve as the primary technology for creating an immersive experience. The lighting here is bright, but its overall tone aligns with the brand's signature colours. Similar to the applications of technology discussed in the exhibition analysed in Section 6.2, this space is a fully immersive environment where the surrounding ambiance does not disrupt the audience's perception. The bright lighting does not detract from the immersion, and the use of brand-consistent colours helps reinforce brand recognition. Since no specific brand was specified for this speculative design, the visual effects have been created to reflect nature-inspired motifs commonly used in jewellery branding. The panoramic screens display high-definition video content featuring botanical elements that align with the physical props in the space. This setup extends the physical environment, blurring the boundary between the real room and the virtual panorama.

To deepen sensory engagement, the interaction space also integrates projection lighting with binaural background music, techniques previously discussed in Section 8.1.3. This innovation is used to replicate sounds naturally heard by humans, creating an immersive 3D audio experience. The binaural sound immerses viewers in an audio landscape, contributing to a near-cinematic atmosphere. As noted in Section 8.1.3, this approach enhances the exhibition's atmosphere by aligning auditory cues with the visual content, ensuring that visitors experience a cohesive multi-sensory environment. The projection lighting complements the digital visuals on the screen, while the binaural sound creates a deep emotional resonance, further enhancing the ambience of the space. This multi-sensory design draws visitors fully into the environment, encouraging them to focus not only on the visual content but also on the entire ambience, making the experience more holistic and leaving a lasting impression.

Additionally, touch-free interactive elements with hidden, non-visual interfaces enhance immersion by allowing the plants on the panoramic screens to respond in real-time to viewers' gestures and movements. The botanical motifs, which are often seen in jewellery design, reflect nature-inspired elements like vines, flowers, and leaves, commonly incorporated into luxury jewellery pieces. This creates an intuitive connection to the artistry and inspiration behind the brand's jewellery. In this space, visitors are not only observers but also participants, as they can interact with the plant patterns on the panoramic screen, making the plant patterns dance according to the arrangements of the visitors. Gesture recognition technology enables these plants to respond dynamically, gently swaying or clustering together as visitors approach. This interaction transforms visitors into co-creators, allowing them to explore their own creativity while reinforcing the brand's connection to craftsmanship and design. For example, visitors might move their hands to create floral compositions on the screen, which could be inspired by jewellery motifs, fostering a sense of discovery and personal engagement.

Supporting this setup, LED or laser projections complement the immersive environment, working together to build a potential brand visual identity system that leaves a lasting impression and strengthens the brand image. Binaural audio accompanies the gentle swaying of plants on the screens, making the interaction feel even more lifelike. The binaural sound provides spatial orientation, so the sound directs the viewer's attention to where the plants appear to be moving. As the audience shifts position, the sound moves in tandem with the plants, enhancing auditory stimulation and deepening the immersive effect.

In this final space, the AI virtual guide does not appear to provide information; however, visitors can use mobile devices to take photos in the room. While Section 6.2 critiques whether overt commercial backgrounds and explicit advertising intentions are appropriate for visitors, adding more narrative might balance the emphasis on commercial elements. However, providing additional exhibition information here could detract from the audience's holistic experience in this space. As a fashion curator, the goal is to offer visitors an encompassing romantic atmosphere that encourages them to focus on interacting with the digital elements on the panoramic screens, creating lasting memories of this immersive experience.

The Reflections and Post-Exhibition Phase, as shown in Figure 8.11, aims to create lasting memories for visitors, encourage ongoing engagement, and collect valuable data to enhance future visitor experiences for the brand and the gallery space. Located at the exhibition exit, this phase allows visitors to capture unique, personalised memories while providing the brand with insights that can shape and personalise future interactions.

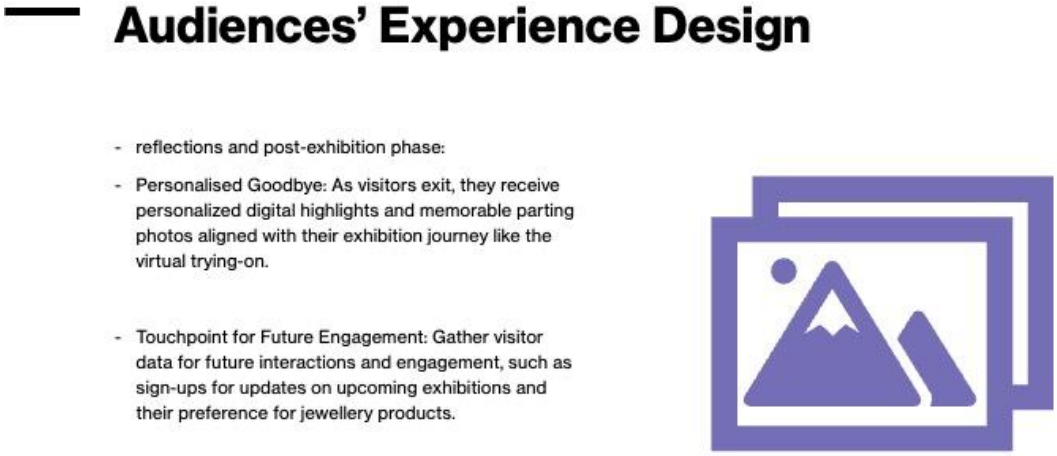

Figure 8.11 The Final Part of the Audiences' Experience Design – Reflections and Post-Exhibition Phase, Capturing Memories, Building Connections, and Shaping Future Experiences (2023) Yimeng Li

As discussed earlier about Room 4 – the Innovation Section, visitors are invited to take exclusive selfies using AR technology to “try on” virtual jewellery. These digital keepsakes are selected through an intelligent system that highlights key moments, reinforcing their experience and strengthening their connection with the brand, making the exhibition memorable and shareable. When guests leave, they can choose to register and subscribe for updates on future exhibitions, jewellery launches, and related events, allowing them to stay connected with the brand beyond their visit.

Using a tablet, visitors can enter their contact information and preferences, and the AI data management system customises updates via e-newsletters or email lists tailored to their specific interests, such as jewellery styles and materials. This personalisation enables the brand to develop communications that reflect each visitor’s unique tastes and engagement history. To further improve future exhibitions, the brand offers a short survey or feedback form, available digitally or in print. Visitors can rate their overall experience, provide comments, and suggest improvements. Feedback can be submitted online or placed in a physical feedback box, offering convenience for all visitors. This data helps the brand enhance future exhibitions based on genuine visitor perspectives.

8.5 In Conclusion

The speculative design proposed in this chapter envisions the future application of immersive experience technologies in jewellery exhibitions through a conceptual jewellery exhibition framework. This chapter begins by exploring the future trends of immersive experience technologies within the context of jewellery exhibitions, informed by the evolution of exhibition practices and technological advancements. Perspectives gathered through interviews with professionals highlight the fact that immersive technologies should go beyond mere entertainment, serving as a medium for educational and cultural immersion. This approach reflects audiences’ growing expectations for deeper, more meaningful engagement with exhibitions, ensuring that the technologies align with curatorial objectives of fostering connections to the heritage, craftsmanship, and cultural significance of jewellery.

By examining trends in immersive technologies as adopted by different organisations, this chapter identifies key tools expected to dominate future jewellery exhibitions, including VR/AR, LED/laser projection, binaural audio technology, and interactive interfaces. These technologies offer significant potential to enhance the exhibition experience, supporting the dual objectives of cultural engagement and brand promotion. Additionally, the analysis in this chapter emphasises how immersive technologies can extend beyond aesthetic appeal to achieve curatorial goals that highlight the artistry and cultural narratives behind jewellery. Integrating

speculative design principles with these technologies, this chapter proposes a forward-looking exhibition model that transcends traditional visual presentations, presenting jewellery within multi-dimensional experiences. These designs prioritise cultural appreciation, audience engagement, and the communication of historical and innovative narratives.

Ultimately, this speculative chapter embodies the technological and practice-oriented position of this research. By imagining future applications of immersive technologies through a design-driven approach, it demonstrates how technology can act as both a creative and interpretive medium that transforms the way jewellery is experienced and understood. In doing so, it reinforces the thesis's broader stance that technological practice is not merely a tool of display, but a catalyst for rethinking spatial perception, sensory engagement, and cultural meaning within jewellery exhibitions.

In summary, this chapter establishes the groundwork for understanding how immersive technologies and spatial design can transform the presentation of jewellery. These insights set the stage for exploring how future exhibitions can create interactive and memorable experiences that strengthen audience connections to brand identity, history, and craftsmanship, while also fostering deeper cultural appreciation. In this way, speculative design serves not only as a methodological extension of the thesis's position but also as an imaginative demonstration of how technology and practice converge to shape the future of immersive jewellery exhibition design.

Chapter 9 Conclusion

This thesis critically examined the potential of immersive experience technologies in the context of luxury jewellery exhibitions, situating them within the broader framework of contemporary fashion curation. Recognising the challenges posed by static and traditional display methods, alongside the evolving demands of contemporary fashion curation, growing audience expectations, and the dynamic innovation of brands, the research explored both the contributions and challenges of immersive experience technologies. It also offered developmental recommendations for their application in luxury jewellery exhibitions.

By investigating and analysing technologies such as AR, VR, projection systems, interactive digital screens, audio devices, and lighting systems – key components of immersive experiences and their auxiliary enhancements – this thesis evaluated their cultural and strategic contributions to luxury jewellery brands while identifying effective implementation strategies.

9.1 Restate of Research Objectives

Specifically, the primary objective of this research was to explore how immersive experience technologies enhance cultural engagement and strategic positioning for luxury jewellery brands within the broader framework of contemporary fashion curation. This included understanding their role in conveying deeper narratives of brand heritage, culture, craftsmanship, and innovation while addressing associated challenges. The second objective was to assess the current application of immersive technologies (e.g., augmented reality (AR), virtual reality (VR), and interactive panoramic screens) in jewellery exhibitions, identifying their effectiveness and limitations. The third objective was to develop actionable guidelines for jewellery brands, museum institutions, and fashion curators to effectively integrate immersive experience technologies. These guidelines were designed to address technical, spatial, and conceptual challenges while ensuring that exhibitions remain both educational and engaging.

9.2 Research Contribution and Key Findings

Combining literature review, expert interviews, case studies, and speculative design, this thesis addressed critical gaps in academic research, providing a comprehensive analysis of the potential for immersive technologies to redefine the jewellery exhibition landscape. The findings contributed not only to academic discourse but also offered practical insights into the innovative application and future development of immersive experience technologies in luxury jewellery exhibitions.

This thesis demonstrated that jewellery exhibitions are not only essential for showcasing luxury brands but also serve as significant cultural and strategic tools for both brands and museums (Arnold, 2011; Hong and Hong, 2014; Jain, 2017; Jelinek, 2018; Pronitcheva, 2018; Schroeder *et al.*, 2014; Seo and Buchanan-Oliver, 2015; Yu and Ko, 2021). Jewellery exhibitions allow brands to convey their heritage, display aesthetics, and foster consumer loyalty (Caggianese *et al.*, 2018; Conn, 2010; Debo, 2017; Loscialpo 2016; Vänskä and Clark, 2018; *et al.*). For museums, these exhibitions can generate revenue, expand influence, and attract diverse audiences (Gilbert, 2002; Lorentz, 2006; Lucas, 2016; Soliman *et al.*, 2017; *et al.*). Positioned within the broader context of contemporary fashion curating, these exhibitions now increasingly emphasise immersive, audience-centred experiences. This shift has called for innovative approaches that integrate immersive technologies to deepen emotional connections with visitors and create more impactful exhibition narratives.

The thesis highlighted the pivotal role of immersive experience technologies in enhancing jewellery exhibitions. By offering multi-sensory experiences that engage the audience physically, mentally, and emotionally, these technologies can create memorable and captivating exhibitions. Well-designed immersive experiences help maintain the audience's attention and deepen their connection with the exhibits. Technologies like projectors, audio systems, VR, and AR play key roles in this process. Projectors offer a flexible, cost-effective way to transform exhibition spaces, while audio elements shape the atmosphere and emotional tone of the experience. VR and AR provide innovative ways for visitors to interact with jewellery, such as virtual try-ons or immersive tours. However, technical limitations, such as sensory detachment and low resolution quality, present new challenges.

More specifically, the first introductory chapter established the research background and underscored the necessity of exploring the application of immersive experience technologies in branded jewellery exhibitions. It identified the research focus on luxury jewellery exhibitions, encompassing high jewellery and haute couture jewellery companies. These brands were selected due to their unique status, rich histories, and deep cultural significance. This study positioned jewellery within the context of fashion curation, exploring luxury jewellery collections and distinctive products within exhibitions. These items often hold profound meaning and value, making them a natural focus for curators. Additionally, this approach allows the exhibition to reflect the brand's identity, cultural elements, and exceptional design and craftsmanship. The chapter further examined the current state of contemporary jewellery exhibitions, which predominantly rely on traditional static displays and exhibit uniformity in presentation styles. These conventional methods fail to meet the evolving expectations of modern audiences and the dynamic needs of brands. To address this gap, the thesis introduced the potential of immersive experience technologies to transform and enhance jewellery exhibitions.

The main contribution of Chapter 2 lied in addressing the contest definition of jewellery – whether it should be classified as fashion or art. This chapter engaged in a critical discussion of this debate, concluding that the “change” nature of jewellery aligns more closely with fashion. As such, this thesis positioned jewellery as a facet of fashion, further justifying its investigation of jewellery exhibitions within the context of contemporary fashion curation. The chapter also defined contemporary fashion curation, highlighting its evolving characteristics, including shifts in the curator’s role, the diverse locations of fashion exhibitions, attention to objects, the evolution of curatorial approaches, and an emphasis on collaboration. It delved into the reasons behind these conceptual changes, identifying technology as a pivotal factor in driving these transformations.

The contribution of Chapter 3 lied in clarifying the concept of immersive experiences and establishing the criteria that technologies should meet to deliver such experiences. This provided a framework for the case studies and served as a reference for the speculative design in this research. Additionally, the chapter explored the potential and challenges of applying immersive experience technologies in jewellery exhibitions. It analysed the current state of research and applications of specific immersive technologies by scholars, including projectors, audio devices, VR, and AR. This analysis highlighted both the opportunities these technologies present and the limitations that must be addressed to enhance their effectiveness in jewellery exhibition contexts.

This research adopted an interdisciplinary approach, combining interviews, technological analysis, and curatorial practices to provide a comprehensive understanding of how immersive experience technologies are utilised in jewellery exhibitions. The research design, outlined in Chapter 4, established a theoretical framework that offered a valuable reference for future scholars. By integrating case studies and expert interviews, this study bridged subjective analysis with diverse professional perspectives, ensuring a balanced and nuanced exploration of the topic. The case studies provided insights into existing exhibitions, while interviews with industry professionals validated and refined these findings by offering a multifaceted understanding of the challenges and opportunities in the field. Additionally, the speculative design framework introduced in this thesis envisions how immersive experience technologies might evolve to reshape jewellery exhibitions, addressing emerging trends and shifting audience expectations. This forward-looking approach not only addressed gaps in the practical application of immersive technologies but also contributed to the broader dialogue on how exhibitions must adapt to changing cultural and technological landscapes.

Chapter 5 presented a discussion of the similarities and differences between the perspectives of interviewees and academic scholars. Through interviews with industry experts, this study

gathered valuable insights into the application of immersive technologies in jewellery exhibitions. Professionals emphasised the significant potential of these technologies to enhance audience engagement, while also highlighting challenges such as ensuring high-quality content and effectively integrating technology with brand narratives. Some experts further noted the difficulty of balancing the commercial and cultural dimensions of jewellery exhibitions – a challenge that fashion curators must continually address when adopting new technologies. This chapter provided a nuanced understanding of these complexities, enriching the discussion with practical industry perspectives.

Chapter 6 and 7, case studies of *Tiffany's Vision & Virtuosity* (2022), *VCA's Sound of Cartier* (2021), and *Louis Vuitton's 2021/2022 High Jewellery* Exhibitions provided concrete examples of how immersive technologies are applied within the jewellery industry. This thesis analysed three spaces in Tiffany's exhibition, each employing different technological strategies, including projection mapping, interactive screens, and AR to create engaging, multi-sensory experiences. The use of dynamic 3D projections and panoramic screens helped extend the spatial boundaries, inviting visitors to actively participate in the exhibition. Sound and lighting technologies enriched the experience, while augmented reality enhanced the jewellery's "aura", allowing for virtual interaction and try-ons without the risk of damage. The integration of immersive technologies not only heightened audience immersion but also reinforced the brand image, although the study also highlighted technical limitations, such as the AR technology only being applied to a single exhibit.

VCA's exhibitions showcased the importance of integrating sound, lighting, and visual projections to create immersive environments that convey brand narratives. The *Sound of Cartier* (2021) exhibition successfully engaged audiences by combining binaural audio with projections, supporting the concept of flow theory (Chao *et al.*, 2020; Nakamura and Csikszentmihalyi, 2009) in psychology. However, the interplay between art installations and jewellery displays sometimes overshadowed the jewellery itself, potentially diminishing focus on the brand's core values. In the *Louis Vuitton High Jewellery Exhibitions* (2021 & 2022), lighting technologies were used to create thematic experiences, such as the cosmic atmosphere in the Stellar Times exhibition. While effectively promoting the jewellery, the lack of a cohesive narrative weakened the emotional connection with visitors, underscoring the challenge of balancing commercial and cultural goals.

The final chapter, Speculative Design, explored the future trajectory of immersive technologies in jewellery exhibitions, examining trends in both the evolution of jewellery exhibitions and the development of immersive experience technologies. Insights from interviews with professionals emphasise that these technologies should not only entertain but also serve as a medium for

educational and cultural immersion, addressing audiences' growing expectations for deeper, more meaningful engagement. This alignment of technological advancements with curatorial goals fostered stronger connections between visitors and the heritage, craftsmanship, and cultural significance of jewellery. Future jewellery exhibitions will increasingly rely on VR/AR, LED/laser projection, binaural audio, and interactive interfaces as mainstream technologies to create transformative audience experiences. These technologies will not only engage but also educate, allowing visitors to connect with the cultural and historical narratives of jewellery. The proposed conceptual exhibition framework integrated these immersive tools to highlight cultural, historical, and innovative stories, ensuring that exhibitions transcend visual appreciation to deliver transformative, multisensory experiences. Moreover, jewellery exhibitions are recognised as strategic tools for brand promotion. They enhance brand reputation and value, attract customers, and drive sales while shaping consumer perceptions, fostering loyalty, and contributing to long-term investment returns. Jewellery exhibitions also hold significance in market penetration and brand influence. By combining immersive technologies with curatorial goals, these exhibitions ensure deeper audience engagement while reinforcing brand value and market impact, making them powerful platforms for both cultural and commercial success.

Overall, this study expanded research in the field of fashion curation by broadening its focus to include jewellery and related luxury brands. In doing so, it shifted the perspective of fashion curation, encouraging people to think of jewellery and its associated luxury brands as integral parts of the broader fashion industry. Additionally, the contributions of this research, from a theoretical perspective, extended our understanding of how immersive experience technologies enhance visitor experiences in jewellery exhibitions. It deepened our awareness of how these immersive experience technologies go beyond the traditional role of exhibitions as visual display spaces, creating multi-sensory environments that foster stronger emotional connections between brands, audiences, and fashion curators. Specifically, this thesis contributed to brand exhibition narratives by demonstrating how immersive experience technologies not only serve as tools for aesthetic enhancement but also as powerful means of conveying the cultural and historical stories behind jewellery and brands. Furthermore, by showcasing the potential of immersive experience technologies in promoting education and cultural immersion, it expanded the field's understanding of immersive experience technologies, allowing visitors to gain a deeper insight into the heritage and craftsmanship of jewellery rather than just offering entertainment.

This thesis provided a framework for fashion curators to apply immersive experience technologies and design future immersive jewellery exhibitions. Curators should first consider providing multi-sensory stimulation when incorporating immersive experience technologies into

exhibitions. The design of these technologies should strike a balance between presenting information and ensuring the audience's ability to process and engage with it. Additionally, fashion curators need to ensure that the technology offers high-quality, rich content that challenges the audience without overwhelming them. Large-scale immersive components should be included in the exhibition space to enhance immersion, expanding the audience's visual field. Auxiliary multi-sensory technologies are also necessary. Furthermore, the design of immersive experiences should aim to trigger cognitive and emotional responses, fostering an emotional connection with the exhibited jewellery.

Future jewellery exhibition design can be considered in four stages: pre-exhibition promotion, check-in, exhibition visiting, and post-exhibition feedback and subsequent service. Each stage should be designed thoughtfully to strengthen the influence of immersive experience technologies on the audience, extending the influences beyond the exhibition space itself. The speculative design for jewellery exhibitions is highly adaptable, as this thesis does not prescribe specific exhibitions but applies to jewellery from luxury brands, including high jewellery and haute couture jewellery companies. Fashion curators can flexibly adjust the content and application of immersive experience technologies to suit specific brands and different narrative requirements. However, regardless of adjustments, curators should always focus on one core centre: putting the audience at the centre focus to better convey the brand's culture, history, heritage, and craftsmanship. By focusing on how these technologies promote brand storytelling, this thesis offers practical guidance for jewellery brands that wish to use exhibitions not only for display purposes but as strategic tools to enhance brand loyalty, strengthen brand identity, and drive long-term customer engagement.

In summary, this thesis made valuable contributions to both academic research and industry practice. It deepened the theoretical understanding of immersive experience technologies in jewellery exhibitions, while offering practical insights for fashion curators and brands. Additionally, it proposed a balanced approach that integrates technological innovation with curatorial expertise. By addressing both commercial and cultural objectives, this research outlined a framework for creating jewellery exhibitions that can better engage audiences, enhance brand reputation, and promote meaningful cultural experiences. Ultimately, this thesis laid the groundwork for future interdisciplinary research and practice at the intersection of immersive technologies and luxury jewellery exhibitions, providing essential insights into how exhibitions can evolve to meet the demands of audiences.

9.3 Areas for Future Research

While this research provided valuable insights into the role of immersive experience technologies in jewellery exhibitions, it also had several limitations that must be acknowledged. First, the literature directly related to this study is quite limited, with almost no articles specifically addressing immersive experience technologies in jewellery exhibition design. This undoubtedly added complexity to the research, as the existing literature was scattered and difficult to integrate into a cohesive review.

Additionally, during the interview process, the snowball sampling method resulted in there being many non-native English speakers among the respondents. This led to a relatively homogeneous geographical background among the participants. However, the geographical background did not have a significant impact on the elements of the study – since the respondents' areas of expertise and experience were rich and diverse. But it did create another challenge – much of the interview content needed to be translated into English, ensuring that the English translation aligned with the conversational context, which could potentially lead to ambiguities.

In the case study analysis, only one first-hand research case was included, as there are very few jewellery exhibitions that employ immersive experience technologies. Many of these exhibitions were also geographically limited, preventing me from visiting them in person. Additionally, the accessibility of high jewellery exhibitions is very restricted, as some are only opened to VIPs, which led me to rely on secondary data for the case analysis. Without visiting the exhibitions in person, my understanding of them was based solely on online materials, which may have caused misinterpretations of the exhibitions.

In addition, this study, in its analysis of immersive spaces and narrative construction, has also touched upon the tension between curatorial autonomy and brand dominance. While this issue has been acknowledged, the discussion has remained limited and was not pursued as a central focus of the thesis. Future research could build on this foundation to explore how immersive technologies, while enhancing brand value communication, might avoid reinforcing narrative selectivity or obscuring more complex and sensitive issues such as colonial histories, sourcing ethics, and labour practices. For luxury brands and museums alike, finding a balance between commercial imperatives and curatorial responsibility will be an unavoidable challenge in the application of immersive technologies.

Another limitation lay in the speculative design framework proposed in this thesis. While it offered a forward-looking vision for the future of jewellery exhibitions, it remained hypothetical and may not fully account for the practical limitations and challenges faced by fashion curators

and brands when implementing immersive experience technologies. Furthermore, during the design process, I could only rely on software tools to create the digital exhibition, which could not truly capture the physical exhibition experience. Given my own technological limitations, many of the envisioned effects could not be fully realised in the final visualisations.

Finally, this study did not delve deeply into the specific impact of immersive experience technologies on different audience types, particularly in terms of demographic factors such as age, cultural background, or technological proficiency. Future research could explore how these variables influence the reception and effectiveness of immersive experiences in jewellery exhibitions, providing a more nuanced understanding of their potential impact.

In the future, further research on the application of immersive experience technologies in jewellery exhibitions can be conducted on the basis of this research's insights. Future scholars can explore the different needs of immersive experience technologies for different types of jewellery exhibitions. For example, contemporary jewellery exhibitions may have different requirements for immersive experience technologies than those that focus on independent jewellery designers and affordable jewellery or fast fashion accessories. Future scholars can expand the scope of this research project by examining how these technologies can improve customer engagement, brand narratives, and visit experiences in different market segments. Understanding these differences will lead to a more effective and accurate application of immersive experience technologies in jewellery exhibitions.

Another important direction for future research is to explore the differences in how various audience groups accept and benefit from immersive experience technologies in this context. For instance, understanding the unique experiences of older visitors and how they interact with immersive experience technologies in exhibitions could provide valuable insights. Additionally, the way audiences interpret and engage with jewellery exhibitions may vary based on cultural backgrounds. For example, people from different ethnic groups might perceive the same exhibition content in distinct ways. Another critical aspect to consider is how immersive technologies can better accommodate the needs of visitors with disabilities, such as those with hearing or visual impairments. Questions such as whether multisensory immersive spaces might create comprehension barriers for these individuals or if their overall experience is significantly diminished, require further investigation. Addressing these challenges is essential for designing more inclusive jewellery exhibitions that appeal to a broader audience, aligning with the ultimate goals of brand showcases.

Finally, a key area for future exploration is the application of immersive experience technologies in physical exhibition spaces. While this study provides a starting point with its design framework, the real-world challenges, like logistics, technical constraints, and cost are still

largely unexplored. Future research could involve curating and running exhibitions that use immersive experience technologies, identifying the hurdles faced by fashion curators and brands along the way. Long-term evaluations could also shed light on how these technologies impact visitor engagement and the overall exhibition experience, providing valuable insights to guide the future of this field.

Appendix A Ethics Application Form

Ethics application form for studies involving Human Participants
Faculty of Arts and Humanities

This form must be completed for any research project that involves human participants or work with human remains less than 100 years old

If your research project involves both human participants or work with human remains less than 100 years old and research involving cultural heritage that requires ethical review, you must complete both this form and the Cultural Heritage Ethics Application form. However, we will not ask you to repeat information that has already been given on another form (except your name, supervisor's name (if relevant), the title of the study and the ERGO number).

All fields marked (M*) are mandatory and must be completed. Fields marked (M**) must be completed unless you have already given these details in the Cultural Heritage Application Form or Secondary Data Analysis Application Form. Applications without mandatory fields completed are likely to be rejected by reviewers. Other fields are marked "if applicable". Help text is provided, where appropriate, in italics after each question.

1. APPLICANT DETAILS

1.1 (M*) Applicant name:	Yimeng Li
1.2 Supervisor (if applicable):	Prof. Joanne Roberts, Dr Shaun Cole
1.3 Other researchers/ collaborators (if applicable): *Name, address, email, telephone*	

2. LIST OF CHANGES

2.1 (M**) Are you resubmitting this ethics application in response to a request for revisions? *Do not complete this section if you have already provided this information in the Ethics Application Forms for Studies Involving Cultural Heritage or Secondary Data Analysis.*
Yes/~~No~~ (delete as appropriate) If yes, please copy and paste all reviewers' comments and explain how you have responded to each. If you have made any other changes since the original submission, please also list these.

3.1 (M*) Title of Research Project:	Technologies of Immersive Experience and Contemporary Fashion Curation: The Study of Jewellery

3.2 (M) What are the aims of this research project?**

Do not complete this section if you have already provided this information in the Ethics Application Forms for Studies Involving Cultural Heritage or Secondary Data Analysis.

3.3 (M) Background to research project** (*a **brief** rationale for conducting the research project*):

Do not complete this section if you have already provided this information in the Ethics Application Forms for Studies Involving Cultural Heritage or Secondary Data Analysis.

The research of jewellery exhibition is of great importance and significance to the luxury industry. Because exhibition is an important part of the luxury experience, which is not only a strategic tool, but also a cultural tool for jewellery brands. But the current state of jewellery shows is not optimistic. Most jewellery shows are either static or primarily utilised the traditional way of exhibiting. Standard simple display mode cannot suit the demands of contemporary jewellery goods. Furthermore, many luxury businesses are researching "digital space" for luxury experience innovation, focusing on social media and usages of artificial intelligence, 3D vision, and other technology not commonly seen in jewellery displays. Thus, as an essential part of the luxury experience, jewellery exhibitions need to be expanded beyond the traditional exhibition types and exhibit ways.

Immersive technology is increasingly being used in exhibitions, including fashion exhibitions, such as augmented reality (AR), virtual reality (VR), Haptic technology, Mixed Reality (MR), SENSORY 4TM etc. where the curators use the audience's sensory and cognitive experiences to create a dialogue-friendly setting. For example, the usages of VR technology have been a popular way to entertain and learn about culture throughout the ongoing pandemic. However, the application of immersive technology to jewellery exhibitions, even to fashion exhibitions has been not significantly explored.

3.4 (M) Key research question** (*Specify hypothesis if applicable*):

Do not complete this section if you have already provided this information in the Ethics Application Forms for Studies Involving Cultural Heritage or Secondary Data Analysis.

How can the immersive technologies be applied to jewellery exhibitions? What can they bring to jewellery exhibitions and jewellery brands?

3.5 (M) Study design** (*Give a **brief** outline of basic study design*)

Outline what approach is being used, why certain methods have been chosen. Do not complete this section if you have already provided this information in the Ethics Application Forms for Studies Involving Cultural Heritage or Secondary Data Analysis.
This research project will use the qualitative method. Kawamura (2020, p.39) said that qualitative analysis is analysis that is not based on precise measurements and mathematical claims. Fashion-related analysis is usually qualitative because the research objective usually involves understanding phenomena in a way that does not require quantification, or because the phenomena do not require precise measurements (Kawamura, 2020, p.39). The aim of this study is to explore the possibility and influence of the application of immersion technologies in jewellery exhibitions. It does not require accurate measurement, so qualitative analysis is more suitable for this research. Specifically，survey method will be used as Kawamura (2020, p.64) has pointed out that ‘the survey involves asking questions about opinions beliefs, or behaviours, and this method is most frequently used by sociologists, economists, and marketers, although their research goals may differ.’ Based on the aims and research questions of this project, as above, it is crucial to understand the suggestions and opinions of industry insiders. However, the research population of insiders is relatively small. Hence, the interview method is the most suitable method. Furthermore，compared with the questionnaire, interviews give participants the right to answer freely, and researchers can ask follow-up questions to clarify the answer to a question and explore deeper (Kawamura, 2020, p.72). Semi-structured interviews are selected for this research because in this form of interview some questions are fixed, while others are not, and additional questions may follow up (Kawamura, 2020, p.73). The advantages of this approach include flexible phrasing, adjustable language level, answers and clarifications, and the ability to add or delete questions (Kawamura, 2020, p.72). Compared with structured interview, this method is more flexible. Additionally, compared with unstructured interview, advance preparation can improve interview efficiency. Reference: Kawamura, Y. (2020) Doing research in fashion and dress: An introduction to qualitative methods. Bloomsbury Publishing.

4.1 (M*) How are participants to be recruited? **You must include all recruitment materials that will be seen by potential participants including the text that you plan to use for any emails, social media posts, posters etc.** **All recruitment materials must include your ERGO number and the name of your project, that the project is taking place at The University of Southampton and (if relevant) the name of your degree programme.** **In some cases, you may need gatekeeper approval. Gatekeepers are individuals or institutions whose permission is needed to access participants, often because they have a duty of care to participants or because you need to go on to their property to access the participants.** **Gatekeeper approval needs to come from someone appropriately senior in the relevant organisation. (Headteachers not class teachers in the case of schools.)** **If you have already obtained gatekeeper approval, you should upload it with your application. If not, you should upload the intended letter/ email asking for permission.** **If you are asking a third party to send out emails/letters on your behalf, the text you plan to ask them to send out should also be uploaded.**
Please confirm:

☑ The University of Southampton logo, version number, date, ethics number (ERGO ID for most studies) appears on every participant-facing document (including, posters, flyers, emails etc). If it is not possible to include the logo, then the name of the university is included.

Is permission from a 'gatekeeper' needed to access your participants (e.g. child accessed through a school)? Yes/ No

If yes, please give details:

Please confirm:

☐ I have permission from_____ and I have uploaded the letter/ email of permission with my submission in ERGOII

or:

☐ I will acquire permission from_____ before starting the study and I have uploaded the letter/ email that I will send asking for permission with my submission in ERGOII

Please also confirm

☐ I have uploaded with my submission in ERGO, the proposed text of the email/ letter which I will provide to the third party to distribute my behalf to invite potential participants to take part in the research. This email/ letter includes the ERGO number and project title, states that the project is taking part at the University of Southampton, clearly states that participation is voluntary and gives clear instructions of what to do in order to take part in the study

Social Media: Yes/ No

If yes, please complete the following.

Platform (s) used: Instagram, WeChat, Twitter, Facebook, and Messenger

Form of recruitment:

☑ Direct message (or equivalent)

☐ General post/ announcement (Tick all that apply)

Details:

Dear ***:

Hope everything is good with you. My name is Yimeng Li, a PhD student at the University of Southampton. My research is about the interdisciplinary nature of curation and luxury, mainly studying how immersive technology can be applied to jewellery exhibitions, as well as what benefits and challenges it will bring to the jewellery industry.

Currently, I am looking for interviewees and conducting interviews. I noticed you are an expert in *** area, and I would very much value your thoughts, opinions and experiences in this area. If you are interested in helping and contributing, I would be grateful if you would please reply to this message, and I can provide you more information about this research project.

Thank you for your time. Looking forward to your reply.

Yimeng Li

University of Southampton

Text that will be used in any posts/ messages: (These can also be uploaded as a separate file. If you have uploaded these as a separate file please indicate this here.)

Other relevant information:

Email: Yes/ No

If yes, please complete the following:

How you will acquire the email addresses?

I will search for relevant experts through the website of universities, museums, galleries and luxury brands to find their email addresses. My supervisors have also suggested contacts and will forward emails for me.

If you are using mailing lists, please state any mailing list(s) used and then complete the declaration:

☐ I have permission from the list owner and, if using University of Southampton Mailing lists, I have permission from a senior member of the Faculty. I have uploaded confirmation of this with my application.

Text of any emails that will be sent: (These can also be uploaded as a separate file. If you have uploaded these as a separate file please indicate this here.)

Dear ***:

Hope everything is good with you. My name is Yimeng Li, a PhD student at the University of Southampton. My research is about the interdisciplinary nature of curation and luxury, mainly studying how immersive technology can be applied to jewellery exhibitions, as well as what benefits and challenges it will bring to the jewellery industry. It will help to understand the relationship between technologies of immersive experience, fashion curation and jewellery, explore the application and influence of immersion technology on jewellery exhibitions and jewellery brands.

Currently, I am looking for interviewees and conducting interviews. I noticed you are an expert in *** area, and I would very much value your thoughts, opinions and experiences in this area. If you are interested in helping and contributing, I would be grateful if you would please fill the consent form attached in this email and send it back to me. If you want to know more about this research project, please find the participant information sheet in this email.

Thank you for your time. Looking forward to your reply.

Best regards,

Yimeng Li

University of Southampton

NB The University does not support the use of 'blanket emails' for contacting potential participants within the University (i.e. fellow staff and/or students) because there is a potential to take advantage of the access to 'group emails' and the relationship with colleagues and subordinates.

Before using any University of Southampton mailing list to contact participants, you should usually

- *ensure groups of students/staff have given prior permission to be contacted in this way, or*
- *use a third party (with appropriate permissions) to pass on these requests.*

If a blanket email from a researcher to a University of Southampton mailing list is the only way to access a chosen cohort, you must

- *obtain explicit approval from the holder of the list and (if using University Mailing Lists) from a senior member of the Faculty.*

Posters: Yes/~~No~~

If yes, please complete the following:

Where will the posters be displayed?

Please confirm you have the appropriate permissions to display posters (tick one):

☐ No permission is needed to display these posters OR

☐ I have permission to display the posters from _____

Please confirm

☐ I have uploaded the poster.

In person: Yes/~~No~~

If yes, please complete the following:

Place:_____ Times_____ (If times and date will not be confirmed until ethics approval is obtained, then state maximum number of recruitment events, expected length, and approximate time of day.)

☐ Recruitment is not taking place at an open place.

☐ Recruitment is taking place at an open place, and posters/flyers will be used to warn potential participants that recruitment is taking place, including details of whom people should contact if they don't want to be approached.
These flyers have been uploaded with my ethics application.

(An open place is somewhere which can be freely accessed by either by all members of the general public or by a considerable group. Recruiting at the beginning of a class would not normally count as recruitment in an open space. Recruiting in a campus café would count as recruiting in an open space.)

Other: Yes / ~~No~~

If Yes, please give details.

Please ensure that you include the text of any message that you will send to participants. (This can be uploaded here or as a separate file.)

4.2 (M*) Who are the proposed participants and where are they from (e.g. fellow students, club members)? *List inclusion/exclusion criteria if applicable.*

The research needs to understand the views of experts in relevant fields (see below) on this research and how this might connect to the development of jewellery exhibitions. According to the research content, four keywords, relating to particular expertise, can be listed as follow: "immersion technology", "fashion curation" and "jewellery exhibitions" and "jewellery brands". Interviewees who are experts in two or more overlapping fields would be given priority, such as curators with experience in curating immersive fashion exhibitions, staff of jewellery brand with experience in curating jewellery exhibitions, and immersion technology experts with experience in curation, etc. In the second place, experts in a single field will be interviewed. For example, researchers in immersion technologies, curators with experience in curating fashion or jewellery exhibitions, and staff from well-known jewellery brands. The nationality, age and gender of interviewees will not be restricted. Six experts are scheduled to be interviewed in each of the four areas. Two more places are allocated for each field, because considering the possibility of invalid interviews and data due to some unexpected factors. Hence, the number of interviewees is around 24-32.

4.3 (M*) Describe the relationship between researcher and participants (*Describe any relationship e.g. teacher, friend, boss, clinician, etc.*)

In the selection of experts, a detailed investigation will be carried out in advance, and subjective selection will be made according to their reputation and work experience based on the four keywords mentioned above. Furthermore, a snowball approach will be used to identify the research participants. Since I am in the field of jewellery and exhibition curation, I will start with the experts around me. For example, one of my friends, a potential participant, who is a jewellery designer and has rich experience of curating jewellery exhibitions. After contact with them I will seek introductions from them to other suitable experts.

4.4 (M*) Describe how you will ensure that fully informed consent is being given:

If your study has different activities or groups of participants, you may need to produce more than one version of the participant information sheet and consent form.

If your study involves research with minors then an appropriate person must provide informed consent. If you are doing research on children in schools, then parents or guardian normally need to be informed of the research and given an opportunity to decide whether their children should take part. It is good practice to get consent from parents and guardians as well as permission from the school. However, in some cases, it may be more appropriate for the Headteacher to give permission together with an opportunity for parents to 'opt-out'. If you do not intend to get active consent from parents and guardians, this must be justified.

It is also best practice to acquire 'assent' from any participants who are not able to give fully informed consent. Assent is the term for agreement to proceed from someone who is not able to give consent i.e. a child may agree to take part in a study by saying 'Yes, I would like to do it.' but because they are underage this counts as assent and not consent. Again, if assent is not going to be obtained, this requires justification.

In what format will participants be given information about the study?

Please tick those that apply.

- ☐ participant information form;
- ☑ online combined participant information form and consent form
- ☐ other, please give details.

When and how will participants be given this information? Please give details.

Participants will need information about the research before they agree to the interview. I will send the participant information and consent form to potential participants when I contact with them. This will allow them to make an informed decision on whether to participate in an interview.

How long will they have to decide whether to take part? Please give details.

The consideration time of two weeks is reasonable, so participants can have enough time to consider whether they are interested in this research and whether they have time to arrange interviews. After two weeks I will send a follow up email giving

participants additional one week to decide on whether to participate.

Please confirm

☑ I have included all relevant participant information sheets, consent forms, and debriefing form

☑ I have used up to date templates for all forms

☑ The University name (and logo where possible), the version number, date, ethics number (ERGO ID for most studies) appears on every participant facing document

Is there any reason to believe participants may not be able to give full informed consent? Yes/ No

If yes, what steps do you propose to take to safeguard their interests?

Are any participants under 18? Yes/ No

If yes, please complete the following:

Is the consent of participants' parents or guardians required? Yes/No

If no, please justify this and explain who will be consenting on behalf of the participants and how this consent will be acquired.

If yes, how will this be acquired?

Will you also be acquiring assent from the participants? Yes/No

If no, please justify this.

If yes, explain how.

4.5 (M*) Will you provide the findings of the study to participants? *It is good practice to give participants the opportunity to see any dissertations or publications resulting from the study, but this might not be necessary e.g. if it is a small study for an undergraduate or MA dissertation. Note: if you intend to keep participants' contact details in order to feed back findings, you must describe how this data will be managed in section 5.6.*

☐ No. Please explain why.

