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# deep|think: A Second Life environment for part-time research students at a distance

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## Abstract

*This paper reports on the design of a Second Life campus for a new innovative post-graduate research programme at the Open University, UK, a world leader in supported distance higher education. The programme, launched in October 2009, is a part-time Master of Philosophy (MPhil) to be delivered at a distance, supported by a blend of synchronous and asynchronous Internet technologies. This paper briefly discusses the pedagogical thinking behind the Second Life campus, and the way the implementation was designed to meet the pedagogy. The paper also reports on the outcome of an early evaluation we have conducted.*

**Keywords:** *Second Life, research degree, distance learning*

## 1. INTRODUCTION

The Computing Department at the Open University, UK, has recently developed a new part-time MPhil programme, the Virtual MPhil, to be delivered at a distance, supported by a blend of synchronous and asynchronous Internet technologies. The Virtual MPhil is innovative in many ways, specifically, in the adoption of emergent technology and their use to support the core processes of the programme, the organisation of students around research themes, and fostering peer group collaboration to complement the traditional supervisor-student relationship.

This paper reports on one aspect of the Virtual MPhil project, that of designing a Second Life<sup>1</sup> environment, to support Virtual MPhil students. The paper focuses on pedagogical considerations, rather than the technical and engineering aspects of the development; it also reports on early feedback on both the design and potential usage of the 3D space.

## 2. OVERVIEW OF THE TECHNOLOGY

The vision for the Virtual MPhil infrastructure was to provide a rich and flexible Virtual Learning Environment (VLE), which could accommodate a wide variety of user needs and attitudes to technology. We wanted to create a virtual space where research students could come together for serious business and fun, both aspects essential to the development of a vibrant research community.

To enhance the sense of participation and immediacy for remote research students [1,2], we chose to develop and offer a Second Life (SL) 3D virtual campus called deep|think. Despite being relatively new, virtual worlds have already shown some potential in supporting styles of learning which are constructivist [3,4], and social and distributed [5], and these factors motivated the adoption of SL for the Virtual MPhil.

### 2.1 deep|think campus

The design of deep|think was influenced by the expertise in the use of SL for education within our team. deep|think is a large SL development, which has been modelled into five distinct, but interconnected small islands, each with a well-defined function: a **welcome island** to welcome visitors and for orientation purposes; a **study island** with meeting spaces, common rooms and exhibition facilities; a **library island** for access to a variety of resources for study and research (a **recreation space**, the Beach Bar, is provided nearby for relaxation and fun activities, e.g., chatting, playing pool or listening to music and dancing); a **sandbox**, for ‘rezzing’ (i.e., materialising within the virtual world) objects and scripting activities; and a **central island** with a main auditorium and related smaller theatres for large events, such as conferences, workshops and lectures.

A recurrent theme in the interface is lightness and openness, with land, sky and water used imaginatively to create a variety of social and collaborative spaces. We did not attempt to reproduce in SL a realistic simulation of our real-life campus: there is an ongoing debate on the benefits of realism in immersive virtual worlds [6, 7], and we took the position that while some element of realism could be beneficial, we should make the most of the opportunities offered by the technology for creativity and interactivity. Also, our distance students have no knowledge of our real-life campus, making any reference to reality unnecessary. Therefore, we opted for a judicious use of familiar metaphors in an otherwise fictional surrounding, with few OU landmarks carefully positioned throughout the campus.

### 2.2 Inworld interaction

On arrival, users are teleported to welcome island, where they can learn about deep|think, its purpose and content. A 3D map is on display in this area, together with text panels providing general information to visitors.

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<sup>1</sup> <http://secondlife.com/>

Nearby, by following the **path to enlightenment**, visitors can take a garden tour which introduces them to SL and various deep|think features, including: teleportation maps and points, for fast point-to-point travel around the islands; reflection post-boxes, to send anonymous reflections on using deep|think; and note-card givers, ubiquitous on deep|think, used for induction, training and general user help.

A selection of spaces is available on deep|think, motivated by the need to provide a choice of appropriate environments for key activities by both students and supervisors with some spaces being customisable by users.

The real added value of a 3D immersive environment is the interaction it affords for its user community. Built-in communication tools in Second Life include text and audio chats, and instance messaging. An introductory tutorial and display boards give some initial instructions and the chance to teleport to other SL islands where advanced tutorials can be found. Users also receive interactive tools and sample scripts that they can use and adapt in their designs.

