

# Second Life® for Digital Entertainment Technology Education

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## ABSTRACT

A one-semester module analyzed the relationship between digital entertainment systems and societies in which they exist. It was taught to 13 third-year students enrolled in a diploma-granting games programming course. Students had no previous experience on Second Life and used home computers. SL was used for conducting lessons and as the platform for assignments. An online survey was conducted at the end of the semester; 62% of respondents believe class interaction increased, 100% experienced technical difficulties. Key benefits were interaction with professionals from other parts of the world plus practical experiences and development. Network latency and hardware requirements were the main issues.

## INTRODUCTION

The Digital Entertainment Technology (DET) diploma is a 3 years program offered by the School of Interactive and Digital Media in Singapore's Nanyang Polytechnic. This course trains developers in two main areas: games programming and technical direction for visual effects and animation.

Digital Entertainment and Society (DESOC) is one of the modules taught in DET. Its main purpose is to study the relationship between digital entertainment systems and cultural aspects of societies in which they exist.

There are three main topics covered in DESOC: techniques, economics and ethics. The first topic covers the history and evolution of video games and film techniques. The structure and trends of digital media industries are discussed in the economics topic. Finally, the third topic is an introduction to ethical issues such as violent content and its effect on society, games addiction and others.

This paper describes how SL was used to help meet learning objectives for DESOC, and discusses results obtained from a survey offered to class attendees at the end of the semester. It is organized as follows: the next section

explains the class audience and resources utilized; a following section explains in chronological order all SL-related activities for each topic, starting with a familiarization exercise which intended to provide a smooth introduction to Second Life; results and feedback obtained from students are presented in the section titled End of Semester Survey; the author provides a brief analysis of these results in the Discussions and Recommendations section; and finally some conclusions are summarized.

## CLASS AUDIENCE AND RESOURCES

Students are normally required to take this module in their first year. However, for the October-March semester of academic year 2006/2007, DESOC was taken by a small group of final year students. This opportunity allowed for more in-depth exploration of concepts and activities including using Second Life for teaching and learning for the first time in the school.

A total of 13 students between the ages of 19-26, all with no previous experience in Second Life, took the module. They were enrolled in the final semester of the games programming track. Students worked in teams of 2 or 3 members for each assignment.

Due to firewall restrictions in the institution, students and the 2 instructors assigned used personal computers and network connections. Most of them had a download bandwidth of 512Kbs at home; only the author and a couple of students had 10Mbps and 2Mbps connections respectively.

## THE DESOC TIMELINE

In order to have the students familiarize themselves with Second Life, the first class exercise consisted of a list of activities to complete in world. Learning topics were introduced after this exercise; class activities and assignments combined traditional face to face and in-world interactions.

## Familiarization

As recommended by (Border, 2006), the first exercise was a scavenger hunt in order to introduce Second Life's functionality and activities. Teams were required to take a picture of each step of the hunt and upload it to their blog with a small caption.

The list of activities and items to collect were a slight modification of that by (Border, 2006), mainly to relate the exercise with the local culture and students' background. In particular, a step of collecting a dragon pet was added because the dragon figure is very common in the Chinese culture; and visiting a replica of Nintendo's Mario Bros. game world was interesting because all students were game programmers and gamers themselves.

The teams were asked to write about their impressions and pros/cons of SL as a platform for entertainment. It was found that none of them had major problems creating accounts, navigating the world and completing the exercise. First impressions about Second Life were mixed, some examples extracted from student blogs referenced on (Gonzalez, 2006) are:

- "it's an amalgam of all the different types of entertainment genre/platform."
- "for those who enjoy expressing themselves and to explore and meet other creative people and their creations, SL definitely offers a richly interactive experience"
- "somewhat like a 3D Messenger, but with many more options."
- "can serve as both an entertaining game for kids and adults likewise, yet it can get dull and boring if one doesn't understand the game."

## Topic I: Techniques

As mentioned earlier, the first topic covers the history of digital entertainment media and a brief overview of film and scripting techniques. One of the learning objectives was to have students create a short animated movie.

The lessons were organized to start with analyzing early movies and finalize with machinima creation. The first SL activity was an e-lecture conducted in-world. The class schedule was organized so that machinima

creation was to be covered at the time when the 2006 Machinima Festival was happening in the Museum of Moving Image in Astoria, NY (Academy of Machinima Arts and Sciences, 2006). As part of the festival, some events were taking place in Second Life. DESOC students and instructors attended a session in which a selection of movies were being screened and film makers were present to explain their creations and answer questions (Figure 1).



**Figure 1.** Students and instructors in a 2006 Machinima Festival session.

For the assessment portion of this topic, the assignment included creating a machinima. Students were free to choose any engine. Out of 6 teams, 4 used Second Life, 1 used Electronic Art's Battlefield 2™ and another one used Nintendo's Legend of Zelda® and Pokémon®. Teams using Second Life reported having difficulties with video capture and creating smooth animations mainly because of network latency, however they also stated the SL community was helpful with providing props and assistance.