☑ It is stated in the participant information sheet that participants can contact me by email to ask for a copy of my dissertation or publications associated with the research project.

☐ It is stated at the end of the online questionnaire that participants can contact me by email to ask for a copy of my dissertation or publications associated with the research project.

☐ I will email results to participants. I understand that participants' email addresses count as personal data and have described in section 6 how this data will be managed.
What will be emailed to participants?

☐ Other: Please give details.

4.6 Will any of the documents that you give to participants be in a language other than English?

Public facing documents that are badly written with poor spelling and grammar can

lead to complaints. University policy is that reviewers should request revisions for badly written public facing documents.

However, we will not request revisions for mistakes in English when the documents will not be given to participants in English.

Yes/ No (delete as appropriate)

If yes, please list any documents that will be given to participants in a language other than English. For each document say whether the English translation will also be given to any participants. Then complete the declarations below.

Documents: Participant Information Sheet, Consent Form, Semi-interview Questions

☑ I confirm that I have provided an accurate English translation of any non-English language documents

☑ I confirm that any documents in a language other than English have been carefully checked for grammar and spelling errors by someone fluent in the relevant language. (This may be the researcher or a third party.)

5. RESEARCH PROCEDURES, INTERVENTIONS AND MEASUREMENTS

5.1 (M*) Give a brief account of what will happen in the study as experienced by the participant

Make clear who does what, how many times and in what order. Make clear the role of all assistants and collaborators. Make clear total demands made on participants, including time and travel. You must also describe the content of your questionnaire/interview questions and EXPLICITLY state if you are using existing measures. If you are using existing measures, please provide the full academic reference as to where the measures can be found.

Please give details here.
During the interview, questions can be randomly added and adjusted according to the content of the conversation to make the findings interesting and flexible. The questions design will be differentiated according to the four 'keyword' areas of expertise mentioned above, and different questions will be designed for scholars in the four fields, relating to these 'keywords'. Two or more interdisciplinary experts can mix and subtract questions flexibly. During interviews, researcher can explain or extend the questions, but there will be no obvious leading words in order to avoid bias.
This basic structure will be followed for all interviews:
1. Warm up (self-introduction, job description)
2. General questions (definition, relevant experience)
3. Specific Questions

The only requirement is that the interviewees need to be relaxed and free to answer questions. The interview will be recorded, and notes will be taken (researcher will ask interviewees in advance whether can record interviews, and the recording device will be used only with the interviewees' permission).
After the interviews, if the researcher finds any doubt or problem about the interview content, a follow up interview for clarification will take place. This will also be informed in the end of the first interview.

Please tick all that apply.

☐ I am using a paper questionnaire and have uploaded a copy of the questionnaire in its final form, showing the University logo and project name and ERGO number.

☐ I am using an online questionnaire and have uploaded a copy of the text of the questionnaire, including the project name, ERGO number and the University name.

☑ I am using focus groups or interviews, and have uploaded a copy of the questions.

☐ I am not using questionnaires, interviews or focus groups.

6. STUDY MANAGEMENT

6.1 (M*) Detail any psychological or physical discomfort or distress and/or any other adverse effects that the participants may experience arising from the study. If there is not likely to be any discomfort, distress or adverse effects, please state: 'None.'
None

6.2 (M*) Explain how you intend to alleviate any such discomfort, distress or adverse effects that may arise. If there is not likely to be any discomfort, distress or adverse effects, please state: 'Not applicable.'
Not applicable

6.3 Explain how you will care for any participants in 'special groups' *(i.e. those in a dependent relationship, vulnerable or lacking in mental capacity)* (if applicable)
Not applicable

6.4 Please give details of any payments or incentives being used to recruit participants (if applicable)
Not applicable

6.5 (M*) Will there be participant anonymity and/or data anonymity and if so, how will it be maintained?

Note that unlinked anonymity can only be promised if questionnaires or other requests for information are not targeted to, or received from, individuals using their name or address or any other identifiable characteristics. For example if questionnaires are sent out with no possible identifiers when returned, or if they are picked up by respondents in a public place, then anonymity can be claimed. Research methods using interviews cannot usually claim anonymity – unless using telephone interviews when participants dial in.

Unless there is unlinked anonymity, the information provided to participants should indicate that they could be linked to their data.

☐ Unlinked anonymity: nobody involved in the research project will be able to identify the research participants. (Please give details.)

☐ The researcher or someone else may be able to identify participants. However, the research data contain no way of identifying participants and consent forms will be kept separately. (Please give details.)

☐ The researcher or someone else may be able to identify participants. However, the research data is coded so that participants are not identifiable from the research data. Consent forms and participant codes will be kept separately. (Please give details.)

☑ The participant can be identified in the research data, but no identifying information will be included in publication. (see below for details.)

☐ It is not possible for participants to be anonymous in this research. (Please give details.)

Due to the limited scope of the fields I am investigating and the potentially wellknow people/curators I might interview, some participants will be identified in the research data. Moreover, some participants may be willing to be identified in research. I will ask them before interviews whether I can use their name directly in the final thesis or publication, if not, their names will be replaced by codes.

The first code will be made according to the first letter of the interviewees' first name. The second code will be made according to the interviewees' category, which is the four keywords mentioned before. "Immersive Technology" will be coded as "IT", "Fashion Curation" will be "FC", "Jewellery Exhibitions" will be "JE" and "Jewellery Brands" will be "JB". Finally, they will be coded numerically based on the time of their interviews.

For example, my name is Yimeng Li, my keywords are “Fashion curation” and “Jewellery Exhibitions”. If I were the first interviewee, my code would be LFCJE1.

All of these data will be collected in OneDrive accessed through researcher’s personal University account and password. Non-identifiable data will be backed up on the iCloud to avoid losing.

6.6 (M*) Will you keep research information confidential and, if so, how?

Confidentiality is defined as the non-disclosure of research information except to another authorised person. Confidential information can be shared with those who are already party to it, and may also be disclosed where the person providing the information provides explicit consent.

I will keep my research information confidential. All of data will be collected on

Microsoft OneDrive accessed through my personal University account and password. Non-identifiable data will be backed up on the iCloud to avoid losing. When sharing or moving personal data, a SharePoint site will be created for the use of the researcher and supervisor. Audio/video-record will be transcribed and it will be destroyed following transcription.

6.7 (M*) Please list all forms of data collected during the research. *This includes names and contact details taken to arrange participation or to feedback results from the study, consent forms and all research data. You should state the content of the data (e.g. what you will ask participants) and the form the data will take (e.g. audio, video, transcripts, questionnaire answers).*

You must also state if you are collecting 'personal data' or 'sensitive / special category data'. In these cases additional care may be needed. The following text explains what kinds of data this applies to.

Personal data means any information relating to an identifiable person who can be directly or indirectly identified in particular by reference to an identifier. This could include personal data, including name, identification number, location data or online identifier. Personal data that has been pseudonymised – e.g. key-coded – can fall within the scope of the GDPR depending on how difficult it is to attribute the pseudonym to a particular individual.

Sensitive /special category personal data: data that consists of information about racial or ethnic origin, political opinions, religious beliefs or beliefs of a similar nature, physical or mental health or condition, sexual life, the commission/alleged commission of an offence alleged/committed by the data subject and any related court proceedings, trade union membership. It also includes genetic (i.e. inherited or acquired genetic characteristics e.g. blood type) and biometric data (e.g. fingerprints) where processed to uniquely identify an individual.

All forms of data collected include names, contact details, occupation, relevant experience, interviews arrangement timesheet, online consent forms, interviews content (this will be recorded by audio/video) and edited transcript of the interview.

6.8 (M*) Where will you store your data? *(Please indicate where data will be stored for all data identified in 6.7.)*

Personal data should be stored on a password protected, University of Southampton network or computer. If this is not possible, data may be on the University's Microsoft OneDrive accessed through your University email address.

Emails should be kept in a password protected University of Southampton email account and all emails should be deleted after the study is finished.

Consent forms and other hard data should be stored in lockable cabinet(s).

If you are using sensitive / special category personal data, you should be aware that

this may need to be stored more securely. *If you have questions about the storage of research data please contact* researchdata@soton.ac.uk	
Data	Where it will be stored.
Emails from me and supervisors and participants	☑ Emails will be kept in a password protected University of Southampton email account and all emails will be deleted after the study is finished (Please tick to confirm)
All forms of data collected include names, contact details, occupation, relevant experience, interviews arrangement timesheet, online consent forms, interviews content (this will be recorded by audio/video) and edited transcript of the interview.	☐ On University of Southampton servers, within the University network ☐ Encrypted on a university build laptop ☑ On Microsoft OneDrive accessed through your University email address ☐ In a locked filing cabinet ☐ Other –please give details
Non-identifiable data like edited transcript of interviews and coded data will be backed up.	☐ On University of Southampton servers, within the University network ☐ Encrypted on a university build laptop ☑ On Microsoft OneDrive accessed through your University email address ☐ In a locked filing cabinet ☑ Other –iCloud
	☐ On University of Southampton servers, within the University network ☐ Encrypted on a university build laptop ☐ On Microsoft OneDrive accessed through your University email address ☐ In a locked filing cabinet ☐ Other –please give details

6.9 (M*) Please confirm
✓

☐ I am aware of, and compliant with, the Data Protection policy of the University, the Data Protection Act and the GDPR.

☑ I understand that if I lose personal data, I must contact databreach@soton.ac.uk immediately.

6.10 (M*) Who will have access to these data and how will they be shared/ moved?

Tick the appropriate box

☐ Only I will have access to the data

☑ Only I and my supervisor will have access to the data

☐ Only the research team based at the University of Southampton will have access to the data

☐ Collaborators from [*insert external organisation*] will have access to the data. They will/ will not be given access to raw data. There *is/ is not [delete as appropriate]* a data sharing agreement under negotiation. I understand that if raw data is to be shared with collaborators, a data sharing agreement must be in place before data collection begins and that if any documents or processes are changed as a result of negotiation, I must submit an amendment to my ERGOII application and wait for approval of the amendment before beginning to collect data.
Please give details.

☐ Other. Please give details.

Tick the appropriate box

☐ No personal data will be moved or shared.

☐ When sharing or moving personal data, University of Southampton Dropoff will be used.

☑ When sharing or moving personal data, a Sharepoint site will be created for the use of the researcher and supervisor/ collaborators

☐ Other. Please give details.

Please confirm:

☑ I understand that personal data must not be sent by email

6.11 (M*) Have you taken appropriate action to minimise potential risks to researchers?

Risks to researchers

☑ If you are a student, please check to confirm you have discussed potential risks to researchers arising from the research with your supervisor.

Are there any potential risks to researchers and any other people impacted by

this study as a consequence of undertaking this research that are greater than those encountered in normal day to day life that have not already been described in the application?

Yes/ No (please delete as appropriate)

If yes, please describe these potential risks and what you will do about them. This might include, for instance, arrangements to ensure that a supervisor or co-researcher has details of your whereabouts and a means of contacting you when you conduct interviews away from your base; or ensuring that a 'chaperone' is available if necessary for one-to-one interviews.

☑ Please check to confirm you have carried out any relevant health and safety risk assessments for your research

6.12 Please complete if your research includes an online questionnaire. Any online questionnaire platform must be GDPR compliant. We recommend that researchers use the University's ISurvey platform (isurvey.soton.ac.uk) or Survey Monkey. If you wish to use another platform, please explain why and confirm that it is GDPR compliant.

Which platform will you be using for your survey?

Tick the appropriate box

☐ I will be using ISurvey

☐ I will be using Survey Monkey

☐ I will be using _____ because _____ Please include a link to the GDPR statement of the company here:

7. ANY OTHER DETAILS

7.1 If there is anything else that you think the reviewers should know about the study, please give details here.

Not applicable

Continued on next page.

8. CULTURAL HERITAGE

8. Will your study involve any of the following?

1. Intrusive or destructive intervention in cultural heritage.

   This might include archaeological excavation, surface collection of cultural artefacts, destructive analysis of cultural artefacts or materials, or activities leading to a loss of artefact provenance information.

2. Work with historic artefacts or materials that may be ethically or legally sensitive.

   This might include artefacts of uncertain provenance where there is the possibility that they have been illegally excavated and/or exported from their country of origin, artefacts of uncertain ownership, artefacts or materials of particular significance to indigenous people.

3. Gathering of information leading to the commercial exploitation of cultural heritage, specifically activities that facilitate treasure hunting, pillaging or commercial salvage operations, usually with the aim of financial gain by putting artefacts from a heritage site up for sale.

4. Work with human remains dating from more than 100 years ago.

☑ No

☐ Yes – and I have already provided details of relevant recognised guidelines, legislation or policy which my study will comply with and which cover all ethical concerns surrounding all work with cultural heritage involved in my study.

☐ Yes – and I have completed the Cultural Heritage Ethics Application Form.

N.B. – Before you upload this document to your ERGO submission remember to:

1. Complete ALL mandatory sections in this form

2. Complete the Cultural Heritage Ethics Application Form if relevant.

3. Upload any participant information forms, consent forms, letters of agreement to your ERGO submission. Please ensure that you are using the up to date templates, which can be found on ERGO II.

4. Upload any interview schedules and copies of questionnaires

5. Checked that the University of Southampton logo appears on all documents and the version number, date, ethics number (ERGO ID for most studies) appears on every participant facing document (including emails, posters, flyers etc)

Appendix B Participant Information Sheet

Participant Information Sheet

Study Title: Technologies of Immersive Experience and Contemporary Fashion Curation: The Study of Jewellery
Researcher: Yimeng Li
ERGO number: 71462

You are being invited to take part in the above research study. To help you decide whether you would like to take part or not, it is important that you understand why the research is being done and what it will involve. Please read the information below carefully and ask questions if anything is not clear or you would like more information before you decide to take part in this research. You may like to discuss it with others but it is up to you to decide whether or not to take part. If you are happy to participate you will be asked to sign a consent form.

What is the research about?
I am a PhD student in the University of Southampton. This research is my PhD research project. The aim of it is to understand the relationship between technologies of immersive experience, contemporary fashion curation and jewellery. The project will explore the application and influence of immersion technology on jewellery exhibitions and jewellery brands. The research of jewellery exhibition is of great importance and significance to the luxury industry. Because exhibition is an important part of the luxury experience, which is not only a strategic tool, but also a cultural tool for jewellery brands. But the current state of jewellery shows is not optimistic. Most jewellery shows are either static or primarily utilise the traditional way of exhibiting. Standard simple display mode cannot suit the demands of contemporary jewellery goods. Furthermore, many luxury businesses are researching "digital space" for luxury experience innovation, focusing on social media and usages of artificial intelligence, 3D vision, and other technology not commonly seen in jewellery displays. Thus, as an essential part of the luxury experience, jewellery exhibitions need to be expanded beyond the traditional exhibition types and exhibit ways.
Immersive technology is increasingly being used in exhibitions, such as augmented reality (AR), virtual reality (VR), Haptic technology, Mixed Reality (MR), SENSORY 4TM etc. where the curators use the audience's sensory and cognitive experiences to create a dialogue-friendly setting. For example, the usages of VR technology have been a popular way to entertain and learn about culture throughout the ongoing pandemic. However, the application of immersive technology to jewellery exhibitions has been not significantly explored.

Why have I been asked to participate?
Based on the aims of this research, as above, it is crucial to understand the suggestions and opinions of industry insiders. According to the research project, four keywords relating to particular expertise and job roles can be listed as follow: "immersion technologies", "fashion curation", "jewellery exhibitions" and "jewellery brands". Interviewees who are experts in two or more overlapping fields would be given priority, such as curators with experience in curating immersive fashion exhibitions, staff of jewellery brand with experience in curating jewellery exhibitions, and immersion technology experts with experience in curation, etc. In the second place, experts in a single field will be interviewed. As an expert in one or more of these areas you are being asked to contribute your experiences and expertise to this project.
About the number of interviewees, six experts are scheduled to be interviewed in each of the four areas. Two more places are allocated for each field, because considering the possibility of invalid interviews and data due to some unexpected factors. Hence, the number of interviewees is around 24-32.

What will happen to me if I take part?
You will be invited to an online semi-structured interview. The social media for conducting interview can be chosen by yourself. The length would be last 0.5 hr to 1.5hr. During the interview, questions will be randomly added and adjusted according to the content of the conversation. The basic structure will be followed for interview:
1. Warm up (self-introduction, job description)
2. General questions (definition, relevant experience)
3. Specific Questions

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The only requirement is that you need to be relaxed and free to answer questions. For information collection, the interview will be recorded by audio/video. After the interviews, if the researcher finds any doubt or problem about the interview content, you will be contacted again and follow up interview to provide clarification.
In the result, you may be quoted directly in reports of the research, but if you opt to remain anonymous, you will not be directly identified.

Are there any benefits in my taking part?
There is no direct benefit, but you will give contribution to not only the fashion curation area, but also the luxury industry. You may also help improve our current understanding of technologies of immersive experience, Contemporary fashion curation and jewellery. If you need, I will share the results of the research.

Are there any risks involved?
There are no risks involved.

What data will be collected?
Your name, contact detail, occupation, relevant experience, interviews arrangement timesheet, online consent form, interview content (audio/video-record) and edited transcript of the interview will be collected by the researcher. Your personal information is for classifying when doing the data collection. The contact detail is for allowing the researcher to maintain contact with you during the study. If you opt or prefer to remain anonymous, the research data will be coded so that you will not be identifiable from the research data.

Will my participation be confidential?
Your participation and the information we collect about you during the course of the research will be kept strictly confidential.

Only members of the research team and responsible members of the University of Southampton may be given access to data about you for monitoring purposes and/or to carry out an audit of the study to ensure that the research is complying with applicable regulations. Individuals from regulatory authorities (people who check that we are carrying out the study correctly) may require access to your data. All of these people have a duty to keep your information, as a research participant, strictly confidential.

All of data will be collected on Microsoft OneDrive accessed through researcher's personal University account and password. Non-identifiable data will be backed up on the iCloud to avoid any loss of data. When sharing or moving personal data, a SharePoint site will be created for the use of the researcher and supervisor. Audio/video-record will be transcribed and it will be destroyed.

Do I have to take part?
No, it is entirely up to you to decide whether or not to take part. If you decide you want to take part, you will need to sign a consent form to show you have agreed to take part.

What happens if I change my mind?
You have the right to change your mind and withdraw at any time without giving a reason and without your participant rights being affected.

If you withdraw during the interview, we will keep the information about you that we have already obtained for the purposes of achieving the objectives of the study only.

What will happen to the results of the research?
Your personal details will remain strictly confidential. Research findings made available in any reports or publications will not include information that can directly identify you without your specific consent.

I have plan to publish this project in the future. You can contact me by email to ask for a copy of my dissertation or publications associated with the research project.

[15/03/2022] [Version No.2] [71462]

Where can I get more information?
You can contact researcher by her email address (yl24n19@soton.ac.uk).

What happens if there is a problem?
If you have a concern about any aspect of this study, you should speak to the researchers who will do their best to answer your questions (yl24n19@soton.ac.uk).
If you remain unhappy or have a complaint about any aspect of this study, please contact the University of Southampton Research Integrity and Governance Manager (023 8059 5058, rgoinfo@soton.ac.uk).

Data Protection Privacy Notice
The University of Southampton conducts research to the highest standards of research integrity. As a publicly-funded organisation, the University has to ensure that it is in the public interest when we use personally-identifiable information about people who have agreed to take part in research. This means that when you agree to take part in a research study, we will use information about you in the ways needed, and for the purposes specified, to conduct and complete the research project. Under data protection law, 'Personal data' means any information that relates to and is capable of identifying a living individual. The University's data protection policy governing the use of personal data by the University can be found on its website (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page).

This Participant Information Sheet tells you what data will be collected for this project and whether this includes any personal data. Please ask the research team if you have any questions or are unclear what data is being collected about you.

Our privacy notice for research participants provides more information on how the University of Southampton collects and uses your personal data when you take part in one of our research projects and can be found at http://www.southampton.ac.uk/assets/sharepoint/intranet/ls/Public/Research%20and%20Integrity%20Privacy%20Notice/Privacy%20Notice%20for%20Research%20Participants.pdf

Any personal data we collect in this study will be used only for the purposes of carrying out our research and will be handled according to the University's policies in line with data protection law. If any personal data is used from which you can be identified directly, it will not be disclosed to anyone else without your consent unless the University of Southampton is required by law to disclose it.

Data protection law requires us to have a valid legal reason ('lawful basis') to process and use your Personal data. The lawful basis for processing personal information in this research study is for the performance of a task carried out in the public interest. Personal data collected for research will not be used for any other purpose.

For the purposes of data protection law, the University of Southampton is the 'Data Controller' for this study, which means that we are responsible for looking after your information and using it properly. The University of Southampton will keep identifiable information about you for 10 years after the study has finished after which time any link between you and your information will be removed.

To safeguard your rights, we will use the minimum personal data necessary to achieve our research study objectives. Your data protection rights – such as to access, change, or transfer such information - may be limited, however, in order for the research output to be reliable and accurate. The University will not do anything with your personal data that you would not reasonably expect.

If you have any questions about how your personal data is used, or wish to exercise any of your rights, please consult the University's data protection webpage (https://www.southampton.ac.uk/legalservices/what-we-do/data-protection-and-foi.page) where you can make a request using our online form. If you need further assistance, please contact the University's Data Protection Officer (data.protection@soton.ac.uk).

[15/03/2022] [Version No.2] [71462]

Thank you.
Thank you for taking the time to read the information sheet and considering taking part in the research.

Appendix C Participant Consent Form

University of Southampton

同意书

研究题目： 沉浸式体验技术与当代时尚策展:珠宝研究
研究人员姓名： 李翊萌
ERGO 编号： 71462

如您同意下列陈述，请在方格内打勾:

我同意参加这个研究项目，并同意我的数据被用于达到这个研究目的。	✓
本人同意研究员使用音频/视频设备记录访谈内容。	✓

如您理解下列陈述，请在方格内打勾：

我已阅读并理解同意书(26.02.2022 /版本 1 参与者信息表)，并有权利就研究提出问题。	✓
我明白我的参与是自愿的，我可以在不影响我的参与权利的情况下(在任何时候)以任何理由退出。	✓
我明白，如果我退出研究，那么到目前为止收集到的关于我的信息仍可能用于实现研究目的。	✓
我理解我可能会在研究报告中被直接引用，但如果我在下方不选择在研究中使用我的名字，我将不会被直接识别(例如，我的名字将被编码替代)。	✓
我明白收集到的关于我的个人信息，如我的姓名或联系方式将不会被分享给研究团队以外的人。	✓

参与者姓名（打印姓名）.....

参与者签名 周可馨

日期 2022.3.18

研究院姓名（打印姓名）...Yimeng Li.....

研究员签名 Yimeng Li

[15.03.2022] [版本 2] [71462]

University of Southampton

日期…15.03.2022.....

.....

选择项-请只在你希望同意的方格内打勾:

我同意研究员在她的研究中使用我的名字。	

University of Southampton

CONSENT FORM

Study title: Technologies of Immersive Experience and Contemporary Fashion Curation: The Study of Jewellery

Researcher name: Yimeng Li
ERGO number: 71462
Participant Identification Number (if applicable):

Please initial the box(es) if you agree with the statement(s):

I agree to take part in this research project and agree for my data to be used for the purpose of this study.	✓
I agree researcher to use audio/video device to record interview content.	✓

Please initial the box(es) if you understand the following statement(s):

I have read and understood the information sheet (*26.02.2022 /version no.1 of participant information sheet*) and have had the opportunity to ask questions about the study.	✓
I understand my participation is voluntary and I may withdraw (at any time) for any reason without my participation rights being affected.	✓
I understand that should I withdraw from the study then the information collected about me up to this point may still be used for the purposes of achieving the objectives of the study only.	✓
I understand that I may be quoted directly in reports of the research but if I don't opt to use my name in research below, I will not be directly identified (e.g. that my name will not be used).	✓
I understand that my personal information collected about me such as my name or contact details will not be shared beyond the study team.	✓

Name of participant (print name)...Lorraine.....

Signature of participant.....Lorraine.....

Date.....02/04/2022..... ...

Name of researcher (print name)...Yimeng Li.....

[15.03.2022] [Version No.2] [71462]

Signature of researcher .....Yimeng Li.....

Date...15.03.2022.....

Optional - please only initial the box(es) you wish to agree to:

I agree researcher to use my name in her research.	

University of Southampton

同意书

研究题目：沉浸式体验技术与当代时尚策展:珠宝研究
研究人员姓名： 李翊萌
ERGO 编号：71462

如您同意下列陈述，请在方格内打勾:

我同意参加这个研究项目，并同意我的数据被用于达到这个研究目的。	✓
本人同意研究员使用音频/视频设备记录访谈内容。	✓

如您理解下列陈述，请在方格内打勾：

我已阅读并理解同意书(26.02.2022 /版本 1 参与者信息表)，并有权利就研究提出问题。	✓
我明白我的参与是自愿的，我可以在不影响我的参与权利的情况下(在任何时候)以任何理由退出。	✓
我明白，如果我退出研究，那么到目前为止收集到的关于我的信息仍可能用于实现研究目的。	✓
我理解我可能会在研究报告中被直接引用，但如果我在下方不选择在研究中使用我的名字，我将不会被直接识别(例如，我的名字将被编码替代)。	✓
我明白收集到的关于我的个人信息，如我的姓名或联系方式将不会被分享给研究团队以外的人。	✓

参与者姓名（打印姓名）...Zequan Lin.....

参与者签名.....Zequan Lin.....

日期.....04.04.2022.....

研究院姓名（打印姓名）...Yimeng Li.....

研究员签名 .....Yimeng Li.....

[15.03.2022] [版本 2] [71462]

日期…15.03.2022……..

选择项-请只在你希望同意的方格内打勾:

我同意研究员在她的研究中使用我的名字。	

同意书

研究题目：沉浸式体验技术与当代时尚策展:珠宝研究
研究人员姓名： 李翊萌
ERGO **编号：**71462

如您同意下列陈述，请在方格内打勾:

我同意参加这个研究项目，并同意我的数据被用于达到这个研究目的。	√
本人同意研究员使用音频/视频设备记录访谈内容。	√

如您理解下列陈述，请在方格内打勾：

我已阅读并理解同意书(26.02.2022 /版本 1 参与者信息表)，并有权利就研究提出问题。	√
我明白我的参与是自愿的，我可以在不影响我的参与权利的情况下(在任何时候)以任何理由退出。	√
我明白，如果我退出研究，那么到目前为止收集到的关于我的信息仍可能用于实现研究目的。	√
我理解我可能会在研究报告中被直接引用，但如果我在下方不选择在研究中使用我的名字，我将不会被直接识别(例如，我的名字将被编码替代)。	√
我明白收集到的关于我的个人信息，如我的姓名或联系方式将不会被分享给研究团队以外的人。	√

参与者姓名（打印姓名）...王梓琪.....

参与者签名.....王梓琪.....

日期...10/04/2022..... .....

研究院姓名（打印姓名）...Yimeng Li.....

研究员签名 .....Yimeng Li.....

[15.03.2022] [版本 2] [71462]

日期…15.03.2022……

选择项-请只在你希望同意的方格内打勾:

我同意研究员在她的研究中使用我的名字。	√

同意书

研究题目：沉浸式体验技术与当代时尚策展:珠宝研究
研究人员姓名： 李翊萌
ERGO **编号：**71462

如您同意下列陈述，请在方格内打勾:

我同意参加这个研究项目，并同意我的数据被用于达到这个研究目的。	✓
本人同意研究员使用音频/视频设备记录访谈内容。	✓

如您理解下列陈述，请在方格内打勾：

我已阅读并理解同意书(26.02.2022 /版本 1 参与者信息表)，并有权利就研究提出问题。	✓
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日期...10/04/2022..... .....

研究院姓名（打印姓名）...Yimeng Li.....

研究员签名 .....Yimeng Li.....

[15.03.2022] [版本 2] [71462]

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Study title: Technologies of Immersive Experience and Contemporary Fashion Curation: The Study of Jewellery

Researcher name: Yimeng Li
ERGO number: 71462
Participant Identification Number (if applicable):

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Name of participant (print name)...Irem Ozdemir.....

Signature of participant.....

Date.....16/05/2022.....

Name of researcher (print name)...Yimeng Li.....

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研究人员姓名： 李翊萌
ERGO **编号：**71462

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参与者签名.....胡聪.....

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研究员签名 .....Yimeng Li.....

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参与者签名.....陈丹青.....

日期...22/05/2022..... .....

研究院姓名（打印姓名）...Yimeng Li.....

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参与者签名.....张依蘅.....

日期...15/06/2022..... .....

研究院姓名（打印姓名）...Yimeng Li.....

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Researcher name: Yimeng Li
ERGO number: 71462
Participant Identification Number (if applicable):

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Name of participant (print name)...Iris.....

Signature of participant.....

Date...10/07/2022.....
.....

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参与者签名.....余悠.....

日期...21/05/2022..... .....

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研究员签名 .....Yimeng Li.....

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Appendix D Semi-structured Interview Pre-set Questions

Semi-Structured Interview Questions

During the interview, questions can be randomly added and adjusted according to the content of the conversation to make the findings interesting and flexible. The questions design is differentiated according to the four keywords (Immersive technologies, Fashion curation, Jewellery exhibitions and Jewellery brands), and different questions are designed for scholars in the four fields, relating to these keywords. Two or more interdisciplinary experts can mix and subtract questions flexibly. During interviews, researcher can explain or extend the questions, but there will be no obvious leading words in order to avoid bias.

This basic structure will be followed for all interviews:

Warm up (self-introduction, job description)

General questions (definition, relevant experience)

Specific Questions

Immersive Technologies:

1. Warm up

2. General questions (Definitions about immersive experience and immersion technologies, and relevant experience).

3. What are the most immersive technologies being used in exhibitions?

4. Which immersive technologies are more popular and why?

5. What are the advantages of immersive exhibitions compared with traditional exhibitions? What's the differences between them? What are their pros and cons respectively?

6. Why do we have to use technology?

7. What is the difference between technology immersive experience and non-technology immersive experience? What are their advantages and disadvantages?

8. Can immersive technologies be applied to jewellery exhibitions? What techniques can be used in jewellery exhibitions? What technical issues need to be addressed?

9. What benefits and challenges can immersive technologies bring to jewellery exhibition?

Fashion Curation:

[15.03.2022] [Version No.2] [71462]

1. Warm up

2. General questions (Definitions about fashion curation and curators, and relevant experience).

3. What is the status and role of fashion curation in contemporary curation?

4. What are the current trends in fashion curation?

5. What are the most frequently used curatorial methods?

6. What is the status of immersive technologies for fashion curation?

7. What immersive techniques are often used in fashion exhibitions?

8. What are the benefits and challenges of immersion technologies for fashion exhibitions?

9. What are differences between immersive exhibitions and traditional exhibitions?

10. How is an immersive experience without technology different from an immersive experience with technology? What are their advantages and disadvantages respectively?

11. What is the status of jewellery exhibitions in fashion curation?

12. Do you think jewellery exhibitions has some shortcomings in the field of fashion curation? What are the problems?

13. Can immersive technologies be used in jewellery exhibitions? Which technologies are suitable for jewellery exhibitions? What advantages and disadvantages can it bring? What technical problems need to be solved? And what challenges need to be overcome?

Jewellery Exhibitions：

1. Warm up

2. General questions (Definitions about fashion curation, curators and jewellery, and relevant experience).

3. What is the status of jewellery exhibitions in fashion curation and amongst jewellery brands?

4. What do you think are the main curatorial methods of curating jewellery exhibitions now?

5. What challenges do you face in curating jewellery exhibitions?

6. What problems do you think contemporary jewellery exhibitions face?

[15.03.2022] [Version No.2] [71462]

7. Have you ever used immersion technologies in a jewellery exhibition?

8. What do you think are the differences between immersive exhibitions using technology and non-technology based immersive exhibitions? What are their advantages and disadvantages respectively?

9. Which immersion technologies can be used in jewellery exhibitions, why and how? What are the advantages and disadvantages of immersion technologies for jewellery exhibitions? What challenges need to be overcome?

10. In what aspects of jewellery do you think immersion technology is needed to enhance display and interaction, (such as the physical properties, craftsmanship, historical and cultural background of jewellery)?

Jewellery Brands：

1. Warm up

2. General questions (Definitions about jewellery, luxury experience and jewellery brand, and personal experience).

3. What is the relationship between jewellery exhibition and jewellery brand? What do exhibitions mean for jewellery brands?

4. What is the purpose of jewellery brand curating a jewellery exhibition?

5. What are the challenges for brands in curating jewellery exhibitions?

6. Are there any problem in the existing jewellery exhibitions? What are the problems?

7. Can immersive technology be applied to jewellery exhibitions? In what ways? What benefits and challenges can it bring to jewellery brands?

8. What does the luxury experience mean for jewellery brands and exhibitions? Can immersive experiences enhance the luxury experience?

9.What special importance does the immersive jewellery exhibition have in consumers' interaction with luxury brands?

Appendix E Transcripts of Interview

Transcript 1

Yimeng: Ok, could you please introduce yourself?

P1: Self-introduction, such as my name?

Yimeng: Haha, no need for your name. You can introduce your background, work, etc.

P1: Currently, I work at the Creative Innovation School of Xiamen University, which mainly admits undergraduates and focuses on design disciplines, including digital media, environmental art design, and visual communication design. My work involves research and library management, realizing some people's retirement dreams already, haha.

Yimeng: That's great. Are you responsible for curating exhibitions for the school? I saw you've posted about it before.

P1: Oh, yes. Our school's student union has some design works, so each semester, a selection of their works is displayed in the teaching building. Besides course works, there are also design-related exhibition activities. We borrow some design works from external sources for display. Additionally, there are some party-building needs, and on special occasions, we create themed graphic designs for display.

Yimeng: So, who is mainly responsible for the curation work?

P1: Our school's exhibitions don't have a diverse audience; it's mainly students and teachers. Therefore, the displays are relatively simple, without the need to introduce each piece. Sometimes there isn't a fixed theme.

Yimeng: It mainly focuses on exhibiting students' works, right?

P1: Yes, it's relatively simple display.

Yimeng: Simple display. What kind of content and forms do students' design works mainly include?

P1: Since undergraduates create their works based on the course outline, the forms and content depend on the topics covered in their courses each semester. For example, last semester, their focus was mainly on font design, and the works were in the form of graphic design, such as posters.

Yimeng: Besides posters, are there any other types?

P1: Do you mean types of exhibitions?

Yimeng: Yes, such as the content displayed.

P1: The displayed content includes thematic exhibitions, as mentioned earlier. For example, last year, during the centenary of the founding of the party, we gathered eligible students to design based on the spirit of the party, like Lei Feng's spirit or the May Fourth Movement spirit. The students visually presented these spirits in their works.

Yimeng: Quite patriotic, haha.

P1: Yes, but the visual presentation tends to lean towards illustration design, making it attractive and approachable.

Yimeng: Are these party-themed exhibitions mainly for internal students and teachers?

P1: Yes, that's correct.

Yimeng: Okay, I want to ask some conceptual questions, and you can share your personal understanding. First, what is your understanding of the concept of contemporary curation?

P1: Contemporary curation, well, my understanding of this field mainly comes from the curator Hans Ulrich Obrist, or Hans for short. I've read many books he wrote about curation. His viewpoint is that contemporary curation is different from the past; it's not just about presenting artworks but is more prominent in thematic exhibitions. Contemporary curation focuses more on themes than the objects themselves, involving intangible concepts. This approach often involves connecting multiple artists, allowing them to discuss and present specific themes through their works. My understanding is that contemporary curation emphasizes presenting an intangible thematic concept by connecting the works of artists.

Yimeng: Where do the topics for thematic exhibitions mainly come from?

P1: I think contemporary themes nowadays mostly come from our surrounding environment, more related to social issues, such as ecological problems like environmental protection, and political issues, and currently popular topics like feminism, focusing on gender-related aspects.

Yimeng: Okay, now, what is your understanding of the role of a curator?

P1: Well, I think the role of a curator is quite complex. They need to handle many affairs, and one crucial aspect is to deeply understand specific items or themes. They must have a profound understanding of artworks, possess analytical skills, and connect them to art history or current artistic conditions for in-depth interpretation. Additionally, curators may need to engage in some public relations activities, such as communicating with sponsors, establishing contacts with various people, and forming an all-encompassing image. This makes them not only art connoisseurs but also skilled in interpersonal relations as public relations personnel.

Yimeng: Alright, what do you think is most important for a curator?

P1: Well, for a curator, I think the most important thing might be a clear concept. Curators need a clear and profound understanding of the exhibition theme, articulating the concept clearly. Through clever storytelling and content expression, curators can attract the attention and support of artists or sponsors. This clear concept not only contributes to the successful presentation of the exhibition but may also bring support

in terms of artwork, funding, and venues.

Yimeng: Okay, can I understand it as effective communication?

P1: Yes, that's correct.

Yimeng: Alright, moving on. What do you think the current trends in curation are?

P1: Well, regarding current curation trends, personally, I don't feel there's a clear concept. In the circle I'm in, curation tends to lean towards visual media, such as photos and images. As for other areas, understanding the future directions of curation doesn't involve more specific content, such as the themes that future curation might focus on.

Yimeng: Maybe you can observe how most exhibitions around you are presented, whether they are thematic or image exhibitions, etc.

P1: Oh, I see. I think the trend might be towards more collective direction. For example, in Xiamen, the art festival mainly showcases image works, attracting many artists to participate and concentrating their image works for display during a specific period.

Yimeng: Okay, so I can understand it as a kind of diversification.

P1: Yes, that's right.

Yimeng: Not showcasing a single form but being diverse.

P1: Correct.

Yimeng: Okay, what is the most commonly used curation method?

P1: The most commonly used curation method, are there any options?

Yimeng: For example, the chronological, thematic exhibitions, digitization, like the image you mentioned earlier, and also immersive exhibitions, etc.

P1: The most popular one should be thematic exhibitions.

Yimeng: Thematic exhibitions are more common?

P1: Yes.

Yimeng: Okay, have you visited any exhibitions that use immersive technology?

P1: Immersive technology? Well, I think not.

Yimeng: In China?

P1: In China, there should be some, but relatively few. Another reason might be that my personal activity area is limited, resulting in me having less exposure to immersive experiences. Such exhibitions probably mostly appear in places like shopping malls, for instance, Bao Long has its art gallery, and they might exhibit immersive exhibitions like Van Gogh's Starry Night. Apart from exhibitions, there are also immersive performances. I had the opportunity to experience an immersive exhibition called

"Xiamen Joy" before the pandemic.

Yimeng: What kind of performance was that?

P1: Actors perform directly around the audience, and the audience interacts and dialogues with the actors.

Yimeng: Ah, that sounds interesting.

P1: Yes, but the reviews for this performance are mixed. Some people think it's great, providing an immersive experience. Others feel awkward because not everyone understands the background and history the actors are portraying. So, the enthusiastic and intense performance style of the actors might be hard for some audience members to empathize with.

Yimeng: Haha, alright. So, in your opinion, what are the main reasons for the limited use of immersive technology in China?

P1: Do I need to exclude geographical reasons?

Yimeng: No, just a general analysis will do.

P1: Major cities are more inclined to host immersive exhibitions, while smaller cities, especially second and third-tier cities, are relatively less involved in such activities. This could be because major cities have more resources and audiences, making it easier to support innovative experiences. Additionally, the theme of immersive exhibitions might also be a factor. Personally, I think such exhibitions are more suitable for themes related to appreciating paintings or physical objects. Well... I don't know how to put it. In the current situation, immersive exhibitions might focus more on visual arts, such as paintings and art displays.

Yimeng: Ah, Xiamen is actually quite a big city.

P1: Yes, it's a big city. Although it has a strong artistic atmosphere and many people visit exhibitions, it might be limited by technological capabilities. On one hand, there might be a lack of advanced technology for direct and in-depth experiences. On the other hand, the immersive experiences provided are relatively simple, relying mainly on basic projection technology. Compared to international standards, there might be a lack of some advanced technological elements, such as 3D simulation and more sophisticated integration of items with backgrounds. These factors may contribute to the lag in technology and content for immersive exhibitions.

Yimeng: Alright. So, in your view, what are the differences between immersive experiences with and without technology?

P1: Immersive experiences without technology?

Yimeng: Yes. Because you mentioned earlier that the technology in China is not up to par. But, as you mentioned, immersive performances are also a form of immersive experience. For example, having NPCs interact with the audience and immerse them in the scene and storyline is a form of immersive experience without technology. On

the other hand, immersive experiences with technology, as you mentioned, involve using technology like projection to create visual effects. So, do you think it's necessary to use technology to showcase space and artwork, or do you think it's essential?

P1: Well, it depends on what the curator wants to achieve. I think technology is also a part of curation. If the curator prefers to present things in a digitized way, then it's necessary. Because digitization provides more possibilities, including programming and richer presentations of displayed items. Through technological means, curators can extend the definition of existing artworks in a more creative way. Therefore, choosing a digital approach may be necessary to create a richer and more engaging exhibition experience.

Yimeng: Okay. So, in your perspective, do you still think technology is necessary?

P1: Yes, I feel like it would be nice to check out if possible, and if you can learn more...

Yimeng: Okay. By the way, have you ever visited a jewellery exhibition?

P1: A jewelry exhibition?

Yimeng: Are they also rare?

