Seven Things You Need to Know about Virtual Worlds

At a Glance:

- Typical user spends 20-30 hours per week
- Many virtual world currencies can be traded against the dollar
- At least $30 million spent annually on virtual goods
- Can be used for educational simulations
- Can engage students in higher-level cognitive thinking

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Related Sites

TX State Virtual Field School
http://www.its.txstate.edu/departments/etc/researchanddevelopment/VirtualFieldSchool.html

Second Life
http://secondlife.com/

Xulu Universe
http://xulu.com/

AvayaLive Engage
http://avayalive.com/Engage/

Cloud Party
http://www.cloudparty.com/

1. What is it?

Virtual worlds are online communities in a synthetic computer generated space where users can explore content and interact with each other. Virtual worlds have properties inspired by reality, such as gravity, physics, topography, and locomotion. Virtual worlds are often referred to as MMORPGs (massively multiplayer online role-playing game), and are often associated with gaming applications, such as World of Warcraft or Final Fantasy XIV.

Virtual worlds can facilitate low stakes practice and the ability to repeat scenarios with little or no additional cost. Some virtual worlds are focused on training and education, such as MOSES (Military Open Simulator Enterprise Strategy) that is maintained by the US military.

The occupants of virtual worlds are geographically distributed users embodied within the virtual world by graphic representations called avatars. Users in a virtual world interact, collaborate, and explore individually or in groups as a shared experience. Avatars communicate with each other using gestures, body language, text chat and voice chat. Some virtual worlds even allow users to create their own custom assets and environments.

Virtual worlds are by definition synchronous and persistent. The persistence of virtual worlds allows continuous and cumulative social interactions that can serve as the basis for collaborative education. Virtual worlds can adapt and grow to meet different user needs, and possess a powerful potential for use in education.

2. Who's doing it?

There are many more users of virtual worlds than you might imagine and their numbers are growing rapidly. Gamers are at the forefront of this group, and revenues for these types of virtual worlds exceed billions of dollars. In February 2012, World of Warcraft reported over ten million subscribers.

The proliferation of virtual worlds in the 2000s, such as Second Life and AvayaLive Engage, has made the virtual reality paradigm available for institutions to conduct meetings, stage distance learning sessions and build camaraderie in their organizations.

Texas State University has maintained a virtual campus in Second Life since 2006. Our virtual campus currently hosts the Virtual Wittliff Gallery, Virtual

Potential Applications:

Virtual Field School

Dr. Brock Brown and an ITS team recreated a real village in Northern New Mexico in Second Life using maps, photographs, audio, and video from the real village. Students enrolled in his Geography Virtual Field School course synchronously attend lectures as avatars gathering in the virtual village. Other learning experiences take place asynchronously as the students explore the village on their own time.

Through lectures, individual exploration, assignments, and group projects, Texas State University geography students are able to participate in a field school that would typically take place in a remote village ten hours drive away from our San Marcos campus. Virtual Field School helps Texas State University students participate in a field school experience and surmount the constraints of cost, distance, and time.

Link to Video Tour of the Virtual Field School:

http://vimeo.com/39429424

Virtual Field School Tour
from Educational Technology Center

Alkek Library, interactive classroom spaces, and other contemplative spaces for our students and faculty to explore. Currently, several Texas State instructors are using these services to augment their face-to-face classes. In the 2010-2013 timeframe, Geography, Communication Studies, and Curriculum & Instruction departments have utilized our virtual campus.

3. How does it work?

Typically, someone wishing to access a virtual world for any purpose would first need to become a member of that virtual world. Basic memberships are usually free of charge, and allow you to create an avatar, possess an inventory (objects used in the world), explore some of the virtual spaces available and interact with other users. Virtual worlds are generally accessed via the web or a proprietary viewer application that can usually be downloaded for free. Users wishing to create their own persistent virtual space will often pay a monthly membership fee or be granted building privileges by the administrator of the virtual space.

In order to connect to a virtual world, the client application on the user's computer establishes connection to a remote server. The client application then relays the received data to the user through a graphics user interface that represents a computer-synthesized 3D space onscreen. The user in turn can manipulate certain aspects of the virtual world by using their keyboard, mouse or other controller unit. Input by the user is relayed back to the server by the client application. This feedback loop of visual stimuli that responds to the input of the user facilitates the feeling of "presence" in the virtual world and if successful creates a truly immersive experience.

4. Why is it significant?

According to Edward Castronova, virtual worlds are appearing at the rate of Moore's Law (i.e. doubling every two years), and the amount of users is in the millions. Typical users spend 20-30 hours per week inside the simulation, while power users spend every available moment. The commerce flow generated by users buying and selling money and other virtual items amounts to at least $30 million annually in the United States, and $100 million globally. (Castronova, 2005)

The popularity of MMORPGs amongst young adults presents an opportunity for educators because it means there's a captive audience that already understands how to navigate and use virtual worlds.

5. What are the implications for teaching and learning?

Virtual worlds can provide the user with experiences and tasks ill suited to the real world due to constraints such as cost, scheduling, time, and risk. For

Potential Applications:

Virtual World Immersion Experience

Sue Stewart, an instructor in Texas State University Speech & Communication Department, brings her class to the ITS computer lab for a two-session immersion experience. Students learn and apply new skills such as navigation and text/chat communication in order to experience human representation and interaction within this type of simulated environment.

Students are allowed to experience virtual worlds as a promising platform for a variety of activities such as communication, exploration, rehabilitation, learning and networking.

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example, a med student could practice an intricate surgery on a virtual patient or art history students could experience the virtual Sistine Chapel without the cost or time of travel. Virtual worlds can facilitate low stakes practice and multiple visits with little additional cost. Virtual worlds can bridge the gap in learning community dynamics when applied to distance education. Educational games and simulations in virtual worlds engage students in higher-level cognitive thinking such as interpreting, analyzing, discovering, evaluating, and problem solving.

6. What are the downsides?

The barriers to entry for using virtual worlds as a place of instruction are cost and initial learning curve. In order to create a virtual world, educators will either have to pay membership fees to join an established third-party virtual world, such as Second Life, or they will need access to hardware and technical support to host their own servers. There is also a significant investment in time involved with the creating and building of a simulation. The authoring tools used to create these worlds are often difficult to learn, and once the tools are mastered the actual building process can be quite time-consuming depending on the simulation.

Another possible challenge comes with the misperceptions or prejudices potential audiences may have about virtual worlds. While today's learners are much more receptive to participating in virtual worlds, it is wise to remember that not all learners are created equal. Some people assume that virtual worlds are just video games, and have no practical use in education or day-to-day life. There is also an assumption that users can become "lost" in the virtual realm, often at the cost of their participation in their real lives.

7. Where is it going?

As virtual reality technologies mature, more educators and businesses will effectively use virtual worlds for collaboration and research. Virtual environments, avatars and simulations will become more immersive and realistic, allowing for even more powerful experiences.

There will be a convergence between mobile computing and virtual worlds. As the capabilities of mobile computing develop, virtual worlds will be accessible on mobile devices. Virtual worlds will be available on our mobile devices as both independent synthetic spaces as well as augmented reality – information layers displayed over the field of vision the user is experiencing in real life.

Imagine conducting research and attending classes and visiting with friends and family on an interactive 3D realm that both accurately reflects and augments the real world. This could be your future.