Applied Semiotics for Cross-Cultural HCI in Advergames: Design and Implications

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Abstract

In this paper, we propose the application of Semiotics as a way to convey cultural meanings in persuasive games, such as advergames. For that, we manipulate elements that are strategically incorporated in advergaming design, considering different cultural backgrounds. Aspects that compose games, such as elements, mechanics, interface design, were shaped in order to provide a more specific interaction to the player. We employed perspectives of Applied Semiotics for Design, through iconic, indicial and symbolic references, within the context of advergames. In order to illustrate this approach, we designed an advergame, targeting Brazilian consumers. It is felt that this approach opens new opportunities for game designers to build effective games across cultures. In the future, we expect to test the advergame with Brazilian consumers to understand the effectiveness of this strategy.
**Keywords:** semiotics; cross-cultural HCI; game design; advergames; consumer behavior

**Highlights**

- Review of Semiotics applied in Game Design
- Applied Semiotics in Design can help to translate cultural meanings in games
- Cross-cultural games could be designed through Semiotics using visual representations
- Example of application of Semiotics in Advergame Design

1. **Introduction**

Globalization and the advance of innovative technologies have expanded the influence of culture in creating consumer experiences. The integration of gaming technology as a strategy that could evoke user engagement in different contexts is a reflection of this scenario. Games are participative systems [1] and can be employed as interactive tools for brand engagement in advergaming and persuasive games, particularly to entice people from different cultural backgrounds in different ways.

The implication of cultural influences is part of the discussion of issues in Human-Computer Interaction (HCI) and cross-cultural consumer behaviour. In this context, semiotics could be a way to build cultural significance and influence.

Semiotics has been applied in game design through simulation [2], language and narrative design [3] and character design [4]. In this paper, design, games, advertising and culture are discussed through the lenses of Semiotics, including variations in colour and symbolisms, at the visual level in order to convey a persuasive message.
Advergames are games built around a brand message [5]. Previous research indicates the influence of advergames on particular aspects of consumer behaviour, such as memory and attitudes towards the brand. What has not been studied, however, is the role of advergaming within a cultural semiotic paradigm, especially about the cultural characteristics that would be useful to incorporate within the design of an advergame.

By combining the literature of cross-cultural gaming and cross-cultural advertising, there is an opportunity to utilise semiotics as a strategy to convey meanings for the player within a cultural context. Representation in this case is the key element for conveying significance and advertising effectiveness [6].

Semiotics can be also applied into HCI across cultures through cultural codes, helping to give a context to systems through intuitive interactions [7]. In Design, semiotics can establish a meaningful link between the audience and the product [8]. From the advertising perspective, Semiotics can be a way of understanding the interpretation of persuasive codes that are incorporated by adverts [6]. As advergames are advertisements in the form of games, there is an opportunity to integrate a Semiotic Design approach with advergame design.

This study manipulates elements that are strategically incorporated in to the advergame. Based on previous research in cross-cultural advergaming design [9], we utilised particular aspects that compose games, such as elements, mechanics and interface design, in order to provide a specific interaction to the player. We start by reviewing the literature and applications of Semiotics in Design, games and HCI, followed by a list of Design guidelines that could be used in the context of advergaming design. In order to explore this Design process, we employed
perspectives of Applied Semiotics for Design, through iconic, indicial and symbolic references [8].

2. Semiotics, Design and Culture

Culture has many definitions and it shapes people’s response and preferences to computer systems and communications. Hofstede [10] defines culture as a system of patterns that differentiates people of one group from the other. On the other hand, Hall [11] argues that culture cannot exist by itself, because it is a shared construct.

Existing literature in Human Computer Interaction (HCI) across cultures is usually concerned with representational variations, such as colours, icons, symbols, pictures, time formats, jargon and abbreviations, where the difficulty in the understanding them can impact on the user’s preferences and his/her ability to learn [12].

