

Second Life: how may it augment our first (learning) life?

A review of the current and potential use of Second Life in creative arts education.

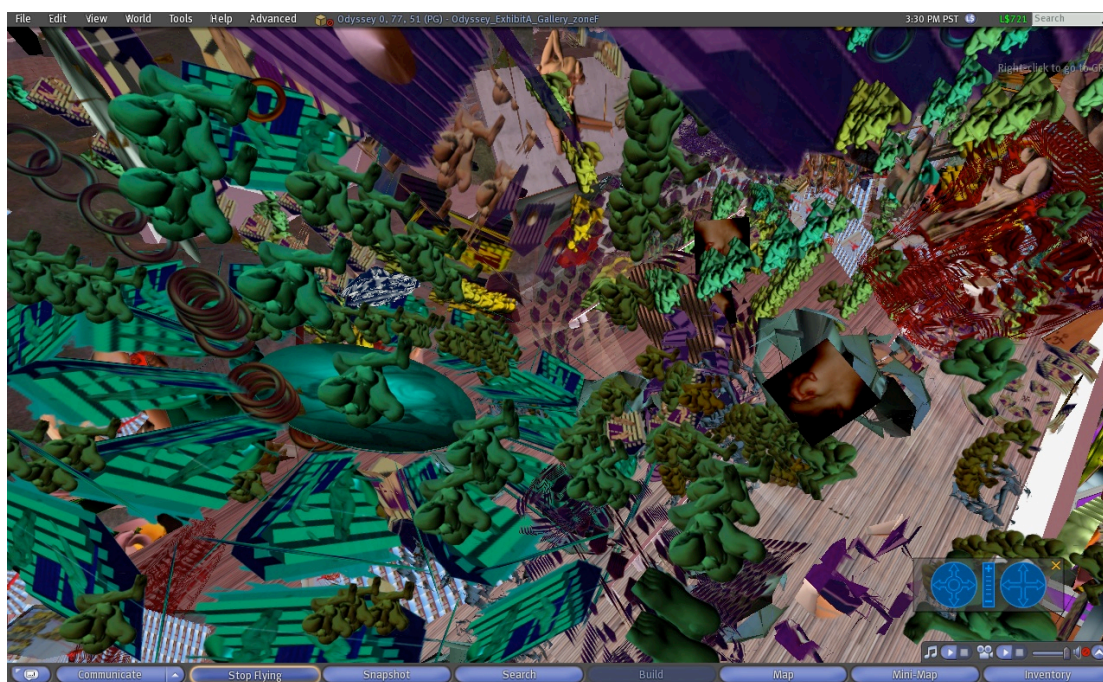


Image from Alan Sondhiem's Second Life 'performance island'

This report is structured in five parts. Part 1 gives a short outline of what Second Life is. Part 2 details current and potential use of Second Life in pedagogy. Part 3 addresses Second Life in relation to research and creative practice. Part 4 examines Second Life's current and potential uses in the areas of institutional management and governance. The last section looks at various issues that are raised by Second Life, both those that affect our real-world lives and which are the product of human interaction in virtual worlds. There are three appendices attached and cited in this review.

The contents of this report have been developed through engaging the subject via a number of means. A key element has been time spent 'in-world'. Through observation it became clear that some individuals invest a lot of energy in their in-world relationships, however much of this appears to have little relevance to pedagogy. Visiting established educational locations within Second Life facilitated meeting a number of professional educators and students but generally these were rare events. Such locations are, for much of the time, rather empty of people, even when full of impressive structures.

Through membership of the Second Life Educators (SLED) forum and listserve I was able to monitor, over a period of three months, a wide range of initiatives and debates across many educational subjects and contexts. SLED has over 4000 members and is a highly active listserve. Some 80%+ of the membership of SLED is US based and thus largely dominated by American educators and concerns. UK based voices were evident though, as well as respondents from Australia, Canada and a few European and Asian countries. This membership was extremely useful in gaining information that aided in-world exploration, with outcomes that are of value to this review, gaining access to prior and current research and discourse on relevant subjects and in aiding a literature search.

Various reports, conference proceedings and Second Life specific documents have been consulted in the preparation of this report. Awareness and knowledge of current artists' work with online environments was also exploited so as to monitor and observe creative practices in Second Life. It should be noted that as yet there is very little published material on Second Life. It takes time for the rigorous research to be undertaken that serious publication demands and Second Life is still a novel development. Due to this the larger proportion of sources for information used in the preparation of this report have not surprisingly been online in origin.

Every effort has been taken to ensure that the web-sources referenced are credible and the product of professional rather than amateur opinion-holders. Referenced websites have been annotated with the access date. To make the most of this review it would be advisable to read it with a computer to hand, allowing you to switch from this document to the various cited web resources. Ideally you will want Second Life installed on the computer so that you can visit cited locations.

This report does not seek to make any general recommendations about whether an institution should or should not consider engaging Second Life in any specific manner. That is arguably a decision best left to senior management, if it is to be an institutional commitment; to individual teaching staff, where they may wish to integrate SL into courseware; or to individual researchers and students, when they might seek to incorporate Second Life into an art project or other activity. However, specific recommendations are made when appropriate and are intended to be understood by the reader of this report as possible considerations if they do choose to engage Second Life in a manner relevant to that context. These points are highlighted in the text.

What is Second Life?

Second Life (SL) is a privately owned and managed online (internet based and accessed) virtual world that can be used by many people at the same time. To access SL the user is required to download client software (the SL application), which is effectively a highly visual 3D browser for navigating and interacting with SL. SL appears to the user as a rather cartoonish 3D virtual world ('the Grid') which they inhabit through their avatar (from the Sanskrit for 'incarnation'), an in-world 3D graphical representation of the user. The user moves about SL by moving their avatar. They see and hear events in SL through their avatar's 'eyes' and 'ears'. They can also interact with virtual objects and other avatars through various means, primarily visual, textual, auditory (speech and sound) and 'tactile' (virtual touch). The user has a degree of control over the appearance of their avatar, but default avatars appear as young, muscular and/or cute. Users with advanced skills can modify their avatars to a greater degree and some users choose quite distinct appearances (e.g.: one avatar appears as a giant Michelin Man, another as a cat, another as a demon, etc). The user can name their avatar, choosing from a limited set of last-names and selecting a user defined first-name.

SL, which went 'live' in 2001, is owned, managed and hosted by Linden Research, Inc, a privately held US company headquartered in San Francisco (founded 1999) and with offices in Singapore and the UK (Brighton) as well as others in the USA (Boston, Seattle, Mountain View and Davis). Senior Linden staff have joined from Electronic Arts, eBay, Disney, Adobe and Apple. It has over 300 employees (source Wikipedia, accessed 27.01.2009). Although privately owned, Linden Labs permits 'in-world' inhabitants (its users) to own the intellectual property rights of whatever they might create whilst in-world. SL has its own currency

(Linden\$'s) which has a floating exchange rate that is currently trading around US\$1.00=L\$265.00 (29.01.2009). Users can use the L\$ to trade in-world goods and services. Such trade is booming, with some people apparently so successful in-world that they are able to translate this into significant real-world income.