P1: Yes, it feels like there aren't many. But I remember going to... was it in Sweden or Belgium? I saw an exhibition with some jewellery, showcasing rings and necklaces... was it in the UK?

Yimeng: It should be in the UK, right? I guess what you saw might have been in the V&A or the British Museum. Have you been there?

P1: I haven't been to either of those, but I visited the Natural History Museum.

Yimeng: Alright. Actually, I feel that jewellery exhibitions are very rare in China. They are mainly concentrated in Guangzhou, Shanghai, and Hong Kong, while other cities seem to have very few, basically none. The Palace Museum in Beijing exhibits historical jewellery.

P1: I see.

Yimeng: There is a specific museum that showcases ancient jewellery worn by women. I don't know about other places.

P1: Beijing tends to focus more on historical and ancient craftsmanship exhibits. And in other places, it's mainly commercial.

Yimeng: So, this kind of thing is still too rare.

P1: I think jewellery exhibitions are indeed rare. If it involves fashion, there are more exhibitions related to clothing.

Yimeng: Ah, right. Have you ever been to any fashion exhibitions?

P1: No.

Yimeng: Alright, no problem. I've noticed that fashion exhibitions are particularly rare in China, where art exhibitions are the main focus.

P1: Yes, that's right.

Yimeng: Alright, that's about it. Thank you for your participation.

Transcript 2

Yimeng: Could you start with a brief self-introduction? You can talk about your job and responsibilities.

P2: Do you want it to be related to curation, or is my general background sufficient?

Yimeng: Your general background is fine.

P2: Alright. Let me begin. I'm Li Xiaojun, and my English name is Lorraine. Currently, I work in Shenzhen, mainly involved in planning and operating exhibitions. Previously, I worked as an independent curator for some small-scale IP exhibitions. My job involves various aspects, from planning and writing copy to the actual execution.

Yimeng: Great, do you have experience with fashion curation work?

P2: No.

Yimeng: So, most of your work is focused on art exhibitions?

P2: Yes, on art and trendy IPs.

Yimeng: Can you describe what a trendy IP exhibition is like?

P2: For example, illustrators or craftsmen often create various character works. With the accumulation of fans, they may be invited to exhibitions. These exhibitions are usually related to small commercial spaces, involving the arrangement and display of wall spaces.

Yimeng: I see. How do you understand the role of a curator? What kind of role does a curator play?

P2: I think the main role is that of a bridge and storyteller, especially when it comes to pure art or contemporary art as we commonly understand it. It's more like an interpretative process. It establishes a communication bridge between artists and the audience, allowing artists to better convey their messages. Sometimes, artists may be subjective in their creations, and when communicating with the audience, the curator acts as a bridge, helping the public better understand what the artist wants to express. However, for commercial exhibitions, economic factors need to be considered more.

Yimeng: Okay, do you think curators have significant influence or authority?

P2: The influence of curators depends on the type of artist or exhibition content. For artists with distinct personalities or master-level artists, curators may provide more assistance or suggestions, helping to coordinate the overall context. However, in terms of influence, I believe that, from a personal point of view, the artist's expression should take the lead. In such cases, the artist's personality is more important. But for situations that require reorganizing scattered content, such as brands, the curator's influence may be more important, similar to an editorial role. This is because, in these cases, curators are more like rearranging content, emphasizing their editing function.

Yimeng: Okay, what do you think are the current trends in curation?

P2: In the environments I'm familiar with in China and major cities like Beijing, Shanghai, Guangzhou, and Shenzhen, experiential and interactive multimedia exhibitions are more popular. Notably, the form of internet celebrity exhibitions is highly favoured, emphasizing creating visual impacts and generating photo opportunities. Unless the audience has a strong interest in artistic expression, more people tend to prefer participatory exhibitions, especially immersive displays and participatory curation methods.

Yimeng: Do you think immersive experiences, like the ones you mentioned, attract more audiences?

P2: Yes, I think so, especially in China. Considering our current stage of societal development, I believe it's a process of understanding art. Curators need to help the audience better connect with these forms of art, which might be perceived as not easily understandable. Using photography or interactive installations is a significant trend. However, I think in the future, more people will feel that art is accessible.

Yimeng: Okay, when planning these exhibitions, what technologies do you usually use?

P2: Generally, it involves screen interactions. This type is commonly used. Also, there's scene creation.

Yimeng: Okay, and what challenges do you think this curation method brings?

P2: Homogenization is quite serious. Many exhibitions adopt similar methods, referencing multimedia display methods or media usage from places like teamLab. This trend might limit innovation because many exhibitions independently use similar elements, as these elements are widely used to attract audiences. Sometimes, I feel this is an essential method to attract the audience, but it also brings some contradictions. Some elements may be effective in attracting the public, but without these elements, the exhibition may feel like it lacks something. In this regard, a balance needs to be found between choices because not every exhibition is suitable for the same elements.

Yimeng: Do you think there's a clear difference between this type of exhibition and traditional exhibitions?

P2: Yes, of course. In my personal experience and through sharing with friends, I found that using multimedia or interactive media can make the entire experience more interesting, especially visually. People tend to have more profound memories of activities with interactive elements, as concluded from my undergraduate research. This interactive experience has a significant impression compared to traditional static displays. However, I think this trend may have changed over the past two or three years, as this is based on research, I conducted two or three years ago.

Yimeng: Do you believe this type of exhibition will replace traditional exhibitions?

P2: I don't think so. Combining them might be a bigger trend. In some content, textual

presentation still suits static exhibition forms, which are effective for presenting certain exhibition contents. For example, historical exhibitions may use traditional display cases and timeline arrangements. However, interactive and new media multimedia exhibition forms can better help the audience understand, aligning more with modern exhibition needs. These interactive and multimedia elements play a supplementary role in exhibitions, presenting content more vividly.

Yimeng: Alright, without using any technology, how does an immersive experience differ from one that uses technology?

P2: When you talk about technology, each immersive experience has certain technology. What type of technology are you referring to?

Yimeng: Let's take an example. The earliest immersive experiences can be traced back to religious activities in churches. For instance, the church choir, devout prayers, and the decorations and music within the church can provide an immersive experience. It lets people participate in prayer with reverence, but it doesn't use any technological elements. So, what do you think are the advantages or disadvantages of immersive experiences with technology compared to those without technology? In other words, what are the differences between them?

P2: Setting the scene is indeed one aspect of immersive experiences, but the so-called technology, in my understanding, refers to some display forms related to screens, digital technology, and the like. Popular technologies like the Metaverse are creating scenes that differ from real life. Unlike church or some installations or scene reproductions we create, these technologies are recreating your real life, making you recall your memories. However, experiences like teamLab are completely detached from real life. They might present a fantasy state, creating a feeling of escapism, which is the most significant difference.

Yimeng: When curating exhibitions, do you think technology is indispensable?

P2: It's not necessary, but at this stage or in recent years, I think while it's not necessary, having it might be better for the public to accept. If used well, it can be a highlight.

Yimeng: Okay. My research is actually about whether digital immersive technology can be applied to the field of fashion exhibitions. This is my research topic because it seems that fashion exhibitions are also moving in this direction, but not all fashion exhibitions use this technology or adopt more virtualized presentation methods.

P2: What do you mean by the definition of fashion exhibitions? I'm not particularly clear.

Yimeng: Well, contemporary fashion exhibitions also collaborate with brands, much like the Dior exhibition. They focus on showcasing clothing, jewellery, and so on. So, what benefits or challenges do you think the application of this technology in the field of fashion exhibitions might bring to this domain?

P2: Well, in fact, major brands have widely adopted this technology in fashion exhibitions. In layman's terms, this may make the overall experience more dazzling,

especially visually. However, if we focus on brand culture, personally, I might not pay too much attention because, for me, the story of a fashion brand is more important. I am more concerned about its substance rather than external technological displays. For instance, teams like Gentle Monster rely solely on scene displays, not necessarily using screens or other multimedia materials each time.

Yimeng: Alright, that covers these questions. You provided very valuable information. Thank you so much!

Transcript 3

Yimeng: Lin, would you please introduce yourself?

P3: Sure, my name is Lin Zequan, and I am currently a teacher at the Xiamen University's School of Creative Innovation.

Yimeng: Great! Have you had any curation experience before?

P3: Sometimes, I participate in exhibitions, although I am not a curator myself. In my usual experiences, I mainly communicate with curators, work as an exhibition designer, and participate in various exhibition-related tasks.

Yimeng: Are these projects from the university or from your professional work?

P3: Sometimes they are from the university, and sometimes they are from my professional work.

Yimeng: Alright, I'll ask a somewhat bigger question. From your perspective, what is curation, and how do you understand the role of a curator?

P3: Well, regarding curation, because there are many events in our lives and history, we need to use a certain logic to capture a specific event or moment in history and arrange it in an organized way to present it to the public. That is the work of curation. Exhibitions need to collect and assemble these elements, and through logical arrangement, convey them to the public, expressing ideas, meanings, and conveying viewpoints, which is crucial. As for curators, firstly, they are the soul of the exhibition, needing to have their own ideas and thoughts, clearly defining the viewpoints they want to convey. Secondly, they need to connect with relevant individuals, taking on the role of organizers before the exhibition, being responsible for organization and coordination. During the exhibition, they are in charge, needing to coordinate designers, artists, participants, etc., responsible for organizing the entire venue. After the exhibition, they may need to organize some peripheral activities, including reviews, media interviews, reports, etc. As curators, they also need to consider income; they might launch products or services related to the exhibition, which is a kind of sales feeling. Throughout the process, curators need to take full responsibility because it is also their work, closely related to their job and income.

Yimeng: Very specific, thank you. Next question: What do you think is the most important aspect of the curation process?

P3: Apart from financial considerations, the key for a curator is what they want to express or convey in terms of viewpoints. The concept of curation has evolved a lot in the past. A long time ago, curation was simply about putting things together or presenting something to someone, and that was it. However, over time, in my practice, I have come to understand that curators are similar to designers. In the past, we usually thought that design was about solving problems, but over time, we found that design is also a means of expression, conveying the designer's viewpoints and feelings. Curators are the same; they have a desire to express and convey some ideas.

Whether it's object exhibitions, conceptual presentations, or historical exhibitions, curators gather these scattered fragments together, forming certain concepts and sentiments to convey to the public. By organizing these contents systematically and comprehensively, curators' work becomes crucial. They choose to convey something to the audience at a specific time, often including content from books and historical events. In this way, curators can enable the audience to observe and understand the theme in a more organized manner.

Yimeng: Ah, good. The next question is about the curation methods you most commonly use. What are they?

P3: The most commonly used method is storytelling, often referred to as narrative. The narrative plays a crucial role in design and exhibitions because the core issue is deciding what kind of story to tell and how to narrate it. Besides conceptual issues, in practical implementation, we need to consider the design of the exhibition, including the planning of pathways and spaces. These aspects are particularly important in offline exhibitions because most offline exhibitions are directly related to people and spaces, influencing the audience's experience. Therefore, in the specific design of exhibitions, we need to consider how to plan pathways and configure spaces to provide a richer exhibition experience. These are commonly used methods in practical operations.

Yimeng: Have you ever used immersive technology in your curation process?

P3: As of now, personally, I have not used immersive technology. When it comes to immersive experiences, the most common way is probably through projection technology. Besides that, because I have mainly worked in the domestic market, and in the past two years, due to the pandemic, many exhibitions have shifted to online formats. I am not familiar with other immersive technologies. In the case of online exhibitions, immersive experiences become a possible choice because this approach can provide a sense of immersion in technology, artificial intelligence, and so on. In previous offline exhibitions, when we talked about immersive experiences, we usually referred to sensory stimuli such as sound, light, electronic technology, and smells, creating a comprehensive immersive experience. I reviewed some tech exhibitions, like the Xiaomi technology exhibition at the Today Art Museum. Although it may not be perfect, personally, I think it's a positive attempt. Such exhibitions try to create an immersive experience by showcasing technology and artificial intelligence perceptions.

Yimeng: Okay, currently, you mainly use projection technology, and you haven't used other immersive technologies much. What do you think are the main reasons for the limited use of other technologies, such as financial issues or technical problems?

P3: Firstly, the biggest problem is the lack of a good exhibition environment. Audiences usually visit exhibitions offline, and as for online exhibitions, AR and VR technologies are mentioned. However, the use of these technologies is limited by devices. In the early stages of technological development, I experienced exhibitions showcased in VR glasses. However, due to device limitations, model accuracy was not high, and there

were some defects, affecting the overall experience. Environmental factors are also a constraint, especially when there is no pandemic, people tend to see things in person rather than through virtual means. However, due to the current pandemic situation, offline exhibitions have become more challenging. This may drive more exploration and development of virtual exhibitions and immersive technologies. Another challenge is technical reasons. Currently, the technological level is still significantly different from the real world. If technology can better replicate the real world, or if we can create more immersive designs based on technology, it will be much more effective.

Yimeng: Okay, so I'd like to ask if, when we are organizing offline exhibitions, there are spaces that provide immersive experiences without the need for technology?

P3: The core of immersive experience lies in coordinating and unifying the five senses of humans, including vision, hearing, touch, smell, and taste. In exhibitions, attendees perceive a comprehensive immersive experience through visual observation, auditory stimulation, olfactory senses, taste, and tactile interactions.

Physical immersive experiences often involve certain aspects of one or more of the five senses. Typically, sight is the primary sense used, and if other senses can keep up, it contributes to achieving an immersive environment, such as incorporating smell and touch. Touch may be limited in exhibitions, as some displays prohibit touching exhibits, while others specifically set up touch areas to provide a richer sensory experience. For instance, museums like the Science Museum and the Natural History Museum in the UK allow visitors to touch some displayed items, while other exhibitions restrict touching.

A completely immersive experience means presenting a scenario comprehensively through all senses, making attendees feel as if they are physically present. This can be achieved by using technologies such as light, sound, and scents to simulate environments within the exhibition. For example, teams like teamLab and the Chinese Pavilion at the International Horticultural Exhibition in Beijing used projection technology to simulate a mangrove forest, creating a highly immersive experience through changing images, sounds, and scents. The mangrove trees appear to grow larger, giving the impression of humans becoming smaller. Such fully immersive exhibitions provide a sense of being in a different reality for the attendees.

The environment plays a crucial role in immersive experiences. For instance, I visited an exhibition in the UK, maybe called "108 Stand," I somewhat forgot the exact name, where the environment was dimly lit with flickering lights, creating a theatrical atmosphere. There weren't many visitors, adding to the complete immersive feeling. In a relatively quiet and dark environment, attendees can focus more on experiencing the impact of the exhibition. Some exhibition designers manipulate lighting and sound effects to create a unique atmosphere, allowing attendees to be fully immersed in the exhibition's ambiance.

Yimeng: So, do you think technology is necessary in exhibitions, or are there differences between immersive exhibitions that use technology and those that don't?

P3: In my personal view, this question doesn't have an absolute answer; it's a relative perspective. In exhibitions, the primary focus is on the format and content, with the form, whether technological or non-technological, serving the exhibition. When technology is needed, we can boldly incorporate it; and when it's not necessary, there's no need to hesitate to omit it. That's my perspective.

Yimeng: So, there's no need to use technology just for the sake of using technology, right?

P3: Certainly, all content aims to serve the theme of our exhibition. However, if we are dealing with an exhibition that requires high-tech or cutting-edge technology, using these technologies can genuinely convey the innovation in the relevant field, resulting in greater benefits. However, if we are organizing an exhibition in a rural area, employing such technologies might be unnecessary or even wasteful. In such a context, people might not care about the technology you use but focus more on the content itself. Whether it's high-tech or another form, the use of technology should aim to better showcase the content. In rural environments, people may be more concerned with the content itself, as they might have little knowledge about the technology you employ. In the end, regardless of the form of content, whether technological or not, it should all serve the theme of our exhibition and the audience.

Yimeng: Alright, we mentioned the issue of the audience earlier. In your curation process, do you consider how to attract more visitors to the exhibition? Is attracting the audience a crucial consideration for curation?

P3: It can be viewed in two ways. Firstly, if considering commercial interests, there will undoubtedly be a focus on attracting more visitors. On the other hand, sometimes curation may be driven solely by the curator's expressive desires, but when designing or creating anything, we usually categorize and classify the audience. Attracting specific audiences or targeting a broader customer base is often predetermined or anticipated, including factors like age, gender, profession, and even income levels.

Yimeng: Have you considered using specific methods and techniques to attract more visitors during your curation process?

P3: Actually, in the exhibitions I've curated, I rarely considered this question. Most of the time, I receive a task and proceed to execute it, seldom mandatory to consider audience factors. Because in this regard, it might be the client or leadership who needs to think about or convey the exhibition content. As a curator, if it's solely from my personal perspective... Sorry, I need to turn on the lights; the room is a bit dark.

Yimeng: Alright.

P3: Personally, I might not have considered this aspect much. Of course, there are many ways to attract visitors, but since I'm not very adept in this area, my considerations are relatively few.

Yimeng: Okay, so I understand. Perhaps you deal more with exhibitions related to political demands?

P3: For art exhibitions or related events, my involvement might be less, almost negligible. Because I rarely get assigned such work. In my environment, it's more about government demands, school requirements, and similar cases, which are relatively more common. For company-related art exhibitions, we usually promote the company's products or some specific aspect. In terms of promotion, the target audience is often fixed. Therefore, we rarely engage in broader promotion. After basic promotion is done, the remaining audience is mostly professionals in the industry or related fields, and others are seldom involved. This is a common situation.

Yimeng: I think this reason might be related to the region. Based on my understanding and previous experience, I have interviewed some curators from Shanghai or Shenzhen. For them, attracting an audience is very important. So, they tend to try various methods, including the immersive technologies mentioned earlier, to attract more visitors. Curators from different regions might have different priorities and methods to achieve the goals of the exhibition.

P3: Yes, that's for sure. For professional curators, attracting visitors is often proportional to their income. If they can attract more people, their overall income, including the prices of future exhibition packages, might be higher. Whereas for me, in most cases, the purpose is non-profit, and attracting visitors may be secondary to other considerations. The crucial aspect is genuinely expressing the displayed content, so relevant individuals naturally gravitate towards you and participate in related activities. Then, the rest is to assess the exhibition's effectiveness.

Yimeng: Okay, what do you think are the downsides of using various technological means extensively to enhance the attractiveness of an exhibition?

P3: Firstly, a significant downside is the high cost. There's a considerable likelihood that the input and output are not proportional, especially when applying new technologies. Although the technology might not be entirely new, if it involves civilian or widespread use, professional technicians need to be involved. Recruitment or training involves experience growth, learning costs, and actual monetary investment, leading to a substantial overall cost, surpassing simple costs like transportation.

Secondly, using new technology involves not only technological considerations but also whether it can capture users' attention. Questions such as whether users are interested in new technology or willing to accept innovation need to be considered. Technological fear is also a potential obstacle, as many people have a certain resistance to new technology. In the design and promotion process, it is necessary to consider how to overcome this resistance and ensure that new technology can truly attract and be accepted by users.

Additionally, besides completing basic tasks, the application of new technology requires additional technical work, which adds to the overall cost. During the promotion process, there is a common pitfall of prioritizing form over content. Even if the form is attractive, if the actual content doesn't capture attention, the effectiveness of attracting users may be significantly diminished. Therefore, when applying new

technology, it's essential to balance form and content, ensuring that both can attract the attention of users.

Yimeng: Putting the cart before the horse.

P3: Exactly, exactly.

Yimeng: That's about it for these questions. One last thing... regarding my research method, I use a snowball approach. So, I wanted to ask if you know any experts or curators around you who have relevant experiences?

P3: I have a friend who works on bio-design in the ferry. I can ask for you.

Yimeng: If it's convenient, could Professor Lin help recommend someone?

P3: I'll ask him and see if they are willing.

Yimeng: Okay.

P3: About this fashion exhibition, because my professional background is in furniture, jewellery, and ceramics, when KIKI mentioned jewellery, I was a bit surprised.

Yimeng: Well, thank you very much, Professor Lin, for your help and contribution.

P3: I'll briefly share some thoughts that might be helpful to you. Although I'm not a professional curator, I'll talk casually about things I know. Due to curation not being my main profession, there might be some omissions. My approach is to act according to demand—do it when there's a need and don't do it when there's no demand. Since my main profession is a designer, primarily involved in design work and teaching, that's my current situation. I hope these suggestions are helpful to you.

Yimeng: Because my undergraduate major was jewellery design, and later I also got involved in some areas related to luxury goods. Currently, I'm focusing on fashion curation, exploring how to support the strategic needs of luxury brands through curation.

P3: Lately, I've also been thinking about immersive experiences, especially in the virtual world, because nowadays, more and more people are discussing the concept of the metaverse. The metaverse is about creating scenes in the virtual world, allowing people to interact with each other. For art forms like jewellery design, display becomes crucial. In reality, jewellery is usually small and may not be attention-grabbing, but in the virtual world, we can showcase it in different ways, like the past virtual avatars such as QQ Show. In the past, QQ Show might have been a primitive form of virtual body display, but today, we might see the development of various forms of showcasing jewellery. Some non-realistic elements might be introduced into the design of virtual jewellery. For example, recently, architect Ma Yansong became the chief design architect for a gaming company. I don't know if you've heard of him. He created some designs in the virtual world that were previously considered impractical, including some displays that might seem unlikely in reality. This immersive or virtual form of presentation might have a significant impact on the way exhibitions are conducted and

the content presented.

Yimeng: Okay, thank you very much! So, let's end it here.

Transcript 4

Yimeng: First, I need you to provide a brief self-introduction, focusing on your current job, position, and the nature of your responsibilities.

P4: Huh? Could you please repeat that?

Yimeng: Just briefly introduce your position and the work you are responsible for.

P4: I am a project manager in marketing planning, and I am currently involved in project management in the jewellery industry.

Yimeng: Okay, so what specific tasks do you handle?

P4: The specific tasks involve overseeing brand marketing, product marketing packaging, and promotion. If I were to summarize, it's roughly like that.

Yimeng: Alright, have you ever organized events similar to exhibitions?

P4: Yes, we do it frequently.

Yimeng: Are they considered small-scale jewellery exhibitions or large-scale?

P4: How do you judge whether it's large or small, based on the number of visitors or the investment amount? What's the concept?

Yimeng: Good question.

P4: Yes, it's difficult for me to answer without knowing how you define large or small. What might seem large to me could be considered small in your research process.

Yimeng: It might be related to the venue, perhaps?

P4: Venue?

Yimeng: For example, if you choose a venue with a large footprint and a longer duration, it might be considered a large-scale exhibition. In contrast, a small-scale exhibition might occupy a smaller space and have a relatively shorter duration.

P4: We usually do it inside shopping malls.

Yimeng: Oh, shopping malls.

P4: Does that count as large?

Yimeng: How long do these exhibitions typically last?

P4: I've organized exhibitions lasting both one month and one week. In terms of the number of people, it's hard to estimate and depends on the foot traffic in the mall. As for the investment cost, it usually needs over a million.

Yimeng: Oh, that's quite something.

P4: The cost varies from one million to three hundred thousand. I don't consider it a formal exhibition for three hundred thousand; it’s more like setting up two counters to

sell merchandise.

Yimeng: Alright, moving on to a more abstract question. What is your understanding of the definition of a jewellery brand?

P4: Defining a jewellery brand is a bit challenging... I think it's about ensuring the quality of the jewellery and successfully selling it to consumers. In short, the definition of a brand lies in ensuring product quality, meaning consumers can trust the quality when purchasing products from that brand. I believe that is the most important thing for a brand.

Yimeng: Does Chow Tai Fook have a core brand concept?

P4: The concept is what I just mentioned—ensuring quality, gaining customer trust, and ensuring quality.

Yimeng: Got it.

P4: If you look at the products of our company, they don't really have a distinct style.

Yimeng: Hahaha. So, do you think that events and exhibitions you plan have a significance for the jewellery brand?

P4: The significance for the brand... it can be understood as making an ordinary product appear extraordinary. The significance of a brand is reflected in brand premiums. Due to the branding, a product that may not have been so expensive can be priced higher through packaging, brand, and concept. This is similar to the situation with luxury goods, where products with initially lower costs are sold at higher prices through brand elements like logos.

Yimeng: So, can I understand that these activities aim to create a more upscale brand image?

P4: Yes, that's a valid understanding. We elevate the level of the brand, allowing for a larger profit margin. That's how I interpret it. I'm not entirely sure, but each time we do such activities, they don't necessarily translate into sales.

Yimeng: Oh, I see. So, its main purpose is to create a positive brand image, right? Can it be understood that way?

P4: Yes, that's indeed the case. By building a positive image, we aim to showcase our brand's rich heritage in various activities. That's how I personally see it.

Yimeng: You mentioned earlier that it didn't generate substantial benefits?

P4: It did, but it's certainly not very prominent. I can confirm that.

Yimeng: Well, how do you view this situation? Is it a case where the investment and returns are not proportionate?

P4: I think, from both short-term and long-term perspectives, brand building requires continuous and long-term efforts. Significant results are hard to see in the short term,

and brand-building must be gradually achieved through sustained efforts. Explosive sales are unlikely to happen with a single brand exhibition, as evident in the development history of all major brands. The impression of luxury or jewellery brands in people's minds accumulates over time, and it's unlikely to undergo a radical transformation due to a single exhibition. Although continuous efforts bring some benefits, occasional events may not produce noticeable effects.

Yimeng: I understand. So, what are some common challenges you face when planning these activities?

P4: Challenges, well, it's all about not having enough money, insufficient funds, haha. There are no other challenges; this challenge is really huge.

Yimeng: Oh, really?

P4: It's just the lack of a budget, not having that much money. Once the money is used up, it's gone.

Yimeng: But didn't you mention budgets ranging from hundreds of thousands to millions?

P4: Yes, but the presented effects are entirely different.

Yimeng: Oh.

P4: The results from investments of tens of thousands and those of millions are completely different. With tens of thousands, you might only set up two counters to sell merchandise, while with millions, you might need to consider other complex factors. Overall, your budget determines the results you can achieve. If you want to achieve higher results, you'll face greater difficulties because it requires more financial support.

Yimeng: Is this the most challenging aspect?

P4: Yes, having money can indeed solve many problems; that’s a fact. As long as you have enough funds, almost anything is achievable. However, the issue is that when you're trying to accomplish many things within a very limited budget, the situation becomes quite challenging.

Yimeng: So, what kind of results do you expect from each exhibition? Do you hope for more foot traffic or something else?

P4: Personally, for brand projects, I pay more attention to the visual appearance when taking photos, hoping it looks good. This perspective might be from a professional standpoint rather than aiming for profitability. When working on brand projects, my focus is more on ensuring that the overall appearance of the project is satisfactory, making it difficult for the boss to find any issues. Whether sales are good or not is not determined by the brand. If you can present a good effect on the platform with no major issues, such as political orientation or other serious mistakes, then I think there's not a significant problem. For me, as long as everything that needs to be done is done properly, the remaining profitability issues are not within my consideration. Sales are

another dimension of the matter. My priority is to ensure that every point that needs to be addressed is satisfied.

Yimeng: So, how do you define a good result?

P4: It should look beautiful.

Yimeng: Oh, beautiful.

P4: The important thing is that it should appear aesthetically pleasing. When you're building a brand, you must ensure that it is visually satisfying because if it's not done well, it will impact the brand's image. When pursuing beauty, it's also important to ensure that it is universally accepted beauty because if the brand's image is not attractive, it will have a certain negative impact on the brand. The key is to ensure that your concept of beauty is widely accepted, rather than being too niche, to avoid causing negative public opinion effects.

Yimeng: Oh, do you pay special attention to customer experience?

P4: Customer experience?

Yimeng: Yes.

P4: I think customer experience is mainly reflected in the service aspect, such as whether customers receive good reception when shopping in the store and their overall shopping experience. It's not closely related to activities like brand exhibitions. The key is to ensure that customers receive good service when shopping in the store. The exhibition experience is mainly about things like taking photos, but it's essential to avoid situations where consumers are deceived and ensure that the promotion aligns with reality. If what you showcase matches the promotion, generally speaking, the customer experience should be good. Overall, curations are rarely complained about, and I seldom hear about complaints related to brand exhibitions.

Yimeng: Have you ever received negative feedback before, such as audience comments that your exhibition in reality doesn't match the online promotion?

P4: Previously...it wasn't an exhibition I organized; it was an event organized by another person, a press conference featuring a female celebrity.

Yimeng: Oh, I see.

P4: The scene was very lively, packed with people both inside and outside. Then, the female celebrity was late, possibly not in a good mood, which caused a delay and a bit of unhappiness due to some unfavourable emotions. However, this wasn't an experience I personally went through; I heard about it from a colleague.

Yimeng: I understand.

P4: Ah, please blur the name of this female celebrity.

Yimeng: Oh, sure, I won't mention it. Don't worry.

P4: She was just late for a while, and the audience wasn't very happy, but in the end, they still got to see her, and everyone was happy.

Yimeng: Alright, I understand.

P4: It was just a long delay, one or two hours, making everyone wait.

Yimeng: Indeed. Another question, do you consider using specific technologies when planning exhibitions?

P4: Technologies?

Yimeng: Yes, like electronic products or projections, etc.

P4: We've used projections, but I don't think these issues are significant; they can be achieved as long as there's enough money.

Yimeng: So, is it used frequently, or is it occasional?

P4: I think it depends on the budget, which is again related to funding issues. For example, I once considered implementing holographic projection, but it's a relatively expensive technology. We've tried 360-degree photography technology before, placing a camera in the centre of the stage and shooting around you 360 degrees to create a video. Although this technology works well, the cost is very high. We used it for a week in an exhibition, but the actual technical operation only took half a day, such as during the appearance of Li Bingbing at a press conference. Because such technologies are costly, economic considerations become the primary issue. With enough funds, almost any requirement can be addressed, but without enough funds, many ideas cannot be realized.

Yimeng: Hmm, so what is the most frequently used curation method for you? Like thematic exhibitions, etc.

P4: I mainly work on these thematic exhibitions.

Yimeng: Ah, so most of them are thematic exhibitions?

P4: Yes, these exhibitions all have a theme that revolves around it. While we also aim to provide an experience, the core is still centred around sales. Therefore, our exhibition hall is not like some high-end jewellery exhibitions.

Yimeng: Okay.

P4: Our exhibitions display products, with two rows of items showcased there. You can imagine this effect, different from art exhibitions or museum displays; our core is the products.

Yimeng: Alright. Do you need to create scenes?

P4: If it's necessary, we will. For example, if the planning proposal I'm working on today requires the exhibition to have a particular element, then we'll create a scene.

Yimeng: Okay, understood. So, do you focus more on the audience's experience? Do

you pay special attention to interacting with the audience, such as setting up scenes or games to increase interactivity?

P4: Regarding interaction, if it's a press conference with a host, the host may engage in some prompts to interact with the audience. If there's no host, the main focus is usually on check-ins, creating beautiful scenes suitable for photography to attract influencers on platforms like Xiaohongshu (Little Red Book) to take photos.

Yimeng: Oh, so you primarily consider exposure on social media?

P4: We do consider that. We are very practical. When you do something, the ultimate goal is sales. We want everyone to understand that our goal is clear — to sell these products.

Yimeng: Oh, I see. Understood.

P4: We don't think too much about artistic aspects; we are very business oriented. The core of everything is sales.

Yimeng: Hmm, but you mentioned earlier that you consider its aesthetic appeal. In my understanding, that, to some extent, is an artistic consideration as well, isn't it?

P4: Yes, indeed. We present our products in an aesthetically pleasing way. You can understand it as we are not selling installations designed solely for photography; those are secondary elements. The most important thing for us is to attract customers through these beautiful installations and make them notice the row of products behind them. When customers come, take a look at the products behind, feel satisfied, they might decide to make a purchase. The act of purchasing then drives sales. The core purpose of the entire on-site exhibition is to promote sales in this way, different from galleries or other forms of promoting artists. We focus on facilitating sales. Our goal is very practical — to sell products.

Yimeng: Got it. So, can I understand that your main objective is to present these products, but you want to present them in an aesthetically pleasing way, and the aesthetic aspect mainly serves these products?

P4: Yes, that's correct. It's about presenting the products in an aesthetically pleasing way, but this involves the brand's level. As I mentioned earlier, my responsibility is to showcase and package the product in the best possible way, but I don't know if it can truly boost sales. I'm just doing what I can within my capacity to present it. The specific effects on sales might still depend on the overall brand strategy and market factors.

Yimeng: Okay, I understand. Because my main focus is on immersive experience technology, which refers to a technology that engages multiple senses, not just limited to vision but also including touch, hearing, and even smell. It's a multi-sensory experience technology. What do you think...

P4: Oh, oh, I know about this. It's the kind of installation placed at exhibitions that provides an immersive experience.

Yimeng: Installations are indeed a type, like any presentation method that can engage multiple senses is considered immersive.

P4: Sometimes we also incorporate the concept of "immersive" into exhibitions, quite consistent with what you just mentioned.

Yimeng: What do you think is the significance or advantage of this concept?

P4: The advantage is, hahaha, to be honest, when I organize an exhibition, I only care if it looks good; I don't care about anything else.

Yimeng: No problem, it's okay.

P4: I don't know what others' styles are, but my style is to focus on appearance. As long as it looks good, I consider my job done. In my opinion, I mainly concentrate on exhibitions, and I don't overly consider the realistic sensory experience. Because holding an on-site exhibition, you can't reach people nationwide. Suppose I organize an exhibition in Beijing, people in Shanghai might want to visit, but in reality, they cannot experience the touch, sound, etc., of the exhibition. The only way I understand the exhibition is through some promotional photos seen online and on Xiaohongshu.

Yimeng: Hmm, I see.

P4: If a brand wants to expand its influence within a limited budget, the key is to ensure the exhibition looks good and is suitable for photography. Other elements are like icing on the cake. If you can be present at the scene, it will provide a better experience. Still, if you can't be there, watching photos can achieve a similar effect. Overall, I focus on the exhibition, and I'm not very familiar with other people's ideas. At least for now, I don't have a clear concept myself.

Yimeng: Okay, understood. Actually, what you mentioned is also a concern because the audience for offline exhibitions is basically people from the entire city or surrounding cities.

P4: That's correct. With a limited budget, we need to choose between tactile, olfactory, visual, and other sensory experiences because resources are limited. Generally, we tend to prioritize visual effects. If there's additional funding, we might consider adding some interactive experiences. Still, if the budget is not enough, we will prioritize ensuring that the exhibition looks visually appealing and is easy to photograph. I have also reached a consensus with the partners that the key is to ensure that the exhibition content is attractive.

Yimeng: Okay, understood. What do you think luxury brand experience is?

P4: Luxury brand experience...

Yimeng: In simple terms, it refers to the experience customers gain when participating in activities or making purchases offline, including...

P4: Are you referring to the customer's experience at the time of purchase, or the customer's experience with the product?

Yimeng: This scope is quite broad. It not only includes the experience of purchasing offline but also any experiences related to the brand's activities.

P4: Let me think about it...

Yimeng: Yes, how do you understand it? What do you think its essence is?

P4: The essence of the luxury brand experience... let me think.

Yimeng: Okay, take your time. Just share your personal understanding.

P4: Mainly, I feel there's not much of an experience when buying things. I enter the store, find the products attractive, try them, and if they seem okay, I buy them.

Yimeng: Okay, haha.

P4: Maybe I haven't reached the VIP level because VIPs usually have additional benefits, such as receiving gifts.

Yimeng: Ah? Do VIPs of Chow Tai Fook get gifts?

P4: No, it's for LV in Shanghai. During the severe pandemic period, luxury brands would send groceries to their VIP customers.

Yimeng: That's impressive.

P4: You didn't know?

Yimeng: I didn't.

P4: Yes. Customers do have a pleasant experience when receiving these groceries, creating a very positive impression of the brand. However, for ordinary people like me, buying luxury items might take some time to save up, and the reason for buying might not only be that the product itself is excellent but also possibly because there's a specific occasion where this brand's product must be used. However, I think the attitude of luxury brand service staff is not always good; sometimes they may appear to look down on customers, which can be unpleasant. In our company, the service attitude of sales associates is often complained about.

Yimeng: Oh, I see.

P4: Those who just come to browse without making a purchase might often be treated coldly in luxury stores, and that's a common reason for complaints. I believe in the luxury brand experience, service might be more important because the product quality (product experience) is actually quite similar, and there's nothing particularly outstanding.

Yimeng: Haha, can you say that?

P4: Although luxury brands have a certain guarantee of quality to ensure that the purchased product is flawless, there are many more affordable options. Still, due to the need to use these brands in certain situations, one may have to make the purchase.

Yimeng: Okay, let me ask, does Chow Tai Fook have special activities or benefits for VIP customers?

P4: For our VIPs, there are benefits in terms of points, and they are divided into silver, diamond, gold, and diamond VIP levels. There are also some privileges for members on their birthdays.

Yimeng: So, my understanding is that Chow Tai Fook's VIP targets a more mainstream audience?

P4: We do have activities for VVVIPs, those who purchase over a million, to participate in salons, fragrance blending, visits to overseas vineyards, and such. However, due to the pandemic, these activities have been temporarily suspended.

Yimeng: Okay, thank you for your understanding.

A: Due to the pandemic, high-end events may have faced some restrictions and might not be suitable to carry out. However, considering those consumers with expenditures over a million, brands still need to maintain customer relationships. Therefore, some special VIP activities may still be ongoing, although the format and scale might have been adjusted. Hopefully, with the gradual easing of the pandemic, some special experiential activities for high-end clients can gradually resume.

Yimeng: Okay, understood.

P4: Well, I don't really understand this world of wealthy people; they must have more experience.

Yimeng: Alright, so that's all for the questions.

Transcript 5: Liting Xu

Yimeng: First, could you please introduce yourself briefly?

P5: Now I am in the sub-brand of Chow Tai Fook, mainly engaged in marketing. And I am also responsible for marketing and the overall planning of large-scale events of the brand.

Yimeng: Well, have you ever done any work of curating exhibitions?

P5: I have planned landing exhibitions and pop-up stores. Exhibition curation has always been in my work scope, and it is our whole group that does exhibition curation. In recent years, those large-scale projects as well as curation are included my work content.

Yimeng: What do you think is the relationship between this form of exhibition and jewellery brands?

P5: It is mainly a publicity function for the brand. The impact of these exhibitions depends on circumstances. For example, if celebrities are invited or the exhibition gets a lot of hits and retweets on social media, then a lot of people must know about it. It's also an image, like sometimes we need to try to have business cooperation with some IP. Usually, consumers get to know the brand mainly through stores, but such pop-up stores and brand exhibitions are equivalent to having some special images in some cities, so that customers can perceive more aspects of the brand. But all those events surround with the core themes of our brand.

Yimeng: Does your curatorial mode will adjust for different cities?

P5: We usually plan firstly, which is to figure out what we're going to do. Well, we'd better custom by city. But we haven’t had a customized plan for any city yet.

Yimeng: What was the biggest challenge you met when you curated these exhibitions?

P5: The most common difficulty we have is that we want better results, and we don't have enough budget to do it. That's the most realistic problem. In terms of creativity, it's relatively easy to solve, and our team, including our advertising agency, can come up with a lot of great ideas. Besides that, for example, if we want to do projects involving stars, or if we want to do outdoor events, we may encounter some practical difficulties in the approval process.

Yimeng: What do you focus on most when curating exhibitions?

P5: It's mostly about the customer experience.

Yimeng: What kind of expectations or goals do you have?

P5: Yes, we have goals for every event, such as sales goals, exposure goals and promotion goals.

Yimeng: Are these goals achievable every time?

P5: Yes, they are.

Yimeng: Ok. Do you use any methods or techniques to achieve your goals when planning these exhibitions?

P5: Most of the time we designed some interactions in exhibitions, and some scenes related to themes. To put it simply, we try to make scenes look beautiful and then people want to take pictures and post them on social media. Things like scene and interaction are both very important elements. Because they will add stunts to exhibitions, customers are willing to go inside of exhibitions.

Yimeng: Have you used any technology products?

P5: Yes, like the big screens. We've designed games like Whack-a-Mole. The screen lighted up and audiences clapped it. Other devices that have been used are similar. We don't use a lot of technical equipment normally. It's actually fascinating to have this kind of technological stuff. For example, before I curated the exhibition, I went to do some research, and saw that Belle did a joint exhibition with SpongeBob SquarePants. In addition to branded products, they also set up a lot of interactive technologies related to the theme of SpongeBob SquarePants.

Yimeng: What's the main reason you seldom use these technologies?

P5: The ROI (return on investment), of advertising is different for each company. Our company has high requirements for it. That different brands have different requirements for the investment of marketing and promotion expenses. Some companies, like Chow Sang Sang, are very willing to spend money on this investment.

Yimeng: OK. So that's still about the budget, isn't it?

P5: Yes, everything would be easy if you have enough money. Because I've heard of other companies doing events that approve a lot of budgets. Docking advertising companies directly in accordance with a high budget will arrange that kind of high-tech interaction, out of the exhibition effect and customer experience is really good.

Yimeng: So, do you think it would be more attractive or advantageous to have a high-tech interaction in exhibitions?

P5: It is advantageous indeed in terms of the number of people it attracts. Because it's special.

Yimeng: What about returns?

P5: The return depends on the cost performance ratio. Because the unit price of jewellery brand products is relatively high, but the purchase rate is not as high as other brands. Therefore, those who are generally willing to invest in technology are, for example, fast retailing brands or sports brands, whose sales volume is relatively large.