In marketing and advertising for web site design, the symbolic and aesthetic aspects of the visual presentations (including background colours) are manipulated for different cultures and have higher importance in high-context cultures [13]. Particularly in user interface design, Hofstede’s dimensions were analysed together with user interface design, confirming that websites are designed differently and according to the culture explored in the study [14]. For example, simplicity, clear metaphors, easy navigation, mental models and limited choices were related to cultures with high uncertainty avoidance and websites with a lot of choices and complex navigation were connected to cultures with low uncertainty avoidance [14]. The result is that each component of a website like navigation, information access, security, animation, choices, graphics and others is a reflection of a different cultural dimension, revealing that interface design is influenced by culture [14] [15].
Interface design can also influence trust and loyalty differently across cultures. For example, in websites for e-commerce, information design, visual design (balance, emotional appeal, and aesthetics) and navigation were found to be important antecedents of differences of e-loyalty across cultures, particularly in visual design [16].

In interactive environments, individuals tend to access unconscious perspectives, associations, prior experiences and anticipations about how things should behave inside the system [1]. This is the reason why a good interface design should follow design aspects that are more intuitive, familiar and seamless, in order to help users to perform a task. Games are participative tools [1], with elements that help players navigate and explore the game world through interactive experiences. In games, players feel that they are in control of the interaction. This is represented by the concept of agency, as a reflection of the player’s choice, freedom and commitment [17]. This aspect gives autonomy to the players, evolving according to the relationship that they have with the game.

In the case of cross-cultural games, this is not different: symbolism, colour, individuality, knowledge processing and location variables are included in the studies, particularly because language translation was found to be no longer sufficient to offer enough differentiation cultures in games systems [18]. For example, iconic information and familiarity with videogame technology were found to differ across cultures, as Americans were more “experienced” in games than Italians, reflecting the way players from different cultures interact and interpret computer games [19]. Moreover, the way the information is communicated has a different aspect. For example, the direct style of individualist cultures may be offensive to collectivistic cultures [20].
Although they were not related to games, Lee, Choi and Kim [21] presented a list of 36 cultural dimensions based on the works from Hofstede [10], Hall [11] and Trompenaars [22]. By using only ten dimensions, Lee, Choi and Kim [21] built their hybrid cultural system in order to analyse influences of culture in user experience of electronic products. Although their dimensions were a reflection of a hybrid model for user experiences regarding products, it is still necessary to understand what dimensions or cultural concepts should be applicable for games and user interfaces in games.

Another way to understand the use of computer interfaces across cultures is including concepts of cultural semiotics [23]. According to Peirce [24], semiotics is the study of signs as a representation of something, as a reference of a type of idea of this sign in one’s mind. Thus, a code or a system of signification manages the process of communication of a signal from a source to a destination [25]. Semiotics can also function as cultural codes, comprised by behaviour and value systems, as a way to model social organization and communication among groups of people [25].

In the context of HCI and interactive systems, reflections regarding user needs and interpretations can be difficult to predict, as long as it combines a content designed according to (user-centred design) UCD principles and expressions through Semiotics Theory [26].

De Souza [26] explains reasons for this relationship, as HCI involves communication (message senders and receivers) through interface design, particularly through the production of signs in computer systems. Semiotic Engineering, introduced by de Souza [26] is a way to solve the problem of non-situated context and context of use, in which the messages sent by computers are developed through semiotics principles, including text and iconic elements.
Consistently, in Design, Semiotics is related to the communication established between the product and the user [8]. This implies that Design can work as a meaningful link between the product and the audience, communicating values, principles and different messages across a variety of audiences. This can be bettered by a deeper understanding of the user’s prior experiences, memories, repertoire, beliefs and cultural values [8].

The development of signs in Semiotics can be explained by Eco’s [25] parameters for modes of sign production, which encompasses recognition, the creation of examples and samples, replica and invention of the sign [25]. This means that the antecedent of the sign is the identification of the sign itself. In advertising, for example, this could be related to the identification of implicit system of signs [6]. Thus, the representation of this sign should be clear and objective, in order to provide an effective communication and experience to the user. Thus, as semiotics can differ across cultures [25], it is necessary to know how it influences computer games.

