Second Life™ for Educators

Inside Linden Lab

By Tom Atkinson

The chairman of Western Union telegraph passed up an option to buy Alexander Graham Bell's telephone, saying, "Who wants to hear people talk?"

Fortunately, Alexander Graham Bell and others recognized the potential of the telephone and transformed society. Many other technological innovations such as television, Internet and cell phones were also embraced and further changed the way we communicate. What's next? A new culture called Second Life™ has emerged that promises innovative strategies for everything from social interactions to business.

Is Second Life™ merely a techie playground for social encounters or can it be transformed into a meaningful and effective method of instruction? Will this virtual landscape become the new 3-D web or just fade away into the digital graveyard of flashy technologies? Some educators believe it may hold new and unique opportunities for teaching and learning.

Second Life™, or simply SL, is the creation of Linden Labs, a San Francisco-based corporation defined by its creators as "an online society within a 3-D virtual world entirely built and owned by its residents, where they can explore, build, socialize and participate in their own economy." According to Linden Labs, more than 10 million users, called residents, from around the globe inhabit SL, with an average of 45,000 residents concurrently in-world (Linden Labs, 2007).

Over 100 colleges, universities and other learning institutions have established environments with instructional activities in SL. Notable examples include 1) Harvard University, which teaches "Law in the Court of Public Opinion" in a model of its real life (RL) campus building, Austin Hall; 2) Elon University, which offers a writing-intensive "Technology & Society" seminar; 3) Stanford University, which created "Life to the Second Power (L2)" as a reanimation of an existing archive of Lynn Hershman Leeson; 4) NYU-McGhee, which offers a course in digital communication through the School of Continuing and Professional Studies; and 5) the National Oceanic and Atmospheric Administration (NOAA), which created simulations about tsunamis and other natural phenomena (Lamb, 2006; SimTeach Wikipedia, 2006).

Libraries and museums have created presences within SL. Ongoing projects include EBSCO, OCLC's QuestionPoint, TechSoup, and the Alliance Library, a consortium of Mid-

Figure 1. Professor Tomsen (Second Life Avatar).

west college libraries that built the SL Library. The ICT Library at Virginia Tech displays SL artifacts that include tools and reference materials of interest to educators (Levine, 2006).

How Does It Work?

SL resides on a large array of servers known collectively as "the grid." A client program provides residents with tools to view and modify the multi-user virtual environment (MUVE) and participate in a virtual economy. While virtual worlds are not new, development of teaching and learning within those environments may provide innovative opportunities to engage learners in highly social and interactive online experiences.

After downloading and installing the SL application from Linden Labs, members login to enter the virtual 3-D environment much like Alice stepping through the looking glass. Initial membership allows free access to more than 700 million virtual square meters, equivalent to the size of Mexico. The land consists of islands designated as public or private property, which is divided into sections that are rented to other residents. Developing your own space may require a fee ranging from a few dollars to several hundred dollars, which pays for space on the host server. Owners actually sell and rent SL property on Ebay™ like real estate. Property and objects can be traded and sold using real dollars or Linden dollars (L$) that can be converted into real dollars.

Each resident selects a name that is assigned to a character, called an avatar, which represents the resident's presence while roaming the in-world landscape. A profile defines an avatar's properties for ownership, appearance, group membership, and inventory of objects. Avatars can search and transport to locations using maps or entering addresses called a SLurl, which includes a name and three numbers. Avatars can fly but walking is usually preferred (see Figure 1).

What Are The Features?

One feature that differentiates SL from other MUVEs is that it is primarily user-created. Residents build the world using a simple 3-D modeling interface based on geometric shapes, called "prims," which is short for "primitives." SL features an open-source scripting language and a variety of software hooks that permit SL residents to interface with external applications such as streaming audio and video, database applications, and search engine technologies. These features have given rise to an amazing variety of developments ranging from the "fully-functioning ecosystem" of Svarga to the sprawling campus of the New Media Consortium complete with library, classrooms, galleries, and amphitheater (Au, 2006).

Most SL educational sites host conferences, lectures, presentations, tutorials, and other opportunities for group members. Participants communicate through chat, voice, instant messaging, and email. They often exchange note cards with information or objects that enhance their appearance or add features for meeting and interacting with others. Viewers are added to locations for displaying images and live or recorded streaming audio and video programs. In Europe, Vodaphone recently announced mobile phone features connecting SL residents to real life (RL) services. A group in Japan is experimenting with a brain interface to direct the movement of avatars. Of course, there are links to web pages, blogs, and resources like YouTube™ where captured videos of SL animations, called machinimas, depict in-world experiences.