Yimeng: What do you think is the core of a jewellery brand?

P5: I think the most important thing for our brand is the customer experience. This is

because customers have high demands on brands with high unit prices.

Yimeng: Could you briefly explain your understanding of the luxury experience?

P5: I think it is the meticulous service to customers and making them feel that the whole process of consumption is very intimate and pleasant. The most important thing is pleasure.

Yimeng: Do you think an immersive experience can enhance the luxury experience?

P5: It probably depends. If we are planning an exhibition to convey a conceptual or abstract idea, in this case, the immersive experience may not enhance the luxury experience. For example, we did an exhibition at the end of last year (2021), with the theme of "Getting Rich". What we want to convey is the design concept of combining traditional and modern Chinese style. In the design of the exhibition, elements related to "getting rich" are mainly used. I don't think the feeling of immersive experience really applies here. If it is to do the kind of more concrete scene elements, this I think can be more immersive feeling. Some retail stores also try to use immersive technologies but not many.

Yimeng: Ok, got it. Do you think immersive experiences can get some tangible benefits?

P5: I think, empirically speaking, the key factor in guiding the customer to the end of the sale is the sales staff. Especially in this kind of jewellery industry, the transaction still depends on the professional guidance of sales staff.

Yimeng: Is professional training in sales particularly important for jewellery brands?

P5: Yes, in jewellery industry like ours, if people want to be a sales staff in a front-line store, they must take training and learn before work.

Yimeng: What is the main content of your training?

P5: There are two main categories, one is professional knowledge of jewellery, and the other is selling skills. After getting these two foundations, they will learn the selling points or core concepts of the corresponding products according to the brand.

Yimeng: Ok. The role of exhibitions like you mentioned earlier is mainly to serve as an exposure and publicity function. But as far as I know, chow Tai Fook is a well-known brand in China. To exaggerate, almost everyone in China knows this brand. So, what is the significance of this form of promotion?

P5: Because most people may have a fixed view of Chow Tai Fook, which is that it is a traditional gold jewellery brand. This should be the feeling in the heart of most people. The point of doing these things is to let people see that there is something different about CTF. In short, this form helps to show the diversity of the brand.

Yimeng: Ok, the last question is more conceptual. What is your definition of a jewellery brand?

P5: I think jewellery brands are different from like dress brands, shoes brands, sports

brands and so on. In that they are made of high-value materials, such as gold, silver, and precious stones. The core of jewellery brand is still the product and crafts. We need to ensure the basis of product quality and craftsmanship, then, divide different design styles and concepts.

Yimeng: That's all, thank you for your participant. Do you know anyone else who works on the jewellery curation? Can you introduce he or she to me?

P5: You can ask Wang Ziqi, she is in charge of this content in another apartment, the budget is more than ours.

Yimeng: Thanks for your help.

Transcript 6: Irem

Yimeng: First of all, can you introduce yourself briefly?

P6: I'm a final year PhD student in the School of Psychology here in the University of Southampton.

Yimeng: What's your research about?

P6: My research is about nostalgia and the induction methods of nostalgia.

Yimeng: I noticed you use the VR technology in your research, what's the role of it?

P6: Okay, so I'm using virtual reality is a new method for the nostalgia induction. Basically, nostalgia can be experimentally induced in people with some other methods like using sounds using music or using scents and stuff like that. And also, there is a written task that we can use as researchers. But I would like to add another method using virtual environments. So basically, I created three environments, nostalgic environments, and try to induce nostalgic feelings to my participants using those virtual environments. I tried to trigger their nostalgic memories with the items in the virtual environment.

Yimeng: Could you explain a little bit your understanding about the virtual environment?

P6: Oh, what's a virtual environment like in my research, I use the world like the immersive experience or environment. It is kind of like you are inside the virtual environment actually. And it is a 360-degree environment and it's 3d. So yeah, it is also how can I explain virtual reality. You can create anything in the virtual environment. It is not real. You can also create like unsafe environment, but it will be safe for the participants because it will be in the lab. That's on our understanding of it.

Yimeng: Do you think it's necessary to use immersive technology? What's your own understanding of it?

P6: So yeah, we have to use technology, I think because it is now more accessible for people. For example, in therapy, people might not have enough money to get therapy all the time, like regularly, but then they buy for example, that virtual reality headset and they can access the virtual therapist with that. They don't need to pay too much money for therapists for example. And nowadays, technology is in everywhere. So, we need to integrate these kinds of stuff in our research. Especially the young generations know how to use these kinds of stuff. And if we don't integrate, for example, virtual reality or other technological developments, we couldn't keep up with their lifestyle. Then we will be behind, that's why I think it is important to integrate technological stuff in our life and in our studies as well.

Yimeng: Besides VR, do you know what other immersive technologies are popular?

P6: I don't know exactly. But I think that is augmented reality. So as far as I know, the augmented reality is something that you can be in that environment as well, but they will arrange an environment for you. Like a small room and they use projectors to

project the environments around. And then you'll stay inside the room. You will see the virtual things around, but you won't wear face, the VR machine, I guess.

Yimeng: What's the advantages of this kind of immersive technologies?

P6: So as an experimental tool, you can integrate the novel complex method inside your studies, because of this immersive three-dimensional display. It is really immersive if you want to especially trigger something in people, it can be really intense. And also its use friendly in general. You don't need to know slopes of coding and skills. For example, you can just download all the images from the internet. And then you can just create your environment easily. It's user friendly and you can find lots of different brands. That's why it is accessible. If you don't have that much money, you can buy a cheaper one. Yeah, and as I mentioned before, it is safe. You can create lots of environment, while you are trying this, you will be at your home or in a lab condition. So, it is lifelike. And it is safe at the same time.

Yimeng: What aspects you think it needs to be improved?

P6: Okay, so it still needs a bit of coding skills. And if you don't know how to do the coding, and you cannot be successful with the environments. So, I think maybe it can be simpler. So, anyone can create anything that they want. Without knowing this complex situation. As well as the device itself, it's a bit heavy. Yeah. So, it is hard to like if you need to wear the headset for a long time. For example, for one hour, it will be really hard to carry because it is really heavy. And also the pixels of it. It needs to be clearer. The resolution of it is not that good. When you look at the environment. It is a bit blurry all the time. So maybe these kinds of technological stuff might be improved. And I don't know the new technologies but right now you have to connect your virtual reality headset to your computer with the cables. So, it is it is a bit hard to like to move on. But maybe there are some Bluetooth devices right now. I don't know the new technologies and the one that I'm using has lots of cables, so it is hard to move around.

Yimeng: Do you think the immersive technologies can be applied to some physical objects? For example, people can touch or smell it?

P6: Hmm, that's a nice question. It can, because I know that you can give people the sense of haptic touch using different devices, but you need to use some other devices in along with the virtual reality. Because otherwise, with your own hands, it is impossible to do. In my opinion, for example, in our lab here in university of Southampton, we have an experimental device, through it, you can feel the thing even if the thing is there. So, it is possible, but it is possible with some other equipment as well. I mean, you need to wear something as in your hands for example, to be able to feel or touch or feel the physical object in your hands. But it's difficult to create this sense. I think so, because there are lots of different shapes and you need to code everything in that. Besides that, I don't know the other technology like that.

Yimeng: Thanks for your opinion. Next, if I use like VR to create Jewellery, what's the technical issue need to be addressed?

P6: If you would like to present a jewellery you said? Right?

Yimeng: Yes.

P6: Ok, I think the resolution needs to be really nice and you need to get the best virtual reality headset, probably. Because otherwise, it looks a bit blurry, and you cannot see the details of that jewellery. I think the resolution is the most important thing in that case, and the quality of the machine. The virtual reality headset needs to be really nice. I think it needs to be state of the art technology, which with the highest resolutions, and what else the colours need to be exactly the same. Oh, by the way, there is another technology you can integrate with virtual reality. Do you know there is a camera, which can shoot the real environment. And then you can transfer the video to the virtual reality headset. And it looks really real and exactly the same. So maybe you can use a technology like that. Oh, yeah, I know that people look their virtual images through their device like a powerful one.

Yimeng: Got it. I know what's the technology you said.

P6: Okay. Yeah. But it's quite costly because it has different lenses. And the technology they use inside probably is really expensive. It is like 7000 pounds. But it is not a virtual reality machine. It is just the camera. That you can get 360-degree videos. The VR machine can be really like cheap, mine is only 299 pounds. There is also another new version of it. That is 734 pounds.

Yimeng: Okay, the final question. What benefits or and challenges can bring to the physical objects if they are used immersive technologies?

P6: First, the challenge might be it is hard to feel. Feel the virtual thing that you try to present with immersive technologies in real life. Because our perception is different. We need to feel it.

Yimeng: Exactly.

P6: When we try to do it in a virtual environment, our brain might not perceive it as it is, so it might be a big challenge. For example, if you want me to feel a jewellery, I may could not feel something. It might not match. What we see and what we feel might not match. So, it might be a challenge. But at the same time, an advantage can be you can present lots of different stuff without bringing the real material inside the room. For example, if you would like to show a really expensive jewellery. Someone might stole it When you bring it in the real environment. But if you show the virtual one, it will be safe. I think this is the most important benefit of it.

Yimeng: Thank you for your participant. By the way, if you know some researchers is also doing about immersive technologies, could you introduce to me?

P6: One of my friends, from my office, she is doing a search with virtual test work. If you can participate in her study, probably she can participate in yours. Would you like to say your email address to her?

Yimeng: Yes, no problem.

P6: Yeah, I will. I will send it Okay. Thank you so much. And good luck, with your research. I hope I can help you. I mean, I don't know my English is not that good.

Yimeng: Me too, yours better than me. Thank you.

Transcript 7

Yimeng: Could you please introduce yourself firstly?

P7: Ok, my name is Hu Cong and I am working as a designer in a large jewellery company. The daily work is mainly to design jewellery.

Yimeng: Ok, what is your understanding of jewellery, what's the concept of it?

P7: I think there is a difference between jewellery and accessories. For jewellery, it's probably a little bit more upscale and its consumers are affluent people. Then the accessories will be more inclined to the daily people are willing to wear. Of course, both can be used of view of some precious metals and gems and other materials from a design point. There is just a difference in the "volume" of their value.

Yimeng. What is your understanding of the luxury experience?

P7: The luxury experience, I think, is the high quality of service.

Yimeng: Have you had any experiences that made you feel different?

P7: Yes. What impressed me most was the time I went shopping at Bulgari and was scorned by salesperson. I also visited another Buccellati shop that day. The two experiences were completely different. I was shopping in Shanghai with my colleagues. Then I went into the Bulgari shop to try on the serpentine bracelet. Of course, at the beginning, the salesperson was very warm to me. But after I asked for tring a few, she didn't think we were customers, so when I asked to try on another ring, she asked me, "Do you think this fits you?" (With sarcastic tone). I was angry, but I was polite and replied, "I need to try it on then I'll know whether it fits me or not." So, then we left this shop with bad mood. Later, we went into a Buccellati shop, and we made it clear that we just wanted to have a look at jewellery when we first entered the store. However, the salesperson of the store did not mind that we would not buy their products. Instead, they warmly treated us and were willing to show different crafts and products in their store. So, we felt really good about this experience.

Yimeng: OK next question, as designers, do you often go to jewellery exhibitions to learn or find some inspiration?

P7: Yes, but it was before the pandemic. Our company provides us with the opportunity to visit Hong Kong International Jewellery Fair almost every year.

Yimeng: What do you think is the significance of jewellery exhibitions for jewellery brands?

P7: A commercial exhibition like The Hong Kong International Jewellery Fair is mainly aimed at a certain insider of the industry, but it also helps the brand to gain exposure, but I think more of the reason is to do a trade, it's a trading platform for jewellers from all over the world. There are also non-commercial jewellery exhibitions, like the huge Tiffany exhibition in Shanghai two years before. It basically presented all the important jewellery products from Tiffany's history since it was founded. I was deeply impressed

by the interaction, lighting arrangement and display arrangement in the exhibition. It had three floors, there were lots of exhibits and also told the story of the brand with Hepburn. Her movie Breakfast at Tiffany's took up a big space in the exhibition, which I think was probably a big part of the DNA of their brand.

Yimeng. What's the significance of this kind of jewellery exhibitions for brands?

P7: Jewellery exhibitions like Tiffany's were held in China, I think their purpose was to penetrate the Chinese market, to make a bigger impact in the Chinese market. And that was the same time that Louis Vuitton acquired it, so I think maybe the strategic significance of this exhibition came from here.

Yimeng: Ok. The next question is what aspect of jewellery do you expect a jewellery exhibition could display from a designer's point?

P7: Actually, I have seen many large and small exhibitions of many brands. In fact, their design is very similar in some periods of time, I mean in style. Then it is to the late design style of each brand produced has been difference. The key factor that separates these differences is not only design elements, but also crafts. For instance, like Cartier's Serti Pelage and Van Cleef & Arpels' invisible set. Brands emphasize their differentiation, which is reflected in craftsmanship. Therefore, the brand attaches great importance to its own unique craft. Thus, every time we designers go to the exhibition, we will follow the craftsmen, who will understand these structures and some problems in details. So, I hope that when I visit an exhibition, I can see that these factors are emphasized.

Yimeng: What do you think is lacking or needs to be improved in the current jewellery exhibitions?

P7: In addition to what I just mentioned, showing the craftsmanship of jewellery more, I think there are some good jewellery exhibitions of some brands that are worth learning from. Yes, I hope more jewellery exhibitions can learn from them. Like the Tiffany exhibition in Shanghai, and "Awaken" (Renaissance jewellery exhibition) in Shenzhen. A major feature of these two exhibitions is that they have narrator. They gave a detailed explanation with a story, which could let people know the historical origin of the jewellery and some stories of their former owners. I think this aspect is very meaningful. Because this form of storytelling is easier for ordinary people to relate to. The audience can imagine or empathize with the events of that time. So, I think this aspect is more meaningful.

Yimeng. Have you had an immersive experience in a jewellery exhibition?

P7: I don't know what level of immersion an immersive experience is?

Yimeng: I can give you a brief definition of immersive technology. In the exhibition it engages your multi-sensory experience, not just with your eyes, but also with your sense of smell, hear or your sense of touch, and immerses you in a scene or space.

P7: I think big jewellery exhibitions like those all have immersive experience. Just the

level or rich degree is different. And then I think it can go further like use some of the newer technologies. I haven't seen anything like this. Like the jewellery we can only look at and can't touch,as well as we can't wear it. If we designers want to feel the sense of wearing jewellery, we have to go to retail stores. Will it be possible to use VR or other equipment to allow each visitor to experience the feeling of the jewellery on the body? I think I will be more interested in this.

Yimeng: In big exhibitions like the ones, you've been in before, did they use some immersive techniques in storytelling to give you a deeper memory and help you to understand the story behind the jewellery more?

P7: These two times they basically were through the narrators' dictation this kind of relatively direct way. In addition, there were some jewelleries on the side of a very large book, which contained some historical stories. Others had a portrait of a person next to it so people could see who the owner was at the time. There was not much else to display it.

Yimeng: What's role do you think jewellery exhibitions have in the interaction between consumers and luxury brands?

P7: I think it's about adding value to brands in consumers' minds. Without the exhibition, the jewellery is just a product to consumers. Exhibitions can help consumers understand the story and history behind the jewellery or the brand, which can increase consumers' favourable impression of the brand.

Yimeng: Ok, the last question. As a jewellery designer, what do you think is the most important thing for a jewellery brand?

P7: I think a lot of jewellery brands are still using the same design as before. Very few brands are really moving forward right now. In this aspect, one of jewellery brand which is doing good, for example, Boucheron is a brand that has been innovating and improving. So, I think the core of jewellery brands is the product.

Yimeng: What do you think of brands like Buccellati you mentioned earlier, which always emphasize the heritage of craftsmanship?

P7: My impression is that the product category of this brand is not very rich and limited. Although the craftsmanship is really complicated and the style is iconic, I think it's a bit of a special-interest style. People who like the style will love it, but it doesn't reach as wide an audience.

Yimeng: Ok, so we're done for today, and I may contact you later if there are more questions. Thank you for your participation.

P7: No problem. Bye-bye.

Transcript 8

Yimeng: Hi, can you hear me?

P8: Yes, I can.

Yimeng: Would you please make a brief self-introduction first?

P8: Ok, my name is Chen Danqing. I used to work in an exhibition organization in Hangzhou. I am mainly responsible for event planning and space operation, as well as some exhibition curating. But now I am working in an artist's studio in Shanghai, and I am in charge of media part, which is a bit purer and less messy than before.

Yimeng: Ok, thank you for that introduction. The next question may be a bit abstract. First, what do you think is the definition of a curator? Just need to simply state your own understanding.

P8: I think the curator is a role that connects the audience, artist and space. Curators are able to connect them more closely. Well…… then to present the final exhibition. Aren't there a lot of artists who are curators now? because they know more about their own artworks. But I think, well, if there's a third party, independent curators involved, they'll have a much clearer control of the three parties.

Yimeng: Ok, another question is what do you think is the definition of immersion?

P8: I think immersion is… first of all, from the sense of experience, certainly visual, auditory and other five senses will feel more all-round, more three-dimensional. Well, but I think it's important that the concept of the work would be able to… how can I say? When the audience enters the field, the information they can feel is not only the visual or auditory shock, but also the in-depth ideas brought to them by artworks, which helps them to understand the work more directly.

Yimeng. Do you think immersive exhibitions are common nowadays?

P8: Now the usual kind of exhibition is more conventional. There are relatively few immersive exhibitions. But I feel that there are more and more exhibitions are leaning in this direction, even the very um, very traditional content, such as calligraphy, will also lean toward that kind of immersive form. Maybe this format is more to the taste of young people.

Yimeng: I notice that you often visit fashion exhibitions. Do you go for getting some curatorial inspiration from them?

P8: Do you mean exhibitions by luxury brands? like the Prada wet market pop-up?

Yimeng: Not just luxury exhibitions, but dress and jewellery exhibitions.

P8: Yes, I will see the format of these fashion exhibitions. But I will also select some brands I am interested in, such as Dior, MacQueen and other big brand exhibitions. I will also choose some small brand exhibitions, for example, there was a fragrance brand of “GuangXia”, they did an interesting exhibition. So, if it's interesting, I'll go and

learn about it.

Yimeng: What kind of feeling do you generally get from these fashion exhibitions? What can you learn from these, and what form are they in general?

P8: Well, I think that's quite different between big brands and some emerging brands. Because they have a different brand history, what they do in exhibitions is a little bit different. With a big brand, it actually tends to tell like the brand story or the story behind the products. There will not be too many formal of stunts, because I think their products and their content is enough to support exhibitions, and then like small brands or emerging brands they will pay more attention to the sense of form of exhibition.

Yimeng: What kind of sense of form is that?

P8: For example, like the fragrance exhibition I mentioned earlier. The fragrance was different when people entered different Spaces, and when the audience first entered, the exhibition staff would give some small gifts, like paper wristband with fragrance, cards, and guidebooks, and they did some little surprises. Besides that, for example, its guidebook showed the space was strung from the first step to the last exhibition space. At the end of visiting, I also got a little gift to match what I got before. There was a lot more ingenuity and interaction in this exhibition.

Yimeng: Well, what do you think is the purpose of a fashion exhibition like this?

P8: To promote the brand. And the return on the investment that brands make in fashion exhibition is not going to be seen in the short term. The reason why they are willing to invest in exhibitions is that there are some hidden benefits besides brand publicity. For example, when we are curating exhibitions, audiences buy tickets through online channels, and the exhibition institution can obtain their contact information and integrate them for next activity. Fashion exhibitions are similar, the brand side can get the data of this part of the source audience or potential consumers through this way.

Yimeng: Ok, got it. What do you think are the most commonly approach used curators of fashion exhibitions nowadays?

P8: Some big brands, like I just said, are storytelling, so they are narrative based. In addition, including small brands, the curators will set off the atmosphere in the space, which is quite immersive. It's very different from art exhibitions. Like one art exhibition I curated before, I only put one piece of work on the white wall of the museum, and only one installation work in the space. In fact, there are not many exhibits in a large space. But I have observed that the space for fashion exhibitions is full of ambience, and there will be more interactive with the audience.

Yimeng: So, what immersive technologies that you think are being used more in exhibitions right now?

P8: Now it's mainly light and shadow.

Yimeng: Have you ever experienced some of the newer technologies in exhibitions?

P8: I've been experienced before, I think it was Monet exhibition, and I've experienced the VR technology.

Yimeng: What were your feelings when you experimented with the VR technology?

P8: Well, there was a sense of smell in addition to VR. When the image changed to a certain scene, there would be a smell like flowers. But to be honest, the VR experience of this exhibition didn't make me feel special. As far as I am concerned, although VR was used in this exhibition, I seemed to be very lifelike into his painting world. But it didn't make me feel very special. That's not what I thought... The reason is that I saw some videos of people with VR immersion, which seemed to be very astonished, and THEN I tried to use it with that kind of expectation, but in fact, it brought me quite ordinary feelings.

Yimeng: Why do you think it gives you an ordinary feeling? Is it a technical or operational problem or something else?

P8: It's simple to operate. I think the problem is a sense of interaction. The audience just sit there with the VR device on and watched the content. There was very little interaction. What they had only, for example, when the device told you to go to the next room, there would be a prompt to move the visual center to that door, the interaction was relatively simple.

Yimeng: I see. Do you think immersive technologies are unnecessary or necessary?

P8: What do you mean by immersive technologies?

Yimeng: This is a broad range of immersive technologies, not just VR, but things like holographic projection, sound, and light. Do you think they are necessary or unnecessary?

P8: I think it is necessary. I think there are some works that are more effective and more directly communicated concepts to the audience with these kinds of immersive techniques. But sometimes, just like some exhibitions made by Teamlab, although they are very astonished, I personally don't like them. It felt like they were overemphasizing these immersive techniques but missing the masterpiece itself. As curators, we should still focus on the artworks and better present the artworks to the audience.

Yimeng: What are the advantages and disadvantages of immersion technologies in your opinion?

P8: First of all, immersive technologies can attract people who may not know the exhibition or the artist/brand, and they will try to enter the exhibition for the format. Then, if the form is consistent with the exhibit, that is, their concept and form are consistent, then the concept can be more straightforward to convey to the audience. As for disadvantages, I think we can't say whether this technology is good or not, only whether it is suitable or not.

Yimeng: Have you ever visited a jewellery exhibition?

P8: I haven't seen a whole one, but I've seen, like brand fashion exhibitions, some of them have a small section about jewellery. I visited the Gucci exhibition in Shanghai before, "The Artist is Present". Yes, it has an exhibition section for its jewellery.

Yimeng: I'm a little curious that you said the exhibition was called "The Artist is Present", but it was a fashion exhibition. Why do you think they named this exhibition title?

P8: I think the concept of "artist" is becoming more and more vague. It is just a label. There is no requirement that people need to achieve something to become an artist.

Yimeng: So, what do you think is causing it to become more and more obscure?

P8: I think it's social media, the growth of the Internet. Now people have more information available, and people want to express themselves and their personality on social media. And if a person has a particularly strange or outstanding identity, people will define that person as an artist.

Yimeng: Can you tell me briefly what the format of the exhibition was that led to its title?

P8: The exhibition was held several years ago. I remember the poster was a face or half a face? on the top of the face was the words "The Artist is Present" written in huge letters. That poster just blew my mind. And then it was different from any fashion exhibition I'd ever seen. It emphasized more on the artistic tonality of Gucci's products. For example, there was a Hollywood scene with many camera devices. Audiences would take pictures inside. But you wouldn't know it was about Gucci from that scene alone, people need to know the exhibition content, then they would understand how it related to each other.

Yimeng: How do you think jewellery exhibitions are developing in fashion area right now?

P8: I think it's my personal interest. I don't go to jewellery exhibitions very much. But the ones I know like Bulgari and Cartier all have jewellery exhibitions.

Yimeng: Will a jewellery exhibition be interesting to you if it uses some immersion technologies?

P8: Yes, because the kind of jewellery exhibition I can imagine is probably more conventional. So, I will feel curious if it uses immersive technologies, how they will combine.

Yimeng: Ok, that's all, thank you for your participant.

Transcript 9

Yimeng: Okay, first, I need you to give a brief self-introduction.

P9: Should I introduce my name, age, and school, etc.?

Yimeng: Yes, that's fine. For example, you can introduce your undergraduate and graduate schools, your experiences, and what research you are currently involved in.

P9: My name is Zhang Yiheng. I completed my undergraduate studies at China University of Geosciences, majoring in Gemmology and Material Technology. Currently, I am pursuing a master's degree in Cultural Heritage and Museology at Fudan University. My graduate thesis is related to jewellery exhibitions in luxury contexts.

Yimeng: Why did you decide to change your major after completing your undergraduate studies?

P9: Because I am more interested in exhibition curation. Initially, when I came to Fudan, I didn't plan to study museology but rather focus on archaeological research related to cultural relics such as jade artifacts. However, influenced by my current advisor, I decided to specialize in museology.

Yimeng: Is curation your main focus?

P9: Yes, it's mainly curation and planning educational activities within exhibitions.

Yimeng: Sounds interesting. Okay, now I will ask some general questions. How do you define contemporary fashion curation?

P9: I believe contemporary fashion curation is usually led by fashion brands, showcasing brand culture, history, and introducing brand values.

Yimeng: Okay. What is your understanding of the role of a curator?

P9: In my understanding, a curator needs to have an in-depth understanding of the content related to the exhibition, especially in the field the exhibition covers. For example, if it's fashion curation, the curator should have research experience in the relevant field rather than just understanding museum theory. The curator's responsibilities include researching exhibition content, selecting exhibits, and organizing and designing the entire exhibition. Additionally, they need to convey and interpret the exhibition's content to the audience in an easily understandable way. During the exhibition planning process, curators also need to collaborate and communicate with museum educators and public relations staff.

Yimeng: Good, can you briefly introduce the exhibitions you have worked on and your tasks?

P9: In my previous curation work, I mainly assisted my advisor in exhibition planning. My advisor led the entire curation process, and I provided support under his guidance, mainly executing auxiliary tasks. We participated in an exhibition project related to the Zhejiang Institute of Archaeology. I drafted a curation proposal and submitted it to my

advisor for review. Subsequently, under his guidance, I made modifications based on his suggestions. The final curation proposal presented had no direct connection to my initial submission but was shaped through collaboration with my advisor.

Yimeng: Okay.

P9: Additionally, we participated in an exhibition project in a small county museum in Zhejiang. The exhibition mainly curated the local city's culture, history, and modern development. In this project, my tasks were similar to those mentioned in the Zhejiang Institute of Archaeology exhibition, drafting the curation proposal, and making corresponding modifications based on my advisor's feedback. The final exhibition presentation was also accomplished through close collaboration with my advisor.

Yimeng: Do you personally participate in setting up exhibitions, designing scenes, and so on?

P9: No, I haven't been involved in setting up the exhibitions. We only provide the curation proposal, and the specific exhibition set-up is handled by the museum staff.

Yimeng: Okay, got it. I'm a bit curious about your advisor. What role does he/she play? And what is his/her research focus?

P9: He mainly works on planning educational activities for museums.

Yimeng: Oh, I see.

P9: Educational activities include lectures and possibly some parent-child workshops.

Yimeng: Oh, I understand. Are these activities of an educational nature within the museum?

P9: Yes, that's correct.

Yimeng: Okay, have you ever explored immersive or interactive curation methods?

P9: Oh no, I haven't. I've only learned about them in class and through my own research.

Yimeng: Okay, got it. Next question. In your opinion, what is the status of fashion curation in contemporary curation, and what role does it play?

P9: Fashion curation can be considered a relatively new exhibition theme, mainly emerging in the 19th century. I believe it serves as a response to current fashion trends. Although fashion curation is more common in art museums, its frequency is relatively low in traditional comprehensive or historical museums. This suggests that fashion curation is more closely related to fields such as art, design, and contemporary culture, and might be less common in other types of museums.

Yimeng: Okay, how about the current trends in fashion curation?

P9: I think for fashion curation... its trends...

Yimeng: If we replace fashion curation with jewellery exhibitions?

P9: Well, for jewellery exhibitions, I feel not all of them are fashion-related; some might focus on ancient artifacts.

Yimeng: Oh, are you referring to cultural relics? How do you understand the definition of a jewellery exhibition?

P9: It's an exhibition primarily showcasing jewellery as its main content. That's how I see it.

Yimeng: According to your differentiation, can jewellery exhibitions be classified mainly into archaeological artifacts and another category with a focus on jewellery brands?

P9: Oh, right.

Yimeng: Okay, let's focus on jewellery exhibitions by jewellery brands. Have you visited exhibitions like these?

P9: Oh yes, I have attended some.

Yimeng: What do you think about the current trends in such jewellery exhibitions?

P9: Judging by the current number of exhibitions, jewellery exhibitions are gradually increasing, but showcasing them in museums may face some resistance. This is because jewellery exhibitions have not yet become mainstream in museums, possibly subject to some scepticism. I have observed relatively few reviews of jewellery exhibitions in China, and with the increase in such exhibitions, criticism may arise. It's essential to note that my research mainly focuses on jewellery exhibitions in museums, and my understanding of gallery exhibitions is limited. Currently, collaborative exhibitions between museums and jewellery brands are relatively scarce. The trend tends to avoid solely promoting brand culture. Instead, museums prefer combining part of the brand's collection with the museum's own artifacts or conducting joint exhibitions with natural history museums showcasing mineral specimens. I think this might be a trend in the future development of museums.

Yimeng: Okay, what do you think is the purpose of the jewellery exhibition?

P9: Well, I believe the dissemination purposes of jewellery exhibitions can mainly be divided into three categories. First, emphasizing the aesthetic value of the exhibited jewellery. Second, promoting brand culture, history, and design styles. Third, disseminating and educating about industrial and applied arts techniques. This combined exhibition method has certain advantages for these purposes. On one hand, it not only spreads brand culture but also reaches a wider audience. Since jewellery may feel distant to the general public, juxtaposing it with cultural relics or minerals can bridge the gap, especially for those less interested in jewellery. On the other hand, this exhibition method allows for expressing more themes and in-depth content explanations. Such exhibitions help convey more information about jewellery, enriching the audience's knowledge and experience.

Yimeng: Okay, have you ever curated a jewellery exhibition?

P9: Oh no, I haven't curated one.

Yimeng: Alright, in your opinion, what challenges do contemporary jewellery exhibitions face?

P9: Challenges? I think, on one hand, there's limited experience in the collaboration between museums and jewellery brands. The data I've gathered only includes 16 exhibitions, with most starting around 1985 in China. I feel this number is relatively low, with the majority occurring after 2011.

Yimeng: Is it relatively late for them to have gained popularity?

P9: Yes, that's correct.

Yimeng: The 16 exhibitions you mentioned earlier, are they related to jewellery or fashion?

P9: I'd like to ask; how do you define a fashion exhibition?

Yimeng: Fashion exhibitions usually refer to displays related to clothing, covering various aspects of everyday wear and various styles of dressing. The definition of fashion exhibitions is quite broad and generally includes clothing from different historical periods, such as fashion trends from the 17th to the 18th century and specific periods in the 19th century. Additionally, fashion exhibitions also encompass displays related to brand jewellery and clothing, extending beyond the attire of historical figures to include brand presentations. In summary, fashion exhibitions, in a broad sense, include various fashion-related content, ranging from clothing to jewellery, covering multiple aspects.

P9: I've found information indicating it includes fashion, accessories, and watches.

Yimeng: Yes, all of those count, so jewellery exhibitions can be considered a branch of fashion exhibitions.

P9: Yes, exactly.

Yimeng: The 16 exhibitions you mentioned, are they specific to China, or does the number refer to global exhibitions?

P9: Oh, it's specific to China, and I only counted exhibitions organized by luxury brands.

Yimeng: I understand. Modern jewellery exhibitions seem to have started relatively late, and the number of exhibitions is not very high, indicating that it has not yet formed a significant trend. My question is, regarding contemporary jewellery exhibitions, what challenges do you think they face? You mentioned that people's interest might not be substantial, which seems to be one issue. Besides that, are there other potential problems?

P9: I think the brand side might not thoroughly research their products. Currently, in China, most jewellery exhibitions mainly focus on general introductions to the brand's history or the evolution of design styles. The presented content is relatively generic,

and there's a high degree of homogeneity between different exhibitions, primarily concentrating on the general history of the brand.

Yimeng: Is this mainly for domestic jewellery exhibitions?

P9: Yes, for domestic exhibitions, as I haven't systematically collected data on foreign exhibitions yet.

Yimeng: Is this homogeneity more reflected in the exhibition format or the content?

P9: Well, I think it's present in both content and format.

Yimeng: Okay, understood. So, the primary difference lies in the diversity of their exhibits, right?

P9: Yes.

Yimeng: Okay, next question. In your opinion, what distinguishes contemporary fashion exhibitions from regular exhibitions?

P9: What distinguishes regular exhibitions? Actually, I don't think there's any significant difference. It's just a themed exhibition.

Yimeng: Alright, have you explored immersive exhibitions?

P9: Yes, but my current understanding is mainly about those immersive recreations.

Yimeng: Have you seen immersive presentation methods in the jewellery exhibitions you visited?

P9: Well, since I haven't visited many, let me think about the names.

Yimeng: Do you think this presentation method is common in jewellery exhibitions?

P9: I don't think it's very common.

Yimeng: So, what is the prevalent presentation format in current jewellery exhibitions?

P9: In my view, this exhibition format doesn't differ significantly from regular exhibitions. Most of the time, it relies on multimedia displays, including videos and images. Additionally, the use of lighting enhances the attractiveness of the exhibits.

Yimeng: So, it's still a relatively traditional exhibition method, right? Can we say that? What do you think are the pros and cons of using more special display methods?

P9: Well, I think immersive exhibitions can better help audiences deeply experience the information conveyed in the exhibition. However, I'm also pondering whether this method substantially assists audiences in learning. I'm not clear on this yet, although I do feel that having such facilities during the visit could provide a very novel experience, enhancing the enjoyment of the entire process. However, I'm unsure whether it can help me learn and understand the knowledge the curator intends to convey. Additionally, I believe immersive installations are generally costly, and not all museums can afford such expenses.

Yimeng: Okay, what challenges do you think current jewellery exhibitions need to overcome?

P9: Some challenges exhibitions face includes the need for more personalized content. I think the exhibition's content may need to be more personalized because each brand holds a lot of information worth exploring. Whether in design style or craftsmanship, different production methods have their uniqueness and can establish connections with individuals, society, and history. Therefore, the exhibited content doesn't need to be presented in an overly straightforward manner, as it currently tends to be. Moreover, I believe there's a challenge regarding the audience issue, as previously mentioned (being too niche).

Yimeng: Okay, got it.

P9: I think it might be improved by conducting some accompanying educational activities or developing cultural and creative products.

Yimeng: Alright, that concludes it. Thank you for participating.

Transcript 10

Yimeng: Now, let's start. Could you please make a brief self-introduction, that is, a brief description of what you do now and whether you have any experience related to curation.

P10: Now I am doing marketing in an auction company in the UK. I would also participate in the concept planning and exhibition design, but I am not directly involved in the curation. My main work is like brainstorm in the early stage of the exhibition planning.

Yimeng: Ok. I've seen on your social media accounts that you've shared some opinions of reading about curation...

P10: I have done research on curation of online/virtual exhibition when I was in graduate school. So, I've done some reading and done some interviews.

Yimeng: Did you start your curatorial research on virtual exhibitions before or after the pandemic?

P10: I used a case study for my research, and this main case study was born because of the pandemic. But some of the cases that I used in my research also predated the pandemic.

Yimeng: How do you think the pandemic has affected the virtual exhibition?

P10: I think from a public perspective, a lot of people are paying attention to virtual exhibitions because of the pandemic. But I think in the industry, many museums, especially the classical ones, have had the concept of virtual curation or online exhibition for a long time.

Yimeng: By the way, have you ever curated a fashion exhibition before?

P10: I don't have any experience with fashion curation, but I have a friend who does virtual wardrobe, which is to make some virtual clothes and present them in the online store.

Yimeng: Okay, got it. I saw you did some analysis of exhibitions in your social media account. You also have some insight into immersive experience. What kind of immersive experience do you think are popular now?

P10: Well, immersive experience is different. There's the immersion of physical exhibitions, and there's the immersion of virtual exhibitions. So, which one you want to talk about, online or offline immersion?

Yimeng: The research I'm doing now involves both, but the focus is offline.

P10: As for offline, I don't know if you've been to the popular Van Gogh immersive exhibition and now there's a Frida immersive exhibition. So, these are the visual experiences and combine the auditory concepts that are used to create the atmosphere. But my personal favourite is actually the narrative immersive exhibition.

Like the Alice exhibition that I visited, I remember I shared as well. Curators combined the stories with VR technology to make the audience have a narrative experience, which I like most. But when it broke away from the original story line in other parts, like involving commercial things, it broke that immersive experience.

Yimeng: Which parts of the exhibition do you think are commercial?

P10: I don't know if you saw my post. There was a section of the exhibition devoted to the tea party of Alice with the Mad Hatter. Some of the elements that curators had put in this scene were reflected the impact of the concept of the story on the commerciality of the tea set. But I think if this part were told through the story line, it should focus more on some points such as the Mad Hatter's spirituality and psychology, and it would be easier to have a sense of narrative, instead of turning to discuss its commercial design (some tea sets and its advertisements). This made me feel a little bit separated and disconnected.

Yimeng: Is it possible that curators wanted to curate the exhibition through the way of deconstruction?

P10: In fact, I think the exhibition itself was a very commercial exhibition. So that part was not irrelevant. It's just that if I talk about it purely in terms of immersion, I think it's a bit of split. But they must have their own considerations. Because after all, Alice has had a very important influence on commercial design.

Yimeng: I see. Do you think there are any common immersive techniques that are used in exhibitions nowadays?

P10: Well, I think the first point is definitely visual techniques, like I said that the Van Gogh exhibition used a lot of big screens and moving images combine with music to immerse. Including the recent exhibition of Tiffany, I think its visual aspect is also quite good. Well, the second is VR technology, which is used a lot now. It's basically a short experience that enhances the immersive experience and immerses the audience in the story line. In addition, the Audio Guide has been used for a long time, but it used to be mainly for explanation. Instead of just explaining the historical value of each object, there is now audio content that can accompany the story of the exhibition, or with some music to enhance the audience's immersive experience, which I think it's quite good.

Yimeng: I saw that you had a strong critical reflection of these exhibitions. What do you think is not enough or needs to be improved in the present immersive exhibitions?

P10: As I said before, I was mainly studying online exhibitions. I do feel that online immersive exhibitions are not enough. Because I think they are all directly copying the offline scene, that is directly scanning into the online space without adding more experience. Yes, they (curators) just move offline scene to online. However, when audiences go to see an artwork, they care more about the aura of the object itself. If they (curators) just copy it, they can't enhance or reflect this most important point (aura) at all. So, I have a lot of critical ideas for online immersive curation. In my opinion, they

(curators) should add some more, no matter from the re-creation of images or the collocation of music, including the design of interface, which should be smoother to enhance the immersion of the audience. Offline…you're talking about jewellery, right?

Yimeng: Yes.

P10: I think the immersion of jewellery exhibition is better not to have too many unnecessary and poncey things, which will affect the experience of the audience to appreciate the jewellery itself. For example, its lighting design needs to serve the jewellery. As I saw in some exhibitions, the light was very bright, but the jewellery appeared very dim. Besides that, I prefer narrative, such as Tiffany's exhibition mentioned before and the Faberge jewellery exhibition held at V&A. They all tell the story of the brand and the design story, which enhances the experience of visiting these exhibitions.

Yimeng: Do you think curators, including fashion curators, need to focus more on content?

P10: Yes, I personally prefer these. But like the Van Gogh exhibition, we can still see that many people prefer purely visual enjoyment and ignore the content.

Yimeng: While when I went to the Van Gogh exhibition, I felt that curators made some efforts on narrative. I felt it liked a concert and it told the story of van Gogh's life through a timeline with the background music.

P10: But personally speaking, this narrative that had been told countless times in other Van Gogh exhibitions. It didn't offer anything new, nor did it offer a deeper insight. In contrast, for example, Tate's earlier Van Gogh exhibition had more critical ideas to let you (audiences) have an updated understanding of this artist. Instead of just telling the story of his life. And I think the immersive experience of adding all kinds of visual and auditory things was kind of interfere to know him. It gave me the feeling of listening to a celebrity's story and lacked artistry.

Yimeng: I see. So why do you think we're using immersive technologies for exhibitions?

P10: In my opinion, there is a lack of emotional connection if curators simply display works or jewellery. Like if you know the story or if there are some simple visual or auditory things that trigger an emotional feeling in the audience about the exhibit. Well, I think if you tell the story of the work, you will get a deeper understanding of the meaning of the exhibit. For example, curators present the birth process of the concept of a jewellery brand or the design concept of the product through some videos, so that I could have a deeper understanding of its design or crafts.

Yimeng: Got it, what do you think what's the difference between an immersive experience with technology and an immersive experience without technology?

P10: Technology, do you mean multimedia?