2.1 Semiotics and games

In the context of gameplay, the meanings created by players while interacting with games can be represented by the concept of ludic semiotics [3]. This approach tends to be connected to verbal and written languages, in order to build a particular interaction with the player. Therefore, there is a strong link between semiotics and narrative design, illustrated by game performance and discourse. Narrative has been also mentioned as a way to convey a state of immersion while playing the game [27]. This means that communication is the central objective of the game. During the game, hints, signs and informational symbols could be ways to establish a communication between the game system and the player [27]. Thus, during gameplay this
communication should be clear and established by different aspects of the game interface.

In different cultures, people can have different mental models in forms of behaviour, communication, interaction and understanding [15]. Thus, interactive systems should reflect cultural variations. As game interfaces are defined by functions and communicative systems that support gameplay experience [28], semiotics could function as a way to convey a good interaction for the player. However, it is necessary to understand how semiotics could help to build games such as advergames, built around a persuasive message.

3. Advergaming Design

The word Advergaming is used to describe the different possibilities for advertising brands, services or products with or within computer and console games [29]; in order to function as advertisements to promote brands, where entertainment meets the traditional game forms [30].

Due to the use of advergames for advertising brands, the game itself could be centralized around a brand message [5], attracting attention to interactive content through pleasurable experiences [31]. In other words, the game becomes the advertising, created around brand values and branded entertainment [32]. The expression of entertainment by or in conjunction with a brand appeared as a product placement strategy, particularly in TV, movies, and it is used to define branded entertainment [33].

Originally, advergaming represents the abandonment of traditional forms of product placement [34]. However, they are not in-game advertising (IGA). Advergames are customised games, created around a rhetoric message [35]. Examples
of advergames featuring brands include the online game *Magnum Pleasure Hunt*, *Pepsiman* for *Playstation 1* (sponsoring *Pepsi*), *Human Curling* (featuring the brand *BIC*) and *Fiat Uno Colour Race* for *iPhone* [36].

Different aspects that are incorporated by the game can measure advergaming effectiveness (AE). For example, positive emotions [37], novelty [38] and the integration between the brand and the game [39] [40] [34] could evoke brand recall and memory. This could be related to previous stored memory about a brand or brand schemas [41]. The previous information about a brand could also influence the concept of brand familiarity [42]. Implicit and explicit levels of consciousness can induce memory [41], being central to advergame effectiveness (AE). This means that familiar cues could be a way to convey AE. Moreover, this could be attached to a culture. For example, in advertising, a system of values tends to reflect what is portrayed in popular culture [6]. Thus, it tends to reproduce what is agreed within a group as a representation, being part of ones’ repertoire.

**Advergames and culture**

The integration of the brand and the game is one of the key determinants of AE. This suggests that the way the game is designed, including the way the brand is represented in the game, through visual aspects or mechanics, is crucial. In the case of advergaming across cultures, we expect that these variations would occur at the same level, with the objective of providing a significant AE.

At the representative level, culture and design could be studied through the lens of cultural appropriation [43]. This approach could be explained as a way to customise game mechanics, storyline and interface design. In games, there are at least three levels of “interfaces”: the physical interface, WIMP elements (windows, icons, menus and pointer) interface and the gameworld interface [28].
Previous research has shown that members from different cultures differ in their attitudes towards advergames, particularly when analysing the integration between the brand and the game [44]. This integration is a key component in advergaming design and can be explored through different representations.

Figure 1 The CAKE Framework

The Contextual framework for Advergaming design across cultures (CAKE) (see Figure 1) is a combination of cultural representations, brand characteristics, game elements and cross-cultural consumer behaviour. From one angle, cultural perspectives in advergames can be treated as a combination of heroes, symbols, rituals and contextual perspectives, represented in elements inside and outside the game, including game characters, symbols from the brand, game rituals, game theme and the context of the game [45]. Those perspectives can be also represented through the concept of cultural persuasive affordances of the advergame (CPA), composed by visual interface, rules/gameplay, advertising message, context and storyline/narrative and cultural representations (CR) and representations of the brand (RB) [9] (see Table
3). However, there is still an opportunity to include advergaming effectiveness into cross-cultural advergame design.

