

A Second Life for GIS Education

With online delivery of education becoming more prevalent, emerging technologies will have a profound and lasting impact on how GIS courses are taught in the near future. One such technology, the metaverse or digital universe, provides exciting possibilities for building learning communities, enhancing social presence, and creating shared intellectual landscapes than ever before. One such world, called Second Life, is already providing opportunities for in-world discussions, project collaboration, GIS consulting, and even recreation of real worlds inside the metaverse.

Second Life is one of the better-known metaverses and has long been involved both in the development of a social network and in applying its digital environments to education. Both free and paid accounts are available. To join you go to the website (www.secondlife.com), start up an account, choose a name for your avatar (your digital alter-ego), download the client software and enter the brave new digital world. You will be asked to decide what your avatar will look like - you can be male, female, or even a furry. Finally you will be taken to Orientation Island to learn how to get around, do commerce, and communicate in this metaverse. You can even purchase land if you have a paid account.

New Mexico State University (NMSU) is one of a growing number of Universities that have purchased virtual land inside Second Life to use for teaching. At NMSU last semester, some students in the Fundamentals of Geographic Information Systems course joined Second life and formed study groups on a portion of virtual land called Aggie Island. Every week they would provide a selection of PowerPoint frames from the previous week's lectures and have these converted to jpeg files so they could be uploaded to a functional display board inside second life. Then they would get together to study every Sunday evening for an hour to an hour and a half. Because the students were forced to respond to instructor questions by typing, they were not only learning the material, but were practicing the responses they would eventually use in their essay exams, which radically improved test scores.

This semester the current GIS students will be using Second Life to collaborate on the project-based learning laboratories, to visit their instructor during virtual office hours, and optionally to build 3-D models and animations that demonstrate their understanding of GIS concepts and software implementations. The instructor and the students all belong to a group that provides group chat environments, member lists and profiles, and their roles (e.g. if they have permission to add new members). Former students in the Fundamentals of Geographic Information Systems have been assigned alumni status and will be paid in virtual money to act as tutors and consultants to the current cohort of students. This allows former students to become part of a larger and ever-expanding learning community.

Other places are also showing some really clever ways that Second Life can benefit the GIS learner. The University of Texas at Arlington has created a kiosk for its GIS users to get help with the software and even individual teaching or research applications. The University of Illinois has a site that shows displays of GIS derived maps of the state for people to examine. There's even a GIS research team at the University of California-Berkeley that is transforming real LIDAR data to 3-D Second Life objects called sculpties. These models allow people to view real-world topographic features up close within Second Life. In fact they can be made large enough to recreate real environments so that students working on GIS projects, through the use of their avatars, can actually experience the environments they are modeling with GIS. Imagine, for example, being able to use virtual worlds to experiment with real-world modeling scenarios, do ground-truthing, and even collect data on locations of individual avatars using the in-world maps that are available in Second Life.

The possibilities for using Second Life for GIS and spatial analysis education are nearly limitless. In fact, much like GIS itself, they are limited only by the creativity of the user (my apologies to Jack Dangermond for paraphrasing). Metaverses are the future of education as they are the future of commerce. Corporations such as Coca Cola, IBM, and SONY have a presence in Second Life. Publishers such as John Wiley and Sons, Inc., federal agencies (e.g. NOAA and NASA), government bodies (e.g. embassies and even the US Congress) are there, often conducting real business in-world.

There are groups of educators who are getting together to learn more about how Second Life can be used for learning, such as the Educator's Coop from the University of Texas (<http://educatorscoop.org/>), and the Technology Enhanced Learning and Research (<http://telr.osu.edu/>) at The Ohio State, and many more. Even the Linden Laboratories, the creators of Second Life, have developed forums to share ideas about the myriad possibilities of using Second Life for learning (<http://www.sl-educationblog.org/>). Even Google and Linden Laboratories are working together to combine Second Life with Google Earth. The possibilities of using this content-rich environment for GIS education are exploding.

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Figure Caption:

Dr. DeMers and some of his GIS students at New Mexico State University get together to study for lecture exams on Aggie Island in Second life.