Yimeng: Yes, I mean all the modern and advanced technologies. For example, I've learned that the immersive experience may have originated from some religious

activities in the church. The church building has a multi-sensory experience, both visual and auditory (choir). It's an immersive experience without the use of any technology. So, what's the difference between this and the immersive experience that we use technologies to provide today? The question remains, why do we have to use technologies?

P10: Well, I don't think we have to use technologies to be immersive, but sometimes there are limitations of location and conditions. It's like what you said about assuming a church or a special space. Not every exhibition can find such a venue or space with its own aura. It is necessary to use lights or electronic screens to give the audience another sense of enjoyment in space. The other point that I mentioned is that if you want to present a dynamic story, it's only possible to present it with technology like a screen. So, I think that even though you don't have to have technologies to be immersive, when you have a story you want to tell, when you have an effect you want to achieve, you have to use technology to get there.

Yimeng: Got it. As for the aura you mentioned earlier, you feel that the online experience does not actually present the aura. How do you think immersive technologies offline impact the aura of these exhibitions? Is it a strengthening or a weakening?

P10: I think the offline exhibition compared with the online exhibition, you will definitely feel the aura of the exhibit offline, because it is a 3D (three-dimensional) thing. If we talk about jewellery, the physical aura of the jewellery itself is much higher than the online display. So, I think the offline exhibition with good lighting and other things will have a strengthened effect on it. But what I was saying is that if the room is very bright, it will obscure the physical aura of the jewellery. There was a Tiara exhibition at Sotheby's, and I don't know if you saw it, and I thought it was pretty good. It didn't use any advanced equipment, it was just some glass showcases with hanging 360-degree rotation display, which was very elegant and noble, and enhanced the aura.

Yimeng: Well, I went to visit the exhibition of Tiffany, which had an online AR technology. I don't know if you have tried it. The curators designed an AR effect for the Yellow Diamond's necklace. I saw a lot of people there wearing that virtual yellow diamond necklace and taking pictures with it through their mobile phones. Because the necklace is very expensive, the audiences can't wear the real one on their bodies. The experience was to expose them to these expensive jewellers. Do you think this MR approach would take the aura off jewellery?

P10: I don't think so. I think this kind of technology actually enhances the aura of the jewellery, because you (audiences) can wear it in virtual world means that you can't wear it in reality. So, you will have the phycological feeling is that what you can't get is the best. So, it actually enhances the aura of jewellery.

Yimeng: OK. So, what kind of immersive technologies do you think can be used in jewellery exhibitions and what kind of technical issues need to be solved?

P10: I think the first one that I was talking about was the tiara exhibition at Sotheby's ,

that was done without advanced digital means. It used diversified display methods, not only putting jewellery in glass showcases, but also having a dynamic experience. Combined with lighting, the lights were projected at a special angle to jewellery to set off the sense of atmosphere. In addition, I personally like the background sound in exhibitions. I found in my previous research that whether online or offline, background sound plays a great role in enhancing the audience's immersive experience. But we also need to think about the hearing impaired in practice, how to let them experience the auditory sense. I think curators could design visually dynamic to give them a little bit of rhythm. Besides that, the lighting design of the overall space should also be considered the harmony with jewellery and brand. Then it's the films. Because when we curate exhibition, we also accompany films to help describe the content of exhibitions.

Yimeng: Ok, so what do you think are the advantages and challenges those immersive technologies can bring to jewellery exhibitions?

P10: First of all, I think it can help the audience to better understand the exhibits. Secondly, since I do publicity work, I think the concept of immersion is more likely to attract the attention of non-exhibition target customers from the perspective of media exposure and the exhibition publicity. The challenge... I think the biggest challenge in practice is to ensure that every technical link can operate normally. Because in practice, no matter how mature the technology is, there will still be problems, so the technology is guaranteed to work well and there won't be too many problems is the biggest challenge.

Yimeng: Good. Thank you very much for your participation. If there is any other question, I will contact you later.

Transcripts 11 & 12

Yimeng: Could you please give a brief introduction to yourself, and then you can also introduce the project you're working on.

P11: Do You Yu and I both need to introduce ourselves?

Yimeng: Yes

P12: How do I introduce myself? Name Gender Age Education?

P11: hhhhhhh

Yimeng: hhhhh don't need to be so concrete, just give your name, occupation and any experience with jewellery, curation, and immersive technologies.

P11: Oh, I'm a jewellery designer, and I'm in the start-up phase of a brand.

P12: I used to major in jewellery appraisal, and my research project during my PhD study was more in the direction of IT, mainly studied jewellery 3D modelling. Now I'm working on digital advertising creation for jewellery. Han Xu happened to be working on her own jewellery brand, so we came up with the idea of creating a virtual jewellery exhibition.

P11: I had learned jewellery design during my undergraduate study and interactive design during my graduate study. During my study in the UK, I thought that the display form of jewellery could not only be the single way of putting jewellery in the window, but also have a more interactive way, so I derived this idea.

Yimeng: Do you start a business together?

P12: We are starting our own businesses respectively, mine is an advertising company and hers a jewellery studio.

P11: Yes.

Yimeng: Oh, I see. So let me start with some questions about immersive technology. What technologies are involved in your project?

P12: The underlying technologies are 3D modelling and jewellery rendering, based on which we have made VR and AR two versions.

Yimeng: What's the difference between these two versions?

P12: The VR version is purely virtual, which requires the audience to wear equipment such as VR helmet glasses to browse in an immersive way. The AR version requires a device such as a mobile phone or an iPad, which allows viewers to view jewellery in an augmented reality mode.

Yimeng: Oh, I see.

P11: There was a fashion week a while back. Uh, I can't remember which fashion week is. They set up a large poster with a pattern on it that visitors could scan with their

mobile phones to see the virtual image.

Yimeng: Yes, I had a similar experience at the Tiffany exhibition in London. The curator had set up some QR code in the venue of the yellow diamond necklace, and audiences can scan it through Tiffany's app in their mobile phone and the virtual yellow diamond necklace will appear in their devices. Audiences can wear the necklace through their mobile phones to take photos.

P12: Right, this is AR technology.

Yimeng: Well, what is your definition of the immersive experience?

P12: There should be some relatively official definition of it. My opinion, it refers more to a purely virtual environment like VR. It's like… when you can be in a virtual environment but have a very real experience.

P11: It's about putting yourself in a different scene and experiencing the atmosphere of that scene.

P12: It's more real than if you look at a flat piece because it's very three-dimensional. But if you look at something like MR on your phone, no matter how you move or rotate it, it's still a flat simulation. Because of the binocular disparity, VR devices can make people's sensory reception more three-dimensional.

Yimeng: Okay, so which immersive technology do you think is more popular?

P11: Do you mean which is more popular between AR and VR?

Yimeng: Well, not just these two, but also like MR and more general technologies like projections, digital screens and so on.

P12: From a technical point of view, the MR should be the best experience if the display issues are resolved. But there are technical issues with its resolution and the focusing method. Like Microsoft's HoloLens and Google's Glass are both not particularly clear. If you've ever played it, it actually superimposes virtual object in a real scene, and it's not a complete replacement for the real thing in the scene yet. Users can clearly identify what is real and what is virtual. If the technology is more mature in the future, MR should be the best immersive experience technology. As for AR and VR, I think each has its own advantages and disadvantages. As mentioned before, AR appears in real life but can only be seen through the screen of the phone while VR directly puts the audience in the virtual environment.

P11: Yes, AR requires a carrier.

Yimeng: Ok. Have you thought about the audience? Because when I read, I learned that some elderly customers expressed their resistance to such high-tech things.

P12: Well, there's an acceptance process. Because VR's screen resolution and experience are improving, and it's not expensive, you can buy it for the price of a phone. Although we did have some dizzy feeling after playing several VR devices, I think this can be solved. We think it has a good trend and potential, so we're going to do it ahead

of time instead of waiting for it to mature.

P11: I think the reason for the resistance of elderly people maybe because there are many operation steps, and they are not familiar with the equipment. This can be addressed by reducing interaction steps and optimizing hardware operations.

Yimeng: OK, you mentioned that VR devices can make users feel dizzy. So how to solve this problem?

P12: The main solution is to upgrade hardware. At present, it is mainly limited by technological development, but these problems will be solved sooner or later. In fact, it has been solved quite well now. The resolution of the current relatively new equipment is very high, and the focusing method is better. In fact, VR devices mainly simulate human senses of vision, as long as the resolution and focus are similar to the real vision, then the sense of reality will be stronger.

Yimeng: What do you think are the advantages of this kind of immersive exhibit way?

P12: Advantages ... I think the scenes and contents of exhibitions are unrestricted. For example, when making jewellery, you need to consider the limitations of physical structure, material characteristics and cost. But to do virtual exhibition, whether it is the production of exhibits or space, you do not need to consider so much and can be imaginative and rich.

Yimeng: How about its limitations?

P12: The first is that the sense of reality is still not real enough. For example, it is difficult for us when we try to make the simulation of diamond fire colour, and it is relatively easier to make jade or relatively pure gemstones. Due to the limit of computing power, the simulation of transparent materials has been a relatively difficult problem. Because we have been trying to simulate various gemstones and jewellery materials recently, like opal and diamond fire colours are particularly difficult to simulate.

P11: Yeah, it's hard to model (gemstones) with chatoyant and with very high refractive indices.

P12: Refractive index is not too difficult; it is the internal structure of the resulting chatoyance is very difficult (to simulate).

P11: Yeah, Opal must be hard to model because its colour changes from different angle.

Yimeng: OK got it.

P12: But there is hope that these can be solved with software upgrades. Like in the real-world people will develop some new diamond cutting, thinking about how to cut the diamond according to its structure to look better. It is the same in the virtual world, we need to explore how to make the same optical effect as the real gem, even can make higher fire colour, higher refractive index, etc., which will not appear in the real world. Oh well, there is another drawback. That's no matter how real the simulation is in the virtual world, users can't touch it. Although there are technologies to simulate

haptics, the resolution is not high, and the tactile sensation is much worse than that of real objects. Besides that, VR can only simulate auditory sense and visual sense, but people's tactile, gustation and smell sense cannot be simulated.

Yimeng: Is there another way to experience the touch of jewellery?

P12: In tactile, there's a scientific experiment, which is you touch something that looks like an object, and then you're given vision of that object, so that you will think you're touching it. In a similar way, for example, if I give you a model of a piece of jewellery, but you see a real piece of jewellery, you will have the illusion that you are touching the real one.

Yimeng: Does that mean that in practice it is possible to combine tactile with visual and auditory in some way?

P12: Yeah, it could be simulated in theory. Like there are some 5D cinemas, which can not only provide 3D visual effects of the film, but also like blow or spray water to let the audience have some tactile feelings.

Yimeng: What about the cost?

P12: The cost is relatively low, mainly the cost of modelling and research and developing computer code. But the cost of a virtual exhibition is likely to be much lower than the cost of a real jewellery exhibition.

P11: Yeah, because a real jewellery exhibition requires stocking up, renting space, renting equipment, security, etc. You don't need those for virtual exhibitions.

P12: It can also be open 24 hours a day and the number of people at the exhibition can be unlimited.

P11: The scene is not restricted as long as it can be modelled. It can also be watched interactively, and viewers can communicate online.

P12: There could also be a virtual docent.

P11: uh…I saw an example yesterday of the metaverse of I Do.

P12: Well, I think it is just a gimmick because it is presented on the mobile phone and does not require the VR equipment, but the meaning of that (metaverse) has come out, in fact, I Do can make another version that requires VR equipment.

Yimeng: Is it possible that this form can be combined with offline physical things?

P12: This is definitely fine. It's okay to set up interactions offline to lead audience to online. But it will increase the cost of offline exhibitions, depending on how complex it is.

Yimeng: I see. Do you think these technologies are necessary or not necessary for offline exhibition?

P12: I think this is a complement to the offline exhibition, which depends on whether

the exhibition needs to use these technologies.

P11: I think many offline exhibition forms are relatively fixed, and these technologies are another way to present exhibits, which enrich the offline exhibition.

P12: ChinaJoy, for example, has both an offline exhibition and an online version of the Metaverse. The online exhibition and the offline exhibition share the same theme, but the content is different.

P11: Yes, I think the online exhibition is an extension of the offline exhibition. Like temporary exhibitions, they have a deadline, but online exhibitions as a platform can be open all the time, the audiences can always be active in this platform as well.

Yimeng: Okay, so what do you think are the biggest challenges with these technologies?

P12: The biggest challenge is the technology itself. The technical complexity of building such a system is quite high, such as 3D reconstruction and 3D rendering to be realistic is a big challenge.

Yimeng: Okay, well, what advantages do you think these technologies could bring to the jewellery exhibitions?

P12: The extension of time and space is the biggest advantage.

P11: There are just not that many restrictions.

Yimeng: Then why did you think of using VR and MR for making jewellery exhibition? Is it because of the shortcomings of the current jewellery exhibition methods?

P12: It's not defective. It's just that we can't go to the international jewellery exhibition in Hong Kong because of the pandemic, so we have this idea. In fact, there are so many offline exhibitions we can’t go now, and the trend of curating offline exhibitions and online exhibitions simultaneously has been very obvious.

P11: In fact, not only for the pandemic, but online exhibitions can also solve regional differences and reduce the cost of visitors to the exhibition.

Yimeng: Okay, that's the end of the question about immersive technology, and following questions are about the jewellery exhibitions. What do you think the status of jewellery exhibitions in the jewellery brands, or what role it plays?

P11: I think it's a role of presenting and a bridge of communicate between the audience with the brand. Are you talking about a commercial jewellery exhibition or just a pure brand jewellery exhibition?

Yimeng: I mean the non-commercial jewellery exhibitions, rather than the trade show.

P11: I don't think we can call this kind of exhibition a non-commercial jewellery exhibition. For example, the 100-year retrospective exhibition held by Van Cleef & Arpels in Shanghai, although it is not a trade show, it also promotes the brand image and spreads the brand story? Its ultimate goal is to attract more consumers. Therefore, I think these brand jewellery exhibitions are not completely non-profit exhibitions. They

are not profitable at present, but they are still beneficial in the long run.

Yimeng: Ok. Well, what do you think is the main way of curation in most jewellery exhibitions nowadays?

P11: I think it is mostly narrative curation, mainly showing the history of the brand and promoting the brand story.

Yimeng: How about the current online jewellery exhibitions?

P11: For example, Cartier APP also has MR display to provide consumers with virtual wear. Chow Tai Fook has also made 3D displays of virtual diamond rings. In addition, other jewellery exhibitions like Tiffany's you mentioned before will combine online and offline. Bvlgari's exhibition in Shenzhen had a similar approach, with a music fountain in the space, and a wish coin thrown by scanning a QR code with a mobile phone. There were not many Bvlgari jewellers in this exhibition, it was mainly to promote the brand image and tell the story of the brand's history.

Yimeng: Oh, so based on what you've seen so far, the current jewellery brands like to incorporate these technologies right?

Xu: Yes, I used to work in Chow Tai Fook. In fact, people there are willing to combine these (high-tech), but there is no studio or company specializing in this kind of service.

Yimeng: Ok, next question. Well, in addition to the physical characteristics of jewellery mentioned earlier, what other aspects do you think can be enhanced through technology?

P11: The interaction, the display of crafts, history and culture of the brand and wearing can be enhanced by technology.

Yimeng: So, are you also considering using these techniques to display the craft, background and so on in addition to the physical effects of the jewellery?

P11: Yes, the online exhibition we do is equivalent to a platform to display jewellery works series, brand stories and so on. Equivalent to a complete exhibition hall. When we show the jewellery series on this platform, we will create a corresponding scene according to its theme. This scene does not have so many restrictions like real space, and we can build whatever we want.

Yimeng: And how do you achieve the narrative of the exhibition in such a virtual space?

P11: I think it needs to be designed according to the specific exhibition content. We will design different display and narrative methods according to different contents. For example, we can make a virtual narrator, or design NPCS to interact with the audience in the scene, or we can achieve narrative guidance through scene switching.

Yimeng: OK I got it. That’s all the questions, many thanks for your participants and I am really looking forward to your virtual exhibition! I will contact you in the future, would you mind sharing images of your virtual exhibition with me and let me put in my thesis, I will cite your name.

Appendix F Theme and Raw Data

The whole data could be found through this link:

https://sotonac-my.sharepoint.com/:x:/r/personal/yl24n19_soton_ac_uk/Documents/Data%20analysis.xlsx?d=w0f8f9ad01bef4caea3199f6814316e54&csf=1&web=1&e=7yZ3I7

Appendix G Codes and data analysis

Theme 1: Participants' background	
P1	Works at the Creative Innovation School of Xiamen University, focusing on design disciplines. Involved in research, library management, and organizing design-related exhibitions within the school. Exhibitions primarily target students and teachers.
P2	Works in Shenzhen, specializing in planning and operating exhibitions, particularly in the art and trendy IP sectors. Previous experience as an independent curator for small-scale IP exhibitions.
P3	A teacher at Xiamen University's School of Creative Innovation. Involved in exhibition-related tasks, communication with curators, and exhibition design.
P4	A project manager in marketing planning, specifically in the jewellery industry. Manages brand marketing, product marketing packaging, and promotion. Organizes exhibitions with varying durations and investment costs.
P5	Engaged in marketing for Chow Tai Fook's sub-brand. Responsible for the overall planning of large-scale events and exhibition curation within the brand.
P6	A final year PhD student at the University of Southampton, researching nostalgia and its induction methods, particularly using virtual reality.
P7	Works as a designer in a large jewellery company, focusing on the daily design of jewellery.

P8	Formerly worked in event planning and space operation for an exhibition organization in Hangzhou. Currently works in an artist's studio in Shanghai, handling the media aspect.
P9	Pursuing a master's degree in Cultural Heritage and Museology at Fudan University, specializing in jewellery exhibitions in luxury contexts.
P10	Works in marketing for an auction company in the UK. Involved in concept planning and exhibition design, with previous research on curation of online/virtual exhibitions.
P11	A jewellery designer in the start-up phase of a brand, graduated from Goldsmith, combining studies in jewellery and interactive design.
P12	Previously focused on jewellery appraisal and IT-oriented 3D modelling during a Ph.D. Now involved in digital advertising creation for jewellery and co-creating a virtual jewellery exhibition with a partner.

Theme 2- Concept of the Contemporary Curation	
Influence of Hans Ulrich Obrist (P1):	Recognition of Hans Ulrich Obrist as a key influence on understanding contemporary curation. Reference to books written by Hans Ulrich Obrist on curation.
Shift in Curation (P1):	Contemporary curation is distinguished from the past.

	Not solely about presenting artworks but emphasizes thematic exhibitions.
Focus on Themes (P1):	Contemporary curation focuses more on themes than on individual art objects. Emphasis on intangible concepts and the connection of multiple artists to convey themes.
Connection of Artists (P1):	Contemporary curation involves connecting multiple artists. Artists are allowed to discuss and present specific themes through their works.
Source of Contemporary Themes (P1):	Contemporary themes are drawn from the surrounding environment. Themes are related to social issues such as environmental protection, political matters, and popular topics like feminism.
Logic in Curation (P3):	The importance of using logic in curation to capture specific events or moments in history. Arranging events in an organized way for presentation to the public.
Organizing Exhibitions (P3):	Exhibitions involve collecting and assembling elements. Logical arrangement is crucial in conveying ideas, meanings, and viewpoints to the public.
Expression of Ideas (P3):	Curation is described as a way to express ideas, meanings, and convey viewpoints. The organized presentation of events contributes to the communication of complex narratives.

Contemporary Fashion Curation (P9):	Fashion curation in the contemporary context is often led by fashion brands. Focuses on showcasing brand culture, history, and introducing brand values.

Analysis:

The interview content suggests a multifaceted understanding of contemporary curation. Influenced by Hans Ulrich Obrist, contemporary curation is seen as a departure from traditional forms, emphasizing thematic exhibitions and the interconnectedness of multiple artists. The themes in contemporary curation are identified as emerging from the surrounding environment, particularly addressing social issues and popular topics.

Moreover, the significance of logic in curation is highlighted, portraying it as a methodical process of capturing specific historical events and presenting them in a coherent manner. The organized arrangement of elements in exhibitions is considered crucial for conveying ideas and meanings to the public.

Lastly, in the context of fashion, contemporary fashion curation is perceived as being primarily led by fashion brands, serving as a platform to showcase brand culture, history, and values. The overall impression is that contemporary curation is a dynamic and evolving field, deeply connected to societal and cultural contexts.

Theme 3： the Role of a Curator	
Complex Role of Curator (P1):	The complexity of the curator's role is emphasized. Need for handling various affairs. Crucial aspect: a deep understanding of specific items or themes. Analytical skills and connection to art history or current artistic conditions are required. Art Connoisseur and Public Relations (P1): Curators are both art connoisseurs and skilled in public relations. Engagement in public relations activities, including communication with sponsors and forming an all-encompassing image. Balancing the roles of deeply understanding artworks and managing interpersonal relations.
Role as a Bridge and Storyteller (P2):	Primary role as a bridge and storyteller. Interpretative process in the context of pure or contemporary art. Establishing a communication bridge between artists and the audience. Balancing the interpretative role with considerations for commercial exhibitions.
Influence and Editing Function (P2):	The influence of curators depends on the type of artist or exhibition content. For artists with distinct personalities, curators may provide assistance. In cases requiring reorganizing content (brands), curators act as editors.
Soul of the Exhibition (P3):	Curators as the soul of the exhibition.

	Need to have ideas and thoughts, clearly defining viewpoints. Responsibilities in organizing and coordinating before, during, and after the exhibition. Consideration of income and potential product launches or services related to the exhibition.
Connecting Audience, Artist, and Space (P8):	Curator as a connector between the audience, artist, and space. Ability to connect them more closely. Importance of a third-party, independent curators for clearer control.
In-Depth Understanding (P9):	Curators need an in-depth understanding of exhibition content, especially in the relevant field. Research experience in the field of the exhibition (e.g., fashion curation). Responsibilities include selecting exhibits, organizing and designing the entire exhibition, and conveying the content to the audience. Collaboration with museum educators and public relations staff during the planning process.

Analysis:

The role of a curator is depicted as multifaceted and dynamic. Curators are portrayed as individuals who must navigate a complex set of responsibilities, from deeply understanding specific items or themes to engaging in public relations activities. They act as interpreters, bridging the gap between artists and the audience, particularly in the context of contemporary art.

The influence of curators varies depending on the artist or exhibition type, and their role is likened to that of editors in situations requiring content reorganization. Throughout the exhibition process, curators are described as the soul of the exhibition, responsible for its organization, coordination, and even considering income-related aspects.

Moreover, curators are seen as connectors, linking the audience, artist, and space closely. The necessity of third-party, independent curators is highlighted for maintaining clearer control. The interviewees consistently stress the need for a deep understanding of exhibition content and effective communication skills, showcasing the intricate and vital role curators play in the art world.

Theme 4： the Most Important Thing for a Curator	
Clear Concept and Effective Communication (P1):	Clear concept is the most important for a curator. Profound understanding of the exhibition theme. Articulation of the concept through clever storytelling and content expression. Clear concept attracts attention and support from artists or sponsors. Contribution to successful presentation and support in terms of artwork, funding, and venues. Emphasis on effective communication.
Evolution of Curation and Expression of Ideas (P3):	Key for a curator is expressing or conveying viewpoints. Evolution of curation from simply putting things together to a means of expression. Curators are similar to designers, expressing ideas and conveying concepts. Importance of systematically organizing and presenting content. Curators gather scattered fragments to form concepts and sentiments. Desire to express and convey ideas in various types of exhibitions.
Visual Appearance and Brand Image (P4):	Visual appearance is crucial, especially in brand projects. Professional focus on ensuring the overall appearance is satisfactory. Sales are not the sole determinant; priority is addressing all necessary points properly. Aesthetically pleasing presentation impacts the brand's image. Importance of universally accepted beauty in brand image. Focus on showcasing and packaging the product effectively.
Customer Experience (P5):	Emphasis on the customer experience. Suggested as a crucial aspect for consideration.

Analysis:

The interviews highlight several perspectives on the most important aspects for a curator.

Concept and Communication (P1): The emphasis is on a curator's ability to articulate a clear concept, fostering effective communication. This clear concept is seen as instrumental not only for the exhibition's success but also for gaining support from artists, sponsors, and in securing resources.

Expression of Ideas (P3): The narrative extends to the evolution of curation, likening curators to designers who desire to express ideas. The organization and systematic presentation of content are viewed as crucial for conveying concepts and sentiments to the public.

Visual Appearance and Brand Image (P4): In the context of brand projects, visual appearance and brand image take centre stage. While profitability is considered, the focus is primarily on ensuring an aesthetically pleasing presentation and a positive impact on the brand's image.

Customer Experience (P5): Another perspective introduces the importance of the customer experience, indicating a broader consideration that extends beyond the presentation to encompass the overall experience for the audience.

These codes reflect a multifaceted view of what is deemed most important for a curator, incorporating elements of concept clarity, effective communication, expression of ideas, visual aesthetics, brand image, and customer experience.

Theme 5: Current Trend of Curation	
Visual Media Dominance in Current Curation (P1):	Current curation trends in the participant's circle lean towards visual media, particularly photos and images. A lack of specificity is noted regarding themes that future curation might focus on.
Trend Towards Collective Direction and	Observes a trend towards a more collective direction in curation.

Diversification (P1):	Cites an example from Xiamen where an art festival predominantly showcases image works, attracting participation from many artists and concentrating these works for display during a specific period. Emphasizes the aspect of diversification.
Experiential and Interactive Multimedia Dominance (P2):	In major Chinese cities (Beijing, Shanghai, Guangzhou, Shenzhen), experiential and interactive multimedia exhibitions are more popular. Internet celebrity exhibitions are highly favoured, with a focus on creating visual impacts and providing photo opportunities. Participants tend to prefer participatory exhibitions, especially those featuring immersive displays and participatory curation methods unless the audience has a strong interest in artistic expression.

Analysis:

Visual Media Dominance (P1): The participant suggests that the prevailing trend in their circle revolves around the dominance of visual media, specifically photos and images. The theme exhibition might be the focus of future curation.

Trend Towards Collective Direction and Diversification (P1): The notion of a collective direction in curation is highlighted, using an example from an art festival in Xiamen. This involves attracting numerous artists to participate and concentrating their image works for a specific exhibition period. The emphasis on diversification is evident in this trend.

Experiential and Interactive Multimedia Dominance (P2): The second participant sheds light on the trends in major Chinese cities. Experiential and interactive multimedia exhibitions take precedence, with a notable favouritism towards internet celebrity exhibitions. The emphasis is on creating visual impacts and generating photo opportunities. Additionally, the preference for participatory exhibitions, especially those with immersive displays and participatory curation methods, is mentioned, contingent on the audience's interest in artistic expression.

In summary, the current trends in curation, as discussed by the participants, encompass the dominance of visual media, a trend towards a more collective approach with diversification, and a preference for experiential and interactive multimedia exhibitions, particularly those associated with internet celebrities. The participatory aspect, especially with immersive displays, is highlighted as a notable preference unless the audience specifically leans towards an interest in artistic expression.

Theme 6： Commonly Used Curation Method	
Thematic Exhibitions as Most Popular (P1):	Thematic exhibitions are identified as the most popular curation method.
Storytelling (Narrative) as a Commonly Used Method (P3):	Storytelling, often referred to as narrative, is recognized as the most commonly used method. Narrative plays a crucial role in design and exhibitions, influencing conceptual decisions. Practical implementation involves considerations for exhibition design, including pathway planning and space configuration. Offline exhibitions, directly related to people and spaces, necessitate thoughtful planning for a richer audience experience.
Focus on Thematic Exhibitions with a Sales Core (P4):	The participant primarily works on thematic exhibitions, with a central focus on a theme around which the exhibition revolves. While aiming to provide an experiential aspect, the core objective is sales.
Designing Interactions and Scenes with Social Media Appeal (P5):	Designing interactions and scenes related to themes is a common approach. Emphasis on making scenes visually appealing for social media sharing. Scenes and interactions are deemed important elements, contributing to the attractiveness of exhibitions.
Immersive Atmosphere Setting for Brands (P8):	Storytelling and narrative-based approaches are observed in big brands. Curators, including those working with small brands, focus on creating an immersive atmosphere in the space.

	Fashion exhibitions are highlighted as different from art exhibitions, featuring more ambience and interaction with the audience.

Analysis:

Thematic Exhibitions Dominance (P1, P4): Thematic exhibitions are highlighted as the most popular and commonly used method among the participants, demonstrating their prevalence in the curation landscape.

Storytelling (Narrative) Significance (P3, P8): Storytelling, often referred to as narrative, emerges as a critical and commonly used method. It plays a central role in design and exhibition planning, influencing both conceptual aspects and practical implementation. The immersive atmosphere created through storytelling is noted, especially in the context of big brands.

Social Media Appeal and Interactivity (P5): The emphasis on designing interactions and visually appealing scenes for social media sharing reflects a contemporary approach to curation. Social media impact and audience interactivity are considered crucial elements in the design process.

Sales Focus in Thematic Exhibitions (P4): While thematic exhibitions are commonly used, it is highlighted that the core objective for some is sales. This underscores the diverse purposes that thematic exhibitions can serve, including promotional and commercial objectives.

Fashion Exhibitions Distinctiveness (P8): Fashion exhibitions are distinguished from art exhibitions by their emphasis on creating ambience and providing more interactive experiences for the audience. This suggests a recognition of the diverse requirements of different exhibition genres.

In summary, the commonly used curation methods include thematic exhibitions, storytelling (narrative), and a focus on creating visually appealing scenes with social media appeal. These methods serve various purposes, ranging from commercial objectives to providing immersive experiences for the audience. The distinctions between art and fashion exhibitions are also noted in terms of ambience and interaction.

Theme 7： Concept of Immersive Experience

Technology in Immersive Experience (P2):	Setting the scene is one aspect of immersive experiences, but technology, including screens and digital technology, plays a crucial role. Technologies like the Metaverse recreate scenes that differ from real life, providing a fantasy or escapist experience. Experiences like teamLab are completely detached from real life.
Sensory Stimulation in Immersive Experience (P3):	The core of immersive experience involves coordinating and unifying the five senses: vision, hearing, touch, smell, and taste. Physical immersive experiences often focus on sight, with some incorporating smell and touch for a richer sensory experience.
Fully Immersive Experience through Technology (P3):	Fully immersive experiences present scenarios comprehensively through all senses, achieved with technologies like light, sound, and scents. Examples include teamLab and the Chinese Pavilion using projection technology to simulate environments and create a different reality for attendees.
Environment's Role in Immersive Experience (P3):	The environment is crucial for immersive experiences; dimly lit, flickering lights create a theatrical atmosphere. A quiet and dark environment allows attendees to focus more on experiencing the impact of the exhibition.
Multi-sensory and Conceptual Immersion (P8):	Immersion involves a multi-sensory experience, making visual, auditory, and other senses feel more all-round and three-dimensional. The concept of the work is crucial, providing in-depth ideas that help the audience understand the work more directly.
Distinction in Types of Immersive Experience (P10):	Differentiates between the immersion of physical exhibitions and the immersion of virtual exhibitions.

Purely Virtual Environment in Immersive Experience (P12):	The immersive experience, according to one participant, refers more to a purely virtual environment like VR, providing a very real experience.
Experiencing Atmosphere in Immersive Experience (P11):	The immersive experience is about putting oneself in a different scene and experiencing the atmosphere of that scene.

Analysis:

The concept of immersive experience is multifaceted and encompasses various elements.

Technology, particularly in the form of screens, digital technology, and technologies like the Metaverse, plays a crucial role in creating immersive environments. Sensory stimulation, including sight, sound, smell, and touch, is integral to achieving a comprehensive immersive experience.

Fully immersive experiences aim to engage all senses, making attendees feel physically present in a different reality.

The environment, including lighting and sound effects, is recognized as a significant factor in immersive experiences, contributing to creating unique atmospheres. The distinction between physical and virtual exhibitions highlights the diversity in approaches to achieving immersion.

Overall, the immersive experience is not only about sensory stimuli but also involves conceptual depth, with the concept of the work providing in-depth ideas that enhance the audience's understanding.

Theme 8： Current Status Immersive Exhibitions	
Limited Exposure to Immersive	Relatively few immersive experiences in non-first-tier cities in China.

Experiences (P1):	Limited personal exposure, often appearing in places like shopping malls. Examples of immersive exhibitions like Van Gogh's Starry Night and immersive performances.
Technology Adoption by Major Brands (P2):	Major brands widely adopt technology in fashion exhibitions.
Growing Interest in Immersive Exhibitions (P8):	Conventional exhibitions are more common, but there's a growing trend toward immersive exhibitions. Traditional content like calligraphy may adopt immersive forms, catering to the taste of young people.
Virtual Exhibitions and COVID-19 Pandemic Impact (P10):	Public attention to virtual exhibitions has increased due to the pandemic. Classical museums have considered virtual curation and online exhibitions for a long time.
Preference for Narrative Immersive Exhibitions (P10):	Preference for narrative immersive exhibitions, combining stories with VR technology. Disappointment when narrative deviates to discuss commercial aspects, breaking the immersive experience.
Commercial Influence on Immersive Exhibitions (P10):	Some immersive exhibitions, like the Alice exhibition, have a commercial focus. Concerns about the impact on the immersive experience when commercial elements deviate from the original storyline.
Critique of Online	Criticism of online immersive exhibitions directly copying offline scenes without adding more experience.

Immersive Curation (P10):	Emphasis on enhancing the aura of the object, suggesting improvements in image re-creation, music, and interface design for better online immersion.
Preference for Visual Enjoyment (P10):	Observation that some people prefer purely visual enjoyment and may overlook content in immersive exhibitions.
Narrative Depth in Immersive Exhibitions (P10):	Critique of immersive exhibitions lacking narrative depth and providing a celebrity story feel rather than an artistic experience. Preference for exhibitions with critical ideas that offer an updated understanding of the artist.

Analysis:

Exposure and Adoption (P1, P2, P8): Participants note a relative scarcity of immersive experiences in non-first-tier cities in China, with exposure often limited to specific areas like shopping malls. Major brands in fashion widely adopt technology, indicating a growing interest in immersive elements. There is a shift towards immersive exhibitions, even in traditionally conventional content like calligraphy, catering to the preferences of the younger audience.

Virtual Exhibitions and Pandemic Impact (P10): The pandemic has increased public attention to virtual exhibitions, but classical museums have long considered virtual curation. This suggests a potential acceleration of trends due to the pandemic's influence.

Commercial Influence and Critique (P10): Immersive exhibitions, such as the Alice exhibition, sometimes have a commercial focus. Critiques point out that a strong commercial influence may compromise the immersive experience, especially when it deviates from the original narrative. There's an acknowledgment that commercial considerations might be relevant but can disrupt the immersive atmosphere.

Online Immersive Curation Critique (P10): A critical view of online immersive curation is presented, emphasizing the need for enhancements beyond direct scene copying. Suggestions include improving image re-creation, music, and interface design to provide a smoother and more immersive online experience. The importance of conveying the aura of the object is highlighted.

Narrative Depth and Artistry (P10): A preference is expressed for narrative immersive exhibitions that go beyond visual and auditory elements. Criticism is directed at immersive exhibitions that lack narrative depth, offering a celebrity story feel rather than an artistic experience. The importance of critical ideas to provide an updated understanding of artists is emphasized. In summary, the current status of immersive exhibitions indicates a growing interest and adoption of immersive elements, particularly in fashion exhibitions and non-traditional art spaces like shopping malls. The pandemic has accelerated attention towards virtual exhibitions. However, concerns exist regarding the commercial influence on immersive experiences and the potential compromise of narrative depth for purely visual enjoyment. There's a notable critique of online immersive curation, emphasizing the need for improvements to enhance the online immersive experience. Overall, the immersive exhibition landscape is evolving, incorporating technology and narrative elements, but challenges related to commercialization and online experiences need to be addressed for a more holistic and meaningful immersive experience.

Theme 9： Main Reasons for the Limited Use of Immersive Technology and Challenges	
City Size and Resources (P1):	Major cities are more inclined to host immersive exhibitions due to greater resources and audiences. Limited involvement in smaller second and third-tier cities, potentially influenced by resource constraints.
Technological Limitations (P1):	Second and third-tier cities may face limitations due to technological capabilities, possibly lacking advanced elements like 3D simulation and sophisticated integration. Reliance on basic projection technology might contribute to the lag in technology for immersive exhibitions.
Challenges of Exhibition Environment (P3):	Lack of a good exhibition environment is a significant challenge. Technological limitations like low model accuracy in early VR experiences and environmental factors contribute to constraints. Pandemic situations may drive the exploration and development of virtual exhibitions and immersive technologies.

Budgetary Constraints (P4, P5):	Budget determines the results achievable in immersive exhibitions. Limited budget leads to challenges in achieving higher results. Challenges include practical difficulties in approval processes, especially for projects involving stars or outdoor events.
Technological Requirements and Costs (P6):	High-resolution virtual reality headsets are essential for detailed displays, with associated costs. Integration with technologies like cameras for real environment transfer adds to the cost.
Jewellery Exhibitions in Museums (P9):	Limited mainstream acceptance of jewellery exhibitions in museums may result from scepticism. Challenges include the need for more personalized content and the perception of jewellery exhibitions as niche.
Personalization and Technical Challenges (P9, P12):	Exhibitions need more personalized content to explore unique aspects of brands. Technical challenges include difficulty simulating certain materials like diamond fire colors and chatoyance. Challenges in simulating tactile sensations, gustation, and smell in the virtual world.
Audience Challenges and Offline-Online Integration (P12):	Challenges in attracting audiences and increasing the cost of offline exhibitions. The need for offline interactions to lead audiences to online, but it might increase offline exhibition costs.
Technology Complexity (P12):	Building a realistic 3D reconstruction and rendering system poses a significant technical challenge.
Analysis:	

City Size and Resources (P1): Major cities with more resources and audiences are inclined toward immersive exhibitions. Smaller cities may have less involvement due to resource constraints.

Technological Limitations in Second and third-tier Cities (P1): Despite strong artistic atmospheres in some second and third-tier cities, there may be limitations in technological capabilities and the use of basic projection technology.

Challenges of Exhibition Environment (P3): Challenges include the lack of a suitable exhibition environment and limitations in early VR experiences. The pandemic situation has increased the difficulty of offline exhibitions.

Budgetary Constraints (P4, P5): Budget constraints significantly impact the results achievable in immersive exhibitions. Challenges in approval processes and varying brand requirements contribute to practical difficulties.

Technological Requirements and Costs (P6): High-resolution virtual reality headsets are essential for detailed displays, but costs can be a limiting factor. Integration with technologies like cameras adds to the overall expenses.

Jewellery Exhibitions in Museums (P9): Limited mainstream acceptance of jewellery exhibitions in museums, possibly due to scepticism and challenges in collaborative exhibitions between museums and brands.

Personalization and Technical Challenges (P9, P12): The need for more personalized content in jewellery exhibitions. Technical challenges include simulating materials and the limitation of simulating tactile sensations, gustation, and smell in the virtual world.

Audience Challenges and Offline-Online Integration (P12): Challenges in attracting audiences and increasing the cost of offline exhibitions. Recognition of the need for offline interactions to lead audiences to online, with potential cost implications.

Technology Complexity (P12): Building realistic 3D reconstruction and rendering systems poses a significant technical challenge. This complexity may contribute to the limited use of immersive technology.

Conclusion:

The limited use of immersive technology and associated challenges are multifaceted. The city size, budgetary constraints, technological limitations, and challenges in creating suitable exhibition environments are significant contributors. While major cities with more resources are more inclined toward immersive exhibitions, technological limitations, especially in advanced elements, pose challenges even in these

environments. Budget constraints emerge as a recurring theme, affecting the achievable results and leading to challenges in approval processes and practical difficulties. Challenges related to personalized content, audience perception of niche exhibitions, and technical complexities in simulating materials further contribute to the limited use of immersive technology. The integration of offline and online experiences, along with considerations of cost, adds complexity to the immersive exhibition landscape. Addressing these challenges requires a comprehensive approach, involving advancements in technology, increased budgets, and innovative strategies to enhance the immersive experience for diverse audiences.

Theme 10： Is It Necessary to Use Technologies for Immersive Experience	
Technology as Part of Curation (P1):	Technology is considered an integral part of curation, offering more possibilities, programming options, and richer presentations. The choice of a digital approach is deemed necessary to enhance the exhibition experience creatively.
Benefit of Technologies for Public Acceptance (P2):	While not strictly necessary, having technology in exhibitions, especially if used effectively, can be better for public acceptance and become a highlight.
Relative Perspective on Necessity (P3):	The necessity of technology in exhibitions is viewed as relative. Form (technological or non-technological) should serve the exhibition, with the decision to incorporate technology depending on the theme and content.
Technology Use Based on Context (P3):	High-tech or cutting-edge technology is beneficial for exhibitions that require innovation, offering greater benefits in relevant fields. In rural areas, the use of such technologies might be unnecessary, and the focus should be on the content itself.
Accessibility and Integration	Technology is seen as necessary due to its accessibility and integration into people’s lives.

of Technology (P6):	Integration of technological developments is crucial to keep up with the lifestyle of younger generations.
Effectiveness of Immersive Techniques (P8):	Technology is deemed necessary for certain works that effectively communicate concepts to the audience using immersive techniques. However, caution is advised against overemphasizing technology at the expense of the artworks themselves.
Technology for Overcoming Limitations (P10):	While not mandatory for immersion, technology becomes necessary to overcome limitations of location and conditions. Lights and electronic screens are considered essential for creating a sense of enjoyment in space and presenting dynamic stories.
Complement to Offline Exhibition (P12):	The use of technology is seen as a complement to offline exhibitions, and its necessity depends on the exhibition's specific needs.
Enriching Offline Exhibition (P11):	Technologies are viewed as another way to present exhibits, enriching the relatively fixed forms of offline exhibitions.

