

A 'Sexual Health' Public Education and Outreach SIM in Second Life

Objectives:

- Building and maintaining a **3D information space** about 'Sexual Health' and **associated community/social support structure**.
- Conducting some voice-enabled, **interactive events**/webinars on the land (also with on-demand access (audio or video archive) of these webinars) about 'Sexual health'.

Staff involved/Expertise we are bringing to the project:

Medical/Health Informatics: **Maged N Kamel Boulos**, PhD (and originally a Medical Doctor), Faculty of health and Social Work, University of Plymouth, UK, has a well-established research portfolio and publications about e-learning, Web 2.0 and virtual worlds – see <http://healthcybermap.org/sl.htm> and <http://www.plymouth.ac.uk/pages/dynamic.asp?page=staffdetails&id=mnkamelboulos&size=1>

Education: **Steve Wheeler**, MPhil, Faculty of Education, University of Plymouth, UK, has a strong e-learning and Web 2.0 research portfolio and, as a professional educationalist, brings unique pedagogic insight to the project – see <http://steve-wheeler.blogspot.com/> and <http://www2.plymouth.ac.uk/distancelearning/steve.html>

Health Sciences: **Susan Toth-Cohen**, PhD, is a health sciences educator/subject expert and researcher http://www.jefferson.edu/jchp/jshp/ot/faculty_profile.cfm?key=sxt109 and also has her own presence in Second Life at <http://slurl.com/secondlife/Eduisland%20II/208/31/22>

Plus the invited speakers during the live events, and any volunteering supporters during the course of the project.

We also have contacts at Healthinfo Island (Carol Perryman and Guus van den Brekel), and are planning to attempt to collaborate and exchange experiences with them during the course of this project. (STC also met with an administrator from an organization she volunteers for, RESOLVE, the Nat'l infertility Association, and they are willing to contribute their brochure on "Preserving Fertility," which discusses STI's (Sexually Transmitted Infections).)

Partial bibliography by the authors:

- Kamel Boulos MN, Wheeler S. **The emerging Web 2.0 social software: an enabling suite of sociable technologies in health and health care education.** *Health Information and Libraries Journal*. 2007 Mar;24(1):2-23.
- Kamel Boulos MN, Hetherington L, Wheeler S. **Second Life: The potential of 3D virtual worlds in medical and health education.** *Health Information and Libraries Journal*. 2007 (accepted on 28 June 2007 – in press)
- Wheeler S, Kamel Boulos MN. **Mashing, Burning, Mixing and the Destructive Creativity of Web 2.0: Applications for Medical Education.** *RECIIS - Electronic Journal of Communication, Information and Innovation in Health*. 2007;1(1):27-33 (paper also covers Second Life in brief)

Background, introduction and rationale:

Second Life represents a relatively new and untested three dimensional (3D) virtual learning environment, in which there is enormous potential for the development of creative and dynamic educational experiences. Second Life has affordances that are similar to those observed within already established online environments, including synchronous text chat, visual representation, situated learning and most recently, voice enabled synchronous audio communication. Second Life also has several unique affordances which can be evaluated within the context of education and training delivery. These include interaction through pseudo-physical contact, manipulation of digital learning objects, simulation of physical movement within the learning environment, and positioning of self and objects within 3D virtual space. Most significantly, Second Life affords for the course provider the capability to create, manage and maintain unique virtual learning spaces (e.g. 'Islands') which can be designed as dedicated or purpose built resources and within which learners can explore a number of simulations and participate within events, many of which are realistic, some hazardous and others improbable, or impossible within the real world.

The median age of Second Life residents on the main grid is **33** (figure revealed by Linden Lab at the latest Eduserv Symposium 2007). Second Life is also known for its large and growing population (7,250,413 residents on 15 June 2007) and for the large numbers of adult/pornographic places/businesses in it, which are among the most popular places in the virtual world and were also built by residents (reflecting, in part, the population demographics and behaviour). Thus Second Life seems to be an excellent medium to deliver a 'sexual health' education programme and to reach out to potentially hundreds of thousands of people in the most critical target age groups for such programmes.