Whilst it is free to download the software client, as well as access and use many of SL's capabilities, Linden do charge a fee for premium membership (US\$9.95) and a land rental fee (US\$5.00/512sqm - special educational rates are available) for those who wish to have a permanent, significant and visible presence in SL. Such a presence is usually achieved through the creation, or ownership in part, of an 'island'. It is possible to purchase 'property' at in-world auctions and through the SL Land Auctions website. Linden Labs will 'lend' land to educational institutions, on a one-off basis, within agreed time limits (e.g.: the duration of a specific course). Once a user owns land they are able to edit its terrain and build any virtual structures they wish. Users can create objects and structures on 'free' land, usually terrain owned by a non-profit organisation (such as an educational institution). User's might need to purchase materials and services in order to achieve their objectives, depending on their skills. Although a simple set of tools exist, that can be used to create objects and define their functionality, to be able to create more complex objects requires the use of, and skill with, the SL programming language. Those with these skills can exchange them for L\$.

SL is essentially composed of many islands. Some islands are linked (known as the 'mainland') whilst others are discretely separate. Travel between islands and locations is achieved by 'teleporting'. In order to teleport the user needs to know the name and/or coordinates of the target destination. Destinations are tagged as a SLURL (Second Life Uniform Resource Locator). As there is full compatibility between SL and the World Wide Web it is the case that SL locations can be accessed directly from web-sites and web-sites from SL.

Second Life is far from the first online multi-user virtual environment (MUVE), or massively multiplayer online role-playing game (MMORPG). Such systems were developed from the earliest days of the internet, in the 1970's. However, until recently, these virtual environments were represented relatively crudely, often through a text based interface or simple 2D graphical interface. Today's generation of graphics cards means that many consumer level computers are capable of displaying real-time 3D virtual environments¹. SL exploits these developments to the full, employing relatively sophisticated 3D modeling, texture mapping and image mapping techniques.

There are other virtual world systems that are as popular as SL (for example the World of Warcraft) however, whilst there are many shared characteristics, SL is distinct as it is not premised on gaming. Rather, it has developed as an online environment capable of sustaining numerous modalities of human (and possibly non-human) interaction. It is this open-ended character that probably underlies its popularity, especially for those who are seeking to address real-world objectives (e.g.: corporate communications, pedagogy, governance, etc).

Numerous organisations, companies and other institutions have established and sustain significant presences in SL. Their rationales for doing this are as diverse as the missions such organisations seek to pursue. What is of particular note here is the number of educational institutions who have adopted SL as part of their operations, whether for

¹ As part of her PhD research at Ball State University, Sarah 'Intellagirl' Robbins has produced a useful spreadsheet detailing the various characteristics of the most popular online virtual worlds, <http://spreadsheets.google.com/pub?key=pgKqGR6eOiPOKjMG9f856Sw> (accessed 03.02.2009).

research, teaching, marketing or governance². It is also of note that a number of creative practitioners, working across diverse disciplines, have adopted SL as an environment for creating and/or disseminating their work.

For detailed information on how educational initiatives are being pursued across a range of virtual world systems a good reference is ReZed³, a resource developed by Global Kids, an independent non-profit educational organisation that seeks to work with urban youth and dedicated to providing a hub for practitioners using virtual worlds in education. It hosts and provides access to third party resources so as to enable a network for those researching and employing virtual worlds in pedagogy. ***ReZed is an excellent starting point for gaining an overview of the state of the art***, the current issues and debates in the field and allows work specific to SL to be more broadly contextualised.

Learning and teaching

Until 2005 only a handful of educators were active within SL. Since then the number has increased. In 2006 there were 500 registered SL educators and 80 islands dedicated to educational activities⁴. By 2007 the number of educators had grown to 3900 from 161 registered colleges and universities⁵, including our Federal Partner, the University of Edinburgh. By any measure this indicates an incredible growth of interest and engagement. Currently SL is divided into The Grid and The Teen Grid (this may be changing, with integration of the parallel systems being proposed by Linden Labs). This document only deals with the (adult) Grid and post K-12 (higher and further) education.

Many of the world's outstanding higher educational institutions have SL sites, from Harvard to MIT, from New York University to Princeton, and there are numerous creative arts higher education institutions with a significant presence in SL, including the Art Institute of California San Diego, Art Institute of Pittsburgh, Australian Film TV and Radio School, Columbia College Chicago, Leeds College of Art and Design, École Européenne Supérieure de L'image Angoulême and Minneapolis College of Art and Design.

Over recent years ICT systems have been successfully employed in augmenting educational capacity. An example in regular use at eca is Moodle. Recently Moodle has been mashed-up with the SL API (jargon for interfaced to and co-enabled with). The result is known as Sloodle⁶. This stands for Simulation Linked Object Oriented Dynamic Learning Environment, an open-source virtual learning environment within SL employing the Moodle learning management system. Students (and staff) can undertake introductory classes (for free) within SL. Similar to Moodle, Sloodle has to be setup on the institutional network at the system administrator level to be effective. Sloodle offers everything that Moodle does, but in a real-time, wide area networked, 3D environment where users can interact with one another and things in a much richer manner than Moodle would ever allow. It is especially useful for integrating real-world social interaction (students in the classroom) with virtual interactions.

² An up to date list of educational institutions active in SL can be found at:

http://www.simteach.com/wiki/index.php?title=Institutions_and_Organizations_in_SL#UNIVERSITIES.2C_COLLEGES_.26_SCHOOLS (accessed 29.01.2009)

³ <http://www.rezed.org/> (accessed 01.02.2009)

⁴ Lester, J (2006), preface to Proceedings of the Second Life Education Workshop 2006, Second Life Community Convention (eds. Livingston, D & Kemp, J).

⁵ L'Amoreaux, C & Lester, J, (2007) preface to Second Life Education Workshop 2007, Second Life Community Convention (eds. Livingston, D & Kemp, J).

⁶ <http://www.sloodle.org/> (accessed 27.01.2009)

Moodle archiving capability is enabled and the system can be integrated with an institution's existing Moodle database allowing bi-directional communication and data sharing. A detailed case study was undertaken of a student cultural exchange program between Dubai and Korea. This is attached as appendix 2.

Another report discusses the use of multi-user virtual environments as collaborative work spaces in experiential education⁷. This approach may be of particular value in project based learning where students, working in groups, seek to resolve real world problems. This is an educational model commonly encountered in art colleges. The authors argue that the combination of a challenging technical problem, networked engagement and multidisciplinary interactions can result in a successful learning experience with real-world value. This would suggest that ***there could be value in the use of SL amongst recently registered cohorts of students*** where the focus would be on acquiring technical skills allied with problem solving and communications skills.

Students today are assumed to be technologically literate, often more so than their parents or teachers. They are particularly familiar and adept with social technologies, such as FaceBook and YouTube. SL is similarly a social technology. Clearly its primary value derives from how it affords interaction between people and the creation of social environments which suit those with particular requirements. We can therefore assume that many students use SL and similar systems and would not be surprised if they were to encounter aspects of their educational experience within it. Indeed, there is anecdotal evidence to suggest they might be more surprised when they do not.

