

Virtual Worlds: Heritage and Educational Challenge

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Summary

The authors give a brief overview of the development and current trends in the field of virtual worlds. The emphasis is put on one of the social network virtual worlds - Second life and its usage in educational environment and heritage preservation. Furthermore, the first phases of creating of the extended educational environment of the Department of Information Sciences, Faculty of Humanities and Social Sciences, University of Zagreb are shown.

Key words: Virtual worlds, MMORPG, Second life, education, heritage

Introduction

Since its development and inception, ICT has changed every facet of human existence and established itself as a part of the fabric in social and economic enterprises as well as in entertainment, education, culture etc. Heritage communities have recognized these potentials by using networks and multimedia as important tools for the enhancement and upgrade of their services. Nevertheless, those services were purely focused on the presentation of the respective

institutions, their contents and services, in a mainly static manner and one-directional in nature. This implies that users were supplied with information from the web, making them largely consumers of information resources that are delivered to them, which was largely satisfying, even fascinating for the first generation of web users that were not born to the digital world, but have learned to cope with it - the digital immigrants.

With the generation of digital natives the time was ripe for entering a new, more social and participatory phase of the Web, denoted as Web 2.0. Digital natives have grown up around instantly accessible information and within a networked culture, in crossfire of multimedia stimuli, which resulted in the development of cognitive thinking patterns, expectations and methods of deriving meaning that differ from previous generations. With this new generation, the world of education and the heritage sector have got their new user, which motivated both worlds to transform their Web 1.0 capacities and dive into the Web 2.0 world, initiating the concepts of Library 2.0, Museum 2.0, Education 2.0, Heritage 2.0 etc.

Although the above described concepts have realized the transformation of educational and heritage institutions from places of passive information consumption to dynamic, participative and creative knowledge production spaces, they still just partially offer a sense of ownership, are still passive and flat in nature¹ and therefore do not necessarily appeal to users who are more attuned to 3D entertainment software and simulations. This explains the recent emergence of the new, 3.0 hype, focused on translating the 2.0 concepts to tangible, 3-dimensional social networking systems. Those are characterized by rich, cross-institutional, cross-cultural educational opportunities within which the learners themselves play a key role as creators of knowledge artefacts that are shared, and where social networking and social benefit outside the immediate scope of activity play a strong role. The distinction between artefacts, people and process becomes blurred, as do distinctions of space and time.²

Virtual worlds

A virtual world is a computer-based simulated environment intended for its users to inhabit and interact via avatars. This habitation usually is represented in the form of two or three-dimensional graphical representations of humanoids (or other graphical or text-based avatars). Some, but not all, virtual worlds allow for multiple users.³ It is an animated three-dimensional world created with com-

¹ Keats, D. Smith, J. P. The genesis and emergence of Education 3.01 in higher education: the potential for Africa. // First Monday. 12.3.2007. http://www.firstmonday.org/issues/issue12_3/keats/index.html#author

² Ibid.

³ Virtual world http://en.wikipedia.org/wiki/Virtual_world

puter graphics imagining (CGI) and other rendering software. The main feature of these worlds is that they are available to their users 24/7 and run on servers which allow users from all over the world to connect and interact with each other. Although it is computer simulated it functions almost as a real world with all the real world rules like gravity, topography, locomotion, real-time actions, and communication. As the residents of the virtual world are called avatars they represent humans alter-egos' where people create their virtual identities. There are a lot of psychological research on how real life people act in virtual worlds and what kind of virtual identity they give themselves. Furthermore, in most cases they have almost the same needs as in real life i.e. communicate with other, create special interest groups etc.

Kelly describes virtual worlds as separate universe with its own physical and sociological rules. It's a recognizable universe. You can't walk through walls, for example. And you don't fall upward when you slip. But it's also a wholly different universe. If a rock lands on your head, you feel no pain. And if you cast a spell on yourself, you can fly, or breathe underwater, or shoot lightning bolts from your fingertips. They are simultaneously identical to the real world and completely different from it.⁴

If we look at the origin and development of the virtual worlds we can go back to the 1970s and connect them with the IRC (Internet Relay Chat) and chat rooms which have evolved into MUDs (Multi-User Dungeon) and MUSHes (Multi-User Shared Hack) – text based communities and multiplayer games based on role playing adventures. During the middle 1990s 3D virtual worlds started to emerge. The philosophy was almost the same but the environment, due to the ICT advancement, started to change from the pure text based to the visually represented world resembling the computer games.