## Topic II: Economics

The second topic provides an overview of the current trends and basic economics of the digital entertainment industry. It also teaches brainstorming and economic analysis tools like SCAMPERR (Michalko, 1992) and SWOT as explained by (Boje, n.d.) The main learning objective was to design a commercial game and its business model, and implement a prototype. The second semester assignment covered this objective and was implemented using Second Life and Linden dollars as the currency.

Assignment 2 required teams to:

1. Pick a current trend on the video game industry,

2. Use any brainstorming tool to create an in-world game that deals with the chosen trend,
3. Design the game's business model using Linden dollars, and develop a prototype.
4. Do a SWOT analysis of the designed commercial game.

Presentations and assessment of game prototypes were conducted in world (Figure 2). Some ideas presented were: an alternate reality game, Second Life Amazing Race, and a multi-user distributed music game.



**Figure 2.** Students doing a project presentation and demo.

### Topic III: Ethics

The final DESOC topic introduces some ethical aspects of the digital entertainment industry. Its main purpose is not to form judgement but to discover ethics issues and initiate discussions.

A lesson on ethical aspects of digital media was organized and conducted inside Second Life (Figure 3). The author's rationale on having this session in-world was to be able to have class trips to SL game and role playing locations. Visiting real games settings (e.g. shooters and hunting games, children roleplaying areas, etc.) would provide a safe, more engaging environment that could initiate and encourage discussions (as opposed to a traditional, real life class in a lecture theatre).



**Figure 3.** Lecture on ethical aspects included trips to game world locations.

### END OF SEMESTER SURVEY

All students were offered an online survey at the end of the semester to obtain feedback on the use of Second Life. The questionnaire consisted of 9 multiple choice questions; the tool used was SurveyMonkey.com. 9 responses were obtained.

Table 1 shows a change of perception on Second Life (as compared with the familiarization exercise); 66.7% of students describe SL as a 3D virtual world.

**Table 1:** Description of Second Life

	Percent	Total
tool for e-learning	0%	0
digital entertainment tool	11.1%	1
multiplayer game	0%	0
3D virtual world	66.7%	6
3D instant messenger	11.1%	1
Other	11.1%	1
<b>Total respondents</b>		<b>9</b>

100% of respondents see enjoyment and fun as an element that Second Life added to classes (Table 2), in fact it was the most popular choice when students were asked to identify the most beneficial aspect of using Second Life for learning and assignments (other choices were: meeting people, creativity freedom, learning by doing, and no real benefit). Table 2 also shows that all respondents experienced technical

difficulties; network latency was the most reported issue during the semester.

**Table 2:** Elements that Second Life added

	Agree	Disagree	Total
Enjoyment	100% (8)	0% (0)	8
Technical difficulties	100% (8)	0% (0)	8
Interaction with tutor	62% (5)	38% (3)	8
Interaction with classmates	62% (5)	38% (3)	8
Total respondents			8
Skipped this question			1

Interaction among students and with instructors was seen as another benefit by the majority of survey respondents (Table 2). On a later question, 50% percent considered themselves and also instructors to be more participative when inside Second Life as opposed to real life lectures.

Finally, Table 3 shows the results of a self-assessment question where students were asked how well they were able to remember concepts taught using Second Life in the module. 1 respondent (11.1%) considered SL to be very ineffective, while 4 (44.4%) believe it was satisfactory and 4 considered it very effective.

**Table 3:** Effectiveness of Second Life for learning

	Percent	Total
Very little; almost don't remember	11.1%	1
Just ok/satisfactory, can describe concepts	44.4%	4
Very well; remember most concepts	44.4%	4
Total respondents		9

## DISCUSSION AND RECOMMENDATIONS

In the author's opinion, introducing Second Life with a scavenger or treasure hunt was confirmed to be an enjoyable and effective way to get students familiarized. It is recommended to relate these first experiences in-world to the local audience's culture and background in order to make it more interesting and engaging.

Because the class audience was a small group of students with programming background, the author believes it was easier to coordinate class activities and resolve technical issues. It is recommended for educators teaching in SL for the first time to start with a group of similar size.

The Digital Entertainment Technology program is a course in which exploring new technologies is important, however utilizing 3D environments for teaching should be justified by whether the tool helps meet learning objectives as several authors have pointed out, e.g. (Bendis, 2007). The value of attending the machinima festival was not just watching a streamed movie but interacting and learning in real time from professionals in other parts of the world. Designing a game business provided students with a practical experience similar to real life, and finally ethics discussions proved to be more interesting and active when conducted in game locations.

## CONCLUSIONS

Second Life was used to support learning objectives in a digital entertainment and society semester module. It was also used as the platform for student projects. Survey results point at using SL to be effective and enjoyable for learning, however network latency was a critical issue faced by students who were all located in Asia. While not a scientific research, these results may be useful as an exploration on the benefits and limitations of virtual worlds for digital media technology education.

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