A number of institutions are employing SL to aid them in engaging their students, in large part with the aim of augmenting their learning experience but also in enhancing student retention and even to assure their duty of care. One example of this was the arrangements made by some institutions in relation to World AIDS Day. The purpose of this event was ostensibly to raise awareness of AIDS amongst a potential risk group, however the event also functioned to encourage students to interact with one another and engage in a bonding exercise with their peers within the context of the host organisation, encouraging a sense of community and belonging. ***Realworld socially oriented exercises may be useful in establishing good student-institution relations and, longer term, enhancing student retention.***

One immediately obvious use for SL in teaching is online lecturing. This 'chalk-and-talk' mode of teaching can be readily adapted to an SL environment, with the advantage that participants need not physically be located in the same place at the same time. SL is compatible with PowerPoint so a lecturer can easily upload their support visuals to support their avatar's presentation. Whilst this has obvious value in classic distance learning contexts the inverse arrangement is also well supported, where the lecturer (busy elsewhere, or perhaps lecturing to more than one physically located group at once) can deliver their lecture in real-time to an audience with whom they are able to socially interact, answering their questions and responding to interjections. This is one way for an institution to control their visiting lecturer expenses, as travel and accommodation costs evaporate. Some institutions have worked together to gain the services of famous lecturers whilst others have publicly announced such lectures in order to attract a wider audience, placing

⁷ Johnson, H & Johnson, M M (2006), Multidisciplinary experiential education in Second Life: A global approach, in Proceedings of the Second Life Education Workshop 2006, Second Life Community Convention (eds. Livingston, D & Kemp, J).

themselves at the service of a broader community (and coincidentally doing their brand identification no harm at all). A highly publicised lecture by a figure like Lawrence Lessig (Stanford Professor and IP guru) in 2006 is a good example of a distinguished person employing SL to reach a broad audience, whilst many institutions (including Harvard's Law School and University of California Santa Barbara's School of Arts) regularly hold public lectures by their own and visiting staff in SL.

As has already been mentioned, SL is compatible with applications such as PowerPoint and Moodle/Sloodle. It is also compatible with many other popular applications routinely used in teaching, such as QuickTime (for playing video), RealAudio (for music), PostScript (for presenting PDF documents) and JPEG (for presenting pictures). Due to this level of application integration, and that much courseware these days is stored and distributed using such applications, the inter-application compatibility possible here allows for the integration of SL into course development at a fundamental level. It is true that there is a learning curve to be climbed to be able to use SL in any advanced manner, but for basic access it is reasonably user-friendly, allowing access for students. However, **staff members wishing to design and upload courseware for SL do need specific skills** that are somewhat more challenging to learn than Microsoft Word or PowerPoint.

There is clear evidence that for students learning certain technical skills, such as computer programming or civil engineering, undertaking group educational projects in SL can function to enhance their learning and skills acquisition. An excellent example of this is the wind turbine design and construction project undertaken by students of Bromley College, London⁸ (affiliate of the University of Greenwich, upon whose island this project is located). In this project students were required to design and construct a virtual wind farm in what was effectively an SL based 'sandbox' environment. Not only were the students required to learn the skills to construct the windmills but they also had to ensure that each device was capable of producing data about itself (speed of rotation, power generated, efficiency outcomes, etc) so that they could evaluate the different models of windmill they designed and built. Whilst it is probable that this exercise would be of restricted value for solving real-world engineering problems it would seem the case that for the students it was an excellent learning exercise, where solutions to in-world problems demanded knowledge and skills directly relevant to RL. Certainly, in RL students would never have the opportunity to develop and construct a wind-farm. It can also be usefully mentioned here that Bromley College have a very useful and easy to follow tutorial for the SL scripting language located on the same island as their students' wind-farm, as a freely accessible learning resource.

In 2007, as part of New York University's Digital Communications program, students were given the task of producing a 'movie' within SL. The completed film, titled 'Macbeth in Second Life' can be viewed on YouTube⁹. Undergraduate students were assigned various production roles on the project, from set design/construction to script development, costume and sound design, editing to acting the various roles employing their avatars. The final film is no epic (8:42) and arguably not a particularly interesting work of art, but as an exercise in collaborative creative working in a virtual world it evidences how students can work together using social technologies, learning diverse skills and achieving a final outcome of some ambition.

A good example of a creative arts HE institution employing SL as intrinsic to their pedagogical work is Columbia College Chicago's work on their Interactive Arts and Media

⁸ <http://slurl.com/secondlife/Vue/10/151/32> (accessed 03.02.2009)

⁹ <http://www.youtube.com/user/Tilla55> (accessed 03.02.2009)

program. This department is run by well known media artist (and member of the Yes Men) Patrick Lichty. Their approach is to allow students a fairly free hand in what they choose to produce within SL, treating the various institutional spaces they have created on their site as galleries, public spaces suitable for interventions, social spaces for playing and hanging out and empty spaces suitable for students and staff to build new structures. To some extent, in this model, SL represents an extension to the creative studio environment. Staff undertake seminars with groups of students who are, through their avatars, located with their work in SL. To aid this process students are asked to upload their portfolios into appropriate locations around the virtual campus and thus staff and visitors are able to view artwork as well as peruse the College prospectus and other information about the institution. Students also engage on various projects throughout the academic year and there is a regularly changing program of student organised and curated exhibitions in the virtual college art gallery. However, perhaps many students would find the 'beat bar' a key facility here – a social space dominated by images of William Burroughs and Francis Bacon (the painter) and with beat poetry splashed upon the walls. The function of such social spaces in the engagement of students and the development of their own social networks should not be underestimated. ***There is potential here for student representatives to employ SL as part of their support system for their members, enabling student communications, governance and social life.***

Leeds College of Art has a significant presence in SL and also has a section of its institutional website dedicated to its activities in SL¹⁰. Leeds uses its SL site for various purposes, key amongst them as a resource and development area for its Foundation Degree in Design for Digital Media. They describe it as a place where their students can collaborate and develop 3D design, networking and curatorial skills. They also hold their end of course exhibition in-world at their SL site¹¹. One interesting facility they have in their virtual studio's is a virtual photography lab. Here you can experiment with various camera settings and lenses and immediately see the effect this has on the resulting image. The basic technical tools are augmented with detailed tutorial notes and graphical guidance located along with the user's avatar, which assists the user with understanding the processes and systems associated with the camera. As a well designed educational tool for supporting students studying photography this would appear to have significant value. The assumption here is that the facility was designed by a member of staff, possibly assisted by advanced students, and that to develop and manage such facilities a high skill level is required.

The University of Washington has developed its in-world specific programs to the point that it is now offering a Certificate in Virtual Worlds¹², an educational program undertaken within SL. As stated in the online prospectus:

"simulated environments enhance all types of organizations, including online communities, education, retailing, political expression and military training... Position yourself to be part of this emerging movement with the Virtual Worlds Certificate Program. Your education will be hands-on and practical; this program is delivered exclusively in a simulated environment. You will learn to navigate virtual worlds and

¹⁰ <http://www.leeds-art.ac.uk/home/social-networking-sites/second-life/> (accessed 03.02.2009)

¹¹ <http://slurl.com/secondlife/The%20Collective/45/68/33> (accessed 03.02.2009)

¹² http://www.outreach.washington.edu/ext/certificates/vir/vir_gen.asp (accessed 04.02.2009)

also to explore and develop the potential for virtual worlds beyond just games and entertainment¹³

Course content covers virtual world design, human interaction modelling, database management and evaluative methods. Interestingly this very new program, with its first recruitment in Winter 2009, has had full uptake.

Non-educational organisations working with SL, but interfacing to pedagogical issues as a matter of course, include the British Council¹⁴. The British Council 'Isle' went live on the Teen Grid (pre-K12 students) in November 2007. This consists of a self-access centre aimed at learners of English and offers an intercultural space for English language learners and native speaking teens to meet. The aim is not to teach English but to encourage globally-based language learners and existing Teen-grid residents to practice English in-world. Being on the Teen-grid adults are not allowed access to this site without being vetted and certified by the British Council and Linden Labs.

