

Get a (Second) Life

June 01, 2007

As a psychology researcher, imagine being able to get a group of people together in a social environment where they are able to relax and be themselves, but where one can still collect data. Sounds like an elusive fantasy, but the possibility is becoming a reality through Internet research in an online world called Second Life.

Second Life is a massive multiplayer online role-playing game (MMORG), but that title doesn't accurately convey the complexity of this Internet haven. Users describe Second Life as a world of endless possibilities, where if you can imagine it, it can happen. Avatars, the digital representations of human gamers, can do everything that people can do and more; they eat, sleep, buy houses, form relationships, and also fly and teleport. Recognizing that Second Life presents a wide range of possibilities for conducting research in human behavior, some psychology researchers are becoming immersed in the virtual world.

In 1999, Philip Rosedale formed Linden Lab, the company behind Second Life, with the goal of creating a revolutionary three-dimensional shared experience. Second Life was launched to the public in June 2003. It has grown exponentially as inhabitants of the world constantly build and add to it. "Because Second Life is 99 percent user-created, population growth tends to drive itself," says Catherine Smith, director of marketing at Linden Lab. Over 5,700,000 people have signed up for membership, and usually 20,000 to 30,000 people are logged in at any given time.

Unlike many MMORGs, there is no specific objective or mission that denizens of Second Life must achieve. Avatars act like regular people. They go shopping, go out on dates and get married, attend concerts, have jobs. In fact, many residents are making money in real life from the work they are doing in Second Life. Within the virtual world, residents can develop land, design clothes, and build amusement parks and then charge other residents who want to buy a house, shop for clothes or visit the amusement park. To do all of this, the users must exchange U.S. dollars for Lindens, the currency of Second Life, via currency exchange websites. The exchange rate is currently around 250 Lindens to one U.S. dollar. In April 2007, over 34,000 unique users had a positive monthly Linden flow from selling their Second Life wares.

With chat and instant messaging capabilities, Second Life avatars can communicate in several ways. Users can also control the movement of their avatar, from basic gestures like a handshake, to more complicated moves, like dancing. For those who have tried online chatting and dating, Second Life can take the experience to a whole new level, as users have digital representations to see and interact with.

"I've made a great deal more friends on SL than I thought I would," says Second Life resident "Melissa." "Keeping relationships going with people outside of my immediate surroundings has changed what I thought constitutes a friendship, i.e., face-to-face contact."

Because the interaction in Second Life appears to closely parallel real-life (or would that be First Life?) human interaction, it is an ideal MMORG for psychological scientists. Researchers are discovering ways to use Second Life to study human interaction on an entirely new level. Nick Yee, a graduate student in the Department of Communications at Stanford University, has been involved with virtual research since he was an undergraduate psychology major. As a junior, he served as the lab technician for two seniors who were doing a project on Everquest, another MMORG. When he arrived at Stanford, he began doing his own research on avatar interaction in Second Life.

The basic question is the degree to which avatars are useful proxies for humans. “Some of the social norms that govern social interaction can transfer into the virtual world,” says Yee. Yee hypothesizes that people will conform to stereotypes of their digital bodies, in terms of gender, size, and attractiveness. Dubbing this the Proteus Effect, Yee studied the degree to which avatar appearance influences virtual behavior. To test this, Yee created avatars of varying degrees of attractiveness for subjects in the lab, and then allowed them to interact in Second Life. He discovered several interesting trends. “Attractive avatars are friendlier, and more revealing about themselves,” he said. “And taller avatars bargain more aggressively than shorter avatars.”

Peter Yellowlees, professor of psychiatry and director of academic information systems at the University of California, Davis, uses Second Life to simulate schizophrenic hallucinations. Although he began the project in a virtual 3-D cave, Yellowlees, an international expert on telemedicine and long distance health care, switched to Second Life because he wanted to make it more accessible to users and Second Life was “the best around.”

