RMIT University
Learning and Teaching Investment Fund 2008
Final Report

Project title: Learning to Design in Synthetic Environments
Project leader: Greg More
Team members: Greg More, Andrew Burrow
Funds approved: $25000
Funds acquitted: $24553 Refer Pages 3&4

Introduction

Learning to Design in Synthetic Environments utilised virtual environments as an innovative context for learning design. Specifically this project considered the role of virtual environments in the education of architecture and interior design students from the School of Architecture + Design. Integrated into the design studio teaching the project allowed design teaching to be extended by research assistance support, software development, workshops and exhibition of project material. Students were engaged in leading edge virtual world technology promoted as a new marketplace for design activity and design dissemination.

Aims of Project:

- Advance pedagogy to enable learners to design for the marketplace of synthetic worlds through a design studio context.
- Develop a sustainable model for teaching design in digital environments by scaffolding learning activity with software support.
- Host a symposium to locate the project in relationship to national and international expertise in E-Learning with regard to digital immersive environments.
- Exhibit the results of the design studios and symposium in a physical exhibition space at RMIT University.
- Develop Wiki repository system to allow future students to benefit from knowledge developed within the project.

Project Description and Outline

Learning to Design in Synthetic Environments advances the use of virtual environments as contexts for design studios. How will the next generation of architects and designers transform design practice by the use of 3D virtual environments? This project exposed participants to innovative new spatial paradigms of design interaction and collaboration by continuing the pioneering use of virtual world platforms at RMIT University such as Second Life. Learning to Design in Synthetic Environments involved four main activities: enhanced design studio teaching using virtual environments, hosting a national workshop, software prototyping, exhibition of research and student work. These activities are outlined in detail below:

Design Studio Teaching

Two design studios within the School of Architecture + Design were the focus of the project. These studios, involving 2nd+3rd year architecture and interior design students, advanced the use of virtual worlds as design contexts, with an interest in learning the skills of designing within digital contexts and also promoting the role of design in these environments. Research assistance developed shared learning resources within the context of Second Life and maintained continuous documentation of studio activities. During the two semesters RMIT’s Second Life Ormond Island was developed to have in-world libraries of reusable design elements and scripts etc. Experts were invited from industry and other academic institutions to discuss the use of virtual worlds in contemporary scenarios in a range of disciplines.
The Panorama Workshop

On 9th July 2008 leading designers, artists and educators from around Australia and New Zealand met to present recent projects and discuss future collaborations at the Panorama Workshop, at RMIT University. At the workshop a keynote presentation by Bruce Joy (CEO Vastpark) was followed by members of the visiting New Media Consortium (USA, authors of the Horizon Report) joining the afternoon discussion to provide additional international context (CEO Larry Johnson, Philip Long, Alan Levine). Work from the invited members of the workshop was then featured in the Synthetic Environments exhibition.

Software Prototype Development

In conjunction the project developed a software prototype for a shared 3D resource entitled DMOD. DMOD is a future collaborative design and learning space for participants to navigate and explore design content, creating a social 3D realtime environment for design activity. It utilizes Vastpark, an innovative virtual world platform developed in Melbourne, which was also used in the design studios. Vastpark is a new form of virtual world application that allows for easier sharing of content and environments. Vastpark CEO Bruce Joy presented to the design studios, and the team from Vastpark had several one on one sessions with the studio students. Funding from the project supported development of studio login and asset tracking within the Vastpark system. Also research assistance allowed for the development of the DMOD prototype environment and visualisation that was presented at the Synthetic Environments exhibition.

Synthetic Environments Exhibition

The culmination of the project was the Synthetic Environments exhibition opened by Jim Barber, Barbara De Larpe, and invited interstate guest Dr Sean Pickersgill (UniSA), which showcased the work from the students in the studios, commissioned visualisations of 3D virtual environments, and documentation of the Panorama workshop. This exhibition was held in the Level 11 Gallery of Building 8, and was show to students and staff for 2 weeks in October of 2008. Please refer to pages 8-36 for extensive documentation of this exhibition and its content.

Project Detailed Report

Please refer to pages 5-39.