One of the things that is notable when visiting HE sites in SL is that, as in RL, the most prominent building is usually the library. We have become familiar with our college library being far more than simply a repository for books and journals. Indeed, many institutions now refer to their library as the 'information' or 'learning centre' in order to encompass the expanded role that the library plays in learning and research. Clearly SL might offer significant opportunities for libraries, allowing them to enhance the sort of material they can collect, the means by which it can be accessed and how it can be disseminated more widely. There is an annual event in-world at SL called the Alliance Virtual Library¹⁵ Tech Fair¹⁶ (the most recent was held 31.01.2009). This event brings together academics, researchers and resource providers at a single site in SL so as to meet and remain abreast of the latest issues, capabilities and debates regarding learning resources for virtual worlds. Whilst dominated by American institutions and corporations it is the case that institutions from around the world are involved, amongst them Universities from the UK¹⁷. It is arguable that ***it is in the domain of the library that SL might have the most to offer and would suggest that it might deserve its own expert-led study and report*** on what the possibilities and constraints might be.

Finally, in relation to pedagogy, what opportunities might exist in SL for aiding processes of assessment? As already noted, Sloodle integrates the full functionality of Moodle with SL. Moodle has assessment modules and functionality built into it, as does Sloodle. This can range from simple multiple choice quizzes through to more challenging tests of student capability. As demonstrated in a YouTube video¹⁸, Sloodle can be used in-world to allow students to manipulate objects in order to complete a particular task. In this example the student is required to move around 3D blocks, with words attached to them, in order to correctly complete a particular phrase. Clearly the same tools could be used for testing a basic technical skill (e.g.: health and safety assessment with using power tools in a sculpture workshop) through to assessing a medical students ability to recognise different types of heart murmur¹⁹. The key to both these demonstrations is that the educator has the option to

¹³ *ibid.*

¹⁴ <http://www.slnn.com/article/british-council-isle/> (accessed 04.02.2009)

¹⁵ <http://infoisland.org/> (accessed 04.02.2009)

¹⁶ <http://infoisland.org/alliance-virtual-library-tech-fair-2009/> (accessed 04.02.2009)

¹⁷ <http://infoisland.org/college-fair-participants/> (accessed 04.02.2009)

¹⁸ <https://www.sloodle.org/blog/?p=46#more-46> (accessed 05.02.2009)

¹⁹ <http://sl.nmc.org/2006/09/25/jeremy-kemp/> (accessed 05.02.2009)

develop their own tools so as to establish both the evaluative process and the topic or task being assessed.

However, in order to do this the educator has to be proficient with the SL-scripting language. This presents a challenge as it involves a degree of computer literacy that would not conventionally be expected of an educator outside the computer sciences. The potential benefit here is that once the basic scripting language is learned the teacher is able to construct systems of some complexity and probable efficacy that would be difficult or impossible with real-world tools and systems. However, as noted by Southampton Solent University academic Roger Emery²⁰,

“I have experimented with the other tools in the box, we haven't use them 'in anger' with students as yet - this is more down to the tutors and students than the tools. It seems that Second Life is quite a large step to take in itself, so it may be next academic year before there is enough experience to set meaningful activities/assessments which fully utilise both Sloodle and SL tools.”

Southampton Solent University has taken the useful step of creating its own SL introductory section within its website, largely to assist students and staff with getting started in SL but also as an overview for students of the institutions activities in-world²¹.

Sloodle does offer as standard many of the usual functions of Moodle, such as automated monitoring of student activity, which can be useful in assessment procedures. An automated PowerPoint presentation by Daniel Livingston (University of Paisley) and Jeremy Kemp (San Jose State University) presents an overview of Sloodle, including a review of its potential use in assessment²². As noted in this presentation, Sloodle offers student assignment and submission management, including version control, and good support for feedback to students.

In concluding the discussion of assessment in SL it should be noted that Sloodle, as a tool, is still in development. It is clear from discussions on the Sloodle website developer's forum²³ that assessment tools and capabilities are being integrated further into Sloodle but that, to some degree, this is still a work in progress. It would appear that SL has yet to acquire appropriately robust assessment tools and systems. However, given the rate of development, such tools and systems will probably be available in the next year or so.

Research and practice

SL can be employed in research in a number of ways. It can be the environment for research, the subject of research or the medium of research. Research is undertaken by a diversity of researchers employing both conventional and unconventional research methods.

²⁰ <http://www.sloodle.org/moodle/mod/forum/search.php?search=assessment&id=3> (accessed 05.02.2009)

²¹ <http://mycourse.solent.ac.uk/course/view.php?id=1805> (accessed 05.02.2009)

²² <http://www.slideshare.net/dlivingstone/sloodle-presentation-eduserv-jiscetis-workshop-sept07> (accessed 05.02.2009)

²³ <http://www.sloodle.org/moodle/mod/forum/view.php?f=15> (accessed 05.02.2009)

Given that SL is a social technology it is not surprising that a lot of research undertaken there is into social questions.

Some researchers are employing SL as an environment to undertake social research, treating in-world inhabitants much as they would inhabitants of a real-world environment, such as a city street. One example of such in-world research I personally encountered, whilst visiting Monash University's Behavioural Studies island, was when I was approached by a student from Manchester University seeking my opinions on sexual health and in-world sexual behaviour. I didn't have much to say about this (my in-world time was spent as an observer and I chose not to engage in any activities relevant to this researcher's interests). However, I was curious about why the student was undertaking this research in SL and asked them why. They responded that they were an undergraduate student studying sexual health in RL and were undertaking a survey in SL, as part of their studies, so as to make a comparison of behaviour and attitudes. My impression was that their teacher was possibly exploiting SL as an easy to access and available population that could be employed by their students with little cost or resource commitment. The benefit here would appear to be that students could practice and improve their social research skills without having to leave the class-room. However, it might be that such practices might lead to certain problems. For example, did the teacher discuss with students how they were unlikely to encounter a typical UK High Street demographic in SL and how they might account for this in data collection and analysis? I was also concerned with the informality of the students questioning of myself, as no attempt was made to ensure I was aware of the purpose of the research nor how any comments I might make would be used. Was the student appropriately briefed regarding research ethics or was it assumed that in SL these guidelines need not apply? This was unclear.

SL's rather game-like nature has not surprisingly led to a number of researchers using it to inquire into the ludic dimensions of learning and the value of play in learning. The 'treasure-hunt' is a popular and effective instrument in teaching problem solving skills in a playful manner. The Solace Beach Treasure Hunt island in SL is a privately run and commercially oriented enterprise. However, its target users are SL newcomers (newbie's) and it employs the treasure-hunt model as a means to assist newbie's in learning how to navigate SL, communicate and exchange goods and services. As with many games, the target outcome is some sort of prize. In this case it is the opportunity to win things such as clothes, skins (avatar appearance descriptors), objects with certain capabilities (such as magic wands that allow you to modify things in SL) and even L\$'s.

Second Life is an environment that would appear to lend itself to collaborative working and the enabling of communication between remote participants. At the University of Edinburgh the AHRC funded Branded Meeting Places²⁴ project has been researching the conjunction of real-world and virtual experiences. Led by Professor Richard Coyne, this project has sought to explore how ubiquitous technologies and design can be employed to enhance places for meaningful human encounters. As is observed in the project abstract, meetings between people are no longer constrained to offices or fixed points of service but can occur almost anywhere, especially as, with mobile ICT technologies, we routinely find ourselves carrying with us the ephemera of management and communications systems once associated with the technology of the office. One type of social space this research has engaged is SL²⁵. This research project has involved the real-time visualisation of people into SL such that rather than being represented by an avatar they are visualised as a video sequence of

²⁴ <http://ace.caad.ed.ac.uk/NonPlace/> (accessed 03.02.2009)

²⁵ <http://slurl.com/secondlife/Vue/10/151/32> (accessed 01.02.2009)

themselves. The objective here has been to study how to enhance user interaction in an environment such as SL in order to achieve more optimal social experiences that can enhance communication and productivity during meetings involving remote participants. The initial outcomes would seem to indicate that there is real potential in this. ***The potential value of such interactive virtual collaborative systems for distance learning is interesting to speculate upon.***

Examples of cultural and knowledge transfer activities in SL include those of the USA's National Oceanic and Atmospheric Administration (NOAA). NOAA has a real world base in Boulder Colorado with its Earth System Research Laboratory²⁶ (ESRL). At the ESRL they have created a visualisation facility called 'Science on a Sphere', a 3D model of the Earth projected onto a large sphere. This allows them to model and visualise the effects of human activity on various eco-systems at a planetary scale. Since 2006 they have been recreating this model within SL, at the heart of the NOAA Island facility. This evidences how innovative real-world modelling, visualisation and teaching tools can be transferred into and employed within an SL context. As an educational tool it is an excellent example. As a public outreach exercise it is brilliant.