As developers retool for this new frontier, they will find a familiar setting using the Linden Script Language (LSL), which is very similar to C++ and Java™ languages. LSL is open source code, which allows developers to modify the program code for enhancements beyond the standard built-in functions. While this raises many concerns about security and reliability, the benefits to residents are considerable. This capability alone has created enormous opportunities for entrepreneurs and fueled the rapid expansion of SL as developers transform websites into virtual landscapes.

This growth has not gone unnoticed by the entertainment industry with SL featured in "CSI" and "The Office" television episodes. In 2006, IBM Corporation announced a $20 million investment to develop several islands for internal use and development and training of their support for business applications referred to as "v-commerce."

Is Experience Really The Best Teacher?

I must admit that the first time I accessed SL, I was bewildered with the concept of assuming the role of an avatar, dropping in from nowhere to wander aimlessly in strange places and with even stranger looking characters, and wondering how this could possibly be useful for learning. How could I even suggest it to my students? I just didn't get it. In fact, my students didn't get it either!

After spending extensive time perfecting my appearance, called modding or modifying, and figuring out how to navigate by searching and teleporting, my focus shifted toward communicating. To stimulate discourse in my online classes, I scheduled synchronous text chat sessions. When I discovered that SL might provide a single solution for content delivery and communications including chat, email, text messaging, audio and video streaming, slide presentations, images and voice, I used SL as an alternative form of communications. It's also very easy to hold private conversations using instant messaging, much like passing notes during class. Some residents expressed disappointment about the talk feature as a distraction from the text chat, loss of anonymity and, perhaps more important, the intrusion of the real-world element. The proper etiquette seems to imply that one should respond to others in the method of the person that initiates contact.

Although many residents ignore others, some are friendly and helpful in the educational venues. If you are not very outgoing or adventurous in real life, you probably won't be in SL either. Researchers are studying the way people act in virtual worlds com-

pared to the real world by attaching a scripted ring to an avatar that records its surroundings and controls the avatar. Its mission is to find avatars that are standing by themselves, greet them, and walk closer. They found that most users value their personal space in-world as much as in real life (Friedman, Steed and Slater, 2007, p. 1611).

It's a good idea to explore areas called sandboxes and pick up free objects or tools whenever possible. To improve your experience, you can change the preferences in your profile to adjust the sound, graphics quality, and voice quality. Proximity can be increased or decreased to determine your ability to communicate with or hear others. Avatars have a wide range of expression from dancing to crying.

Most residents only consider their local time, but the default SL time is usually Pacific Time. Regardless of the time, you can always set your view to display morning, noon, or night.

SL provides social interaction that simulates traditional classrooms, especially since voice was added. Due to technical failures and speed of access, the initial role of SL may have to be offered as an alternative in classes. Also, activities usually work best in small groups of ten or fewer when interaction is critical and teleporting is limited to one or two private locations per meeting. Just like the early online courses before course management systems such as WebCT™ and Blackboard™, the learning curve in SL may be too steep for the casual user.

Where Does This Leave Educators?

Many educators compare SL to the Wild West where anything goes. Perhaps it is more like the infancy of the World Wide Web. Not too long ago, some educators considered the web to be a technology looking for a home. It was simply too cool to ignore. In only a few years, most educators would not consider instruction viable without access to the web. SL supports almost all features found on the web and research may show that social interaction is comparable to classrooms. As reliability improves and features include course management tools, SL or products like it may become the obvious choice.

As schools begin staking out territory, defining policy guidelines and conducting instructional activities, educators need to establish a framework that embraces theory and applies effective methods to SL. Educational organizations have joined the process. AECT has established a task force to support research and explore best practices in SL. A new track was added for presentations at this year's convention in Orlando.

An important question is whether learners prefer SL to other methods of communicating. Initially, many students complain about wandering around in SL, but when directed activities are provided, they often change their view. A few issues remain about reliability, security, confidentiality, and exposure to inappropriate behaviors but no more than what occurred during the first years of the web.

What happens next may be determined by how we respond as educators more than the technology itself. We know that Alexander Graham Bell's innovation of the telephone changed our world. What we don't know is what other innovations were discarded because they didn't work or because they just weren't understood.

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