Late teens are still not properly served in the UK—there are serious problems (and an impending 'sex health crisis' among them in the UK--see latest 'Independent Advisory Group on Sexual Health & HIV' report at http://www.dh.gov.uk/prod_consum_dh/idcplg?IdcService=SS_GET_PAGE&siteId=en&ssTargetNodeId=245&ssDocName=DH_4079794 and <http://news.bbc.co.uk/2/hi/health/6755247.stm>), despite the many online and offline sexual health services that are already out there. Half of Second Life's main grid residents are 18-33; this is our target age group, especially late teens 18-19 (younger teens have a separate grid) and young adults. **But why do it in Second Life and what about the Web sites that already exist for this purpose?** Well, CDC has a good answer for this: <http://www.cdc.gov/about/stateofcdc/everywhere/secondLife.htm>. **We will also capitalise on the unique synchronous (real time) 3D social networking capabilities of Second Life.**

The Education UK <http://www.sleducationuk.net/> land grant offers a great opportunity for us (educators) to start preparing ourselves, build our capacities, and investigate and exchange best practice tips and exemplars about education in 3D virtual worlds in a formal way (e.g., contribute towards a robust evidence/knowledge base about the subject). This grant would allow us to *begin small and grow steadily like an olive tree*.

On one hand it is advisable and desirable to join this 3D Web revolution *as soon as possible* (which this grant would allow us to do):

- to develop our skills as builders/developers and content curators in 3D virtual worlds (the future Internet); and
- gain leading-edge experience as health educators in this field—

But on the other hand:

The technology and associated standards and business models are still not fully mature (and are very rapidly changing), hence our suggestion to avoid very big investments at the moment and start by establishing a smallish presence as a springboard for further steady growth and learning over the coming few years. Second Life won't continue the way it is today (a kind of monopoly), and thinking otherwise would be like thinking 15 years ago that the (2D) Web will be proprietary, owned and run by a single company like Microsoft!

Boulos wrote the following at <http://healthcybermap.org/sl.htm>:

'The 3D Web is born! It won't be the proprietary Second Life owned by Linden Lab in 2015, but the 3D Internet (Open Source/standards) will be there for sure! (Second Life will then become one out of many commercial, value-added providers - cf. history of AOL and CompuServe.)'

The same applies to Second Life alternatives like

<http://www.activeworlds.com/edu/index.asp> and <http://www.there.com/> -- if they manage to survive the Open 3D Internet developments that are currently led by IBM and others, they will need to rethink their business to compete in the market as one out of many commercial, value-added providers that are expected to co-exist within an open standards/"free"* 3D Internet.

(*And also 'private-economy-free'—no Linden Dollars or There Bucks, except within private SIMs/servers of commercial providers.)

Starting *today* also means, **from a public health/community interest viewpoint**, that we can reach out to larger/different net audiences (currently 7 million residents in Second Life and growing, with 20,000+ logged in at any one time). This latter reason might be a justification for a bigger start if resources allow—like Healthinfo Island (funded by the US National Library of Medicine) http://infoisland.org/health_info/.

In terms of land and building costs, we expect that it won't cost that much in a few years time to even run our own dedicated 3D Internet server, but it's good for us to have developed by that time the skills and expertise required to run a 3D public health education world (so that we are ready to lead the wave).

Research questions:

What a strategic engagement with 3D virtual worlds would look like (on the short and longer terms), how to prepare for, and make the best and proper use of these technologies for public health education?

Designing a proper 3D virtual world service in Second Life presents a social engineering challenge - this is not one of 'technology and scripting' but of 'community scaffolds'. Second Life is part of the Web 2.0 movement, which is all about **people** and online communities/social networks, as well as reusable/remixed objects and mashups.

How many people can we gather to build, support and use their **own** Second Life educational service? Because it is also about **user-generated** content, wisdom, and support for one another, and not (just) pushed content! How can you maximise the socio-educational impact of the service? What are the best ways to advertise the service and attract many people to it/build a solid and active community (remember that this is about public health education offered to the wide masses out there in Second Life and not about a pre-existing (real world) class of students that would be much easier to direct to use the service)?

How best can we implement community-edited and reusable learning objects (RLOs) in a 3D virtual world like Second Life?

Building in 3D virtual worlds demands many technical and other skills. Which skills should be considered essential/indispensable and what are the best ways for educators to acquire those skills?