The San Francisco Exploratorium, another US public body with a remit to undertake research and to ensure its widest dissemination, has also established a significant SL presence, following on from their innovative use of SL for the web-casting of the 2006 total solar eclipse in Turkey²⁷. They have used SL for presenting a range of experiences to users, such as observing a Martian meteor impact and participating in an online celebration of the anniversary of Pi Day.

An example of current qualitative research methods exploiting SL's innate characteristics is Edward Castronova's (Indiana University) research involving demographic analysis of quality of life²⁸. In this example research respondents are paid for their time (L\$250.00 – around US\$1.00). The respondent is immediately requested to agree to an informed consent statement, which offers a degree of reassurance. Quoting from the survey, "The purpose of this study is to gain demographic and quality of life information from the residents of virtual worlds to compare them to real world residents." The target is 10,000 respondents. The agreement addresses the key elements you would expect to see in a consent statement, covering areas such as risk, options, confidentiality, a description of the research methods, how to query the process and a definition of volunteering. It appears to be a concise and well considered agreement and indicative of what is probably a serious piece of social research.

SL is a space not only amenable to conventional research but also to practice based work. Creative artists are active producing artworks that not only exist in or are accessed through SL but exploit the social and virtual characteristics of SL, situating it as much as a medium as subject.

New York based Alan Sondheim is a well established international media artist and creative writer. Coming out of a Fluxus background his work is known for being provocative, whether it exists as performance, video, music or poetry. Recently he has busied himself with creating his own SL 'artist's island' called Odyssey Exhibit A. As you would expect of an

²⁶ <http://www.esrl.noaa.gov/> (accessed 28.01.2009)

²⁷ <http://www.exploratorium.edu/worlds/index.html> (accessed 28.01.2009)

²⁸ <http://slurl.com/secondlife/Synthetic%20World/72/79/32> (accessed 04.02.2009)

artist whose aesthetic is predicated on doing things as differently as possible Sondheim's island is a weird place, featuring a psychedelic immersive experience the moment you arrive (from which it can prove a challenge to escape), a hovering sculpture composed of smashed up East German Trabant automobiles, grotty simulations of urban dereliction and graffiti, pornographic flying Buddha's, an in-world mental hospital and a Dorkbot domain (Dorkbot is an international affiliation of artists involved in creative hacking and circuit bending practices). Sondheim's chaotic and rather dirty world is very different to much of the rest of SL, which tends to the neat, clean and reductive. He has created a world where it doesn't matter if objects impossibly occupy the same space or you are unable to navigate freely due to unseen and inexplicable forces. It doesn't make sense – and it isn't meant to. He makes the most of the interactive and experiential character of SL, confounding our expectations so as to makes us aware of how we operate, often on auto-pilot, in the real-world. Sondheim's island begs the question why there aren't other places like this in SL and why nearly all SL sites unimaginatively replicate what we are familiar with from RL.

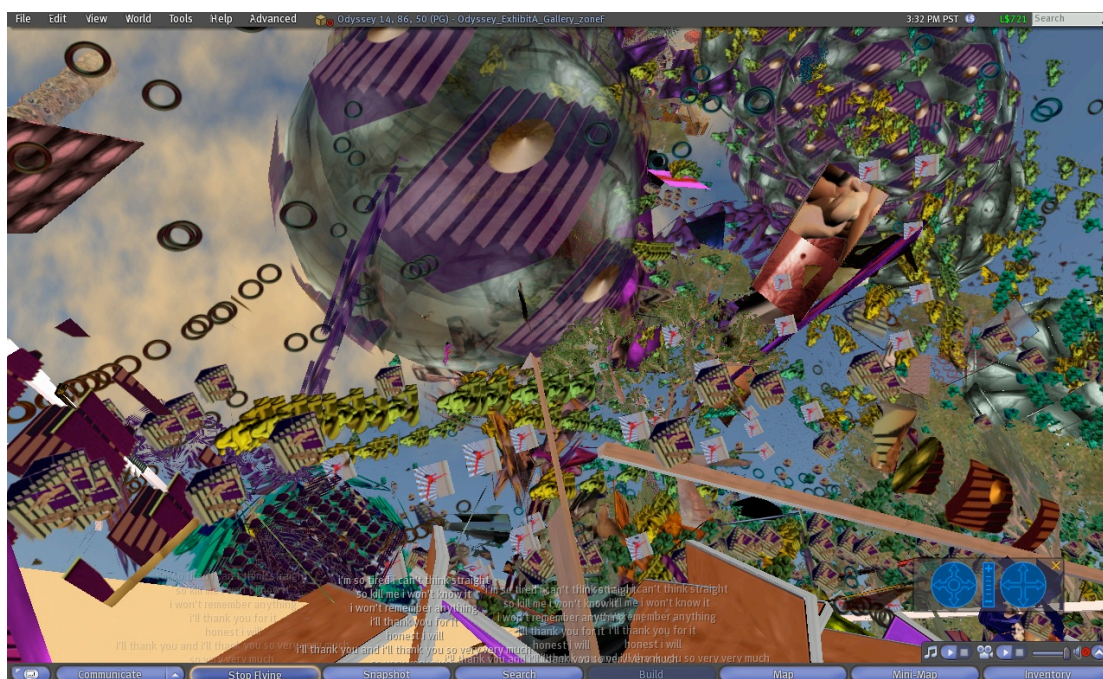


Image from Alan Sondheim's Second Life 'performance island'

Beijing based artist Cao Fei has employed SL to create a virtual art community, called RMB City²⁹. To quote from the project website, "The project explores the creative potential of an online art community, seeking to create the conditions for an expansive discourse about art, urbanism, economy, imagination and freedom." As a project this is as ambitious as Sondheim's, although employing a rather more sober aesthetic. Possibly for this reason the project has gained significant recognition, with London's Serpentine Gallery commissioning a gallery version of the work³⁰ and the project being chosen to represent China at the 2007 Venice Biennale.

As has already been noted, ***IP rights in SL remain with the creator of any in-world content***. As such artists like Sondheim and Fei are in the position to sell their in-world artworks, both in-world and in real life. However, any institution or individual collecting and

²⁹ <http://www.rmbscity.com/> (accessed 05.02.2009)

³⁰ http://www.serpentinegallery.org/2008/05/cao_fei_rmb_city.html (accessed 05.02.2009)

seeking to conserve such artwork would need to be cognisant of the media dependencies of the artifacts and therefore aware that any disruption or cessation of activity in SL will similarly effect the artworks they have acquired. Due to this it would be surprising to find such artworks appearing in the secondary art-market, although stranger things have happened.

Management

There are numerous dimensions in which SL might be used to aid in institutional management, covering areas as diverse as recruitment, governance, staff development, communications, marketing, administration and resource management.