### 2.3 Mary's Quest

Mary is a fictional student avatar, which is used to introduce deep|think to newcomers. She is the protagonist of a machinima introductory video (available at [www.virtualphil.open.ac.uk](http://www.virtualphil.open.ac.uk)) on deep|think, and of Mary's Quest, a tutorial quest which takes visitors around key locations on deep|think and teach them how to make use of tools and facilities. Quests are widely used in virtual settings to keep students interested and motivated. For example quests and challenges have been used in game settings to teach users network security across a broad range of scenarios [8]. As students proceed through their challenges, they learn new skills and gain the same experience levels as more competent students.

### 3. EARLY EVALUATION AND CONCLUSIONS

Our long-term three-stage evaluation programme aims to assess the suitability and effectiveness of the technology offered to support the main processes of the programme, and to collect reliable data on workload for both students and supervisors. In this section we report on the first stage of the evaluation which included a tour and demonstration of the areas in deep|think for tutors on our current courses, as well as collecting comments and impressions from occasional visitors, including academics and students. Following the tour, a qualitative assessment was carried out on the responses given by the tutors in their feedback questionnaires.

Overall there was a very positive feedback. Tutors liked both the visual design of deep|think and the important aspects of usability in terms of being user friendly and well signposted to aid navigation. A wide

range of activities could be envisaged by the tutors in deep|think, from standard lectures to more social events. As some of the tutors on the tour were new to SL, their first consideration seemed to be the migration of standard lecture format activity into the 3D world. However, it was also interesting to note the emphasis on the possibilities for more group and exploratory based learning, something that was noted as lacking in current distance learning activities that can be described as feeling 'isolated'.

The main concerns for the tutors on the tour were technical in nature. SL requires both a high specification computer to work proficiently and a reasonably fast broadband connection. Alongside their perception of a steep learning curve for students, the problem for tutors is also to clearly identify to students the benefits of using SL over other resource 'lighter' technologies.

In the upcoming months we will be: further developing deep|think and integrating it with the other components of our VLE; producing further content, and designing and evaluating online activities; and, putting in place a comprehensive programme of training for students and supervisors new to the technologies. By approaching the whole of a research degree at a distance in this innovative manner, we endeavour to both gain a better understanding of which technologies work best and under which circumstances and also aim to support and foster online research communities.

### 4. REFERENCES

- [1] DeFreitas, S., Serious Virtual Worlds. A scoping guide. (2008). Technical report, The Joint Information Systems Committee (JISC), UK.
- [2] Kemp, J., & Livingstone, D. (2008). Putting a Second Life "metaverse" skin on learning management systems. In Proceedings of the First Second Life Education Workshop at the Second Live Community Convention (SLCC), San Francisco, USA, August 2006 (pp. 13-18).
- [3] Thorpe, M. (2000). In J. Garrick & V. Jakupec (Eds.), Flexible learning, human resource and organisational development: putting theory to work. Pedagogical implications of exible learning. (pp. 175-192). Routledge.
- [4] Dede, C., Nelson, B., Ketelhut, D., Clarke, J., & Bowman, C. (2004). Design-based research strategies for studying situated learning in a multi-user virtual environment. In Proceedings of the International Conference of the Learning Sciences
- [5] Dieterle, E., & Clarke, J. (2008). In J. Garrick & V. Jakupec (Eds.), Encyclopedia of multimedia technology and networking. Multi-user virtual environments for teaching and learning.. (2 ed. Hershey, PA: Idea Group, Inc.)
- [6] Beynon, W. (2005). Computational support for realism in virtual environments.. In Proceedings of the 11th International Conference on Human-Computer Interaction (HCI 2005), Las Vegas, USA, 22-27 July 2005 .
- [7] Harry, D., & Donath, J. (2008). Information spaces. Building meeting rooms in virtual environments. In CHI 2008 Proceedings, Florence, Italy, 05-10 April 2008 (pp. 3741-3746).
- [8] Boit, A., Eirund, H., Geimer, T., Mendonca, J., Ott, A., & Sethmann, R. (2008). NetS-X-The network security experience. In Proceedings of the 7th European Conference on i-Warfare (ECIW 2008), Plymouth, UK, 30 June-01 July 2008.