Analysis:

The necessity of using technologies for immersive experiences is contingent on various factors, including the curator's goals, the exhibition's theme, and the context. While technology is viewed as an integral part of curation, the decision to incorporate it is relative, guided by the exhibition's needs and the audience's expectations. Technology is seen as beneficial for enhancing public acceptance, overcoming limitations, and presenting dynamic stories. However, caution is advised to avoid overemphasizing technology at the expense of the artworks themselves. The consensus is that technology complements and enriches traditional offline exhibitions, making it a valuable tool when used judiciously. In conclusion, the use of technologies for immersive experiences is necessary when it aligns with the goals of the exhibition, enhances audience engagement, and provides unique and creative possibilities for presenting content.

Theme 11： Advantages of Using Technologies of Immersive Experience	
Enhancing Art Accessibility (P2):	The use of immersive technologies, like photography or interactive installations, aids in making art more accessible, particularly in societies still understanding art.
Dazzling Overall Experience (P2):	Immersive technologies contribute to a more dazzling overall experience, especially in terms of visual appeal.
Immersive Experiences in Online Formats (P3):	Due to the pandemic, online exhibitions with immersive experiences become more prevalent, offering a sense of immersion in technology and artificial intelligence.
Attracting Attention through Uniqueness (P5):	The uniqueness of immersive experiences attracts attention and becomes advantageous in terms of attracting a larger audience.
Cost-Effective and User-Friendly (P6):	Immersive technologies, such as virtual reality, are seen as cost-effective, user-friendly tools that can be easily integrated into studies and experiments.
Safety and Security in Virtual Presentations (P6):	Virtual presentations provide safety and security, especially for expensive items like jewellery, eliminating concerns about theft.
Enhanced Concept Conveyance (P8):	Immersive technologies attract individuals unfamiliar with the exhibition, facilitating a more straightforward conveyance of the concept when aligned with the exhibit.

Deepening Audience Experience (P9):	Immersive exhibitions are thought to help audiences deeply experience the information conveyed, offering a novel and enjoyable experience.
Improved Understanding of Exhibits (P10):	Immersive experiences aid the audience in better understanding exhibits, and the concept of immersion attracts non-target customers through media exposure.
Advantages of AR and VR (P12):	Augmented Reality (AR) and Virtual Reality (VR) are advantageous due to improving screen resolution, affordability, and the freedom from physical constraints in exhibit creation.
Low Costs for Virtual Exhibitions (P12):	Online virtual exhibitions are cost-effective, with lower expenses related to modelling, research and development, compared to real exhibitions.
24/7 Accessibility and Unlimited Audience (P12):	Virtual exhibitions can be open 24 hours a day, and the number of attendees is not limited, offering extended accessibility.
Interactive and Virtual Docent (P11, P12):	Virtual exhibitions allow interactive viewing and may include features like a virtual docent, providing a continuous and interactive experience.
Extension of Time and Space (P12):	The most significant advantage is the extension of time and space, eliminating restrictions on viewing hours and locations.
Solving Regional Differences (P11):	Online exhibitions can address regional differences, making art accessible regardless of geographical location.

Analysis:
In summary, the incorporation of immersive technologies in art exhibitions offers numerous advantages. These include increased accessibility, enhanced visual appeal, cost-effectiveness, safety, and the ability to attract a larger audience. Virtual exhibitions, particularly those employing augmented and virtual reality, provide unique experiences, extend accessibility globally, and overcome constraints associated with time and space. The benefits encompass improved understanding, deepened audience engagement, and the ability to address regional differences, making immersive technologies a valuable and transformative asset in the art world.

Theme 12： Commonly Used Technologies of Immersive Experience	
Screen Interactions:	P2 mentions that immersive experiences often involve screen interactions. While the specific details are not provided, it suggests the integration of interactive displays or interfaces that engage visitors through visual elements on screens.
Projection Technology:	Projection technology is highlighted as one of the most common ways to create immersive experiences (P2). P4 also mentions the use of projections, emphasizing their role in exhibitions.
Holographic Projection and 360-Degree Photography:	P4 discusses the consideration of holographic projection but highlights the associated high costs. The use of 360-degree photography technology is mentioned, providing a unique perspective but also facing challenges due to high costs.
Big Screens and Interactive Technologies:	P5 describes the use of big screens and interactive technologies in exhibitions. The example of Belle's joint exhibition with SpongeBob SquarePants is cited, where interactive technologies were incorporated to enhance the theme.
Light and Shadow Effects:	P8 mentions that current immersive experiences primarily involve light and shadow effects, created through light, projection, and sound. This indicates a focus on sensory elements beyond visual aspects.

Visual Techniques and Moving Images:	P10 emphasizes visual techniques, including the use of big screens and moving images combined with music. This combination is employed to immerse the audience and create a captivating visual narrative.
VR Technology:	P10 notes the widespread use of VR technology, highlighting its role in providing short but intense experiences that enhance overall immersion. VR is acknowledged for immersing the audience in the storyline of the exhibition.
Audio Guides with Enhanced Content:	P10 also mentions the use of audio guides, which have evolved beyond simple explanations of historical value. Nowadays, audio content accompanies the exhibition's narrative, sometimes incorporating music to enhance the immersive experience.

Analysis:

Commonly used technologies for creating immersive experiences in exhibitions are diverse, catering to both visual and sensory aspects. Projection technology, big screens, interactive displays, and moving images are prevalent, providing captivating visual narratives. Despite the potential of advanced technologies like holographic projection and 360-degree photography, challenges such as high costs limit their widespread adoption. Light and shadow effects, often created through sound and projection, contribute to the immersive atmosphere.

Additionally, VR technology plays a significant role in short but intense experiences, allowing audiences to be immersed in exhibition storylines. The evolution of audio guides from mere explanations to enriched content with accompanying narratives and music demonstrates the expanding role of auditory elements in enhancing immersive experiences.

In summary, the landscape of immersive technologies in exhibitions is dynamic, with a mix of established methods and emerging technologies contributing to diverse and engaging visitor experiences. The choice of technology often depends on factors such as budget, the thematic nature of the exhibition, and the desired level of immersion.

Theme 13： Disadvantages of Using Technologies of Immersive Experience

Homogenization and Lack of Innovation (P2):	P2 discusses the issue of homogenization in exhibitions, where similar methods are adopted across many exhibitions, potentially limiting innovation.
High Costs and Budget Constraints (P3):	P3 emphasizes the significant downside of high costs associated with implementing new technologies, which may not be proportional to the benefits.
User Acceptance and Resistance (P3):	P3 highlights the importance of considering whether users are interested in and willing to accept new technology, acknowledging potential resistance and fear.
Balancing Form and Content (P3):	P3 points out the need to balance form and content when applying new technology, as prioritizing form over content can diminish the effectiveness of attracting users.
Challenges with VR Technology (P6, P8):	P6 raises concerns about the complexity of using VR, including coding skills, device weight, and resolution issues. P8 shares a personal experience with VR, expressing that the VR experience did not meet the expectation and lacked a special feeling.
Lack of Interaction in VR (P8):	P8 notes the simplicity of interaction in VR experiences, where the audience may have limited engagement, affecting the overall experience.
Effectiveness and Cost for Learning (P9):	P9 expresses uncertainty about whether immersive installations can effectively help in learning and understanding, citing the general high costs associated with such installations.
Challenges and Potential of AR and VR (P12, P11):	P12 discusses challenges associated with AR and VR, including the need for a carrier in AR and the dizziness experienced in VR. P11 mentions the resistance of elderly people due to operational steps and suggests addressing it by reducing interaction steps and optimizing hardware.

Hardware Upgrade as a Solution (P12):	P12 suggests upgrading hardware as a solution to overcome challenges in VR, noting that current equipment has high resolution and improved focusing methods.
Analysis: The disadvantages of using immersive technologies include concerns about homogenization, high costs, user acceptance and resistance, challenges with VR technology, lack of interaction, and uncertainties about the effectiveness and cost-effectiveness of learning. Balancing innovation, considering user preferences, and addressing technological challenges are crucial for the successful implementation of immersive technologies in exhibitions.	

Theme 14： Technologies of Immersive Experience for fashion/Jewellery Brands	
Importance of Brand Story and Substance (P2):	P2 expresses a preference for focusing on the story of a fashion brand rather than external technological displays. Gentle Monster is cited as an example that relies on scene displays without necessarily using screens or multimedia materials each time.
Metaverse and Virtual World Considerations (P3):	P3 discusses the relevance of immersive experiences in the virtual world, especially with the rise of the metaverse. The ability to create scenes in the virtual world is highlighted, offering unique ways to showcase jewellery and introduce non-realistic elements into the design.
Emotional Connection through Storytelling (P10):	P10 emphasizes the importance of establishing an emotional connection with the audience. Storytelling about the birth process of a jewellery brand or the design concept through videos enhances understanding and meaning. The physical aura of jewellery in offline exhibitions is discussed, with considerations for lighting and the impact on the jewellery's presence.
Technology Enhancing	P10 suggests that technology, such as virtual wearables in the virtual world, enhances the aura of jewellery. The psychological feeling that

Jewellery Aura (P10):	what can't be obtained is the best contributes to the perceived value of the jewellery.
Enhancement of Interaction, Display, and Culture (P11):	P11 mentions that technology can enhance interaction, the display of crafts, history, and the culture of the brand, emphasizing the positive impact of technology in these aspects.
Analysis: The statements collectively emphasize the importance of storytelling, emotional connection, and the enhancement of brand aura through immersive technologies. The metaverse and virtual world are seen as promising spaces for unique and non-realistic presentations of jewellery. While offline exhibitions are valued for their 3D presence, technology is recognized as a tool to strengthen the effects of exhibition displays, providing a more interactive and emotionally engaging experience. The overall sentiment is that technology, when applied thoughtfully, contributes positively to the presentation and perception of fashion and jewellery brands.	

Theme 15： Audience Consideration	
Commercial Interests and Audience Targeting (P3):	P3 discusses the dual perspective of exhibitions, considering both commercial interests and the curator's expressive desires. The focus on attracting more visitors is acknowledged, and audience categorization based on factors like age, gender, profession, and income levels is mentioned.
Personal Consideration and Limited Involvement (P3):	P3 shares a personal perspective, admitting a lack of consideration for attracting visitors due to limited expertise in this area. The involvement in art exhibitions or related events is described as minimal, with a focus on government demands, school requirements, and company-related art exhibitions.
Professional Curators and Income (P3):	P3 elaborates on the role of professional curators, noting that their income is often proportional to the number of visitors they attract. The financial aspect is emphasized, suggesting that attracting more people

	could lead to higher overall income, including future exhibition packages.
Non-Profit Purpose and Genuine Expression (P3):	P3 highlights a non-profit purpose and states that attracting visitors may be secondary to other considerations. The emphasis is on genuinely expressing the displayed content, allowing relevant individuals to naturally gravitate towards the exhibition.
Analysis: The statements collectively emphasize the dual nature of considering audiences – balancing commercial interests with the curator's expressive desires. While professional curators often link attracting visitors to income, the personal perspective reveals a more limited involvement, especially in non-profit scenarios. The essential aspect for non-profit purposes is genuine expression and effective assessment of the exhibition's impact. This indicates that the approach to audiences' considerations varies based on the nature of the exhibition, with some prioritizing financial aspects and others emphasizing the authenticity of the content.	

Theme 16： Concept of Jewellery	
Difference between jewellery and accessories:	The speaker acknowledges a distinction between jewellery and accessories.
Jewellery is more upscale, consumers are affluent:	Jewellery is considered more upscale, targeted at affluent consumers.
Accessories are inclined towards daily wear:	Accessories, in contrast, are described as more inclined towards daily wear, suggesting a broader, everyday audience.

Both can be viewed from a design perspective:	The speaker notes that both jewellery and accessories can be considered from a design point of view, implying a shared focus on materials like precious metals and gems.
Difference in the 'volume' of their value:	The term "volume" is used metaphorically, indicating a difference in the perceived value between jewellery and accessories.
Analysis: The speaker (P7) outlines the conceptual differences between jewellery and accessories, emphasizing that jewellery is more high-end and appeals to affluent consumers, while accessories cater to daily wear and a wider audience. The mention of viewing both from a design perspective suggests a commonality in the materials used. The metaphorical use of "volume" implies a distinction in perceived value between the two. Overall, the concept of jewellery involves considerations of audience, design, and perceived value.	

Theme 17： Concept of Jewellery Brand	
Defining a Jewellery Brand (P4):	Essence: The definition of a jewellery brand lies in ensuring product quality and building consumer trust. Importance: The most crucial aspect for a brand is to ensure the quality of its jewellery.
Distinguishing Jewellery Brands (P5):	Difference: Jewellery brands differ from other types due to the use of high-value materials like gold, silver, and precious stones. Focus: The core of a jewellery brand is still the product and craftsmanship, with an emphasis on product quality, craftsmanship, design styles, and concepts.
Innovation in Jewellery Brands (P7):	Innovation: Few jewellery brands are actively innovating, with Boucheron being cited as an example. Core: The core of jewellery brands remains centred around the product.

Analysis:

The concept of a jewellery brand revolves around ensuring the quality of the products, building consumer trust, and emphasizing craftsmanship. While different from other brands due to high-value materials, the core focus remains on the product. Innovation is highlighted as a key factor for brands that are truly moving forward in the industry. Overall, the foundation of a successful jewellery brand lies in a commitment to product quality and, to some extent, innovation.

Theme 18： Exhibitions for Jewellery Brands	
Brand Significance and Premium (P4):	Participants emphasize the significance of exhibitions in elevating the brand, making ordinary products appear extraordinary, and reflecting in brand premiums.
Practical Focus on Sales (P4, P5):	Both P4 and P5 highlight the practical goal of exhibitions, which is to drive sales by attracting customers through aesthetically pleasing presentations.
Continuous Brand Building (P4):	P4 emphasizes the need for continuous and long-term efforts in brand building. They suggest that occasional events may not produce noticeable effects, and brand perception accumulates over time.
Brand Image and Diversity (P5):	P5 mentions the importance of exhibitions in showcasing a brand's rich heritage and diversifying the brand's image, especially for traditional brands like Chow Tai Fook.
Strategic Significance (P7):	P7 discusses the strategic significance of exhibitions, citing examples like Tiffany's exhibition in China, aiming to penetrate the market and enhance brand impact.
Value Addition in Consumers' Minds (P7, P8):	P7 and P8 emphasize the role of exhibitions in adding value to brands in consumers' minds and the long-term return on investment beyond short-term gains.

Dissemination Purposes (P9):	P9 categorizes the purposes of jewellery exhibitions into emphasizing aesthetic value, promoting brand culture, and educating about industrial techniques. Such exhibitions reach a wider audience and enrich knowledge.
Role as a Bridge and Presenter (P11):	P11 sees the role of exhibitions as presenting and bridging communication between the audience and the brand. They argue that brand jewellery exhibitions, even if not immediately profitable, are beneficial in the long run.

Analysis:

Exhibitions for jewellery brands serve multiple purposes, including brand elevation, practical sales promotion, continuous brand building, and strategic market penetration.

The long-term impact on brand perception is highlighted, with a focus on creating a positive brand image and adding value in consumers' minds.

Exhibitions are viewed as a platform for disseminating information about brand culture, history, design styles, and industrial techniques.

While the immediate return on investment may not be evident, the long-term benefits, including increased consumer awareness and brand loyalty, make brand jewellery exhibitions valuable for the industry.

Theme 19： Current Status of Jewellery Exhibitions	
Differentiation in Craftsmanship (P7):	P7 emphasizes the importance of craftsmanship in differentiating jewellery brands, highlighting that designers focus on understanding craft details during exhibitions.
Storytelling and Narration (P7):	P7 appreciates exhibitions that incorporate storytelling and narration, citing examples like the Tiffany exhibition in Shanghai and "Awaken" in Shenzhen. Narration helps connect ordinary people with historical origins and former owners of jewellery.

Immersive Experience and Technology (P7):	P7 suggests that big jewellery exhibitions often have immersive experiences, with potential for further use of newer technologies like VR to allow visitors to experience the feeling of wearing jewellery.
Diversified Exhibition Methods (P8):	P8 notes differences between big and emerging brands in exhibition approaches. Big brands tend to focus on brand and product stories, while emerging brands pay more attention to the sense of form in exhibitions.
Artistic Tonality and Atmosphere (P8):	P8 highlights the artistic tonality of Gucci's exhibition, which focused on the overall atmosphere rather than explicitly showcasing the brand. Lighting and display methods were used to set off the sense of atmosphere.
Fashion Curation Trends (P9):	P9 discusses the relatively new theme of fashion curation, its relationship with art, design, and contemporary culture, and its frequency in museums. There's a suggestion that current jewellery exhibitions in China often have a generic focus on brand history and design styles.
Multimedia Displays and Lighting (P9):	P9 notes that current exhibition formats often rely on multimedia displays, including videos and images, with the use of lighting to enhance attractiveness.
Innovative Display Methods (P10):	P10 discusses the tiara exhibition at Sotheby's, highlighting diversified display methods and dynamic experiences, combining lighting at special angles to set off the sense of atmosphere.
Combination of Online and Offline (P11):	P11 mentions examples of jewellery exhibitions combining online and offline elements, such as virtual wear through MR displays, 3D displays of virtual diamond rings, and the use of QR codes for interactive experiences.
Challenges and Trends in Museums (P9):	P9 discusses challenges in showcasing jewellery exhibitions in museums, facing resistance and skepticism.

	Collaborative exhibitions between museums and jewellery brands are relatively scarce, and there is a trend to avoid solely promoting brand culture.
Limited Experience in Collaboration (P9):	P9 notes limited experience in collaboration between museums and jewelry brands, with data from 16 exhibitions, mostly starting around 1985 in China.

Analysis:

The current status of jewellery exhibitions involves a focus on craftsmanship for brand differentiation. Storytelling and narration play a crucial role in making exhibitions more relatable and meaningful to a broader audience. Immersive experiences are common in big jewellery exhibitions, and there is a potential for incorporating newer technologies like VR to enhance visitor experiences. Exhibition methods vary between big and emerging brands, with a focus on brand and product stories for big brands and attention to the sense of form for emerging brands. Fashion curation, including jewellery exhibitions, is a relatively new theme with a potential connection to art, design, and contemporary culture. Multimedia displays, lighting, and innovative display methods contribute to the attractiveness of exhibitions. The combination of online and offline elements is increasingly prevalent in modern jewellery exhibitions, providing interactive and engaging experiences for visitors.

However, Museums face challenges in mainstreaming jewellery exhibitions, and collaborative efforts between museums and jewellery brands are relatively scarce. The trend suggests a preference for combining brand collections with museum artifacts or collaborating with natural history museums. Limited experience in collaboration is observed, with data from 16 exhibitions in China, mostly starting around 1985 and increasing in frequency after 2011. Challenges such as skepticism and resistance in showcasing jewelry exhibitions in museums are acknowledged.

Theme 20： Concepts of Customers' Luxury Experience	
Service as Key in Customer Experience (P4):	Participants emphasized the importance of service in the luxury customer experience. P4 specifically notes that customer experience is mainly about service, both in-store and during brand exhibitions.

Aligning Showcase with Reality (P4):	P4 highlights the importance of avoiding situations where consumers are deceived and ensuring that what is showcased matches the promotion. This is crucial for maintaining a positive customer experience.
Quality Guarantee and Affordable Options (P4):	P4 acknowledges that luxury brands provide a guarantee of quality, but due to more affordable options, customers might choose luxury brands for specific situations.
Meticulous Service and Pleasure (P5):	P5 emphasizes meticulous service and making the entire consumption process intimate and pleasant, with the ultimate goal of providing pleasure to customers.
High Quality of Service in Luxury Experience (P7):	P7 concisely states that the luxury experience is defined by the high quality of service.
Contrasting Sales Experiences (P7):	P7 shares a personal experience of contrasting service at Bulgari and Buccellati. The negative experience at Bulgari, where the salesperson was scornful, stands in stark contrast to the positive experience at Buccellati, where the salesperson warmly treated the customer, even though there was no immediate intention to make a purchase.

Analysis:

The concept of luxury customer experience is strongly tied to the quality of service, both in-store and during activities like brand exhibitions. Meticulous service, intimacy, and pleasure are key elements that contribute to a positive luxury experience for customers. Luxury brands are expected to align what they showcase with reality to avoid any form of deception that could negatively impact the customer experience. Personalized and warm treatment by salespersons significantly influences the overall perception of the luxury experience. Negative experiences, such as scornful behaviour from salespersons, can have a lasting impact on customers and may lead to dissatisfaction. Consistency in providing a high-quality service is crucial for building and maintaining a positive image in the luxury market.

Theme 21： Essence of Luxury Brands' Experience	
Limited Experience in Buying Process:	P4 expresses that there's not much of an experience during the buying process. The interaction seems transactional, where the attractiveness of products and a satisfactory trial lead to a purchase.
VIP Benefits and Additional Gifts:	P4 mentions the existence of additional benefits for VIPs, such as receiving gifts. The mention of luxury brands sending groceries to VIP customers during the severe pandemic period is highlighted.
Positive Impression from VIP Services:	P4 acknowledges that the gesture of sending groceries to VIP customers creates a positive impression of the brand, enhancing the overall luxury brand experience.
Concerns about Service Attitude:	P4 notes that the attitude of luxury brand service staff may not always be good, with instances where they might appear to look down on customers. The negative service attitude of sales associates in the participant's company is mentioned.
Treatment of Browsing Customers:	The participant highlights that those who come to browse without making a purchase might be treated coldly in luxury stores, leading to common complaints. This underscores the importance of service in the luxury brand experience.
Service Over Product Quality:	P4 expresses a belief that in the luxury brand experience, service might be more important than product quality because the product experience is perceived as quite similar across luxury brands.
Analysis (P4): The essence of the luxury brand experience, as perceived by the participant, revolves around the buying process, VIP benefits, and the service provided by luxury brands. VIP benefits, such as additional gifts and gestures like sending groceries during challenging times, contribute to a positive impression of the brand.	

The participant highlights concerns about the service attitude of luxury brand staff, especially instances where they may appear to look down on customers, leading to unpleasant experiences. The treatment of browsing customers is noted as a common reason for complaints, emphasizing the significance of service in the overall luxury brand experience. The participant suggests that, in the luxury sector, where product quality may be perceived as similar, service becomes a crucial factor in differentiating brands and creating a positive customer experience.

Theme 22： If Technologies of Immersive Experience Could Enhance the Luxury Experience	
Dependence on Exhibition Theme:	P5 suggests that the effectiveness of immersive experience technologies depends on the theme of the exhibition. For exhibitions conveying conceptual or abstract ideas, immersive experiences may not necessarily enhance the luxury experience.
Example of Exhibition Theme:	P5 provides an example of an exhibition with the theme of “Getting Rich” where the design concept involves combining traditional and modern Chinese style. In this case, the participant believes that immersive experiences may not be suitable or applicable.
Immersive Feeling with Concrete Scene Elements:	P5 expresses that for exhibitions involving more concrete scene elements, immersive experiences can be more effective. This implies that the nature of the content and design plays a significant role in determining the suitability of immersive technologies.
Limited Use in Retail Stores:	The participant notes that some retail stores attempt to use immersive technologies, but the adoption is not widespread.
Analysis (P5): The effectiveness of immersive experiences is contingent on the nature of the exhibition theme and the design concept.	

For conceptual or abstract ideas, immersive experiences may not enhance the luxury experience, as seen in the example of the “Getting Rich” exhibition. However, when dealing with more concrete scene elements, immersive experiences are perceived as having the potential to create a more engaging and immersive feeling. The limited use of immersive technologies in retail stores indicates that the adoption of such technologies may not be widespread or standardized in the luxury industry. In conclusion, the integration of immersive technologies in the luxury experience is nuanced and depends on the specific goals and themes of the exhibitions or retail environments.

Theme 23： Haptic Technology	
Haptic Technology in Virtual Reality (P6):	P6 acknowledges that haptic touch can be simulated in virtual reality using different devices. However, to achieve this, additional equipment is required, such as something worn on the hands, to enable users to feel or touch virtual objects. The complexity arises from the need to code different shapes to create a realistic haptic experience.
Scientific Experiment in Tactile Perception (P12):	P12 describes a scientific experiment where touching something resembling an object, coupled with the vision of that object, creates an illusion of touching the real thing. This suggests that tactile perception can be influenced by visual input.
Simulating Tactile Sensations in 5D Cinemas (P12):	P12 mentions 5D cinemas as an example of simulating tactile sensations in theory. These cinemas not only provide 3D visual effects but also incorporate elements like blowing or spraying water to offer additional tactile feelings to the audience.
Analysis: Both participants, P6 and P12, agree that haptic technology can enhance virtual experiences but highlight the need for additional devices or equipment for realistic haptic touch.	

P6 emphasizes the complexity of coding different shapes to create a genuine haptic sense, and P12 discusses the influence of visual input on tactile perception in a scientific experiment. The mention of 5D cinemas by P12 indicates that technology can simulate tactile sensations in entertainment settings, offering a multisensory experience beyond visual effects. In conclusion, while the simulation of haptic touch is possible with the right technology and equipment, challenges exist in terms of complexity and the need for additional devices. The potential for enhancing the luxury experience, especially in areas like virtual jewellery exploration, remains an interesting avenue for exploration.

Theme 24： Future Trends and Suggestions of Jewellery Exhibitions	
Combining Museums and Brand Collections (P9):	Participant 9 suggests a future trend where museums might combine brand collections with their artefacts or collaborate with natural history museums. The emphasis is on a combination of different exhibits to enhance the overall museum experience.
Enhancements for Jewellery Exhibitions (P9):	P9 also proposes improvements for jewellery exhibitions, including accompanying educational activities and the development of cultural and creative products, indicating a move towards more enriching and educational exhibition experiences.
Immersion and Narrative in Jewellery Exhibitions (P10):	Participant 10 emphasizes the importance of immersion in jewellery exhibitions, suggesting that unnecessary elements should be minimized to allow the audience to focus on appreciating the jewellery. The participant values narrative elements that tell the story of the brand and design, contributing to a more engaging experience.
Multisensory Aspects in Exhibitions (P10):	Participant 10 mentions the significance of background sound in exhibitions and how it plays a crucial role in enhancing the audience's immersive experience. The consideration of hearing-impaired

	individuals is also noted, suggesting a focus on inclusivity in exhibition design.
Technical Considerations for Immersive Experience (P12):	Participant 12 discusses the technical aspects of immersive technologies. The potential of Mixed Reality (MR) is highlighted, but challenges, such as resolution and focusing methods, are acknowledged. The participant also recognizes the unique advantages and disadvantages of Augmented Reality (AR) and Virtual Reality (VR).
Design Flexibility Based on Content (P11):	Participant 11 emphasizes the importance of designing exhibitions based on specific content, suggesting various display and narrative methods tailored to different themes. This underscores the need for flexibility and adaptability in exhibition design.
Interactive Elements in Exhibition Experiences (P2):	Participant 2 shares insights about the impact of interactive elements in exhibitions, noting that multimedia or interactive media make the experience more interesting and memorable. However, the participant acknowledges that trends in this area may have changed over the past few years.
Combining Traditional and Interactive Elements (P2):	Participant 2 suggests that combining traditional static displays with interactive and multimedia elements might be a bigger trend, offering a balance between effective presentation methods. The integration of interactive elements is seen as a supplementary enhancement rather than a complete replacement for traditional forms.
Understanding Augmented Reality (AR) (P6):	Participant 6 mentions augmented reality (AR) as a potential technology for the future. The description suggests an AR experience where virtual elements are projected into a real environment without the need for VR headsets.
Analysis: Future trends and suggestions for jewellery exhibitions include a combination of brand collections with museum artefacts, immersive experiences with minimal unnecessary elements, a focus on narrative storytelling, and the integration of educational activities and cultural products.	

Consideration for multisensory experiences, including background sound and inclusivity for hearing-impaired individuals, is highlighted. Technical challenges and possibilities in immersive technologies such as Mixed Reality (MR), Augmented Reality (AR), and Virtual Reality (VR) are discussed, with an emphasis on addressing display issues for optimal experiences. Design flexibility based on specific content, a balance between traditional and interactive elements, and the use of multimedia to enhance engagement are identified as key considerations for the future of jewellery exhibitions.

Appendix H Speculative Design Process

Background (summary)

- The commercial value of jewellery within the luxury goods sector has been steadily increasing, prompting luxury brands to explore and expand into the high jewellery market. Besides that, jewellery contains significant history and culture, which is attributed to distinct meanings in various cultural contexts. Jewellery exhibitions play a vital role in the luxury experience, acting as both strategic and cultural tools for jewellery brands. However, current jewellery exhibitions largely follow traditional, static display methods, failing to meet the evolving demands of contemporary jewellery brands and consumers.

Future Trend of Technology in Exhibitions (CambridgeSeven, 2023)

- Purpose and Aim:
- The immersive jewellery exhibition, "Jewelscape: A Journey Through Brand's Evolution," endeavours to redefine jewellery exhibition experiences by merging historical narratives, craftsmanship and product innovation, and cutting-edge technology. The aim is to engage visitors by bridging the deep-rooted historical context of jewellery with the innovation and artistry of the future.
- It is for catering to the evolving needs of contemporary jewellery brands and the ever-changing expectations of consumers. Leveraging the future trend of technology in exhibitions, the design aligns with the strategic and cultural roles jewellery exhibitions serve in enhancing brand exposure, and customer engagement, and crafting enriched narratives around craftsmanship, culture, history and innovation.
- Target Brands: High luxury jewellery brands, have a long history and rich culture; have their own unique craftsmanship; seeking crafts and product innovation.

Jewelscape: A Journey Through Brand's Evolution

Audiences' Experience Design

Pre-Exhibition Phase:

01

Digital Campaigns:
Online advertisements on social media, blogs, and the exhibition's website.

Personalized Invitations:
A tailored approach for select VIPs and early registrants, including a digital introduction to the exhibition theme and advanced reservation benefits (discounts/curators talk/private view).

Arrival & Registration:

02

Check-In & Information QR Code:
Visitors scan the QR Code through the brand app on their mobile devices to get exhibition information, personalised with their preferred language and exhibition preferences.

Welcome Space:
A Welcoming and informative area where visitors can get a brief overview and guidance on mobile app use. The exhibition will provide mobile devices to meet the needs of people who don' t have mobile devices.

Visiting Exhibition Phase:

03

Section 1 - Heritage Hall

3D-mapping projection:
The exhibition begins with a 3D-mapped showcase of the brand's heritage, utilizing projectors for immersive historical content projection, providing context and history of the brand and its heritage.

Audio Enhancements:
Combined with stereo sound systems, providing a soundscape tailored to the jewellery's history, and enhancing the visitor's immersive experience.

Section 2 – Craftsmanship Gallery

AI-Driven Guides (virtual conversation agency as a craftsman):
AI-powered (strong database) virtual guides providing historical insights, interacting and answering questions about craftsmanship (AR).

Section 3 – Cultural behind

continue with the last section, providing an in-depth Learning and Exploration.

Section 4 - Innovative section

Visitors encounter the innovative aspect, displaying the evolution of jewellery design and craftsmanship. Combined with some newly and famous designed series, using digital-wins technology and AR technology for interactive exhibits, offering virtual try-on experiences.

Section 5 - Final Interaction Space a multimedia space

Panoramic Digital Screens show some abstract visual elements based on the brand visual identity system. Combined with projection lights and background music.

Gesture Recognition Exhibits (combined with the panoramic digital screen): Touchless interactive experiences exploring jewellery stories using gesture controls (educational review).

Audio Enhancements: Binaural sound systems complement exhibits.

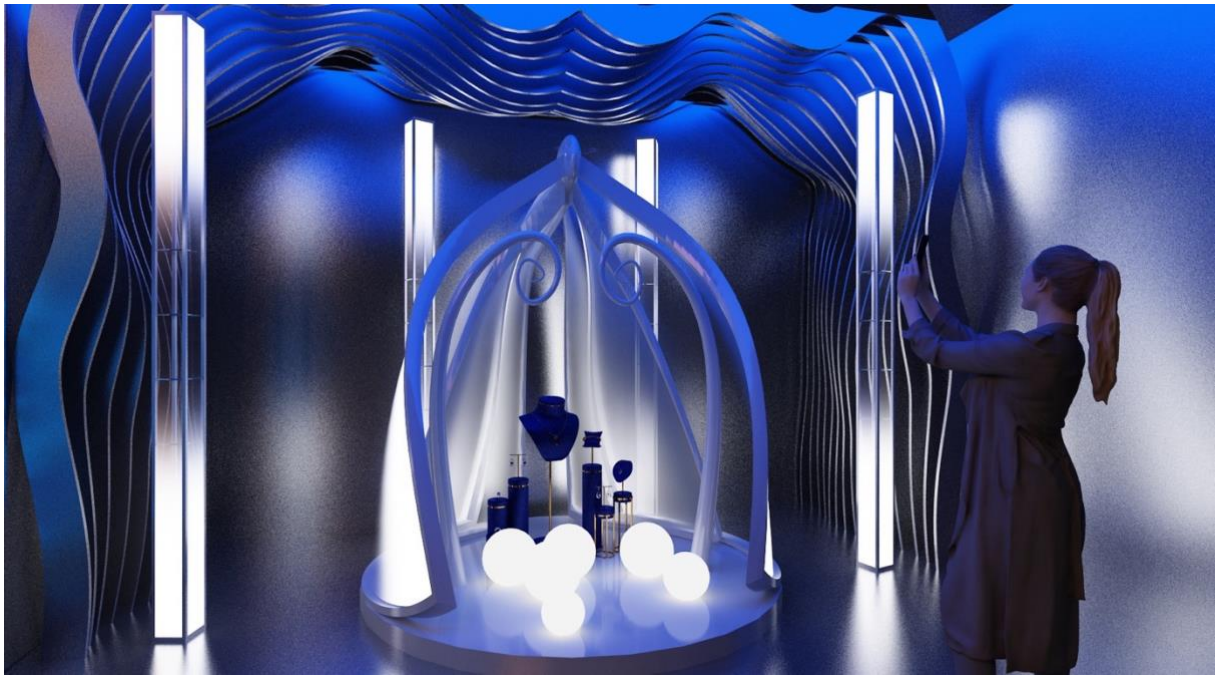
reflections and post-exhibition phase:

04

Personalised Goodbye:
As visitors exit, they receive personalized digital highlights and memorable parting photos aligned with their exhibition journey like the virtual trying-on.

Touchpoint for Future Engagement:
Gather visitor data for future interactions and engagement, such as sign-ups for updates on upcoming exhibitions and their preference for jewellery products.


Brand name




Virtual Trying On
Virtual Trying On

Glossary of Terms

Jewellery .....Jewellery, while rooted in tradition, aligns with fashion due to its dynamic evolution, reflecting cultural shifts and serving as a medium of personal expression. It positions itself at the intersection of art, fashion, and commerce, offering a lens for understanding broader cultural and market dynamics.

Luxury Jewellery Brands ....These include fine jewellery and haute couture houses like *Tiffany & Co.* and *Cartier*, known for their heritage, craftsmanship, and use of rare materials, as well as mega-brands like *Gucci* and *Louis Vuitton* offering fashion jewellery.

Fine Jewellery and Haute Couture Jewellery These are jewellery categories known for their heritage, exceptional craftsmanship, and use of rare metals and precious stones, distinguishing them from other types of jewellery through their timeless value and cultural significance.

Fashion Jewellery .....Jewellery that features identifiable aesthetics, logos, and brand-defined colours, often accessible to a broader market segment, offered by mega luxury brands.

Jewellery Collections .....A brand's historical jewellery, combining legacy pieces and contemporary designs, reflecting cultural, aesthetic, and historical significance.

Distinctive Products .....Jewellery pieces that represent a brand's core identity, showcasing exceptional design and craftsmanship while communicating the brand's unique values and narrative.

Contemporary Fashion Curation It is a tool for cultural criticism, a means of building and disseminating fashion knowledge, and a strategy for promoting brands. It reflects society, the environment, and the curatorial visions of fashion curators. It is complex and constantly evolving with time.

Immersive Experience .....It's a deeply engaging multisensory experience in which users must fully invest themselves physically, psychologically, and emotionally. To achieve this, the audience must be open to and willing to integrate into new environments or scenarios. The sense of presence in virtual environments is heightened as the audience directs more attention to the experience. The design of the experience should balance challenge and user skill to prevent excessive boredom or frustration while providing immediate feedback to maintain focus and engagement. This emotional state can include both positive and negative reactions, such as fear or anxiety.

Technologies of Immersive Experience The technologies of immersive experience are designed to attract the audience's attention and fully immerse them in the exhibition space. These technologies provide multiple sensory stimuli and ensure consistency across sensory modalities. The design must balance the challenge presented by the experience with the audience's ability to engage, while also delivering exhibition information and interactive feedback. The information provided should be of high quality and fidelity, with clear and rich content. Additionally, large-scale components should be included in the exhibition space, as a cramped or narrow field of vision can diminish the audience's sense of immersion.

Speculative Design.....Speculative design is a research method used to explore future technology developments and critique current practices (Auger, 2013). In this thesis, it is applied to propose future applications of immersive experience technologies in luxury jewellery exhibitions. The approach is grounded in logical trajectories of emerging technologies and tailored to specific needs. Using 3D MAX software, a speculative jewellery exhibition is designed, focusing on four key technologies: VR/AR, LED/laser projection, binaural audio, and interactive surfaces. The aim is to envision how these technologies can enhance cultural and educational experiences in future jewellery exhibitions.

List of References

Altarteer, S., & Charissis, V. (2019) 'Technology acceptance model for 3D virtual reality system in luxury brands online stores', *Ieee Access*, 7, pp. 64053-64062. Available at: https://ieeexplore.ieee.org/abstract/document/8713454/ (Accessed: 14 December 2023).

Ajmat, R., Sandoval, J., Arana, Sema, F., *et al.* (2011) 'Lighting design in museums: exhibition vs. preservation', *WIT Trans. Built Environ,* 118, pp.195-206. Available at: https://doi.org/10.2495/STR110171 (Accessed: 5 July 2023).

Alhojailan, MI. (2012) 'Thematic analysis: A critical review of its process and evaluation', *West east journal of social sciences,* 1(1), pp. 39-47. Available at: http://westeastinstitute.com/journals/wp-content/uploads/2013/02/4-Mohammed-Ibrahim-Alhojailan-Full-Paper-Thematic-Analysis-A-Critical-Review-Of-Its-Process-And-Evaluation.pdf (Accessed: 23 November 2022).

Andò, R., Briatore, S., & Denaro, G. (2023, July). 'Rethinking fashion storytelling through digital archives and immersive museum experiences' (from the FACTUM, 2023), S*pringer Proceedings in Business and Economics*. pp. 279-289. Available at: Cham: https://doi.org/10.1007/978-3-031-38541-4_26.

Angeletti, E., Gaiani, M., Palermo, R., & Garagnani, S. (2024). 'Beyond the physical exhibit: Enhancing, showcasing and safeguarding fashion heritage with VR technologies', *Digital Applications in Archaeology and Cultural Heritage*, 32, e00314. Abailable at: https://doi.org/10.1016/j.daach.2023.e00314.

Armitage, J. (2019) 'On the History of Luxury: Connecting Real Places to Digital Spaces' [PowerPoint presentation]. ARTD6144: *Historical and Contemporary Issues in Luxury*. Available at: blackboard@soton.ac.uk (Accessed: 11 May 2020).

Arnolds, J. (2011) *Victorian Jewelry, Identity, and the Novel: Prisms of Culture.* New York: Routledge.

Auger, J. (2013). 'Speculative design: crafting the speculation', *Digital Creativity*. 24(1), pp. 11-35. Available at: https://doi.org/10.1080/14626268.2013.767276.

Bai, Y. (2017) 'Artification and authenticity: Museum exhibitions of luxury fashion brands in China', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 213-228.

Balsom, E. (2013). *Exhibiting cinema in contemporary art*.Amsterdan: Amsterdam University Press.

Barthes, R. (2013) *The language of fashion*. Scottish: A&C Black.

Basballe, D.A. and Halskov, K. (2010) 'Projections on museum exhibits: engaging visitors in the museum setting', *Proceedings of the 22nd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction, pp*. 80-87. Available at: https://doi.org/10.1145/1952222.1952240 (Accessed: 1 July 2023).

Baxter, P. and Jack, S. (2008) 'Qualitative case study methodology: Study design and implementation for novice researchers', *The qualitative report*, 13(4), pp. 544-559. Available at: https://www.academia.edu/download/40131683/case_study_ecmple.pdf (Accessed: 07 April 2023).

Benjamin, W. (1935) 'The Work of Art in the Age of Mechanical Reproduction, 1936. Published', in M. H. Ellis (ed.) *Historical Perspectives in the Conservation of Works of Art on Paper*. Los Angeles, Califonia: The Getty Conservation Institute, pp. 144-148.