The potential of SL for marketing HE institutions to prospective students would appear obvious, just as the World Wide Web was rapidly deployed as a marketing tool. However, as will be argued here, any such initiative needs to be a far more subtle exercise than simply erecting a billboard in cyber-space. Some HEI's with presences in SL appear to be primarily concerned with marketing, rather pursuing research or undertaking learning and teaching work. To a degree such virtual campuses appear to effectively be billboards in SL, promoting the institution to a target demographic which they hope would be characterised as computer literate and generally middle class. However, ***many university 'billboard' islands seem to be 'ghost islands'*** (islands bereft of avatar activity), in contrast to the busy entertainment sites that make up most of SL.

The question remains whether SL should be part of an effective marketing strategy? Michael Donelly, head of interactive marketing at Coca-Cola,

"was fascinated by its (SL's) commercial potential, the way its users could wander through a computer-generated 3-D environment that mimics the mundane world of the flesh. So one day last fall, he downloaded the Second Life software, created an avatar, and set off in search of other brands like his own. American Apparel, Reebok, Scion — the big ones were easy to find, yet something felt wrong: "There was nobody else around." He teleported over to the Aloft Hotel, a virtual prototype for a real-world chain being developed by the owners of the W. It was deserted, almost creepy."³¹

Nevertheless, Coca-Cola did invest in an SL marketing strategy, possibly regarding it as a platform its target demographic would expect it to associate with. Along with Coca-Cola other large corporations marketing divisions have also invested in SL, including IBM, Adidas and Sears. However, the statistics are revealing. One SL site, 'Sexy Beach', registered 136,000 visitors whilst in the same period IBM's site registered 281³². The discrepancy here indicates what many people's interests are when in-world.

Realistically, when establishing an in-world presence that might demand the commitment of significant resources, it would seem advisable to undertake some research into how effective this might be in reaching your target demographic. That said, if an educational institution has decided to commit resources in SL in order to pursue objectives in its core activity areas of pedagogy and/or research then it would appear a missed opportunity not to

³¹ Rose, F (2008), How Madison Avenue Is Wasting Millions on a Deserted Second Life, Wired magazine, issue 15.08

³² Ibid.

exploit that presence for marketing purposes, just as such an institution would seek to exploit its work in these areas in RL. Therefore ***it would seem advisable that if an HE institution was to consider creating an SL presence one significant member of the development team should come from their marketing department. It would also seem wise to undertake some market research***, both before and after the fact, so as to be in the position to evaluate the on-going effectiveness of any such commitment.

There are examples of institutions and corporations employing SL in various ways to assist them in staff development and support. British Petroleum has been working with a team of researchers at the University of Illinois's Chicago School of Public Health to design a prototype counselling site and system in SL. The proposal is to combine SL's established social networking capabilities with data capture and management systems³³. The objective of this research is to develop an administrative system that will allow BP to train and monitor its employees in ethics compliance. The research allows for both the modelling and evaluation of various systems and for a process of consultation and evaluation with employees of their ethics compliance. Whilst this research is highly specific to a management process within a particular company it evidences how SL might be used as a more general management aid. ***The potential here is for SL to be used in staff development, mentoring, consultation and conflict resolution.***

A popular instrument in the staff development toolkit is the 'staff away day'. It is not hard to imagine having an away day in SL and it could even be potentially cheaper and easier to organise than an equivalent RL event. However, it is possible that the naturally sceptical (even cynical) character of creative arts professionals could make it very difficult to attract a critical mass of staff, especially as SL food is tasteless and the beer, wine and spirits are, by their nature, zero alcohol beverages. Nevertheless, there would seem to be some potential value in employing SL as part of an internal communications strategy. Again, given the general take-up of ICT by staff, any such strategy would have to be integrated and carefully planned for efficacy. It might appear a fun idea, but will it work with a particular work force?

As has been observed at a number of points in this review, a major issue to be considered by any institution considering investing in new technologies is the requirement that their staff engage positively with the ensuing learning curve. ***New technologies bring with them both the need for new technical skills and, more profoundly, new ways of doing things. Learning these new systems can be a real challenge.***

Geoghegan³⁴ distinguishes between different types of educators adopting new systems and technologies. 'Techies' (innovators), early adopters (visionaries), the early majority (pragmatists), the late majority (sceptics) and the laggards. In the latter cases he notes that such educators can be aggressive and confrontational regarding the requirement to adopt new tools or ways of working. He also notes useful differences between early adopters and the early majority, recognising the former as visionary, project oriented, risk-taking, self-sufficient and horizontally connected whilst the latter are typified as pragmatic, process oriented, risk-averse, conservative and vertically connected.

³³ Monahan, C, Harvey, K and Ullberg, L (2007), BP Tries Second Life for Employee Ethics and Compliance in Proceedings of the Second Life Education Workshop 2007, Second Life Community Convention (eds. Livingston, D & Kemp, J).

³⁴ Geoghegan, W H (1994), Whatever happened to instructional technology?, proceedings of the 22nd Annual Conference of International Business Schools Computing Association, Baltimore, MD.

Given that in any institution of scale there will be a diverse mix of staff who might, in some respects, fit Geoghegan's model ***it would seem advisable to involve Human Resources and staff representatives in any strategic engagement with a technology like SL in order to ensure effective take-up and application of the systems*** in whatever relevant domain of activity. Equally, ***appropriate staff should be encouraged to experiment with teaching and research methods and to try out new ways of doing things***. The probable outcome of this approach would be the bottom-up introduction of new ideas and methods, a phenomenon that might present a better solution for the introduction of new systems than a top-down approach.

During 2008 the New Media Consortium undertook a statistical analysis of educator's involvement in Second Life (this is attached in full as appendix 3). The statistics are illuminating, allowing an overview of take-up of SL by educators; how they engage SL, why, their experiences of its efficacy, problems they have encountered and a wealth of demographic data that permits insight into who these early adopters and early majorities are. Many of the statistical returns can be seen as background data to some of the issues that are raised about the use of SL in the final section of this review.

As a communications tool, in focused contexts, SL has already established its usefulness. The technology and communications company Cisco has a highly computer literate workforce. Not surprisingly, they have been employing SL since 2007 as part of their internal communications infrastructure as well as in business to business communications. Cisco have recognised that a lot of people in SL are professionals working in the ICT area and therefore their potential clients. Several hundred of Cisco's own employees spend significant time in-world themselves. Cisco have taken to having a number of 'standby sims' (standardised avatars) that can be used by employees for undertaking business activities in-world, without the need to create their own SL account and avatar³⁵.

The Second Life Corporate Business Council, of which Cisco is a member, is composed of some 40 major corporations who are seeking to exploit SL for internal management and as a business to business communications tool. Apparently Oracle are working on ensuring compatibility between their database management tools and SL in order to facilitate such business activity. A key focus here, not surprisingly, is data security. The impression is that the education sector is ahead of the curve in such developments and it might be that the concern in business for security has meant the corporate domain has been more cautious in its uptake of this new technology. Sloodle might be in Beta, but it is being widely used and already facilitating processes familiar within educational environments to be replicated in SL or integrated with in-world capabilities. There would appear to be real potential here for applying SL in management areas such as meetings involving remote participants. Such systems could, for example, be very helpful in supporting inter-institutional and cross-disciplinary research consortiums as they become more common-place. The work of Richard Coyne's Branded Meeting Places, mentioned earlier in this document, points directly to these sorts of applications.

