

A Virtual Research Environment (VRE) to Support Sharing and Collaboration in Internet Intervention Projects

S. Williams¹, L. Yardley¹, G. Wills², S. Samangooye² & L. Gilbert²

¹Centre for Applications of Health Psychology, S.Williams@soton.ac.uk

School of Psychology, University of Southampton, UK

²School of Electronics and Computer Science, University of Southampton, UK.

Abstract: This presentation describes our Virtual Research Environment (VRE) which we have called the LifeGuide Community website. This VRE aims to facilitate collaboration for those involved in creating internet interventions using the open-source LifeGuide software. The aim of this presentation is to describe the methods and results of an ongoing qualitative case study detailing how the VRE can contribute to new ways of working collaboratively on internet intervention projects.

Introduction

Internet intervention projects (i.e. projects developing interventions for promoting or changing health behaviours or to train health professionals over the internet) involve many different types of collaboration and sharing of interventions, including:

- Collaboration between a large research team which requires input on content, format and study design from lead investigators, clinical experts, expert patients and researchers
- Supervision between PhD supervisors or lead investigators and their students or research assistants
- Sharing between researchers who are working together to develop an intervention
- Sharing intervention files with the wider e-health community to disseminate work and facilitate future collaboration

We are developing a VRE to enable people using LifeGuide working within a variety of disciplines to collaborate in sharing and reviewing components of internet-delivered interventions. The aim of a VRE is to facilitate researchers in “managing the increasingly complex range of tasks involved in carrying out research” [1]. A VRE will enable LifeGuide researchers to collaborate in internet intervention research and share intervention components, research data and expertise. This will reduce the resource requirements (time and funding) that can make collaborative research difficult. VREs are considered to be growing in importance as

more and more research is conducted with larger, geographically dispersed teams, enabling researchers to make “real scientific advances” [2].

This project uses a co-design and co-deployment approach to the development, deployment and revision of the VRE. This involves both target end-users of the VRE and website developers working closely together to ensure that the end-product is “both feasible and useful” for the user [3].

Method

This presentation reports an ongoing qualitative case study that aims to inform the co-design and co-deployment process of developing the VRE and evaluating its use. The first author (a psychologist and therefore a target end-user of the VRE) learnt to use the LifeGuide tool and assisted on a number of LifeGuide intervention projects to obtain first-hand experience of using the software and to help inform how a VRE may be beneficial for the target population. Semi-structured interviews were also conducted with perspective target users ($n = 7$) to obtain others’ perspectives of how the VRE may facilitate their research.

The results from the interviews and observation were then used to inform the production of ten personas and scenarios (Fig. 1). These are fictitious characters that represent the different types of target users and descriptions of how they might use a VRE which highlight their requirements.

Persona Georgina is 28 years old and is a research assistant at the University of Manchester. She has just begun a new project developing an online intervention for helping people with sleep problems. She has never developed an online intervention before and although she has a keen interest and enthusiasm for online interventions she admits to feeling terrified at the prospect of creating a working intervention. She would like to use the VRE to gather ideas for implementing an intervention and to ask questions should she get stuck with using LifeGuide. In preparation for this research project, she is keen to read anything that can bring her up to speed with using the tool. She is hoping to be able to find research papers and articles about developing online interventions on the VRE and possibly even be able to read about other people’s experiences of using LifeGuide.	
Scenario Once she has registered for the VRE, Georgina is able to find a comprehensive help-manual for using LifeGuide. The introductory chapter puts her at ease a little but she is still curious to find out more about what it is actually like to use the tool. The help-files are linked to some discussion boards where users can post their queries to one another and discuss their experiences. Georgina finds this very reassuring as although she can see there are some frustrations with using the tool, she can also see the levels of support that users are giving one another. Before she logs out of the VRE she downloads some publications to read on the train home to bring her up to speed with using LifeGuide before she begins to tackle her intervention.	

Fig 1: Example personas and scenarios

Results

Participant observation and semi-structured interviews highlighted four types of sharing that need to be supported by the LifeGuide VRE:

1) Peer support - For many health researchers, developing an online intervention is a new experience therefore the opportunity to share and discuss experiences of using LifeGuide with others in a similar situation will be of benefit to target users.

2) Technical support - Although LifeGuide is designed to be used by any person without any programming experience, there may be times (for example, when a new logic command is needed) when technical support is required. Users have suggested having a discussion forum dedicated to sharing technical issues and logic commands with one another.

3) Collaboration and Supervision - Providing feedback on an internet intervention can be difficult. Previously, users would have to write feedback on printed screenshots or write detailed e-mails trying to explain where changes to an intervention are required.

4) Dissemination - One of the objectives of LifeGuide is to advance scientific knowledge of interventions, therefore one aim of the VRE is to enable researchers to share their completed interventions and the results to examine what types of intervention components are most effective. The LifeGuide Community website can therefore act as a repository of online interventions to allow researchers in the field to play, review and re-analyse existing interventions.

Discussion

A beta version of the LifeGuide Community website is available from www.lifeguideonline.org. To meet the requirements for a VRE we have designed the LifeGuide Community website to enable people to:

- Download the LifeGuide authoring tool and the accompanying researcher help manual
- Securely upload interventions that they have developed to share with team members or the wider e-health community.
- Comment on interventions. This commenting system enables others (i.e. members of a research team, supervisors or other members of the LifeGuide Community) to comment on each part of an intervention right next to the page where it occurs. This commenting system also facilitates real-time discussions which can be utilised for virtual team meetings about an intervention.
- Find examples of existing interventions to help form ideas for their own intervention development or to use in intervention research.

The development of user-friendly discussion boards to facilitate the sharing of peer and technical support at the more general level is planned, as is a system to allow users to share their research papers relating to online intervention research.

The qualitative case study will continue to run over the following months whilst we evaluate the effect the LifeGuide Community website has had on facilitating a collaborative research environment and to identify any new requirements for improving the VRE.

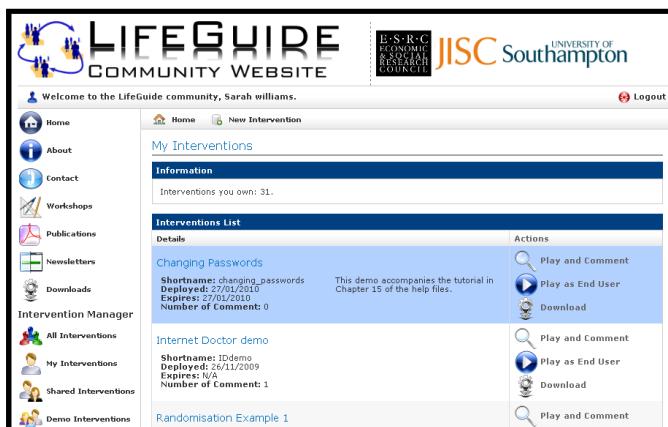


Fig 2: Screenshot of the VRE

Acknowledgements

The VRE project is funded by JISC. LifeGuide is funded by the Economic and Social Research Council (ESRC).

References

- [1] JISC “Virtual Research Environment Programme”. Retrieved from the World Wide Web 3rd July 2009 <http://www.jisc.org.uk/whatwedo/programmes/vre.aspx>
- [2] S. Collinson & Z. Corbyn “Research intelligence – log on to a global laboratory,” Times Higher Education, 1st January 2009
- [3] D.Milliard, Y. Howard, L. Gilbert and G. Wills “Co-design and Co-deployment Methodologies for innovative m-learning systems. In: *Multiplatform E-Learning Systems and Technologies: Mobile Devices for Ubiquitous ICT-Based Education*, IGI Global. 2009.