Chapter 3.15
Multi–User Virtual Environments for Learning Meet Learning Management

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ABSTRACT

Alongside the growth of interest in Games-Based Learning, there has been a notable explosion of interest in the use of 3D graphical multi-user virtual environments (MUVE) for learning. Platforms such as Second Life® or alternatives (There^sm, Active Worlds, OpenCroquet, and so on) have potential for online tuition in ways quite different from those offered by traditional Web-based Virtual Learning Environments (VLE, a.k.a. Learning Management System or LMS). The Sloodle project is working to integrate Second Life with the Moodle VLE – and to investigate how this might support learning and teaching with the Second Life platform. Second Life can be considered as a 3D client for Moodle learning activities, while a complimentary view is to consider Moodle as a back-end for Second Life learning activities – enabling virtual world learning activities integrated with Web-based class lists and grade books. The authors close by considering future directions and applications.

INTRODUCTION

The educational application of multi-user virtual environments (MUVE) is emerging as a distinct area of research, with considerable cross-over and

also some notable distance from the game-based learning mainstream. Within that mainstream, the educational potential of games is often seen primarily through the ability to create simulations or scenarios for role-playing (c.f. Aldrich, 2005 or Gee, 2005).

While commonly built on the same basic technologies as multi-player online games, MUVE are not necessarily games as such – often lacking in the types of rules and systems governing progress and success that are a defining feature of most digital games (Björk & Holopainen, 2004). Platforms such as There, Active Worlds or Second Life are all primarily social worlds, virtual places for people to meet and interact. Interactions may be playful, but the virtual worlds themselves are not games *per se*, although they may contain any number of games. Two people meeting in Second Life may simply chat, race vehicles, engage in some combat or role-playing oriented game – but without progress in 'Second Life' being linked to success in these endeavours in any meaningful way.

In providing the means for user-generated content while removing the pre-determined game elements from virtual worlds it becomes possible to use the environments in a wide range of different ways to support different pedagogical approaches and different curricula (c.f. Livingstone & Kemp, 2007). It is possible to develop detailed simulations or role-play scenarios (similar perhaps to those found in traditional games-based learning), to simply use the 3D world as a space for online discussions within an immersive setting or to use the virtual worlds as constructionist (Papert & Harel, 1991) virtual learning environments – where the students are tasked with creating the content, possibly to teach others about their chosen subject.

Challenges for future educators as these technologies become more commonplace in the classroom (or in some cases, instead of the classroom) will include how to support learners in general purpose 3D learning environments and how to integrate class management and assess-

ments from 3D spaces with other web and intranet based systems for learning support and management. Experience has shown that learning can be hindered in exploratory learning environments, including the likes of Second Life, which do not provide effective guidance to students (Nelson, 2007). Reuse of existing educational materials will also be important, as not all educators can be expected to be skilled developers of 3D educational content.

In the following section we present a brief review of teaching and learning with learning management systems (LMS) and in online multi-user virtual environments (MUVE). From this we look in more detail at the requirements for enhanced support for teaching and learning in MUVEs. We will then introduce Sloodle – a system that seeks to provide this support for Second Life through the integration of Moodle, an open source LMS. A detailed case-study is then presented before we close with a discussion on how the ideas presented here may apply to other projects using game-technologies to facilitate learning and to outline future plans for Sloodle.

BACKGROUND

Learning and Teaching with Learning Management Systems

Learning management systems (LMS), also known as Virtual Learning Environments (VLE) are now commonplace across the education sector from Universities down to secondary schools (12-16) and even in the primary sector (5-12). LMS, whether proprietary (Blackboard, WebCT, Desire2Learn, AngelLMS, etc.), open-source (Moodle, Sakai, Claroline) or developed 'in-house' tend to include a number of common features for facilitating and supporting e-learning – although the precise feature set can and does vary (Cook, 1999, Dougiamas & Taylor, 2003, Kemp & Livingstone, 2006, Yueh & Hsu, 2008): (Figure 1)

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