Bide, B. (2021) 'Fashion City or Museum of Fashion? Exploring the Mutually Beneficial Relationship between London's Fashion Industry and Fashion Exhibitions at the Victoria and Albert Museum'. *GeoHumanities*. 7(1), pp. 217-234. Available at: https://doi.org/10.1080/2373566X.2021.1923405.

Blackman, T., and Harley, D. (2024). 'Interpreting Apple's visions: Examining the spatiality of the Apple Vision Pro', *Platforms & Society*, 1. Available at: https://doi.org/10.1177/29768624241283913.

Bonetti, F., Pantano, E., Warnaby, G., & Quinn, L. (2019) 'Augmenting reality: fusing consumers' experiences and interactions with immersive technologies in physical retail settings', *International Journal of Technology Marketing*, 13(3-4), pp. 260-284. Available at: https://www.inderscienceonline.com/doi/abs/10.1504/IJTMKT.2019.104592.

Bubaris, N. (2014) 'Sound in museums – museums in sound', *Museum Management and Curatorship*, 29(4), pp. 391-402. Available at: https://doi.org/10.1080/09647775.2014.934049.

Burdea, G. and Coiffet, P. (2003) *Virtual reality technology*. Hoboken, New Jersey: John Wiley & Sons Inc.

Cadet, L. B., Reynaud, E., & Chainay, H. (2022) 'Memory for a virtual reality experience in children and adults according to image quality, emotion, and sense of presence', *Virtual Reality*, Springer, 26(1), pp. 55-75. Available at: https://doi.org/10.1007/s10055-021-00537-y.

Caggianese, G., Gallo, L. and Neroni, P. (2018) 'Exploring the feasibility of diegetic user interfaces in immersive virtual exhibitions within the cultural heritage', *2018 14th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*, IEEE, Las Palmas de Gran Canaria, Spain, 26-29 November 2018. Available at: https://doi.org/10.1109/SITIS.2018.00101 (Acessed: 04 November 2022).

Calvet, L., Bourdin, P. and Prados, F. (2019) 'Immersive technologies in higher education: Applications, challenges, and good practices', *Proceedings of the 2019 3rd International Conference on Education and E-Learning* pp. 95-99. Available at: https://doi.org/10.1145/3371647.3371667.

CambridgeSeven (2023) The Future of Technology in Museums. Available at: https://www.cambridgeseven.com/about/news/the-future-of-technology-in-museums/ (Accessed: 02 November 2023).

Capacete-Caballero, X., Caulfield-Sriklad, D. and McKay, F. (2013) 'Enhancing the display of the fashion artefact through digital multi-media approaches', *Proceedings of the 1st international conference on digital fashion*, MA Fashion Curation graduates, London College of Fashion, 16-17 May 2013. Available at: https://www.researchgate.net/profile/Daniel-Caulfield-Sriklad/publication/312136011_ENHANCING_THE_DISPLAY_OF_THE_FASHION_ARTEFACT_THROUGH_DIGITAL_MULTI-MEDIA_APPROACHES/links/5871352908ae6eb871c0933b/ENHANCING-THE-DISPLAY-OF-THE-FASHION-ARTEFACT-THROUGH-DIGITAL-MULTI-MEDIA-APPROACHES.pdf (Accessed: 29 October 2022).

Cappellieri, A., Tenuta, L. and Testa, S. (2020) 'Jewellery between product and experience: luxury in the twenty-first century', in Gardetti MÁ and Coste-Manière (ed.) *Sustainable luxury and craftsmanship*. Springer, pp. 1-23.

Chao, Yin, *et al.* (2020) 'Somatosensory Interaction of the Science Exhibition Based on Flow Theory', *IOP Conference Series: Materials Science and Engineering*, 926(1), pp.1-7. Available at: https://iopscience.iop.org/article/10.1088/1757-899X/926/1/012033/meta (Accessed: 20 October 2023).

Chen, Y., & Fu, Z. (2021) 'Speculative Scenarios: The Exhibition as a New Space of Thinking', *23rd HCI International Conference*, HCII 2021, Virtual Event, July 24–29 2021. Available at:

https://link.springer.com/chapter/10.1007/978-3-030-77077-8_24 (Accessed: 27 December 2023).

Clark, H. (2018) 'Curation and Exhibition', in A. Geczy, and V. Karaminas, (ed.) *The end of fashion: Clothing and dress in the age of globalization*. London and New York: Bloomsbury publishing, pp. 155-170.

Clark, J. and De La Haye, A. (2014) *Exhibiting fashion: Before and after 1971*. New Haven: Yale University Press.

Conn, S. (2010) *Do museums still need objects?*. University of Pennsylvania Press.

Cox, G., Dekker, A., Dewdney, A., & Sluis, K. (2021) 'Affordances of the Networked Image', *The Nordic Journal of Aesthetics*, 30(61-62), pp. 40-45. Available at: https://tidsskrift.dk/nja/article/download/127857/174089/270162 (Accessed: 25 December 2023).

Craik, J. (2009) *Fashion: the key concepts*. Oxford and New York: Berg Publishers.

Dale, S. (2014) 'Content curation: The future of relevance', *Business Information Review,* 31(4), pp. 199-205. Available at: https://journals.sagepub.com/doi/abs/10.1177/0266382114564267?casa_token=KBgw4ltj3_EAAAAA:wnRKD-Hsa32MnJJSuYdJsOt97h9AVqyPpk72F5yKC7ki8r8toKnqR0Tx6CHyyD6-MnDTvlBOcwCuAg.

Davies, R., & Jefsioutine, M. (2001). 'Designing a virtual gallery of contemporary jewellery: the realities of the virtual', *Digital Creativity*, 12(1), pp. 1-13. Available at: https://doi.org/10.1076/digc.12.1.1.10867.

Debo, K. (2017) 'Fashion curation at MoMu: Digital challenges', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 73-86.

de la Haye, A. (2014) 'Exhibiting fashion before 1971', in J. Clark and A. de la Haye (ed.) *Exhibiting Fashion: Before and After 1971*. New Haven: Yale University Press, pp. 11-21.

Dernie, D. (2006) *Exhibition design*. Laurence king publishing.

Duggan, G.G. (2001) 'The greatest show on earth: A look at contemporary fashion shows and their relationship to performance art', *Fashion Theory,* 5(3), pp. 243-270. Available at: https://doi.org/10.2752/136270401778960883.

Dukes, T. (2021) *Luxury Giants Like Louis Vuitton Are Falling for Big Gems*. Available at: https://www.nytimes.com/2021/01/29/fashion/jewelry-louis-vuitton-diamonds.html (Accessed: 9 February 2021).

Eicher, J. B. and Roach. M. E. H. (1992) 'Definition and classification of dress: Implications for analysis of gender roles', Berg Publishers. Available at: https://conservancy.umn.edu/bitstream/handle/11299/170746/Definition.pdf;sequence=1 (Accessed: 28 October 2022).

Electrosonic (2023) *Museum technology trends: A force for social and community impact*. Available at: https://www.electrosonic.com/blog/museum-technology-trends-a-force-for-social-and-community-impact (Accessed: 02 November 2023).

Galton, E. (2021) *Basics fashion design 10: Jewellery design: From fashion to fine jewellery*. Bloomsbury Publishing.

Gobbato, V. (2021). 'Museum Lighting and Embodied Experience', *Recall*, Researchgate, Paris, 11 November 2021. Available at: https://www.researchgate.net/profile/Gobbato-Viviana/publication/365302866_Museum_Lighting_and_Embodied_Experience/links/636e310c431b1f53008dc4e4/Museum-Lighting-and-Embodied-Experience.pdf (Accessed: 23 December 2023).

Gao, Y., Yang, J. and Yuan, S. (2022) 'Practical Application and Benefits of Immersive Curation: The Uniqueness of Van Gogh Exhibition', *2022 8th International Conference on Humanities and Social Science Research (ICHSSR 2022)*, 664, pp. 2630-2634. Available at: https://www.atlantis-press.com/proceedings/ichssr-22/125974604 (Accessed: 28 October 2022).

Geczy, A .and Karaminas, V. (2013) *Fashion and art*. London and New York: Berg Publishers.

George, A. (2015) *The Curator's Handbook*. London: Thames & Hudson.

Gilbert, H. (2002) 'Immersive Exhibitions: What's the Big Deal?', *Visitor Studies Today,* 5(3), pp. 10-13. Available at: http://kora.matrix.msu.edu/files/31/173/1F-AD-297-8-VSA-a0a6e0-a_5730.pdf (Accessed: 28 October 2022).

Graham, B. and Cook, S. (2010) *Rethinking curating: Art after new media.* Cambridge: The Mit Press.

Grau, O. (2003) *Virtual Art: from illusion to immersion.* Cambridge and London: MIT press.

Ha, H., Han, H., & Lee, K. (2020). 'A visualization system for exploring logo trend and design shape patterns', *Applied Sciences*, 10(13), pp. 1-20. Available at: https://www.mdpi.com/2076-3417/10/13/4579 (Accessed: 12 December 2023).

Han, D. I. D., Melissen, F., and Haggis-Burridge, M. (2024). 'Immersive experience framework: a Delphi approach', *Behaviour & information technology*, 43(4),pp. 623-639. Available at: https://doi.org/10.1080/0144929X.2023.2183054.

Handa, M., Aul, G. and Bajaj, S. (2012) 'Immersive technology–uses, challenges and opportunities', *International Journal of Computing & Business Research,* 6(2), pp. 1-11. Available at: http://researchmanuscripts.com/isociety2012/12.pdf (Accessed: 28 October 2022).

Hansen, MV., Henningsen, AF. and Gregersen, A. (2019) *Curatorial Challenges: Interdisciplinary Perspectives on Contemporary Curating.* London and New York: Routledge.

Heale, R. and Twycross, A (2018). 'What is a case study?', *Royal College of Nursing*, 21, pp. 7-8. Available at: http://dx.doi.org/10.1136/eb-2017-102845.

Hertz, P. (2008) 'From Technological to Virtual Art by Frank Popper', *Leonardo,* 41(2), pp. 192-193. Available at: https://muse.jhu.edu/article/236390/summary?casa_token=RCcC7uV0WU4AAAAA:N_EyoMSBttGt9HRTU341_Ja2ZRZFArDYK0t64HZzQqG23xmzZMq3N_q29odmpN2lMfqpv-9drkM (Accessed: 30 October 2022).

Hong, J. and Hong, N. (2014) 'The types and roles of domestic events by luxury jewelry brands analyzed based on articles during the period of 1990~ 2013', *The Research Journal of the Costume Culture,* 22(5), pp. 862-872. Available at: https://doi.org/10.7741/rjcc.2014.22.5.862.

Hurlbert, A. & Cuttle, C. (2020) 'New Museum Lighting for People and Paintings', *LEUKOS*, 16(1), pp. 1-5, Available at: https://doi.org/10.1080/15502724.2019.1676019.

Jain, N. (2017) 'The Effectiveness of Exhibition and Trade Shows in Jewellery Business', *International Journal of Multidisciplinary Educational Research,* 6(7), pp. 13-25. Available at: https://www.researchgate.net/profile/Neeru-Jain/project/THE-EFFECTIVENESS-OF-EXHIBITION-AND-TRADE-SHOWS-IN-JEWELLERY-BUSINESS-2/attachment/5a34ba67b53d2f0bba44b857/AS:572076319875072@1513405031151/download/THE+EFFECTIVENESS+OF+EXHIBITION+AND+++TRADE+SHOWS+IN+JEWELLERY+BUSINESS+Dr+Neeru+Jain.pdf (Accessed: 09 February 2022).

Jang, R-Y. and Yang, S-H, (2011) 'Fashion communication and exhibition project-Focused on fashion exhibition design by Maison Martin Margiela', *The Research Journal of the Costume Culture,* 19(6), pp. 1302-1319. Available at: https://www.koreascience.or.kr/article/JAKO201110334670934.page (Accessed: 28 October 2022).

Janiszewski, C., & Meyvis, T. (2001) 'Effects of brand logo complexity, repetition, and spacing on processing fluency and judgment'. J*ournal of consumer research*, 28(1), pp. 18-32. Available at: https://academic.oup.com/jcr/article-abstract/28/1/18/1851175 (Accessed: 12 December 2023).

Jansson, J. (2019) 'The online forum as a digital space of curation', *Geoforum,* 106, pp. 115-124. Available at: https://www.sciencedirect.com/science/article/pii/S0016718519302507 (Accessed: 28 October 2022).

Javadi, M. and Zarea, K. (2016) 'Understanding thematic analysis and its pitfall', *Journal of client care*, 1(1), pp. 33-39. Available at: https://www.researchgate.net/profile/Kourosh-Zarea/publication/307179806_Understanding_Thematic_Analysis_and_its_Pitfall/links/57fe24a808ae72756401320a/Understanding-Thematic-Analysis-and-its-Pitfall.pdf (Accessed: 23 November 2022).

Jayamini, C., Sandamini, A., Pannala, T., *et al.* (2021) 'The use of augmented reality to deliver enhanced user experiences in fashion industry', *Lecture Notes in Computer Science,* 12936, pp. 1-10. Available at: https://orca.cardiff.ac.uk/id/eprint/145698 (Accessed: 31 October 2022).

Jelinek, J-S. (2018) 'Art as strategic branding tool for luxury fashion brand', *Journal of product & brand management*, 27(3) pp.294-307. Available at: https://doi.org/10.1108/JPBM-01-2017-1408.

Jung, D. and Ha, J. (2018) 'A Study on Display Techniques and Characteristics of Contemporary Fashion Exhibitions', *Journal of the Korean Society of Clothing and Textiles,* 42(5), pp. 823-838. Available at: https://www.koreascience.or.kr/article/JAKO201835858342082.page (Accessed: 28 October 2022).

Kapferer, J. N. (2015) *Kapferer on luxury: How luxury brands can grow yet remain rare*. Kogan Page Publishers.

Kawamura, Y. (2020) *Doing research in fashion and dress: An introduction to qualitative methods*. London: Bloomsbury Publishing.

Keil, J., Pujol, L., Roussou, M. *et al.* (2013) 'A digital look at physical museum exhibits: Designing personalized stories with handheld Augmented Reality in museums', *2013 Digital Heritage International Congress (DigitalHeritage),* IEEE, pp. 685-688. Available at: 10.1109/DigitalHeritage.2013.6744836 (Accessed: 10 July 2023).

Ke, L., and Xiaodong, L. (2021). 'Study on the Design of Luxury Exhibition Space Based on Narrative Theory'. (From E3S Web of Conferences), *EDP Sciences*. 236, p. 05060. Available at: https://doi.org/10.1051/e3sconf/202123605060.

Kerman, S. (2011) *A thesis on LEDs for museum exhibition purposes*. Tesia: Reinwardt Academie, Amsterdamse Hogeschool voor de Kunsten.

Khan, N. (2017) 'Intervening fashion: a case for feminist approaches to fashion curation', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 151-166.

Lapini, A. *et al.* (2018) 'Application of Binaural Audio Techniques for Immersive Fruition of Cultural Heritage', *IOP Conference Series: Materials Science and Engineering*, 364, pp. 1-8. Available at: https://iopscience.iop.org/article/10.1088/1757-899X/364/1/012099/meta (Accessed: 12 August 2023).

Laurberg, M. and Schavemaker, M. (2016) 'Between the Discursive and the Immersive: Curating Research in the 21st Century Art Museum', *Stedelijk Studies*, (4), pp. 1-7. Available at: https://stedelijkstudies.nl/wp-content/uploads/2016/06/Stedelijk-Studies_Editorial_LaurbergSchavemaker.pdf (Accessed: 28 October 2022).

Lau, J. (2012) Basics Fashion Design 09: Designing Accessories: Exploring the design and construction of bags, shoes, hats and jewellery. London: Fairchild Books.

Lee, J. H., & Bae, S. H. (2013) 'Binocular cursor: enabling selection on transparent displays troubled by binocular parallax' (from the SIGCHI Conference, Paris France, 27 April 2013- 2 May 2013), *Human Factors in Computing Systems*. pp. 3169-3172. Avaliable at: https://doi.org/10.1145/2470654.2466433.

Lee, Y. Y., *et al.* (2019) 'A new projection-based exhibition system for a museum', *ACM Journal on Computing and Cultural Heritage,* 12(2), pp. 1-17. Available at: https://doi.org/10.1145/3275522.

Li, H. and Ito, H. (2021) 'Comparative analysis of information tendency and application features for projection mapping technologies at cultural heritage sites', *Heritage Science,* 9, pp. 1-16.

Available at: https://link.springer.com/article/10.1186/s40494-021-00579-0 (Accessed: 8 July 2023).

Lim, SB. and Kim, M. (2018) 'A Study on Characteristics of Luxury Brand Exhibitions at Museums-Focusing on Luxury Fashion Brand Exhibition Types', *The Journal of Cultural Contents*, 12, pp. 153-178. Available at: https://www.journalricc.org/articles/article/8G0b/ (Accessed at: 09 February 2022).

Li, W. and Huang, X. (2023) 'A New Way to Experience Art: Experience Design and Strategies for Immersive Exhibitions', *International Conference on Human-Computer Interaction*, pp.136-149. Available at: https://link.springer.com/chapter/10.1007/978-3-031-34732-0_10 (Accessed: 15 August 2023).

Lorentz, D.J. (2006) *A study of the notions of immersive experience in museum based exhibitions*. PhD Thesis. UTS University. Available at: https://opus.lib.uts.edu.au/handle/2100/960 (Accessed: 28 October 2022).

Loscialpo, F. (2016) 'From the physical to the digital and back: Fashion exhibitions in the digital age', *International Journal of Fashion Studies,* 3(2), pp. 225-248. Available at: https://www.ingentaconnect.com/content/intellect/infs/2016/00000003/00000002/art00004 (Accessed: 28 October 2022).

Loureiro, S.M.C., Roschk, H. and Lima, F. (2019) 'The role of background music in the visitors' experience of art exhibition: music, memory, and art appraisal', *The role of background music in the visitors' experience of art exhibition: music, memory, and art appraisal*, (1), pp. 4-24. Available at: https://repositorio.iscte-iul.pt/handle/10071/20209 (Accessed: 29 October 2022).

Lukas, S.A. (2016)'Introduction: The Meanings of Themed and Immersive Space', in S.A. Lukas (ed.) *A reader in themed and immersive spaces*. Carnegie Mellon: ETC Press, pp. 3-18.

Majumder, A., He, Z., Towles, H., *et al.* (2000) 'Achieving color uniformity across multi-projector displays', *Proceedings Visualization 2000*, VIS 2000 (Cat. No. 00CH37145), pp. 117-124. Available at: https://ieeexplore.ieee.org/abstract/document/885684/ (Accessed: 29 October 2022).

Martin, K., Jushchyshyn, N. and King, C. (2019) 'ObjectVR Fashion: The Drexel Digital Museum Project', *Society for Imaging Science and Technology*, 16, pp. 61-65. Available at: https://doi.org/10.2352/issn.2168-3204.2019.1.0.14 (Accessed: 30 October 2022).

McCarthy, J. and Wright, P. (2004) 'Technology as experience', *interactions,* 11(5), pp. 42-43. Available at: https://dl.acm.org/doi/fullHtml/10.1145/1015530.1015549?casa_token=pdtbPX2BgcoAAAAA:9u9jFs80dshYLf_eOy8bHpi6Q_tUy02J3Ws-xWPZpc7Fa5i3WkT_xO537VmiGZ-4rSYmRXhgL8TJbg.

Melchior, MR. (2014) 'Introduction: understanding fashion and dress museology', in MR. Melchior and B. Svensson (ed.) *Fashion and museums: Theory and practice.* London and New York: Bloomsbury Academic, pp. 1-18.

Melchior, MR. and Svensson, B. (2014) *Fashion and museums: theory and practice.* London and New York: Bloomsbury Academic.

Milgram, P., & Colquhoun, H. (1999) 'A taxonomy of real and virtual world display integration', in Ohta, Y., & Tamura, H. (ed.) *Mixed reality: Merging real and virtual worlds*, Tokyo: Ohmsha, pp.1-26.

Miller, J. V., & Miller, R. E. (2005) 'Museum Lighting Pure and Simple', *Seaford, DE, US: NoUVIR Research Obtenido de*, 10(07), pp. 1-12. Available at: https://www.nouvir.com/pdfs/38_Museum%20_Lighting_Pure_and_Simple.pdf.

Miller, S. (2007) 'Fashion as art; is fashion art?'*, Fashion Theory*, 11(1), pp. 25-40. Available at: https://doi.org/10.2752/136270407779934551.

Mogaji, E. and Mogaji, E. (2021) 'Brand Identity', *Brand Management: An Introduction through Storytelling*, pp. 85-122. Available at: https://link.springer.com/chapter/10.1007/978-3-030-66119-9_5 (Accessed: 7 July 2023).

Moloney, A. (2018) 'Fashion exhibition as film', *Film, Fashion & Consumption,* 7(1), pp. 39-55. Available at: https://www.ingentaconnect.com/content/intellect/ffc/2018/00000007/00000001/art00004 (Accessed: 28 October 2022).

Museum+Heritage (2022) *8 tech innovations becoming standard in museums and heritage sites.* Available at: https://museumsandheritage.com/advisor/posts/8-new-technologies-becoming-standard-museums-heritage-sites/ (Accessed: 02 November 2023).

Nakamura, J. and Csikszentmihalyi, M. (2009) 'Flow Theory and Research', in C. R. Snyder *et al.* (ed.) *Oxford Library of Psychology.* New York: Oxford University Press, pp.195-206.

Nikolakopoulou, V., Printezis, P., Maniatis, V., *et al.* (2022) 'Conveying Intangible Cultural Heritage in Museums with Interactive Storytelling and Projection Mapping: The Case of the

Mastic Villages', *Heritage,* 5(2), pp. 1024-1049. Available at: https://doi.org/10.3390/heritage5020056 (Accessed: 7 July 2023).

Njie, B. and Asimiran, S. (2014) 'Case study as a choice in qualitative methodology', *Journal of Research & Method in Education* 4(3), pp. 35-40. Available at: https://apprendre.auf.org/wp-content/opera/13-BF-References-et-biblio-RPT-2014/Case%20Study%20as%20a%20Choice%20in%20Qualitative%20Methodology.pdf (Accessed: 06 April 2023).

O'Neill, A. (2018) 'Staging fashion in somerset house, London', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp.105-118.

Palmer, A. (2018) 'Permanence and impermanence: Curating western textiles and fashion at the Royal Ontario Museum', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 39-56.

Parker, C., Scott, S., & Geddes, A., (2019). 'Snowball Sampling', In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *SAGE Research Methods Foundations*. SAGE Publications Ltd, Available at: https://dx.doi.org/10.4135/9781526421036831710.

Paul, C. (2008) *Digital art*. London: Thames & Hudson World of Art.

Pecorari, M. (2018) 'Beyond garments: Reorienting the practice and discourse of fashion curating', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 183-198.

Pegler, Martin M. and Anne, K. (2018) 'Exhibit and Trade Show Design', in Pegler, Martin M. and Bliss, Laura L. (ed.) *Visual Merchandising and Display*. New York: Bloomsbury Visual Arts, pp. 299-315.

Permatasari, P. A., & Kalbaska, N. (2022) 'Digital technologies for communicating fashion heritage', in D. A. Silvia and C. Lorenzo (ed.) *Handbook on Heritage, Sustainable Tourism and Digital Media*. (pp. 60-75). Edward Elgar Publishing, pp.60-75. Avaliable at: https://doi.org/10.4337/9781788970082.00013.

Pescarin, S., d'Annibale, E., Fanini, B., *et al.* (2018) 'Prototyping on site Virtual Museums: the case study of the co-design approach to the Palatine hill in Rome (Barberini Vineyard) exhibition', *2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018)*, IEEE, San

Francisco, CA, USA, 26-30 October 2018. Available at: https://doi.org/10.1109/DigitalHeritage.2018.8810135 (Accessed: 04 November 2022).

Pronitcheva, K. (2018). 'Luxury Brands and Public Museums: From Anniversary Exhibitions to Co-branding', In: Donzé, PY., Fujioka, R. (ed.) *Global Luxury*. Singapore: Palgrave, pp.219-237. Available at: https://doi.org/10.1007/978-981-10-5236-1_11.

Qin, Y. and Xu, X. (2022) 'Research on the application of digital image in stage space in the context of digital media', *Frontiers in Art Research*, 4(1), pp. 1-4. Available at: 10.1109/QoMEX48832.2020.9123075 (Accessed: 3 July 2023).

Regenbrecht, H., and Schubert, T. (2002). 'Real and illusory interactions enhance presence in virtual environments', *Presence: Teleoperators & Virtual Environments*. Cambridge: MIT Press Direct, 11(4), pp. 425-434. Available at: https://doi.org/10.1162/105474602760204318.

Rochlen, L.R., Levine, R. and Tait, A.R. (2017) 'First person point of view augmented reality for central line insertion training: A usability and feasibility study', *Simulation in healthcare: Journal of the Society for Simulation in Healthcare,* 12(1), pp. 57. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5285452/ (Accessed: 31 October 2022).

Rhodes, G. A. (2015) 'Future Museums Now – Augmented Reality Musings', *Public Art Dialogue*, 5(1), pp. 59-79. Available at: https://www.tandfonline.com/doi/abs/10.1080/21502552.2015.1010839.

Roginska, A. and Geluso, P. (2017) *Immersive Sound: the art and science of binaural and multi-channel audio*. New York: Taylor & Francis.

Romãozinho, M. (2020) 'From Interior Design Imaginary to Jewellery Concept', *Perspective on Design: Research, Education and Practice*, pp. 329-340. Available at: https://link.springer.com/chapter/10.1007/978-3-030-32415-5_25. (Accessed: 15 February 2023).

Ryan, N. (2007) 'Prada and the art of patronage', *Fashion Theory,* 11(1), pp. 7-24. Available at: https://www.tandfonline.com/doi/abs/10.2752/136270407779934588?casa_token=3qlG7MHiMhoAAAAA:3DBfASsjTY6q-WoETgjmHNDCnooOGtAi1ONBwNbrasWRnMg-QfmUQroZ6Tbg0OkQp_r597y2aCtBog.

Scaturro, S. (2018) 'Confronting fashion's death drive: conservation, ghost labor, and the material turn within fashion curation', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 21-38.

Schmitt, B. (2019) 'From atoms to bits and back: A research curation on digital technology and agenda for future research', *Journal of Consumer Research,* 46(4), pp. 825-832. Available at: https://academic.oup.com/jcr/article-abstract/46/4/825/5567100 (Accessed: 04 November 2022).

Schroeder, JE., Borgerson, JL. and Wu, Z. (2014) 'A brand culture approach to brand literacy: Consumer co-creation and emerging Chinese luxury brands' In S. Jonathan, J. Borgerson, and Z. Wu, (ed.) *Advances in Consumer Research.* In press, Forthcoming, pp.1-12. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2511638 (Accessed: 09 February 2022).

Schwirten, T., Geiger, C., and Marinos, D. (2010,). 'radarTOUCH: multi-touch interaction on large planar surfaces'. *ACM International Conference on Interactive Tabletops and Surfaces*, pp. 314-314, Available at: https://dl.acm.org/doi/abs/10.1145/1936652.1936742.

Seo, Y. and Buchanan-Oliver, M. (2015) 'Luxury branding: the industry, trends, and future conceptualisations'. *Asia Pacific Journal of Marketing and Logistics*, 27(1), pp. 82-98, Available at: https://www.emerald.com/insight/content/doi/10.1108/apjml-10-2014-0148/full/html?casa_token=mWaR788N3VcAAAAA:rMUoGUN6lKRhfwQM3GdhcUXAHscfiNrJ7Qk2aPJicw9L5_uAWPTJiiFN-ggxgZsleBNomelbtge3eX5GPGTlQQSoEMS1-OffZD34PsX6Lv4tMRiQf13s.

Shanbaum, P. (2019) *The digital interface and new media art installations.* Routledge.

Sikarskie, A.G. (2016) *Textile collections: preservation, access, curation, and interpretation in the digital age*. Lanham: Rowman & Littlefield.

Slater, M., & Wilbur, S. (1997). 'A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments', *Presence: Teleoperators & Virtual Environments*. 6(6), pp. 603-616. Available at: https://doi.org/10.1162/pres.1997.6.6.603.

Smith, T. (2009). *What is contemporary art?.* Chicago and London: University of Chicago Press.

Stogner, M.B. (2011) 'The Immersive Cultural Museum Experience--Creating Context and Story with New Media Technology', *International Journal of the Inclusive Museum,* 3(3), pp. 117-130. Available at: https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=18352014&AN=66384788&h=QBGflaH5dwlnnCXifPJTnL5XT60qg%2B87HKnBCDnD%2BxSe%2FvQlr7CyYft7bPhlGmIv6NSA0in3u1VRnBG7xlg1cQ%3D%3D&crl=c&casa_token=vqxlLKLqFb4AAAAA:Yr9gI_Iby6xEXy0WBw4JeuNsPHQboDMrFnjXxEJ4Zj7a5mdwqHgGjZT8iYXsP8wuoCJi5wO2RiW3NeI (Accessed: 28 October 2022).

Stokes-Rees, E. (2019) 'Exhibition without Boundaries: teamLab Borderless and the Digital Evolution of Gallery Space', *Museum Worlds*. 7, pp. 238-248, available: https://link.gale.com/apps/doc/A673278871/AONE?u=anon~e6754766&sid=googleScholar&xid=7202944d (accessed: 30 October 2022).

Soliman, M., Peetz, J. and Davydenko, M. (2017) 'The impact of immersive technology on nature relatedness and pro-environmental behavior', *Journal of Media Psychology*. 29(1), p. 8. Available at: https://psycnet.apa.org/journals/jmp/29/1/8/ (Accessed: 28 October 2022).

Suh, A .and Prophet, J. (2018) 'The state of immersive technology research: A literature analysis', *Computers in Human Behavior,* 86, pp. 77-90. Available at: https://www.sciencedirect.com/science/article/pii/S0747563218301857?casa_token=bTvPSVGOdP8AAAAA:nI3dwy1VVFhDPwwGDZoBLiHy9fOHBcu2-3ppDB-PVj4LhWP7nNUVJVehCnG5Sc-LmnNA-3gwCy8 (Accessed: 28 October 2022).

Sun, P. (2021) 'Dynamic image design of digital media based on 3Ds MAX technology', *International Conference on Aviation Safety and Information Technology*, pp. 890-894. Available at: https://doi.org/10.1145/3510858.3511417.

Teunissen, J. (2016) 'Fashion Curation: broadening the scope', *Fashion curating*, 5(1), pp. 289-293. Available at: https://ualresearchonline.arts.ac.uk/id/eprint/10724/7/FC_5-1JTeunissen_EN%20%281%29.pdf (Accessed: 28 October 2022).

Vänskä, A. (2017) 'Boutique – Where Art and Fashion Meet: Curating as Collaboration and Cultrual Critique', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 119-136.

Vänskä, A. and Clark, H. (2018) *Fashion curating: Critical practice in the museum and beyond*. London and New York: Bloomsbury Publishing.

VCA (2023) VCA-projects. Available at: https://vca-projects.com/whatwedo#!/tab/446361222-1 (Accessed: 15 August 2023).

Voegelin, S. (2014) 'Soundwalking the Museum: A Sonic Journey through the Visual Display', in P. Pan (ed.) *Curating multisensory experience: The possibilities of immersive exhibitions*. OCAD University, pp. 119-130.

Wilson, E. (2003) *Adorned in dreams: Fashion and modernity*. New Brunswick and New Jersey: Rutgers University Press.

Wu, G-r. and Gao, C-m. (2011) 'Innovative study on material technology in jewelry exhibition design'. *2011 IEEE 18th International Conference on Industrial Engineering and Engineering Management*. IEEE, pp. 1375-1377. Available at: https://ieeexplore.ieee.org/abstract/document/6035411/. (Accessed: 15 February 2023).

Yoo, H-S., Kim, E-S., Lee, S-J., *et al.* (2017) 'A study on a method to implement exhibition contents using 3D VR in online environment: focused on the presidential archives in Korea', *Journal of the Korean BIBLIA Society for library and Information Science,* 28(1), pp. 271-292. Available at: https://www.koreascience.or.kr/article/JAKO201714563184248.page (Accessed: 30 October 2022).

Yu, J. and Ko, E. (2021) 'UGC attributes and effects: implication for luxury brand advertising', I*nternational Journal of Advertising*, 40(6), pp. 945-967. Available at: https://doi.org/10.1080/02650487.2021.1898773.

Yu, J., and Wang, Y. (2020).' User interaction and scenario-based experience design for new media technology in museum spatial experience' (from the Advances in Design for Inclusion: Proceedings of the AHFE 2019 International Conference on Design for Inclusion and the AHFE 2019 International Conference on Human Factors for Apparel and Textile Engineering, Washington DC, USA, July 24-28, 2019), *Springer International Publishing.* 10, pp. 263-270. Available at: https://link.springer.com/chapter/10.1007/978-3-030-20444-0_25 (Accessed: 8 September 2024).

Zhang, C. (2020). 'The why, what, and how of immersive experience', *Ieee Access*, 8, pp. 90878-90888. Available at: https://ieeexplore.ieee.org/abstract/document/9091071/.

Zhao, S. (2019). 'Exploring how interactive technology enhances gesture-based expression and engagement: A design study', *Multimodal Technologies and Interaction*, 3(1), p. 13. Available at: https://www.mdpi.com/2414-4088/3/1/13.

Zheleva, A. *et al.* (2020) 'Seeing is believing: the effect of video quality on quality of experience in virtual reality' (In *2020* Twelfth International Conference on Quality of Multimedia Experience, Athlone, Ireland, 26-28 May 2020), *IEEE*, pp. 1-4. Available at: 10.1109/QoMEX48832.2020.9123075.

Zhuo, A., Sirivesmas, V., & Punyalikit, R. (2023). 'Application Research of Installation Art Based on Digital Media', *In 2nd International Conference on Intelligent Design and Innovative Technology (ICIDIT 2023,)* pp. 289-297. Available at: https://books.google.com/books?hl=zh-CN&lr=&id=qVDcEAAAQBAJ&oi=fnd&pg=PA289&dq=Application+research+of+installation+art&ots=cM8KUEVYFO&sig=6v94OXb8N97ruHUAdGLUpM-D9aA (Accessed: 13 December 2023).

Zimmermann, A., & Lorenz, A. (2008) 'LISTEN: a user-adaptive audio-augmented museum guide', *User Modeling and User-Adapted Interaction*, 18(5), pp. 389-416. Available at: https://link.springer.com/article/10.1007/s11257-008-9049-x (Accessed: 16 August 2023).

Exhibition:

Bvlgari Magnifica Roma (2018) [Exhibition]. Shenzhen Sea World Culture and Art Centre, Shenzhen. 26 October– 10 November 2021.

Fashioned From Nature (2018) [Exhibition]. Victoria and Albert Museum, London. 04 April 2018-27 January 2019.

Fashioning Masculinities: The Art of Menswear (2022) [Exhibition]. Victoria and Albert Museum, London. 19 March 2022-06 November 2022.

Louis Vuitton High Jewellery Exhibition (2021) [Exhibition].

Louis Vuitton High Jewellery Exhibition (2022) [Exhibition].

Power & Image: Royal & Aristocratic Tiaras (2022) [Exhibition]. Sotheby's, London. 28 May 2022 – 28 June 2022.

Sounds of Cartier (2021) [Exhibition]. The Zifogoz Gallery, St. Petersburg. 2021.

Vision & Virtuosity by Tiffany & Co. (2022) [Exhibition]. Saatchi Gallery, London. 10 June 2022–19 August 2022.

VOGUE: Inventing the Runway (2024) [Exhibition]. Lightroom, London. 13 November 2024 - 26 April 2025.

Artworks:

Filatov, S. (2021) *Fruit of Time* [Installation]. The Zifogoz Gallery, St. Petersburg.

Filatov, S. (2021) *Parallel Touch* [Installation]. The Zifogoz Gallery, St. Petersburg.

Filatov, S. (2021) *Beam Dynamics* [Installation]. The Zifogoz Gallery, St. Petersburg.

Filatov, S. (2021) *SONORS* [Installation]. The Zifogoz Gallery, St. Petersburg.

Filatov, S. (2021) *SPHEROPH ONE* [Installation]. The Zifogoz Gallery, St. Petersburg.

Bibliography

Abe, A. (2013) 'Curation in chance discovery', *Advances in Chance Discovery*. Springer, 423, pp.1-18. Available at: https://link.springer.com/chapter/10.1007/978-3-642-30114-8_1 (Accessed: 28 October 2022).

Ajmat, R., Sandoval, J., Arana, Sema, F., *et al.* (2011) 'Lighting design in museums: exhibition vs. preservation', *WIT Trans. Built Environ,* 118, pp.195-206. Available at: https://doi.org/10.2495/STR110171 (Accessed: 5 July 2023).

Alhojailan, MI. (2012) 'Thematic analysis: A critical review of its process and evaluation', *West east journal of social sciences,* 1(1), pp. 39-47. Available at: http://westeastinstitute.com/journals/wp-content/uploads/2013/02/4-Mohammed-Ibrahim-Alhojailan-Full-Paper-Thematic-Analysis-A-Critical-Review-Of-Its-Process-And-Evaluation.pdf (Accessed: 23 November 2022).

Altarteer, S., & Charissis, V. (2019) 'Technology acceptance model for 3D virtual reality system in luxury brands online stores', *Ieee Access*, 7, pp. 64053-64062. Available at: https://ieeexplore.ieee.org/abstract/document/8713454/ (Accessed: 14 December 2023).

Andò, R., Briatore, S., & Denaro, G. (2023, July). 'Rethinking fashion storytelling through digital archives and immersive museum experiences' (from the FACTUM, 2023), S*pringer Proceedings in Business and Economics*. pp. 279-289. Available at: Cham: https://doi.org/10.1007/978-3-031-38541-4_26.

Angeletti, E., Gaiani, M., Palermo, R., & Garagnani, S. (2024). 'Beyond the physical exhibit: Enhancing, showcasing and safeguarding fashion heritage with VR technologies', *Digital Applications in Archaeology and Cultural Heritage*, 32, e00314. Abailable at: https://doi.org/10.1016/j.daach.2023.e00314.

Armitage, J. (2019) 'On the History of Luxury: Connecting Real Places to Digital Spaces' [PowerPoint presentation]. ARTD6144: *Historical and Contemporary Issues in Luxury*. Available at: blackboard@soton.ac.uk (Accessed: 11 May 2020).

Arnolds, J. (2011) *Victorian Jewelry, Identity, and the Novel: Prisms of Culture.* New York: Routledge.

Auger, J. (2013) 'Speculative design: crafting the speculation', *Digital Creativity*, 24(1), pp. 11-35. Available at: https://doi.org/10.1080/14626268.2013.767276.

Bai, Y. (2017) 'Artification and authenticity: Museum exhibitions of luxury fashion brands in China', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 213-228.

Balsom, E. (2013). *Exhibiting cinema in contemporary art*.Amsterdan: Amsterdam University Press.

Blackman, T., and Harley, D. (2024). 'Interpreting Apple's visions: Examining the spatiality of the Apple Vision Pro', *Platforms & Society*, 1. Available at: https://doi.org/10.1177/29768624241283913.

Barthes, R. (2013) *The language of fashion*. Scottish: A&C Black.

Basballe, D.A. and Halskov, K. (2010) 'Projections on museum exhibits: engaging visitors in the museum setting', *Proceedings of the 22nd Conference of the Computer-Human Interaction Special Interest Group of Australia on Computer-Human Interaction, pp*. 80-87. Available at: https://doi.org/10.1145/1952222.1952240 (Accessed: 1 July 2023).

Baxter, P. and Jack, S. (2008) 'Qualitative case study methodology: Study design and implementation for novice researchers', *The qualitative report*, 13(4), pp. 544-559. Available at: https://www.academia.edu/download/40131683/case_study_ecmple.pdf (Accessed: 07 April 2023).

Bengtsen, P. (2017) 'Fashion Curates Art: Takashi Murakami for Louis Vuitton', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 199-212.

Benjamin, W. (1935) 'The Work of Art in the Age of Mechanical Reproduction, 1936. Published', in M. H. Ellis (ed.) *Historical Perspectives in the Conservation of Works of Art on Paper*. Los Angeles, Califonia: The Getty Conservation Institute, pp. 144-148.

Bide, B. (2021) 'Fashion City or Museum of Fashion? Exploring the Mutually Beneficial Relationship between London's Fashion Industry and Fashion Exhibitions at the Victoria and Albert Museum'. *GeoHumanities*. 7(1), pp. 217-234. Available at: https://doi.org/10.1080/2373566X.2021.1923405.

Bonetti, F., Pantano, E., Warnaby, G., & Quinn, L. (2019) 'Augmenting reality: fusing consumers' experiences and interactions with immersive technologies in physical retail settings', *International Journal of Technology Marketing*, 13(3-4), pp. 260-284. Available at: https://www.inderscienceonline.com/doi/abs/10.1504/IJTMKT.2019.104592.

Bubaris, N. (2014) 'Sound in museums – museums in sound', *Museum Management and Curatorship*, 29(4), pp. 391-402. Available at: https://doi.org/10.1080/09647775.2014.934049.

Burdea, G. and Coiffet, P. (2003) *Virtual reality technology.* Hoboken, New Jersey: John Wiley & Sons Inc.