Yellowlees interviewed three schizophrenic patients and recorded information about their specific hallucinations. With the help of actors, artists, and computer programmers, and with continued feedback from patients, Yellowlees reconstructed the hallucinations in Second Life. “Mind Games in Second Life,” a YouTube video of one of 30 modeled hallucinations, illustrates Yellowlees’ work (<http://www.youtube.com/watch?v=P4-PUF3ScL0>). He found that although the hallucinations were quite variable, the hallucinogenic voices and imagery were typically “constant and harassing,” something that is much easier to capture in Second Life’s 3-D world than in more traditional written or verbal descriptions. Yellowlees developed the hallucination models to be used as teaching aids to help educators, the general public, and families develop a better understanding of patients’ experiences.

Although many researchers conduct their experiments within the confines of an official in-world lab set up by a real-world institution, Melissa has met psychologists conducting research in Second Life outside of a formal lab setting in the more typical Second Life social interactions. “The ones I have met are very polite,” she says. “They always announce who they are and what they are doing.” Generally, she said, they ask questions about how she became involved in Second Life, the impact of the virtual world on her real life, or how different she was from her avatar. “A lot of people are very wary of reporters in SL and if someone is asking too many questions without saying why, most will assume he or she is a reporter and stop talking,” says Melissa, explaining why residents sometimes clam up when they’re approached by psychologists.

One phenomenon that (we hope) doesn’t have a parallel in the real world is the suspicion among Second Life residents that they’re being studied. A widespread theory is that troublesome avatars who exhibit rude, shocking, or disturbing behaviors are psychology grad students testing for reactions. In response to

this concern, Linden Lab began asking that researchers working in Second Life submit project plans and obtain signed consent forms if necessary. Linden also hosted in-world workshops and forums that allowed researchers to discuss virtual research ethics and other concerns.

There are various opportunities for researchers and educators to explore in the virtual world. Along with many other institutions, the Berkman Center for Internet and Society at Harvard Law School is offering classes in Second Life, taking advantage of special services that are offered to academics in the program. An educational institution or a non-profit organization can create a private island or an in-world lab for a discounted price, and then researchers can control the access to that location. Second Life even offers “land grants” to educators, allowing them to set up a virtual campus free of charge for a semester in order to interact with other educators, researchers, and students before establishing a permanent residence. The Terranova Virtual World Blog, a real-life website, allows researchers to share their experiences and findings in virtual research. In addition to psychological studies, popular topics include concerns about copyright law and intellectual property.

Both Institutional Review Boards (IRBs) and researchers are still untangling the ethical boundaries of in-world experiments. Nick Yee notes that most IRBs are fairly lenient with virtual research because for some experiments researchers are “able to forgo informed consent, since it [is] public observation.” This aspect of virtual worlds often allows for more omniscient research. But, some experiments involve a mole avatar, who is interacting with other avatars without informing them they are participating in an experiment. These experiments blur the line between public observation and participation requiring informed consent, and therefore, present more of a challenge to review boards trying to apply traditional regulations to this new medium.

For his virtual schizophrenic hallucinations, Yellowlees worked closely with an ethics committee to ensure the safety of the participants. “My main concern was building threatening symptoms and whether this would be distressing for the patients,” said Yellowlees.

Although Second Life is restricted to users over age 18, many virtual worlds allow underage participants, which presents another concern for researchers. There is a Teen Second Life for younger users, but researchers are required to undergo a background check and establish a private island with restricted access before they are allowed to work there.

As researchers and review boards continue to sort out the ethical concerns for virtual research, they must also consider the role of this new medium in determining future directions for psychology research. Yee believes there is much to explore within the virtual world, including the impact of Second Life on real life. With more research, he hopes that researchers will be able to identify such things as which avatar attributes and behaviors influence reactions in others, and how that translates into understanding human behavior. Taking a more cautious stance, Yellowlees believes that the influence of virtual research will be small for the foreseeable future but “will gradually increase as more people understand these environments.”