Should we replicate real life in Second Life? There won't be one single simple answer to this question, and we will have to try and determine when to do so and when not? People are familiar with real life objects and places, so it is usually cognitively less demanding for them to process the re-creation of such places in Second Life, but this is not always the most efficient and educationally effective thing to do. How to capitalise on the unique capabilities of the medium and make a usable, friendly (warm, home-like) and simple educational place/community? (See also: <http://sledpicayune.blogspot.com/2007/06/designing-in-second-life.html>)

Blended/mixed reality: many options need to be investigated, e.g., the best practices/uses of 100% in-world events, Second Life events broadcast to people outside the virtual world, in-world broadcasting of real world events, mixed real world and virtual world events (in real time) in which audiences from both worlds actively participate in the event and communicate/collaborate with each other, and on-demand archival access to recordings of in-world and real world events within Second Life. Also what are the best ways/scenarios for integrating Second Life with conventional 2D Web (2.0) content and services?

How to best deal with the various barriers and issues, e.g., accessibility, associated with Second Life? One of the barriers we should consider for our planned events is the maximum number of avatars that can attend at any one time! This is both a technical and virtual space

capacity limitation (*cf.* a 2D Web page which can be visited by thousands of visitors at the same time). (Future virtual world technological solutions might provide further help in this respect by allowing, for example, multiple instances of the same 3D space to be run simultaneously, each with its own group of avatars and perhaps also with some form of 'link' between the various concurrent instances, so that some 'sense of continuity/coherence' is maintained across the concurrent instances.)

Description of Work/Methods

As mentioned above, at this stage we are more inclined to start small at very minimal costs on a small parcel ~1000-1500 sq. m. with enough prims to build a decent 3D presence (rather than owning our own land, so that we also don't have to pay monthly maintenance fees). We need to 'think a bit out of the box' rather than simply replicating real life in Second Life (see <http://sledpicayune.blogspot.com/2007/06/designing-in-second-life.html> and http://healthcybermap.org/MNKB_slbp2007.pdf). Fortunately, there are lots of free scripted and non-scripted objects, including pre-fab buildings and virtual plasma screens/whiteboards, out there in Second Life that can help us get started quickly.

Our 'sexual health' education 3D *social* presence can have/offer:

- a 'teleport station' to other relevant places in Second Life, e.g., specific locations in Healthinfo Island, as appropriate;
- a 3D visual browsing interface to existing 2D Web-based quality collections/info/news feeds and other services about the subject;
- an in-world search interface for above collections/material;
- info Notecards about the service and its mission and how to support it;
- feedback/'leave a message'/'ask us a question' objects-- some of us can also make themselves (as avatars) available in-world at some specified times for visitors to contact them in real time (kind of 'virtual librarians');
- chatbots to greet visitors/provide some automated but "intelligent" answers to their questions, e.g., run tweaked Google searches and provide the results back to users in-world (Healthinfo Island has been experimenting with similar bots for some time now);
- a public 'presentation slide display unit' with navigation controls for on-demand access by visitors to various presentations about the subject;
- virtual plasma screens streaming relevant pre-recorded videos (must be in QuickTime) from external Web servers (with permission). We can also stream a live video webcast from external servers to the land (on a virtual screen), but again the webcast will need to be in/converted to QuickTime, as this is the only format supported by Second Life;
- running an audio channel with suitable 'talk shows', health podcasts, or even simple relaxing music;
- skyboxes for private one-to-one counselling. Skyboxes can be used (instead of/in addition to private IM) to ensure privacy for realistic one-to-one visitor-advisor/counsellor voice and text consultations (e.g., in relation to personal sexual health and contraception matters);

- if needed, scripted in-world discussion boards which users can edit (in-world) to voice their opinions and engage in asynchronous discussions (user's input is 'persistent' on the board);
- experimenting with editable and reusable Second Life learning objects/containers;
- experimenting with language tools/mashups like Babblar <http://www.maxcase.info/babblar3/> to reach out to non-English speaking audiences across Europe and beyond;
- a relaxing gathering space for socialising and conducting meetings (now voice can also be used);
- running various live events/inviting guest speakers who are experts about the subject (though we can't expect too many avatars at any one time on our parcel due to technical limitations);¹
- using the 'Groups' functionality in Second Life (<http://secondlife.com/knowledgebase/article.php?id=123> - part of Second Life's social networking functions) to create a sexual health group for young adults and perhaps another one for health educators interested in the subject. It is hoped that these groups and the material/info exchanged through them will grow to attract and accommodate dozens or even hundreds of users and supporters over the course of the project;
- developing a virtual sexual health (GUM) clinic, and associated case stories and games to get our points across in a non-threatening way (for ideas, see: <http://her.oxfordjournals.org/cgi/content/full/21/1/15?&eaf> and <http://www.contraceptioneducation.co.uk/>);
- etc.