Issues

³⁵ http://www.informationweek.com/blog/main/archives/2007/04/using_second_li_2.html
(accessed 05.02.2009)

As should now be clear, SL is predicated on a socio-economic model that very closely resembles RL. Specifically, it is predicated on a model that closely resembles US cultural tropes and, especially, the cultural mode we are familiar with as Capitalism. Whilst it may have been possible, even desirable, to have developed SL as an alternative to RL the reality is that it has been developed with many of RL's attributes not only in place but as defining characteristics. A primary factor here is the founding of SL on an exchange economy model and the use of the Linden Dollar as the primary means of symbolic exchange of goods and services. That the Linden Dollar is effectively a hard currency (harder than some RL currencies) with a floating exchange rate against the American Dollar means that economic activity in SL can complement and even bleed over into RL.

As has already been noted, intellectual property rights in SL are held by the person who creates the property in question. Whilst SL has been developed by a private corporation Linden Labs have recognised that people are more likely to produce value in-world if they are allowed to retain their rights over it. However, whilst this means that there are no hidden issues concerning IP in SL it is also the case that all the problems associated with IP in RL are replicated in SL.

Other ethical issues are foregrounded when engaging SL. It is common in the popular media for the internet to be characterised as an moral maze. Similarly, popular perceptions of SL have led to its gaining a somewhat unsavoury reputation as a morally dubious and potentially exploitative environment. The GoodPlay project, at Harvard University's School of Education, has undertaken research into 15-25 year old people, employing interviews, consultation and other data acquisition methods, to better understand the ethical implications of younger people's online activities³⁶. As the report notes, virtual worlds are separate from real life, frontiers where actions and messages can hold different meanings, where the implications of things can appear to have 'low-stakes' and individuals have more freedom compared to RL. The report asks what young people are thinking about their actions in virtual worlds and how ethical consideration might be fostered in such environments. However, before we suffer a moral panic, we should perhaps listen to James Paul Gee (Professor of Literacy at Arizona State University) who states that in virtual worlds what we see are "people negotiating new systems of being together. In fact, we are reinventing the public sphere"³⁷. ***The primary outcome of the Harvard GoodPlay report is a number of recommendations on best practice that it would be wise to consult when and if an institution, with a duty of care, chooses to engage with SL.*** The report summary is attached as appendix 1.

Every avatar in SL has what is known as a profile. This is a descriptor set unique to the avatar. The contents of the profile are user defined and the user has complete control over what is in it. Equally, all other SL users have free access to this profile. Data cannot be hidden. The profile will contain information about the avatar, such as its in-world likes and dislikes, intent, favourite places, group memberships and such-like. It can also contain information about the real-world owner of the avatar, such as their profession, gender, marital status or email address. Some avatars will, as a matter of course, be members of or regular visitors to groups or locations which some other users might find disturbing. In SL every taste is catered for. Recently (January 2009) there has been a debate on the SL Educators listserve about what information a professional educator should have in their

³⁶ Gilbert, S and James, C (2008), Ethics and Virtual Worlds in RezEdReport Volume 1. Issue 1, Global Kids.

³⁷ Ibid, page 4.

profile. Some argue that SL is populated by mature adults, that students and staff are equal in this environment and that to expect an educator to seek to control their profile so as to not disturb others amounts to a form of self-censorship. Others argue that as professionals they feel a duty not to do anything in-world that they would not do whilst at work in their institutions. Yet others take quite conservative, black and white moralistic positions.

The example of clothing was raised, with many arguing that as a professional educator they would always wear appropriate clothing in class – which seemed to mean clothing that was not sexually provocative or aggressive in character. Some were quite definitive and mentioned wearing ties, neat hair and suits. However, others argued against this position, suggesting that as educators academic freedom had to take precedence and therefore what they wore was not relevant. This debate seems to make SL look awfully similar to RL, with such evidence of how ethical and moral issues which occupy us in RL are just as relevant in SL. How to respond to this at an institutional level has to be very carefully considered, just as we would be very careful to consider any guidelines we would propose or actions we might take which would effect the personal and professional freedoms of our staff and students in RL. Due to this ***it would seem wise for any institution entertaining a serious engagement with SL to ensure that they have a clear position on matters of staff responsibility and student behaviour which is consistent with their approach to similar RL issues***, taking into account that the barriers between social groups and mores in SL are far more transparent and weak than they are in RL. ***In respect of very young students, where an institution has a particular legal duty, special care would have to be taken.***

An example here is the issue of predation. There is some evidence of people's avatars being stalked and even attacked in SL. The people who do this are referred to as 'Griefers'. Whilst there is no physical harm caused in these situations there is no doubt that there is potential for emotional and psychological damage as serious as in RL. There is also the possibility that an in-world stalker might acquire the RL details of an avatar's owner and then seek to replicate their behaviour in RL. The possibility of this becoming a more common and serious issue is raised by the proposal to integrate the adult and teen grids. In RL we have very strict protocols and monitoring systems for managing the relationships between adults and the young. In SL there are no such safe guards. Whilst an educational institution needs to treat its staff and students as self-determining and responsible adults it is also the case that they often have a small number of people who are either not yet legally adult or whom have special needs or are vulnerable in some other manner. In these circumstances we have a duty of care which would be extended beyond RL into SL.

If HE institutions are to engage with SL at various levels and in various modalities they need to ensure that their duty of care is effectively discharged. It would therefore seem wise that the institution and the representatives of both its staff and students (the unions and other representative bodies) work together to ensure not only compliance with legal obligations but the efficacy of how SL would function within an HE context. It should also be noted that whilst the adult and teen grids remain separated that ***any staff wishing to work with pre-18 students will need to be officially certified by Linden Labs*** to enter and work within the teen-grid. It should also be noted that there could be problems, particularly at Foundation level, where class groups are composed of students both below and above 18 years of age. Neither group is currently permitted to visit either's grid, meaning that the class would need to be split according to age, creating a duplication of resource and commitment.

There are a number of technical issues with SL that function to constrain access and its potential use. Indeed, some of these issues are such that the robustness and even safety of

the system can be called into question. Like any technological system SL requires constant maintenance. Linden Labs undertake much of this work during US working hours as they assume most in-worlders are leisure users and their experience should be prioritised. As most SL users are American then statistically Linden Lab's work-schedule would seem reasonable. Nevertheless, this means that for those who are accessing SL at these times the experience might be less than consistent.

As only a casual SL user (I only spent limited periods of time in-world and did not log in on a daily basis) I still encountered numerous outages, when sectors of SL, even all of SL, was inaccessible. During such periods it is not possible to log in to SL or the effected regions. For a leisure user this could be an annoyance. For a business or professional user this could represent a material problem, negatively effecting a negotiation, transaction or other important process. Anecdotally there is evidence that some users have become so frustrated with SL's regular outages that they have abandoned it in favour of other options, or given up utilising virtual world systems altogether.

Other technical problems can also negatively effect SL experience and activities. Data can be lost during transmission such that communications are disrupted, with unknown consequences. An activity known as 'ruthing' can also occur from time to time. This is essentially the malicious modification of a person's avatar by another person. Usually this is trivial, such as stealing the avatar's clothes, but as RL economic value is transferred more and more into SL there is evidence of theft occurring that has an effect on real people in real ways, no different to how theft has an impact in the real-world. An interesting question arises here as to whether it is possible to take out SL insurance policies to protect one's investments and creations and, indeed, one can. There are insurance companies, both in RL³⁸ and SL³⁹, who are active in insuring people's belongings and safety in SL. Whilst there are no police in SL it is possible to make a complaint about another avatar to Linden Labs. If upheld the avatar can be banned from SL for a defined period of time.

