A better world for science?

Virtual worlds such as Second Life present an intriguing premise for scientific use. But are the benefits sufficiently clear for widespread uptake?

While the world has been hit by a recession unprecedented for decades, one economy has grown by 94% year-on-year[1]. This economy is that of Second Life, the virtual world where users can immerse themselves in an environment designed by the users themselves.
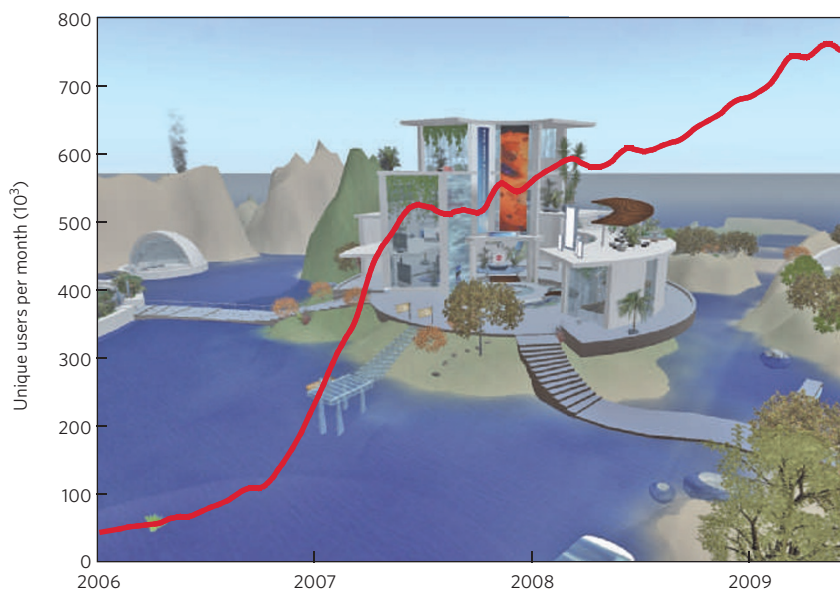
There is nothing virtual about this growth. What it reflects is an increasing uptake of virtual applications. Second Life, as well as other virtual worlds, may have the look and feel of a computer game, but more serious applications have started to emerge. Large institutions such as NASA and the US Center for Disease Control and Prevention have already built representations[2]. *Nature* is represented in Second Life through its *Second Nature* island[3].

In his Commentary on page 919 of this issue, Tim Jones discusses the advantages virtual worlds allow in the context of science and science communication[4]. The applications he describes include research collaborators that meet in a virtual space, or larger events where participants do not take part isolated in front of their computer screens but are a visible part of an audience that can interact with each other.

What virtual worlds offer is a way of personal interaction that is oriented on our real world but takes place in an artificially designed environment. In comparison with conventional tools, virtual worlds are popular for the uncanny immersion that they achieve into the virtual surroundings, even though the graphics aren't always perfect and sometimes slow to render.

However, growth of Second Life membership has occurred at a relatively slow pace, certainly when compared with popular social networks such as Facebook or Twitter. Repeat monthly unique users[1] for Second Life remain below 1 million (see graph above). Although its total number of users is not made public, it is bound to be considerably lower than, for example, Facebook's 300 million members.

There are several reasons for this slower growth of Second Life membership. Without doubt the user experience is more daunting than shooting off 140-character messages in Twitter or communicating with friends on Facebook. The use of a basic web browser won't be enough, and a separate software package needs to be installed. A broadband connection is essential, as is a reasonably modern graphics card.

Monthly unique users with repeat login to Second Life[1]. The background image shows Nature's representation on the Elucian Islands archipelago.

Will such barriers prevent the wider popularity of virtual worlds? Proponents argue the returns justify these expenses. Certainly, visiting scientific exhibits or walking around the artificial landscape enjoying some of the spectacular scenery users have created is rewarding in itself. Yet, key to the advantages of virtual worlds is the active user participation. For example, Science Friday, a weekly radio show, is broadcast to a live audience gathering at a joint location in Second Life[5]. *Nature* transmits weekly podcasts and frequently hosts other events that stimulate lively discussions between participants.

In addition, an important part of virtual worlds is the possibility for users to design the content. As Tim Jones writes[4], in a scientific context this can be used for data visualization, so that for example scientists can walk around the digital representation of a complex chemical molecule. A broad range of animated multimedia content can be presented, which could be particularly useful for courses and seminars where course material can be directly embedded within the virtual environment.

Undoubtedly, such applications do suggest the further growth of virtual worlds. At the same time, at least for scientific uses, a critical mass has not yet been reached. In the absence of applications that elicit a truly widespread appeal to scientists it will remain a challenge to attract large numbers of people. For the moment, the burden of proof rests on both scientific institutions that need to make full use of the opportunities offered and on operators such as Second Life's Linden Lab, where more needs to be done to lower the entry barrier in terms of user experience and technological requirements.

Nevertheless, in light of an increasing number of opportunities for exploring virtual worlds, those with sufficient curiosity and open mindeness should form their own opinion on a concept that is best experienced directly. It is certainly a unique experience that offers far more than social game play. See you there! ❐

References

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