The CAKE framework combines the CPA, CR and RB with the advergaming effectiveness (AE) principles, such as arousal, flow, telepresence, product involvement and brand integration (see Table 3). In addition to CR, game theme and game environment are added as part of contextual aspects [9].

Table 3 The CAKE framework elements, based on the CPA, CR and RB (adapted from Wanick, Ranchhod and Wills [9]) and AE

<table>
<thead>
<tr>
<th>Cultural persuasive affordances (CPA)</th>
<th>Cultural representations (CR)</th>
<th>Representations of the brand (RB)</th>
<th>Advergaming effectiveness (AE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual interface design</td>
<td>Game world, sound, colours and characters</td>
<td>Brand identifiers (logo, color, mascot)</td>
<td>Telepresence, brand integration</td>
</tr>
<tr>
<td>Rules, gameplay and dynamics</td>
<td>Team work vs. individual goals</td>
<td>Ability to interact with the product</td>
<td>Arousal, flow, brand integration</td>
</tr>
<tr>
<td>Advertising message</td>
<td>Empathy vs. pride; Persuasion Knowledge;</td>
<td>Brand positioning, target public</td>
<td>Product involvement</td>
</tr>
<tr>
<td>Context</td>
<td>Consensus information; Previous game experience, Previous experiences with the brand</td>
<td>Brand familiarity</td>
<td></td>
</tr>
</tbody>
</table>
4. Design guidelines and process

Semiotics has been employed in the design of games through simulation [2]. The game *DressCode*, created by Makryniotis in 2014 [2], is one example that Semiotics and Games can coexist through programming and visual representations. In a different stance from Makryniotis [2], we explore visual information in order to build a familiar link between the representations inside the advergame and the representations that are part of the player’s repertoire. In this, we identify objects, colour and symbols that compose the advergame scenario. In our advergame *Colheita de Café* (*Coffee Picking*) (CC), we did not design a character.

For the Design of the CC advergame, we combined CPA [9], the CAKE framework and Semiotics in Design [8] (see Figure 2). The proposed design guidelines are:

- Representations of the brand: symbols, objects, colour scheme and logo
- Interface Design: colour scheme
- Game Mechanics: rules, interaction
- Storyline: sound design, scenario

The details of the design principles are described in the next section.
5. The Colheita de Café Game

The CC advergame was created in order to favour Brazilian consumers, as part of the strategy to integrate advergame design elements within a cultural background.

Brazil is full of antagonisms, as a combination of European, African and Indigenous cultures, with Catholicism and different dynamics, combined with the influence of Portugal [46]. This has a reflection in the Brazilian life, morals, economy and arts. Today, the country faces development challenges, particularly regarding agricultural growth, environmental protection and sustainability.

Using the dimensions discussed by Hall [11], Brazil is considered as a high context culture (LatinAmericans), which means that the message for Brazilians is contextual and implicit. This could suggest that subjective cues to communication could be more effective for Brazilians. Thus, in order to illustrate this context, we have designed the CC game in the Brazilian context, applying symbols and
information that would be meaningful for Brazilians. The process is explained by Figure 3.

![Design process](image)

Figure 3 Design process

5.1. Representations of the brand

The chosen brand for this research is the Fairtrade Mark®. According to the Fairtrade Foundation [47], there are at least three participants in the Fairtrade process: producers, organisations and final consumers. The aim of Fairtrade is to shorten this “bridge” between producers and consumers. Fairtrade values are optimism, respect, action, challenge and integrity, according to the organisation’s report [47]. This means that the advergame message needs to illustrate these aspects.

4.1.1. Advertising message

Fairtrade® is a certified Mark applied in different products, including coffee, chocolate, banana and others. In this particular game, coffee is the product chosen to represent the concept of Fairtrade. Moreover, according to the Fairtrade Foundation
Brazil holds 34% of coffee production, but only 6% from Fairtrade organisations.