Cadet, L. B., Reynaud, E., & Chainay, H. (2022) 'Memory for a virtual reality experience in children and adults according to image quality, emotion, and sense of presence', *Virtual Reality*, Springer, 26(1), pp. 55-75. Available at: https://doi.org/10.1007/s10055-021-00537-y.

Caggianese, G., Gallo, L. and Neroni, P. (2018) 'Exploring the feasibility of diegetic user interfaces in immersive virtual exhibitions within the cultural heritage', *2018 14th International Conference on Signal-Image Technology & Internet-Based Systems (SITIS)*, IEEE, Las Palmas de Gran Canaria, Spain, 26-29 November 2018. Available at: https://doi.org/10.1109/SITIS.2018.00101 (Acessed: 04 November 2022).

Calvet, L., Bourdin, P. and Prados, F. (2019) 'Immersive technologies in higher education: Applications, challenges, and good practices', *Proceedings of the 2019 3rd International Conference on Education and E-Learning* pp. 95-99. Available at: https://doi.org/10.1145/3371647.3371667.

CambridgeSeven (2023) The Future of Technology in Museums. Available at: https://www.cambridgeseven.com/about/news/the-future-of-technology-in-museums/ (Accessed: 02 November 2023).

Campolmi, I. (2016) 'Institutional Engagement and the Growing Role of Ethics in Contemporary Curatorial Practice', *Museum International*, 68(3-4), pp. 68-83. Available at: https://www.tandfonline.com/doi/abs/10.1111/muse.12137?casa_token=bvM8Is2ekQEAAAAA:9t-h42A2MzigwZOCpBCko5dL-3mvyaQW91Wqn39FsTyJ5s_q-Yao-77qz9cW24G1eo6G2wewOG3KUQ.

Capacete-Caballero, X., Caulfield-Sriklad, D. and McKay, F. (2013) 'Enhancing the display of the fashion artefact through digital multi-media approaches', *Proceedings of the 1st international conference on digital fashion*, MA Fashion Curation graduates, London College of Fashion, 16-17 May 2013. Available at: https://www.researchgate.net/profile/Daniel-Caulfield-Sriklad/publication/312136011_ENHANCING_THE_DISPLAY_OF_THE_FASHION_ARTEFACT_THROUGH_DIGITAL_MULTI-MEDIA_APPROACHES/links/5871352908ae6eb871c0933b/ENHANCING-THE-DISPLAY-OF-THE-

FASHION-ARTEFACT-THROUGH-DIGITAL-MULTI-MEDIA-APPROACHES.pdf (Accessed: 29 October 2022).

Cappellieri, A., Tenuta, L. and Testa, S. (2020) 'Jewellery between product and experience: luxury in the twenty-first century', in Gardetti MÁ and Coste-Manière (ed.) *Sustainable luxury and craftsmanship*. Springer, pp. 1-23.

Chao, Yin, *et al.* (2020) 'Somatosensory Interaction of the Science Exhibition Based on Flow Theory', *IOP Conference Series: Materials Science and Engineering*, 926(1), pp.1-7. Available at: https://iopscience.iop.org/article/10.1088/1757-899X/926/1/012033/meta (Accessed: 20 October 2023).

Chen, Y., & Fu, Z. (2021) 'Speculative Scenarios: The Exhibition as a New Space of Thinking', *23rd HCI International Conference*, HCII 2021, Virtual Event, July 24–29 2021. Available at: https://link.springer.com/chapter/10.1007/978-3-030-77077-8_24 (Accessed: 27 December 2023).

Clark, H. (2018) 'Curation and Exhibition', in A. Geczy, and V. Karaminas, (ed.) *The end of fashion: Clothing and dress in the age of globalization*. London and New York: Bloomsbury publishing, pp. 155-170.

Clark, J. and De La Haye, A. (2014) *Exhibiting fashion: Before and after 1971*. New Haven: Yale University Press.

Conn, S. (2010) *Do museums still need objects?*. University of Pennsylvania Press.

Cox, G., Dekker, A., Dewdney, A., & Sluis, K. (2021) 'Affordances of the Networked Image', *The Nordic Journal of Aesthetics*, 30(61-62), pp. 40-45. Available at: https://tidsskrift.dk/nja/article/download/127857/174089/270162 (Accessed: 25 December 2023).

Craik, J. (2009) *Fashion: the key concepts*. Oxford and New York: Berg Publishers.

Dale, S. (2014) 'Content curation: The future of relevance', *Business Information Review,* 31(4), pp. 199-205. Available at: https://journals.sagepub.com/doi/abs/10.1177/0266382114564267?casa_token=KBgw4ltj3_EAAAAA:wnRKD-Hsa32MnJJSuYdJsOt97h9AVqyPpk72F5yKC7ki8r8toKnqR0Tx6CHyyD6-MnDTvlBOcwCuAg.

Dallas, C. (2016) 'Digital curation beyond the "wild frontier": A pragmatic approach', *Archival Science,* 16(4), pp. 421-457. Available at: https://link.springer.com/article/10.1007/s10502-015-9252-6 (Accessed: 28 October 2022).

Davies, R., & Jefsioutine, M. (2001). 'Designing a virtual gallery of contemporary jewellery: the realities of the virtual', *Digital Creativity*, 12(1), pp. 1-13. Available at: https://doi.org/10.1076/digc.12.1.1.10867.

Debo, K. (2017) 'Fashion curation at MoMu: Digital challenges', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 73-86.

de la Haye, A. (2014) 'Exhibiting fashion before 1971', in J. Clark and A. de la Haye (ed.) *Exhibiting Fashion: Before and After 1971.* New Haven: Yale University Press, pp. 11-21.

Dernie, D. (2006) *Exhibition design.* Laurence king publishing.

Duggan, G.G. (2001) 'The greatest show on earth: A look at contemporary fashion shows and their relationship to performance art', *Fashion Theory,* 5(3), pp. 243-270. Available at: https://doi.org/10.2752/136270401778960883.

Dukes, T. (2021) *Luxury Giants Like Louis Vuitton Are Falling for Big Gems*. Available at: https://www.nytimes.com/2021/01/29/fashion/jewelry-louis-vuitton-diamonds.html (Accessed: 9 February 2021).

Eicher, J. B. and Roach. M. E. H. (1992) 'Definition and classification of dress: Implications for analysis of gender roles', Berg Publishers. Available at: https://conservancy.umn.edu/bitstream/handle/11299/170746/Definition.pdf;sequence=1 (Accessed: 28 October 2022).

Electrosonic (2023) *Museum technology trends: A force for social and community impact*. Available at: https://www.electrosonic.com/blog/museum-technology-trends-a-force-for-social-and-community-impact (Accessed: 02 November 2023).

Evans, D. Gruba, P. and Zobel, J. (2011) *How to write a better thesis*. Melbourne: Univ. Publishing.

Frisby, D. and Featherstone, M. (2000) 'Simmel on culture', *The Germanic Review,* 75(1), pp. 84. Available at: https://search.proquest.com/openview/3d097f77eebcb17097483d921d78e4a4/1?pq-origsite=gscholar&cbl=41694 (Accessed: 6 August 2021]).

Galton, E. (2021) *Basics fashion design 10: Jewellery design: From fashion to fine jewellery*. Bloomsbury Publishing.

Gao, Y., Yang, J. and Yuan, S. (2022) 'Practical Application and Benefits of Immersive Curation: The Uniqueness of Van Gogh Exhibition', *2022 8th International Conference on Humanities and Social Science Research (ICHSSR 2022)*, 664, pp. 2630-2634. Available at: https://www.atlantis-press.com/proceedings/ichssr-22/125974604 (Accessed: 28 October 2022).

Geczy, A .and Karaminas, V. (2013) *Fashion and art*. London and New York: Berg Publishers.

George, A. (2015) *The Curator's Handbook*. London: Thames & Hudson.

Gilbert, H. (2002) 'Immersive Exhibitions: What's the Big Deal?', *Visitor Studies Today,* 5(3), pp. 10-13. Available at: http://kora.matrix.msu.edu/files/31/173/1F-AD-297-8-VSA-a0a6e0-a_5730.pdf (Accessed: 28 October 2022).

Gobbato, V. (2021). 'Museum Lighting and Embodied Experience', *Recall*, Researchgate, Paris, 11 November 2021. Available at: https://www.researchgate.net/profile/Gobbato-Viviana/publication/365302866_Museum_Lighting_and_Embodied_Experience/links/636e310c431b1f53008dc4e4/Museum-Lighting-and-Embodied-Experience.pdf (Accessed: 23 December 2023).

Graham, B. and Cook, S. (2010) *Rethinking curating: Art after new media.* Cambridge: The Mit Press.

Grau, O. (2003) *Virtual Art: from illusion to immersion.* Cambridge and London: MIT press.

Ha, H., Han, H., & Lee, K. (2020). 'A visualization system for exploring logo trend and design shape patterns', *Applied Sciences*, 10(13), pp. 1-20. Available at: https://www.mdpi.com/2076-3417/10/13/4579 (Accessed: 12 December 2023).

Han, D. I. D., Melissen, F., and Haggis-Burridge, M. (2024). 'Immersive experience framework: a Delphi approach', *Behaviour & information technology*, 43(4),pp. 623-639. Available at: https://doi.org/10.1080/0144929X.2023.2183054.

Handa, M., Aul, G. and Bajaj, S. (2012) 'Immersive technology–uses, challenges and opportunities', *International Journal of Computing & Business Research,* 6(2), pp. 1-11. Available at: http://researchmanuscripts.com/isociety2012/12.pdf (Accessed: 28 October 2022).

Hansen, MV., Henningsen, AF. and Gregersen, A. (2019) *Curatorial Challenges: Interdisciplinary Perspectives on Contemporary Curating.* London and New York: Routledge.

Harwood, T.G. and Garry, T. (2003) 'An overview of content analysis', T*he marketing review*, 3(4), pp. 479-498. Available at: https://doi.org/10.1362/146934703771910080.

Heale, R. and Twycross, A (2018). 'What is a case study?', *Royal College of Nursing*, 21, pp. 7-8. Available at: http://dx.doi.org/10.1136/eb-2017-102845.

Healy, R. (2018) 'Unfamiliar Places, Local Voices: Four Emerging Curatorial Narratives in Australia (2010–2016)', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 57-72.

Hertz, P. (2008) 'From Technological to Virtual Art by Frank Popper', *Leonardo,* 41(2), pp. 192-193. Available at: https://muse.jhu.edu/article/236390/summary?casa_token=RCcC7uV0WU4AAAAA:N_EyoMSBttGt9HRTU341_Ja2ZRZFArDYK0t64HZzQqG23xmzZMq3N_q29odmpN2lMfqpv-9drkM (Accessed: 30 October 2022).

Hofmeester, K. and Grewe, B. S. (2016). *Luxury in Global Perspective: Objects and Practices, 1600–2000*. Cambridge University Press.

Hong, J. and Hong, N. (2014) 'The types and roles of domestic events by luxury jewelry brands analyzed based on articles during the period of 1990~ 2013', *The Research Journal of the Costume Culture,* 22(5), pp. 862-872. Available at: https://doi.org/10.7741/rjcc.2014.22.5.862.

Hurlbert, A. & Cuttle, C. (2020) 'New Museum Lighting for People and Paintings', *LEUKOS*, 16(1), pp. 1-5, Available at: https://doi.org/10.1080/15502724.2019.1676019.

Jain, N. (2017) 'The Effectiveness of Exhibition and Trade Shows in Jewellery Business', *International Journal of Multidisciplinary Educational Research,* 6(7), pp. 13-25. Available at: https://www.researchgate.net/profile/Neeru-Jain/project/THE-EFFECTIVENESS-OF-EXHIBITION-AND-TRADE-SHOWS-IN-JEWELLERY-BUSINESS-2/attachment/5a34ba67b53d2f0bba44b857/AS:572076319875072@1513405031151/download/THE+EFFECTIVENESS+OF+EXHIBITION+AND+++TRADE+SHOWS+IN+JEWELLERY+BUSINESS+Dr+Neeru+Jain.pdf (Accessed: 09 February 2022).

Jamal, A. and Goode, M. (2001) 'Consumers' product evaluation: A study of the primary evaluative criteria in the precious jewellery market in the UK', *Journal of Consumer Behaviour:*

An International Research Review, 1(2), pp. 140-155. Available at: https://doi.org/10.1002/cb.61.

Jang, R-Y. and Yang, S-H, (2011) 'Fashion communication and exhibition project-Focused on fashion exhibition design by Maison Martin Margiela', *The Research Journal of the Costume Culture,* 19(6), pp. 1302-1319. Available at: https://www.koreascience.or.kr/article/JAKO201110334670934.page (Accessed: 28 October 2022).

Janiszewski, C., & Meyvis, T. (2001) 'Effects of brand logo complexity, repetition, and spacing on processing fluency and judgment'. J*ournal of consumer research*, 28(1), pp. 18-32. Available at: https://academic.oup.com/jcr/article-abstract/28/1/18/1851175 (Accessed: 12 December 2023).

Jansen, H. (2010). 'The Logic of Qualitative Survey Research and its Position in the Field of Social Research Methods', F*orum Qualitative Sozialforschung Forum: Qualitative Social Research*, 11(2). Available at: https://doi.org/10.17169/fqs-11.2.1450.

Jansson, J. (2019) 'The online forum as a digital space of curation', *Geoforum,* 106, pp. 115-124. Available at: https://www.sciencedirect.com/science/article/pii/S0016718519302507 (Accessed: 28 October 2022).

Javadi, M. and Zarea, K. (2016) 'Understanding thematic analysis and its pitfall', *Journal of client care*, 1(1), pp. 33-39. Available at: https://www.researchgate.net/profile/Kourosh-Zarea/publication/307179806_Understanding_Thematic_Analysis_and_its_Pitfall/links/57fe24a808ae72756401320a/Understanding-Thematic-Analysis-and-its-Pitfall.pdf (Accessed: 23 November 2022).

Jayamini, C., Sandamini, A., Pannala, T., *et al.* (2021) 'The use of augmented reality to deliver enhanced user experiences in fashion industry', *Lecture Notes in Computer Science,* 12936, pp. 1-10. Available at: https://orca.cardiff.ac.uk/id/eprint/145698 (Accessed: 31 October 2022).

Jelinek, J-S. (2018) 'Art as strategic branding tool for luxury fashion brand', *Journal of product & brand management*, 27(3) pp.294-307. Available at: https://doi.org/10.1108/JPBM-01-2017-1408.

Jung, D. and Ha, J. (2018) 'A Study on Display Techniques and Characteristics of Contemporary Fashion Exhibitions', *Journal of the Korean Society of Clothing and Textiles,* 42(5), pp. 823-838. Available at: https://www.koreascience.or.kr/article/JAKO201835858342082.page (Accessed: 28 October 2022).

Kapferer, J. N. (2015) *Kapferer on luxury: How luxury brands can grow yet remain rare*. Kogan Page Publishers.

Kawamura, Y. (2020) *Doing research in fashion and dress: An introduction to qualitative methods*. London: Bloomsbury Publishing.

Ke, L., and Xiaodong, L. (2021). 'Study on the Design of Luxury Exhibition Space Based on Narrative Theory'. (From E3S Web of Conferences), *EDP Sciences*. 236, p. 05060. Available at: https://doi.org/10.1051/e3sconf/202123605060.

Keil, J., Pujol, L., Roussou, M. *et al.* (2013) 'A digital look at physical museum exhibits: Designing personalized stories with handheld Augmented Reality in museums', *2013 Digital Heritage International Congress (DigitalHeritage),* IEEE, pp. 685-688. Available at: 10.1109/DigitalHeritage.2013.6744836 (Accessed: 10 July 2023).

Kerman, S. (2011) *A thesis on LEDs for museum exhibition purposes*. Tesia: Reinwardt Academie, Amsterdamse Hogeschool voor de Kunsten.

Khan, N. (2017) 'Intervening fashion: a case for feminist approaches to fashion curation', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 151-166.

Kozinets, R.V. (2019) 'Consuming technocultures: An extended JCR curation', *Journal of Consumer Research,* 46(3), pp. 620-627. Available at: https://academic.oup.com/jcr/article-abstract/46/3/620/5530202 (Accessed: 28 October 2022).

Lapini, A. *et al.* (2018) 'Application of Binaural Audio Techniques for Immersive Fruition of Cultural Heritage', *IOP Conference Series: Materials Science and Engineering*, 364, pp. 1-8. Available at: https://iopscience.iop.org/article/10.1088/1757-899X/364/1/012099/meta (Accessed: 12 August 2023).

Lau, J. (2012) Basics Fashion Design 09: Designing Accessories: Exploring the design and construction of bags, shoes, hats and jewellery. London: Fairchild Books.

Laurberg, M. and Schavemaker, M. (2016) 'Between the Discursive and the Immersive: Curating Research in the 21st Century Art Museum', *Stedelijk Studies*, (4), pp. 1-7. Available at: https://stedelijkstudies.nl/wp-content/uploads/2016/06/Stedelijk-Studies_Editorial_LaurbergSchavemaker.pdf (Accessed: 28 October 2022).

Lee, J. H., & Bae, S. H. (2013) 'Binocular cursor: enabling selection on transparent displays troubled by binocular parallax' (from the SIGCHI Conference, Paris France, 27 April 2013- 2 May

2013), *Human Factors in Computing Systems*. pp. 3169-3172. Avaliable at: https://doi.org/10.1145/2470654.2466433.

Lee, Y-CN., Shan, L-T. and Chen, C-H. (2013) 'System development of immersive technology theatre in museum', *International Conference on Virtual, Augmented and Mixed Reality*, Springer, Las Vegas, pp. 400-408. 21-26 July 2013. Available at: https://link.springer.com/chapter/10.1007/978-3-642-39420-1_42 (Accessed: 28 October 2022).

Lee, Y. Y., *et al.* (2019) 'A new projection-based exhibition system for a museum', *ACM Journal on Computing and Cultural Heritage,* 12(2), pp. 1-17. Available at: https://doi.org/10.1145/3275522.

Li, H. and Ito, H. (2021) 'Comparative analysis of information tendency and application features for projection mapping technologies at cultural heritage sites', *Heritage Science,* 9, pp. 1-16. Available at: https://link.springer.com/article/10.1186/s40494-021-00579-0 (Accessed: 8 July 2023).

Li, W. and Huang, X. (2023) 'A New Way to Experience Art: Experience Design and Strategies for Immersive Exhibitions', *International Conference on Human-Computer Interaction*, pp.136-149. Available at: https://link.springer.com/chapter/10.1007/978-3-031-34732-0_10 (Accessed: 15 August 2023).

Lim, SB. and Kim, M. (2018) 'A Study on Characteristics of Luxury Brand Exhibitions at Museums-Focusing on Luxury Fashion Brand Exhibition Types', *The Journal of Cultural Contents*, 12, pp. 153-178. Available at: https://www.journalricc.org/articles/article/8G0b/ (Accessed at: 09 February 2022).

Longair, S. (2015) 'Cultures of Curating: The Limits of Authority.', *Museum History Journal*, 8(1), pp. 1-7. Available at: https://www.tandfonline.com/doi/full/10.1179/1936981614Z.00000000043.

Lorentz, D.J. (2006) *A study of the notions of immersive experience in museum based exhibitions.* PhD Thesis. UTS University. Available at: https://opus.lib.uts.edu.au/handle/2100/960 (Accessed: 28 October 2022).

Loscialpo, F. (2016) 'From the physical to the digital and back: Fashion exhibitions in the digital age', *International Journal of Fashion Studies,* 3(2), pp. 225-248. Available at: https://www.ingentaconnect.com/content/intellect/infs/2016/00000003/00000002/art00004 (Accessed: 28 October 2022).

Loureiro, S.M.C., Roschk, H. and Lima, F. (2019) 'The role of background music in the visitors' experience of art exhibition: music, memory, and art appraisal', *The role of background music in the visitors' experience of art exhibition: music, memory, and art appraisal*, (1), pp. 4-24. Available at: https://repositorio.iscte-iul.pt/handle/10071/20209 (Accessed: 29 October 2022).

Lukas, S.A. (2016)'Introduction: The Meanings of Themed and Immersive Space', in S.A. Lukas (ed.) *A reader in themed and immersive spaces*. Carnegie Mellon: ETC Press, pp. 3-18.

Majumder, A., He, Z., Towles, H., *et al.* (2000) 'Achieving color uniformity across multi-projector displays', *Proceedings Visualization 2000*, VIS 2000 (Cat. No. 00CH37145), pp. 117-124. Available at: https://ieeexplore.ieee.org/abstract/document/885684/ (Accessed: 29 October 2022).

Martin, K., Jushchyshyn, N. and King, C. (2019) 'ObjectVR Fashion: The Drexel Digital Museum Project', *Society for Imaging Science and Technology*, 16, pp. 61-65. Available at: https://doi.org/10.2352/issn.2168-3204.2019.1.0.14 (Accessed: 30 October 2022).

McCarthy, J. and Wright, P. (2004) 'Technology as experience', *interactions,* 11(5), pp. 42-43. Available at: https://dl.acm.org/doi/fullHtml/10.1145/1015530.1015549?casa_token=pdtbPX2BgcoAAAAA:9u9jFs80dshYLf_eOy8bHpi6Q_tUy02J3Ws-xWPZpc7Fa5i3WkT_xO537VmiGZ-4rSYmRXhgL8TJbg.

Melchior, MR. (2014) 'Introduction: understanding fashion and dress museology', in MR. Melchior and B. Svensson (ed.) *Fashion and museums: Theory and practice.* London and New York: Bloomsbury Academic, pp. 1-18.

Melchior, MR. and Svensson, B. (2014) *Fashion and museums: theory and practice.* London and New York: Bloomsbury Academic.

Milgram, P., & Colquhoun, H. (1999) 'A taxonomy of real and virtual world display integration', in Ohta, Y., & Tamura, H. (ed.) *Mixed reality: Merging real and virtual worlds*, Tokyo: Ohmsha, pp.1-26.

Miller, J. V., & Miller, R. E. (2005) 'Museum Lighting Pure and Simple', *Seaford, DE, US: NoUVIR Research Obtenido de*, 10(07), pp. 1-12. Available at: https://www.nouvir.com/pdfs/38_Museum%20_Lighting_Pure_and_Simple.pdf.

Miller, S. (2007) 'Fashion as art; is fashion art?', *Fashion Theory*, 11(1), pp. 25-40. Available at: https://doi.org/10.2752/136270407779934551.

Mogaji, E. and Mogaji, E. (2021) 'Brand Identity', *Brand Management: An Introduction through Storytelling*, pp. 85-122. Available at: https://link.springer.com/chapter/10.1007/978-3-030-66119-9_5 (Accessed: 7 July 2023).

Moloney, A. (2018) 'Fashion exhibition as film', *Film, Fashion & Consumption,* 7(1), pp. 39-55. Available at: https://www.ingentaconnect.com/content/intellect/ffc/2018/00000007/00000001/art00004 (Accessed: 28 October 2022).

Museum+Heritage (2022) *8 tech innovations becoming standard in museums and heritage sites*. Available at: https://museumsandheritage.com/advisor/posts/8-new-technologies-becoming-standard-museums-heritage-sites/ (Accessed: 02 November 2023).

Nakamura, J. and Csikszentmihalyi, M. (2009) 'Flow Theory and Research', in C. R. Snyder *et al.* (ed.) *Oxford Library of Psychology.* New York: Oxford University Press, pp.195-206.

Njie, B. and Asimiran, S. (2014) 'Case study as a choice in qualitative methodology', *Journal of Research & Method in Education* 4(3), pp. 35-40. Available at: https://apprendre.auf.org/wp-content/opera/13-BF-References-et-biblio-RPT-2014/Case%20Study%20as%20a%20Choice%20in%20Qualitative%20Methodology.pdf (Accessed: 06 April 2023).

Nikolakopoulou, V., Printezis, P., Maniatis, V., *et al.* (2022) 'Conveying Intangible Cultural Heritage in Museums with Interactive Storytelling and Projection Mapping: The Case of the Mastic Villages', *Heritage,* 5(2), pp. 1024-1049. Available at: https://doi.org/10.3390/heritage5020056 (Accessed: 7 July 2023).

O'Neill, A. (2018) 'Staging fashion in somerset house, London', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp.105-118.

Palmer, A. (2018) 'Permanence and impermanence: Curating western textiles and fashion at the Royal Ontario Museum', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 39-56.

Park, D., Nam, T-J. and Shi, C-K. (2006) 'Designing an immersive tour experience system for cultural tour sites', *CHI'06 extended abstracts on Human factors in computing systems*, pp. 1193-1198. Available at: https://dl.acm.org/doi/abs/10.1145/1125451.1125675?casa_token=Wlygoor8ZeIAAAAA:_d5UCkse1VVrPFe35jZJmnrFrvO_-29ljXvZBB9_Y1D39OvLkVv1KZw4skGty9WRgokX68w1OxkaVw.

Parker, C., Scott, S., & Geddes, A., (2019). 'Snowball Sampling', In P. Atkinson, S. Delamont, A. Cernat, J.W. Sakshaug, & R.A. Williams (Eds.), *SAGE Research Methods Foundations*. SAGE Publications Ltd, Available at: https://dx.doi.org/10.4135/9781526421036831710.

Paul, C. (2008) *Digital art*. London: Thames & Hudson World of Art.

Pecorari, M. (2018) 'Beyond garments: Reorienting the practice and discourse of fashion curating', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 183-198.

Pegler, Martin M. and Anne, K. (2018) 'Exhibit and Trade Show Design', in Pegler, Martin M. and Bliss, Laura L. (ed.) *Visual Merchandising and Display*. New York: Bloomsbury Visual Arts, pp. 299-315.

Pecorari, M. (2018) 'Beyond garments: Reorienting the practice and discourse of fashion curating', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 183-198.

Permatasari, P. A., & Kalbaska, N. (2022) 'Digital technologies for communicating fashion heritage', in D. A. Silvia and C. Lorenzo (ed.) *Handbook on Heritage, Sustainable Tourism and Digital Media*. (pp. 60-75). Edward Elgar Publishing, pp.60-75. Avaliable at: https://doi.org/10.4337/9781788970082.00013.

Pescarin, S., d'Annibale, E., Fanini, B., *et al.* (2018) 'Prototyping on site Virtual Museums: the case study of the co-design approach to the Palatine hill in Rome (Barberini Vineyard) exhibition', *2018 3rd Digital Heritage International Congress (DigitalHERITAGE) held jointly with 2018 24th International Conference on Virtual Systems & Multimedia (VSMM 2018)*, IEEE, San Francisco, CA, USA, 26-30 October 2018. Available at: https://doi.org/10.1109/DigitalHeritage.2018.8810135 (Accessed: 04 November 2022).

Petrov, J. (2019) *Fashion, history, museums: Inventing the display of dress*. London: Bloomsbury Academic.

Pronitcheva, K. (2018). 'Luxury Brands and Public Museums: From Anniversary Exhibitions to Co-branding', In: Donzé, PY., Fujioka, R. (ed.) *Global Luxury*. Singapore: Palgrave, pp.219-237. Available at: https://doi.org/10.1007/978-981-10-5236-1_11.

Qin, Y. and Xu, X. (2022) 'Research on the application of digital image in stage space in the context of digital media', *Frontiers in Art Research*, 4(1), pp. 1-4. Available at: 10.1109/QoMEX48832.2020.9123075 (Accessed: 3 July 2023).

Quinn, B. (2002) 'Exhibition review: "Radical" fashion? A critique of the radical fashion exhibition, Victoria and Albert Museum, London', *Fashion Theory,* 6(4), pp. 441-445. Available at: https://www.tandfonline.com/doi/pdf/10.2752/136270402779615334?casa_token=uyUFKay2fegAAAAA:m11pXnQM6y6W9Fm5xKdzPYFoqbWOyE7JrbwsOOZFwx8Ov7T5Ae6ojkICBxNa1U2Cm9CMZp04P_9yPw.

Regenbrecht, H., and Schubert, T. (2002). 'Real and illusory interactions enhance presence in virtual environments', *Presence: Teleoperators & Virtual Environments*. Cambridge: MIT Press Direct, 11(4), pp. 425-434. Available at: https://doi.org/10.1162/105474602760204318.

Reinach, S. S. (2017) 'Fashion Museums and Fashion Exhibitions in Italy: New Perspectives in Italian Fashion Studies', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 171-182.

Rhodes, G. A. (2015) 'Future Museums Now – Augmented Reality Musings', *Public Art Dialogue*, 5(1), pp. 59-79. Available at: https://www.tandfonline.com/doi/abs/10.1080/21502552.2015.1010839.

Rochlen, L.R., Levine, R. and Tait, A.R. (2017) 'First person point of view augmented reality for central line insertion training: A usability and feasibility study', *Simulation in healthcare: Journal of the Society for Simulation in Healthcare,* 12(1), pp. 57. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5285452/ (Accessed: 31 October 2022).

Roginska, A. and Geluso, P. (2017) *Immersive Sound: the art and science of binaural and multi-channel audio*. New York: Taylor & Francis.

Romãozinho, M. (2020) 'From Interior Design Imaginary to Jewellery Concept', *Perspective on Design: Research, Education and Practice*, pp. 329-340. Available at: https://link.springer.com/chapter/10.1007/978-3-030-32415-5_25. (Accessed: 15 February 2023).

Ryan, N. (2007) 'Prada and the art of patronage', *Fashion Theory,* 11(1), pp. 7-24. Available at: https://www.tandfonline.com/doi/abs/10.2752/136270407779934588?casa_token=3qlG7MHiMhoAAAAA:3DBfASsjTY6q-WoETgjmHNDCnooOGtAi1ONBwNbrasWRnMg-QfmUQroZ6Tbg0OkQp_r597y2aCtBog.

Scaturro, S. (2018) 'Confronting fashion's death drive: conservation, ghost labor, and the material turn within fashion curation', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 21-38.

Schmitt, B. (2019) 'From atoms to bits and back: A research curation on digital technology and agenda for future research', *Journal of Consumer Research,* 46(4), pp. 825-832. Available at: https://academic.oup.com/jcr/article-abstract/46/4/825/5567100 (Accessed: 04 November 2022).

Schroeder, JE., Borgerson, JL. and Wu, Z. (2014) 'A brand culture approach to brand literacy: Consumer co-creation and emerging Chinese luxury brands' In S. Jonathan, J. Borgerson, and Z. Wu, (ed.) *Advances in Consumer Research.* In press, Forthcoming, pp.1-12. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2511638 (Accessed: 09 February 2022).

Schwandt, TA. (1994) 'Constructivist, interpretivist approaches to human inquiry', *Handbook of qualitative research*, 1(1994), pp. 118-137. Available at: https://www.researchgate.net/profile/Thomas-Schwandt/publication/232477264_Constructivist_Interpretivist_Approaches_to_Human_Inquiry/links/557048d908aeab777228bfef/Constructivist-Interpretivist-Approaches-to-Human-Inquiry.pdf (Access at: 15 April 2024).

Schwirten, T., Geiger, C., and Marinos, D. (2010,). 'radarTOUCH: multi-touch interaction on large planar surfaces'. *ACM International Conference on Interactive Tabletops and Surfaces*, pp. 314-314, Available at: https://dl.acm.org/doi/abs/10.1145/1936652.1936742.

Seo, Y. and Buchanan-Oliver, M. (2015) 'Luxury branding: the industry, trends, and future conceptualisations'. *Asia Pacific Journal of Marketing and Logistics*, 27(1), pp. 82-98, Available at: https://www.emerald.com/insight/content/doi/10.1108/apjml-10-2014-0148/full/html?casa_token=mWaR788N3VcAAAAA:rMUoGUN6lKRhfwQM3GdhcUXAHscfiNrJ7Qk2aPJicw9L5_uAWPTJiiFN-ggxgZsleBNomelbtge3eX5GPGTlQQSoEMS1-OffZD34PsX6Lv4tMRiQf13s

Shanbaum, P. (2019) *The digital interface and new media art installations.* Routledge.

Shott, M. J. (1996) 'An exegesis of the curation concept', *Journal of anthropological research,* 52(3), pp. 259-280. Available at: https://www.journals.uchicago.edu/doi/abs/10.1086/jar.52.3.3630085?casa_token=g9hPRiQA_I8AAAAA:ipHfbAoIMkvhVy0N8f5nCRIcLvYH3jwjAv38vyr1E0X9SkVdKRPfZxdhoBichbpjdhZ5G1lAMGL_.

Sikarskie, A.G. (2016) *Textile collections: preservation, access, curation, and interpretation in the digital age*. Lanham: Rowman & Littlefield.

Slater, M., & Wilbur, S. (1997). 'A framework for immersive virtual environments (FIVE): Speculations on the role of presence in virtual environments', *Presence: Teleoperators & Virtual Environments*. 6(6), pp. 603-616. Available at: https://doi.org/10.1162/pres.1997.6.6.603.

Smith, T. (2009). *What is contemporary art?*. Chicago and London: University of Chicago Press.

Soiferman, L.K. (2010) 'Compare and Contrast Inductive and Deductive Research Approaches', *Online Submission*. Available at: https://eric.ed.gov/?id=ED542066 (Accessed: 07 April 2023).

Soliman, M., Peetz, J. and Davydenko, M. (2017) 'The impact of immersive technology on nature relatedness and pro-environmental behavior', *Journal of Media Psychology*. 29(1), p. 8. Available at: https://psycnet.apa.org/journals/jmp/29/1/8/ (Accessed: 28 October 2022).

Steele, V. (2008) 'Museum quality: The rise of the fashion exhibition', *Fashion Theory,* 12(1), pp. 7-30. Available at: https://www.tandfonline.com/doi/abs/10.2752/175174108X268127?casa_token=If-N8Kro6-oAAAAA:_qhZnCM9ocKVYs_EpqF348tz6GbDXjMCFhwH9aqRP3s8PJE9WpsCkiOtn0YPKJphaZDoFs62EK8Bvw.

Stogner, M.B. (2011) 'The Immersive Cultural Museum Experience--Creating Context and Story with New Media Technology', *International Journal of the Inclusive Museum,* 3(3), pp. 117-130. Available at: https://search.ebscohost.com/login.aspx?direct=true&profile=ehost&scope=site&authtype=crawler&jrnl=18352014&AN=66384788&h=QBGflaH5dwlnnCXifPJTnL5XT60qg%2B87HKnBCDnD%2BxSe%2FvQlr7CyYft7bPhlGmIv6NSA0in3u1VRnBG7xlg1cQ%3D%3D&crl=c&casa_token=vqxlLKLqFb4AAAAA:Yr9gI_Iby6xEXy0WBw4JeuNsPHQboDMrFnjXxEJ4Zj7a5mdwqHgGjZT8iYXsP8wuoCJi5wO2RiW3NeI (Accessed: 28 October 2022).

Stokes-Rees, E. (2019) 'Exhibition without Boundaries: teamLab Borderless and the Digital Evolution of Gallery Space', *Museum Worlds*. 7, pp. 238-248, available: https://link.gale.com/apps/doc/A673278871/AONE?u=anon~e6754766&sid=googleScholar&xid=7202944d (accessed: 30 October 2022).

Stratton, SJ. (2021) 'Population research: convenience sampling strategies', *Prehospital and disaster Medicine,* 36(4), pp. 373-374. Available at: https://doi.org/10.1017/S1049023X21000649.

Suh, A .and Prophet, J. (2018) 'The state of immersive technology research: A literature analysis', *Computers in Human Behavior,* 86, pp. 77-90. Available at: https://www.sciencedirect.com/science/article/pii/S0747563218301857?casa_token=bTvPSV

GOdP8AAAAA:nl3dwy1VVFhDPwwGDZoBLiHy9fOHBcu2-3ppDB-PVj4LhWP7nNUVJVehCnG5Sc-LmnNA-3gwCy8 (Accessed: 28 October 2022).

Sun, P. (2021) 'Dynamic image design of digital media based on 3Ds MAX technology', *International Conference on Aviation Safety and Information Technology*, pp. 890-894. Available at: https://doi.org/10.1145/3510858.3511417.

Svensson, B. (2014) 'In conclusion: Museums dressed in fashion', in MR. Melchior and B. Svensson (ed.) *Fashion and museums: Theory and practice.* London and New York: Bloomsbury Academic, pp. 197-205.

Teunissen, J. (2016) 'Fashion Curation: broadening the scope', *Fashion curating*, 5(1), pp. 289-293. Available at: https://ualresearchonline.arts.ac.uk/id/eprint/10724/7/FC_5-1JTeunissen_EN%20%281%29.pdf (Accessed: 28 October 2022).

Vänskä, A. (2017) 'Boutique – Where Art and Fashion Meet: Curating as Collaboration and Cultrual Critique', in A. Vänskä and H. Clark (ed.) *Fashion Curating: Critical Practice in the Museum and Beyond*. London and New York: Bloomsbury Publishing, pp. 119-136.

Vänskä, A. and Clark, H. (2018) *Fashion curating: Critical practice in the museum and beyond*. London and New York: Bloomsbury Publishing.

VCA (2023) VCA-projects. Available at: https://vca-projects.com/whatwedo#!/tab/446361222-1 (Accessed: 15 August 2023).

Villi, M., Moisander, J. and Joy, A. (2012) 'Social curation in consumer communities: Consumers as curators of online media content', *ACR North American Advances*, 40, pp. 490-495. Available at: https://www.acrwebsite.org/volumes/v40/acr_v40_12313.pdf (Accessed: 28 October 2022).

Voegelin, S. (2014) 'Soundwalking the Museum: A Sonic Journey through the Visual Display', in P. Pan (ed.) *Curating multisensory experience: The possibilities of immersive exhibitions*. OCAD University, pp. 119-130.

White, M.D. and Marsh, E.E. (2006) 'Content analysis: A flexible methodology', *Library trends,* 55(1), pp. 22-45. Available at: https://muse.jhu.edu/pub/1/article/202361/summary?casa_token=FT7jf-Y0mnUAAAAA:J7r_5ihzcMLBAWN6EwPUTqUZyTd17w1R6Gq0wmpsDL0ElQC0xbzGaRWTiAPFOkgKbI6SgJA6PHc (Accessed: 07 April 2023).

Wilson, E. (2003) *Adorned in dreams: Fashion and modernity*. New Brunswick and New Jersey: Rutgers University Press.

Wu, G-r. and Gao, C-m. (2011) 'Innovative study on material technology in jewelry exhibition design'. *2011 IEEE 18th International Conference on Industrial Engineering and Engineering Management*. IEEE, pp. 1375-1377. Available at: https://ieeexplore.ieee.org/abstract/document/6035411/. (Accessed: 15 February 2023).

Yoo, H-S., Kim, E-S., Lee, S-J., *et al.* (2017) 'A study on a method to implement exhibition contents using 3D VR in online environment: focused on the presidential archives in Korea', *Journal of the Korean BIBLIA Society for library and Information Science,* 28(1), pp. 271-292. Available at: https://www.koreascience.or.kr/article/JAKO201714563184248.page (Accessed: 30 October 2022).

Yu, J. and Ko, E. (2021) 'UGC attributes and effects: implication for luxury brand advertising', I*nternational Journal of Advertising*, 40(6), pp. 945-967. Available at: https://doi.org/10.1080/02650487.2021.1898773.

Yu, J., and Wang, Y. (2020).' User interaction and scenario-based experience design for new media technology in museum spatial experience' (from the Advances in Design for Inclusion: Proceedings of the AHFE 2019 International Conference on Design for Inclusion and the AHFE 2019 International Conference on Human Factors for Apparel and Textile Engineering, Washington DC, USA, July 24-28, 2019), *Springer International Publishing.* 10, pp. 263-270. Available at: https://link.springer.com/chapter/10.1007/978-3-030-20444-0_25 (Accessed: 8 September 2024).

Zhang, C. (2020). 'The why, what, and how of immersive experience', *Ieee Access*, 8, pp. 90878-90888. Available at: https://ieeexplore.ieee.org/abstract/document/9091071/.

Zhao, S. (2019). 'Exploring how interactive technology enhances gesture-based expression and engagement: A design study', *Multimodal Technologies and Interaction*, 3(1), p. 13. Available at: https://www.mdpi.com/2414-4088/3/1/13.

Zheleva, A. *et al.* (2020) 'Seeing is believing: the effect of video quality on quality of experience in virtual reality' (In *2020* Twelfth International Conference on Quality of Multimedia Experience, Athlone, Ireland, 26-28 May 2020), *IEEE*, pp. 1-4. Available at: 10.1109/QoMEX48832.2020.9123075.

Zhuo, A., Sirivesmas, V., & Punyalikit, R. (2023). 'Application Research of Installation Art Based on Digital Media', *In 2nd International Conference on Intelligent Design and Innovative Technology (ICIDIT 2023,)* pp. 289-297. Available at: https://books.google.com/books?hl=zh-CN&lr=&id=qVDcEAAAQBAJ&oi=fnd&pg=PA289&dq=Application+research+of+installation+art&ots=cM8KUEVYFO&sig=6v94OXb8N97ruHUAdGLUpM-D9aA (Accessed: 13 December 2023).

Zimmermann, A., & Lorenz, A. (2008) 'LISTEN: a user-adaptive audio-augmented museum guide', *User Modeling and User-Adapted Interaction*, 18(5), pp. 389-416. Available at: https://link.springer.com/article/10.1007/s11257-008-9049-x (Accessed: 16 August 2023).