These are just *some* possibilities. We can think of many more to build a strong virtual world *community*.

The new voice capabilities present an exciting opportunity for a more natural/better in-world interaction during such events (e.g., voice discussions/Q&A + streamed speaker webcast), and for us to be pioneers in learning about and investigating the best ways of using this latest addition to second Life (voice) *in an educational context*.

We would use our L\$ grant allocation to upload any necessary graphics to Second Life, and also presentation slides to our inventories for later sharing with students/people visiting the land (e.g., as packaged presentation objects with multiple slides, plus related info Notecards and Landmarks, all inside the same package).²

¹ On-demand access to seminar recordings and other material, plus means of asynchronous communication on the parcel should also help those who cannot, e.g., for technical/SIM capacity reasons, attend a live event/communicate with us in real time.

² This is a nice video showing how to use Second Life Notecards to bundle presentation slides and associated textual info and landmarks: <http://secondlife.com/knowledgebase/article.php?id=384> This could be a more accessible by end users (compared to objects), unless we want to distribute our slides as 'non-copiable' images (which is not permitted in Notecards), in which case we will have to use the 'less accessible' 'container object' route.

Regarding 'architectural exploration', we think, given the size of the parcel and the limited grant duration (12 months), that we should opt for, and reuse some simple pre-fab buildings/structures and existing scripted objects like 'virtual plasma screens' and 'presentation display units with navigation controls' (many pre-fab buildings and objects are FREE in Second Life, but we can also buy some specialised ones, if needed, using some of the L\$ 10,000 grant allocation). The use of pre-fab structures and objects should also help us cut short (to 2-3 weeks) the time needed to build facilities on our land/make it usable for our purpose. After all, this is also what Web 2.0 is about: reusing, remixing and repurposing user-generated information/content and other objects, relying on, and further developing/contributing to the collective work and wisdom of the crowds, rather than re-inventing the wheel from scratch.

L\$ can also be spent to have our parcel listed in Second Life's internal search, since our project/parcel will be open to any resident in Second Life and the internal search engine listing represents a good opportunity to advertise our place/service and draw more people to it.

Evaluation:

For this project, the research team will evaluate the following:

Attendance levels at the Second Life learning events, and participants' views on the quality of the experience in terms of:

- usefulness
- relevance
- uniqueness of experience
- visual impact
- level of interaction with other participants
- quality of learning objects
- range of activities available.
- We will also learn from (and incorporate some of) the topics/questions in **NMC's latest 'Educators in SL Survey'** (May/June 2007).

Methods of enquiry: Data will be gathered with **participants' consent*** through:

- logging of attendance at learning events
- recording of text and audio interactions/transcripts during learning events
- post-experience anonymous questionnaires—administered in-world using suitable scripted objects (for a good example, see [Virtual Hallucinations, Sedig (26, 45, 21)]), or over the Web.

(* Consent: By explicitly activating an object or agreeing to access an external Web site to fill-in a questionnaire.)

All data will be analysed and published in anonymised, aggregated form to fully preserve participants' privacy!

Humanisation experiences will be assessed, including the potential of Second Life to facilitate social networking beyond and outside the conventional learning experiences. Participants will be asked to comment about their personal experiences within a potentially socially sterile environment where interaction with people is completely mediated through multi-media technology, and where all participants are masquerading through computer generated avatars – digital altar-egos of themselves. The potential for abuse through ‘griefing’ and other invasions of personal space and identity will also be assessed.

Through a combination of qualitative and quantitative data analysis, we hope to determine how Second Life can best be modelled as a 3D virtual learning environment where best practice pedagogy is developed specifically for medical and health-related education and training.

Outputs:

Findings will be subsequently disseminated by the team as public reports (over the Web), in appropriate and high profile peer reviewed journal publications, and at conferences.

Timeline

First 2-3 weeks: initial building/parcel preparation activities, **followed by one week** focusing on advertising the new service by various means and making it known to potential/prospective audiences.

Months 2-10: running the service and associated events (at regular intervals, e.g., every 4-6 weeks), revising the parcel’s architecture/layout as necessary/appropriate (e.g., to experiment with various options/scenarios), and continuously collecting and analysing usage data and users’ feedback. The latter will be used to continuously review/revise the service in an iterative manner (that incorporates users’ feedback and requirements).

Months 11-12: service will continue to run but we will be focusing our energies more on finalising the formal project outputs/deliverables (see above).