For the advertising message, the strategy of this study is to provide metaphors that could express the concept of Fairtrade. In linguistics, Allbritton et al. [49] tested associations evoked by “metaphors-based schemas”, with aim to identify the causes of sentence recognition. As explained by Allbritton et al. [49], considering “love”, a schema could be “love is a physical force” and the metaphors are “physical forces”. In the case of Fairtrade, the current campaign aims to “unlock the power” of the community and bring social change [47]. Therefore, the message to be transmitted by the Fairtrade advergame design is through empathy, putting the player in the role of the producer. Figure 4 illustrates the terms related to Fairtrade.

For that, the advergame was designed to represent five metaphors related to coffee: collect, toast, make, sell and improve the local community. The message that was incorporated is the story behind the coffee production until its final consumption.

4.1.2. Game theme

The idea of the game was to illustrate the process of coffee production, giving the player an overview of this activity. Therefore, the game concept involves one single scenario, with multiple interactions.

In the game, the player can interact with the game scenario that illustrates a coffee farm, which is part of a local community (see Figure 3). The main game objective is to achieve the three principles of the brand proposition (social, environmental and economic) by collecting, toasting and selling the coffee to consumers. Each step gives something back to the producer (see Figure 4). For example, when the player makes the coffee and when the player sells the coffee (drink). Each stage gives one of the outcomes promoted by the brand.
Figure 4 The selected metaphors that were incorporated by the advergame

For each action, the player depends on the previous one, as an action and reaction game, with clicks and quick feedback. The constraint of the game is the time. Players are exposed to one scenario, in which they have to transform as much coffee beans as they can in a short time (1 minute) (see Figure 5). For each step, the player receives a feedback that is related to the outcomes of Fairtrade (social, economic and environmental). This is explained in the next section.

4.1.3. Rules and mechanics

The mechanics of the game is about clicking and collecting items, within a time constraint. This is an online game on a website. Hence, the “clicks” represent the interactions in the game. The time constraint limits the game to 1 minute.

The first screen of the advergame is a start screen, with a button to start playing the game. In this screen, the player can see the game title “Colheita de Café”, in Brazilian Portuguese or “Coffee picking”, in English.
The metrics of winning the game are represented by the interaction with each stage of the coffee process. All the actions result in profitability, community happiness and environmental sustainability, represented by icons. This engine/feedback is important, as it reflects on the impact that the player have in the game. Moreover, the feedback occurs in loops, depending on the level of player interaction. In the final screen, the player can to see his/her achievements, represented by each of the elements (economic, social and environmental) and the total of points. The order of the feedback follows each stage: environmental for the “coffee-toasting”, economic for “coffee-making” and social for “coffee-selling”. As the “coffee-selling” depends on the previous levels, it carries more points. The final reward is the amount of points obtained (see Figure 5).

![Diagram](image)

Figure 5 Game mechanics
4.1.4. Advergame stages

The buttons for interacting with the game are positioned on the left of the screen. The choice for that is the implementation of the scenario and prioritization of the actions. First, it is necessary to “collect the red cherries”, in order to proceed with the game. The button for the cherry is positioned on the top left. A visual test was undertaken with the buttons in the horizontal position, but it was found that the clicks could be confusing, as the player is already clicking on the cherries (see Figure 6).

![Figure 6 Button position](image)

For each stage in the advergame, the players have to combine the elements and create new ones. For that, players have to click in the beans and click in the “transformation” buttons, which allow them to transform the coffee cherries into toasted beans, and then from toasted beans to the coffee (drink). Each stage gives feedback to the player, as environmental impact, happiness and money.

5.2. Game objects

The selection of the objects and forms that compose the game should be strategically designed in order to illustrate the metaphors explained in the previous section. The main game objects are: coffee beans, coffee (cherries), coffee (drink), producers/farmers and coffee farm. Other aspects that need to be illustrated are the economic, social and environmental impacts.

