

DM3281: Thesis Proposal

Seth J. Merriam

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Executive Summary

Objective

Users participate in 3D immersive environments for many different reasons. Some create and sell things, some explore and interact with what has been created, while others still, seek to teach and learn – and of course not all groups are mutually exclusive. Unlike many, I have little interest in the commerce of 3D environments, and instead wish to further explore the educational and experiential aspects of this medium. Therefore, with my thesis project I plan to explore how best to leverage the distinct “interactions” a 3D immersive environment can provide to develop new ways to deliver educational content.

Goal

My goal is to focus on one, or possible more, topics I currently teach, in more traditional formats (meaning face to face and online) and translate materials and concepts I use into 3D immersive experiences that offer new ways to reach and engage the participants who use them.

Solution

Create a space, within a 3D immersive environment, to teach related aspects of a given, singular, abstract topic. This 3D immersive space will be developed to provide different ways for a participant to explore and interact both with and *in* the topic. This will afford me a way to identify and work with various aspects of an immersive environment that are potential assets – while avoiding potential pitfalls – specific to a relative set of teaching goals on the topic. Potential ideas, which may be combined, abandoned, or divided into separate spaces as the project progresses, include:

- **Learn a new skill which might be hard to grasp:**
This environment’s content will need to be modular and easily digested, similar to course content, but perhaps even more granular. The topic being taught will, to a certain extent, need to lend itself to the environment as well, or, at the very least, it will need to play to the interests of those who would experience it – namely individuals who participate in a 3D online environment. Perhaps basic HTML or CSS scripting. The user would be able to walk up to a web-page and then sneak around the back to see all the parts (perhaps represented as blocks) that “make it go.” Thus giving concrete form to a codes and concepts that are, at best, very abstract to many. This will be a tutorial of sorts, but one that takes advantage of the unique qualities provided by the space the user will be in.
- **Explore existing technology that is hard to understand:**
Exploring new ways to display content, and exhibit work (both digital and analog), by going beyond a simple art gallery to leverage the medium, can produce exciting and interesting results. One possibility is to explore the temporal aspects which might be better displayed in an immersive environment. A user could walk up to a small movie clip, and “explode” it to see all the frames, and

then walk individually through them. Then the same user could view another clip next to the original the depicts spacial compression, showing what information is removed from each frame, and a third which depicts temporal compression, showing how that operates. Again providing virtually-tangible tools to help make an abstract concept more concrete.

- **Learn an abstract concept through trial and error:**
Games are a part of our culture now-a-days. They can be used to learn, or simply to pass the time, and sometimes both. Creating a game for a user to play in a 3D space, that utilizes the entire 3D space and it's advantages could allow for new ways to combine interaction, and game play. Perhaps creating a playing board – representing how data flows from an end-user to a server and back again – that is the size of the user, or a maze that the user must traverse while answering questions to open doors, so the user becomes a piece of the game instead of looking at it on a flat screen or on a table.

Project Deliverables

1. One, or more, 3D immersive space(s) developed to meet specific teaching and learning objectives. Development will likely happen in Linden Labs SecondLife 3D immersive environment.
2. A web site (as a blog or wiki) that chronicles both my research about teaching and learning in immersive spaces and my production of the immersive space(s).
- <http://www.sethmerriam.net/dmthesis/>
3. A digital-short (movie) which displays/describes/advertises the space(s) for those who outside of the immersive environment.

Project Schedule

Date	Task
pre 7/7	Secure location within a 3D environment.
7/7 - 7/14	Plan environments; survey and gather existing materials
7/15 - 8/11	Build & Test space(s), Produce needed support materials (textures, etc)
8/11 - 8/18	Formally test space(s), revise as necessary
8/18 -8/25	Finishing touches
8/25 - 8/28	“Wiggle-room” & production of digital-short (movie)
Aug 30, 2008	Submit for Final Review