Dissemination of Project

Completed

- Persistent presence of student activity within Linden Lab’s Second Life Environment (http://slurl.com/secondlife/RMIT/193/68/38/)
- Panorama Workshop hosted on the 9th July involving interstate guests and USA New Media Consortium.
- More & Burrow presented to the ICampus Conference, Melbourne University, July 2008, 215 Spring St.
- Project work featured in 3 associated Interior Design and Architecture & Design Exhibitions
- Virtual World down under. In world recorded presentation of project featured on Vimeo http://vimeo.com/3755394

**Planned:**
- Project leaders are currently working on conference paper for Interactive Entertainment 2009, Sydney, and working towards a longer Journal article.
- Student and research work included in Florence Image Beyond Media Exhibition July 2008.
- Student and research work included in State of Design Festival, Melbourne, July 2008.

**Project Summary for Website**

Learning to Design in Synthetic Environments advances the use of virtual environments as contexts for design studios. How will the next generation of architects and designers transform design practice by the use of 3D virtual environments? This project exposed participants to innovative new spatial paradigms of design interaction and collaboration by continuing the pioneering use of virtual world platforms at RMIT University such as Second Life.

Integrated into two Architecture and Interior Design Studios - within the School of Architecture + Design - this project reinforced a research led teaching approach that brought experts from the national context to engage with students. A workshop was held between semesters where national and international guests (including New Media Consortium representatives from USA) presented and discussed critical issues of using immersive digital environments in art, design and education. The culmination of the project was the Synthetic Environments exhibition opened by Jim Barber, Barbara De Larpe, and interstate invited guest Dr Sean Pickersgill (UniSA), that showcased the work from the students in the studios, commissioned visualisations of 3D virtual environments, and documentation of the project workshop. The exhibition also included a live Second Life environment, imagery and a video compilation of student generated machinima (films made with game engines). Outcomes from the studios can be directly viewed on RMIT Second Life island (http://slurl.com/secondlife/RMIT/193/68/38/), or additional information can be found at http://www.sial.rmit.edu.au/Projects/Synthetic_Environments.php

**Financial Summary**

On the next page is the generated financial summary. Spending followed the planned budget as submitted to the DSC financial coordinator at the start of the project. The remaining $447 unspent funds was due to the difficulty in calculating actual research assistant salaries vis-à-vis planned salaries + oncosts. Our project spreadsheet showed the remaining project budget should have been of $8 at the end of the year, however since the last salary payment happened in the final pay cycle of the year this difference couldn’t be reconciled.
Introduction

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Project Development

The project was successful in meeting its stipulated aims and objectives, and this success has been rewarded by the interest in and dissemination of the project in a range of contexts. The project was awarded 50% of its planned budget and delays in the announcement of the successful LTIF grants meant the planned timetable and budget needed to be readdressed. These factors were addressed at the start of the project and reflected in two main factors:

- The intended software support systems development (software engineering) were reduced in scale but still assisted student driven experience with some computer support.
- The timing required more events in the second semester of the year, rather than utilizing each semester as comparable semesters.

The aim of the project was to improve student learning in Virtual Worlds by developing approaches and systems to provide better learning processes. From past research the project leaders have identified key themes in utilizing virtual environments within design teaching (More, G, Burrow, A., “Observing the Learning Curve of Videogames in Architectural Design”, Interactive Entertainment - IE2007, Melbourne, 2007 & Burrow, A, More, G., “Architectural Design and the Interactive Audience”, Interactive Entertainment - IE2005, Sydney), and it is from this continued research that the main initiatives of the LTIF project were generated. These consider a longitudinal approach to teaching design in these environments to allow future students to learn from past student activity. Also for this project another layer of context was provided by running a national workshop and having invited guests present to the studios. This is the concept of scaffolding design teaching in a context of design activity and follows a
research led design studio approach, where leading edge research directly informs student learning.

**Project Outline**

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**Summary of Project Outcomes**

The project is valuable to the broader creative sector in its approach to developing a sustainable model for teaching within virtual environments:

- Shared online Wiki resource and improved research collaboration tools for use across the university.
• Connections with virtual world industry through first educational license of Vastpark Platform.
• Innovative learning contexts for design students.
• Active presence within in Second Life educational network.
• Raised awareness of RMIT University’s profile in the use digital teaching environments.
• Conference papers and presentations.
• Hosted national workshop.
Dissemination of Project

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Synthetic Environments Visual Documentation

The remaining 36 pages of this report visually document the LTIF project, and showcase the work from the studios, workshop and exhibition.