How is coffee represented in Brazil? In order to understand this characteristic, the following strategy was employed:
• Analysis of coffee brands website communications
• Image search of keywords utilising search engines

Local and global brands communication strategies were analysed. For local brands, websites of the brands Origem Brasil, Pilão, Caboclo and 3 Corações were studied (see Table A.1). Starbucks was the global brand that was analysed.

The website of Origem Brasil has the coffee represented in a small cup, with the coffee cherries in the background. Pilão represents the coffee as the toasted bean with a small cup of coffee near the featured products. The 3 Corações website has also the small cup of coffee, but with interaction of people and the coffee. Caboclo also shows the coffee in a small cup and adds the coffee farm as one important feature.

The Starbucks’ website has a strong presence of the Brazilian word “cafezinho”, which means “little coffee” in Portuguese. The size of the coffee cup is small and the snacks that go along with the coffee are local, such as “pão de queijo” (cheesebread) and “brigadeiro” (similar to a chocolate truffle). However, the utilisation of snacks was not found in the other websites.

The main finding in this analysis is the size of the coffee cup. The “cafezinho” is the little cup and this needs to be represented in this version of the advergame, with the aim of evoking associations with the “cafezinho”. This enhances coffee as a drink.

Another area to be represented in the game are the game outcomes. As those elements looked small on the screen, they needed to be readable. Instead, icons were utilised. For this, the words environmental, economic and community were searched in Portuguese and represented through symbolic figures. The next section explores this aspect in detail.
5.3. Symbol definition

In order to provide a guideline for the advergame interface design, a semiotic approach was employed following the perspectives in semiotics and design, borrowed from Niemeyer [8].

According to Niemeyer [8], associations can be applied into:

- **Iconic references**: form (representation of the product is associated to a group of products); colour association; material association; metaphor (the product is perceived as a reference to another object); style; environmental association (the object belongs to a particular environment). *E.g. The representation of the object is similar to the object*

- **Indicial references**: tool reference; colour (method to apply colour); form (utilitarian perspective); traces of usage; other traces; light and sound (technical function); usage sound (performance); smell; touch; algorithms. *E.g. The representation of the object is associated/connected with the object*

- **Symbolic references**: graphic (logo, name, numbers); colour (symbolic colour, iconic sign); symbolic form; position; symbolic material; *E.g. The representation of the object is the “agreed” representation of the object*

Considering this, the design process aims to provide the most effective communicative design. For that, the information gathered for the advergame was categorised in order to provide symbolic, iconic and indicial references (see Table 1).

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Semiotic recommendations for the design</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Reference</strong></td>
<td><strong>Iconic</strong></td>
</tr>
<tr>
<td>Coffee (toasted bean)</td>
<td>Colour: brown</td>
</tr>
<tr>
<td>Coffee (cherries)</td>
<td>Colour: red</td>
</tr>
<tr>
<td>Coffee (drink)</td>
<td>Colour: brown; small cup</td>
</tr>
<tr>
<td>Environmental Outcome</td>
<td>Green colour. Sometimes blue. Trees, oceans</td>
</tr>
<tr>
<td>------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Economic Outcome</td>
<td>Yellow, made of metal for coins</td>
</tr>
<tr>
<td>Social Outcome</td>
<td>Community, people, holding hands</td>
</tr>
<tr>
<td>Coffee Farm</td>
<td>Fields, valleys</td>
</tr>
</tbody>
</table>

Each aspect presented in the advergame was previously researched in images banks and situated in moodboards (see Figure 7). The moodboard in the left represents the image search for coffee (drink, toasted bean and cherries), coffee farm and the coffee producer. On the right, a search of iconic elements for environmental, economic and social outcomes is illustrated. All the searches were undertaken utilising the keywords in Portuguese.

![Figure 7 Example of moodboards utilised in the advergame design](image)

5.4. Colour scheme selection

The advergame was designed following the standards for Brazilians, based on previous research in cross-cultural colour preference for branding [50]. The game
colour scheme was reflected in the whole scenario (see Figure 8) and interface design characteristics.