On a more prosaic level, I often encountered what I came to think of as 'ghost islands'. These are in-world locations that have clearly had a lot of effort and energy invested into them at some point but which, when you visit them, are apparently devoid of any other users. Whilst some of these sites were clearly created as part of a particular activity and therefore might no longer be actively relevant to their creators others are clearly sites that are still in regular use – just not at the time when I visited them. The reason for this is that SL has a single time zone (equivalent to Western Pacific Time, as in San Francisco) but in RL we all inhabit different time zones. There is of course no solution to this problem, however it does mean that a lot of SL's most active periods occur at times that would make it difficult for a student or educator from Europe to participate in during normal college hours. The effect of this is to compromise, to some degree, the usefulness of SL for internationally based activities.

SL does require the adoption and development of non-trivial skills. For both staff and students this learning curve might function to deter the development of appropriate skills for ensuring effective use and a positive experience of SL. However, there are a number of SL locations and related websites designed to assist users in gaining appropriate skills. Some of these resources are tailored to the needs of educators and students.

³⁸ <http://www.insurancetech.com/showArticle.jhtml?articleID=198800137> (accessed 03.02.2009)

³⁹ <http://www.therockinsurance.com/> (accessed 03.02.2009)

Manpower Orientation is a website and SL location, developed and run by a commercial US organisation⁴⁰. Other similar companies are Virtual Ability Orientation⁴¹, New Media Consortium⁴² and ISTE Orientation⁴³. The latter is apparently the most popular of these services due to its being the most comprehensive and entertaining. The Alliance Virtual Library also offers orientation services⁴⁴. Educators can choose to join SL via a secure section of the International Society for Technology in Education's (ISTE) website⁴⁵. Using this service allows them to access ISTE 'docents' (online mentors and helpers) and to access various orientation documents, tutorials and seminars. At this time the **ISTE would appear to offer the most comprehensive, transparent and robust set of services to assist educationalists in engaging SL** as a pedagogical facility. Their services are entirely free.

There are other risk factors of note when considering what role SL might play in HE art and design pedagogy and research. For example, not all high-profile technical innovations are successful. Google, one of the world's most successful technology companies, recently shutdown its Lively initiative⁴⁶. Lively was a direct competitor to SL, very similar in its conception and objectives. However, unlike SL, it failed. When you now visit the Lively website you are welcomed by a 'goodbye' note, simply describing what Lively was ("a network of avatars and virtual rooms created and decorated by its users. Google launched Lively on July 8, 2008 as an experiment in providing people with more ways to express themselves on the Web"⁴⁷) and informing the visitor the experiment closed on December 31 2008. This failure was probably due in large part to SL's success – however, it is a sobering thought that one day, when the need arises, Linden Labs might choose to similarly shut down SL. What would then happen to the virtual but nevertheless valuable SL infrastructure that has been invested in with real money and resources by numerous individuals and organisations? What will happen to those real-world processes that have developed to be dependent on SL infrastructure? Given that, unlike the internet, SL is a privately owned facility with no form of in-world governance and, so far as I am aware, no legal safeguards for participants that might protect them in such a circumstance, **it would seem wise to exercise some caution when committing real-world resources to virtual initiatives.**

⁴⁰ <http://www.manpower.com/research.research.cfm> and <http://slurl.com/secondlife/Manpower%20HQ/122/78/23> (accessed 01.02.2009)

⁴¹ <http://virtualability.org/default.aspx> and <http://slurl.com/secondlife/Virtual%20Ability/170/100/23> (accessed 01.02.2009)

⁴² <http://www.nmc.org/> and <http://slurl.com/secondlife/NMC%20Orientation/69/107/33> (accessed 01.02.2009)

⁴³ http://www.iste.org/content/navigationmenu/membership/member_networking/iste_second_li [fe.htm](http://slurl.com/secondlife/ISTE%20Island/166/28/30) and <http://slurl.com/secondlife/ISTE%20Island/166/28/30> (accessed 01.02.2009)

⁴⁴ <http://slurl.com/secondlife/Info%20Island%20International/120/227/33> (accessed 01.02.2009)

⁴⁵ <https://secure-web19.secondlife.com/join/ISTE/> (accessed 01.02.2009)

⁴⁶ <http://www.lively.com/goodbye.html> (accessed 03.02.2009)

⁴⁷ *ibid.*

Of interest, in light of Google's closure of Lively, is Reuter's recent decision to pull their own dedicated SL embedded reporter⁴⁸. Reuters states it intends to sustain reporting on SL but only as part of its usual tech-news feed. The interesting question, over the next months and years of probable economic contraction, is what RL commitment Reuters will choose to sustain in SL and whether their actions are indicative of other aborted initiatives to follow? It is now too early to tell...

Three other issues should be raised here in order to ensure a reasonable appreciation of the risks associated with SL. The first of these might seem rather strange but for some it could represent a very real problem.

The US Army has recently announced it is to create a fantasy island in SL, the objective being to attract people who currently enjoy playing war and 'shooter' games to their island and for this to act as a recruitment tool. The online magazine the Escapist⁴⁹ describes this as the US Army "unfurling its sticky tendrils". Many others would find this a terrifying development, the first step in the militarisation of what is becoming a key social technology – a social technology often associated with libertarian values at odds with those of the military. Does this initiative represent the future of SL?

A more pressing and perhaps real problem that has been identified is that of SL addiction. As noted at the outset of this report, there is little published literature yet available about SL and this includes literature on the medical implications of the technology. However, there is anecdotal evidence of addiction becoming a serious issue for some and a number of websites have been established to address this. The popular press has also picked up on this and a number of stories have been run on the subject. ***Any institution or organisation that requires its staff or students to employ SL in their work might wisely assume that a few individuals may develop a problem with addiction.*** The question is how to deal with this? A partial solution could be to appoint the equivalent of a health and safety officer for SL. However, whilst this person could be trained to assist people who have developed a problem perhaps the more intractable issue is how to determine who it is that might have such an addiction. Addicts are usually very good at evading identification. There are also issues of privacy and the rights of the individual to consider. However, within the working environment, there is clear legislation covering what is considered appropriate and inappropriate activity and behavior and within those guidelines ***it would seem reasonable to expect an institution to take reasonable steps to assure the health and safety of its staff and students.*** However, although there are a number of self-help websites for SL-addicts, as yet I am unaware of any specific professional training available that could be used in aiding an affected individual in this context.

The final issue to be raised here addresses sustainability and the implications of SL in this respect. As has already been noted, SL is owned and managed by a private corporation. Private corporations come and go, as do their specific initiatives. In this sense ***SL is probably not a good model of a sustainable system*** and therefore, as already recommended, ***caution would be wise when engaging with SL, with a risk assessment undertaken to ensure that its termination would result in limited damage.*** However, SL might also have implications in relation to broader issues of sustainability, in regard to the

⁴⁸ http://www.theregister.co.uk/2008/11/21/reuters_sadville_end_of_an_era/ (accessed 04.02.2009)

⁴⁹ <http://www.escapistmagazine.com/news/view/87856-U-S-Army-To-Begin-Second-Life-Recruitment> (accessed 05.02.2009)

natural environment, civil society and institutional resource management. This report is not going to set itself the task of undertaking a risk assessment or a sustainability audit of SL. However, it is felt important to note here that, as with all activities and initiatives a modern institution is involved in, such evaluations should be undertaken in advance of events. Sustainability should be a central consideration in everything we do.

Simon Biggs
Edinburgh College of Art, February 2009

Attachments:

Appendix 1: RezEd report, volume 1, number 1, education in virtual worlds.

Appendix 2: Sloodle learning system for virtual environments, case study.

Appendix 3: Spring 2008 New Media Consortium survey of educators in Second Life.