Visual aspects are one of the factors that influence advergaming design across cultures, in which colour scheme plays a significant role. Previous research has identified Brazilian colour preferences in branding, from white (most preferred colour), blue and green to black, red, brown, purple, yellow, gold and orange [50]. For the advergame design, this aspect is implemented through the choice of the colour palette (see Figure 9).

![Game scenario without the colour application](image)

Figure 8 Game scenario without the colour application

The colour palette was generated utilising the software Adobe Kuler\(^1\) and Adobe Illustrator for the design and manipulation of the image. The colour scheme for the games should follow RGB standards, as the game can be played in a screen.

As Brazilians tend to prefer white, blue and green, the background was painted in a blue colour, to represent the sky. The green was added to the farm fields. A cloud

\(^1\) This tool can be accessed in the link: [https://color.adobe.com](https://color.adobe.com)
is added into the background in order to build the connection between the blue and the white.

Madden et al. [50] identified the best colour combinations for Brazilians, represented by white and blue and red and black (see Figure 9). According to Madden et al. [50], blue, green and white are associated with “beautiful” and “peaceful”. Another aspect to be considered in colour is saturation and value [51]. Although Madden et al. [50] did not specify the colour saturation; this was not an issue, as the premise is based on the colour combination and preference. In order to maintain this principle, the selected colours have more percentage of colours in each section. The chosen scheme is the most saturated (see Figure 10).

Figure 9 Colour combinations

Figure 10 Colour saturation tests from very saturated (left) to less saturated (right)
5.5. Music and sounds

Considering the semiotic analysis, two points can be included: music and sounds. The selected music aims to provide a sense of a farming/countryside environment. This choice is related to the game theme. The selected music has a pace that is not too slow, as the game is a time-related game. The reason for that is that with a quick-paced music, the players could feel more aroused and excited in order to proceed in the game. The selected sounds, as for example, the sound a coin for the economic outcome, could help to reinforce the association between the representation and the real object or concept [52].

5.6. Typography

In Brazil there is a tendency to communicate cultural aspects through popular culture, including vernacular typography [53]. This aspect could bring familiar characteristics to symbolic references to the local culture. The choice for this approach is a way to convey symbolic cultural meaning through visual language. The typography is utilised in the first screen of the game and in the “Game Over” screen (see Figure 11). The chosen typography is “1 Rial”, created by the designer Fatima Finizola [53].

Figure 11 First and final screens
5.7 Design summary

The CC advergame \(^2\) was created in order to transmit a message of Fairtrade coffee and Fairtrade values that are incorporated by the interaction with the final product (coffee). In this advergame, we utilised a Semiotic approach, based on elements and symbols to integrate the repertoire of a culture into the game visual representations (see Figure 12).

![Game Screenshot]

Figure 12 Screenshots of the game

6. Conclusions and future work

In this paper, we provide a review and integration of Semiotics in game design, particularly for advergames. The advergaming design for Fairtrade followed a process

\(^2\) Access the full game: http://do-doc-ahedron.co.uk/research/br/onossocafezinho/
of concept definition, game design and the implementation of familiar aspects, such as colour scheme, game objects, music and sounds through. The game design approach also combined a semiotic approach, in order to identify associations between the message and the game. The brand selected for the advergame design was Fairtrade and the design followed a high level of integration between the brand and the game. The logo of the Fairtrade was showed at the end of the game. The objective of the game was to make Brazilians more aware of the Fairtrade main concepts, including social, environmental and economic impacts. All those elements were integrated inside the game as metaphors.

The main limitation of this work is that it only provides an example of the use of Semiotics for advergaming design; hence the conceptual approach. In the future, we expect to test this advergame with Brazilians and consumers from other cultures, in order to provide a cross-cultural comparison. We also plan to expand the application of Semiotics and Advergaming Design for other contexts and brands, with the aim to evaluate the effectiveness of this design strategy.

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9. Appendices

Table A.1 Coffee brands and websites

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