As virtual world is a fairly vague and inclusive term, currently we are mostly using the term *Massively Multiplayer Online Role-Playing Games* (MMORPG) where the user is either playing a specific character in the game or edits and alters their avatar in order to play a dynamic role. We can divide MMORPGs in two main categories: thematic ones or fantasy-thematic with various subcategories (such as World of Warcraft – WOW, *EverQuest II*, *Eve*...etc.), and non-thematic or socially oriented (such as Second Life, ActiveWorlds... etc.).

The main goal of the thematic MMORPGs is the development of the avatar or the player's character which is done by performing tasks and actions which give them points and "experience". On the other hand non-thematic ones are more oriented in building and creating worlds and avatars and offer more opportuni-

⁴ Kelly, R.V. *Massively Multiplayer Online Role-Playing Games: The People, the Addiction and the Playing Experience*. McFarland & Company, 2004.

ties to transform real life objects into the virtual ones. They heavily rely on player-created content, including everything from simple animations to complete buildings using player-created textures and architecture. However, these games are very different from the far more popular "standard" MMORPGs revolving around combat and limited character trade skills. Therefore, our main focus will be on these kinds of worlds and the opportunities and challenges they offer to the education and preservation of heritage.

Second life

One of the virtual worlds mentioned earlier is Second Life (SL) developed by the Linden Lab in 2003. Although it is an Internet based virtual world user needs to download a client program (Second Life Viewer) which enables *Residents or Avatars* to interact with each other as well as with the objects created in this world. It is a semi-structured virtual environment where characters undertake activities for the purpose of personal enjoyment. Since opening to the public, it has grown explosively and today is inhabited by millions of Residents from around the globe. Currently there are more than 9 million Residents although not all are the real ones (some have two avatars, some have never logged after creating an account) and there is usually around 1 million users online.

This is a user defined world for general use and it is not a typical game with points, scores, levels etc. Of course one can develop certain skills like building, scripting and create buildings, landscape, vehicles, furniture, and machines to use, trade, or sell. This is a primary source of activity in the economy. Any Resident can also make *gestures* from small animations and sounds from the standard library. Outside *Second Life*, Residents can use various graphics, animation, and sound tools to create more elaborate objects, and upload them into the world.

While the Second Life interface and display are similar to most popular massively multiplayer online role playing games (or MMORPGs), there are two key, unique differences⁵:

1. **Creativity:** Second Life provides near unlimited freedom to its Residents. This world really is whatever they make it, and their experience is what they want out of it.
2. **Ownership:** Instead of paying a monthly subscription fee, Residents can obtain their first Basic account for free or choose a premium account where they pay a monthly fee and get their own land.

Second life and educational institutions

In principle, virtual worlds represent a powerful new media for instruction and education. They can provide new methods for learning evaluation and teacher

⁵ Second Life FAQ <http://secondlife.com/whatis/faq.php>

professional development, including embedded assessment and teacher training linked directly to student performance. A growing number of educational institutions are exploring existing general purpose virtual world platforms as a means to extend and enhance their offerings to students. Typically, educators create an online presence where students can interact, using their avatars to learn about new assignments or create projects that are viewable within the virtual world.

There are now many universities, colleges, schools and other educational institutions researching the use of Second Life as an environment for teaching and learning which offers a community of practice and situated constructivist learning. Among the institutions bringing the use of Second Life into the provision for distance learners is the Open University in the UK which already offers a range of teaching and learning provision on two islands CETLment and SchomeBase. Other Universities that are using these cutting-edge virtual classrooms are Princeton, MIT, University of Derby (UK), Vassar, Harvard, University of North Carolina at Chapel Hill, Ohio University, New York University, Australian Film Television and Radio School, etc. to name just a few.

Under the project *Knowledge organization, management and sharing in electronic learning environment* financed by the Croatian Ministry of Science, Education and Sports we have started testing Second Life platform as an extension to the current Faculty of Humanities and Social Sciences (FHSS), University of Zagreb, electronic educational environment with the goal to test the interoperability between the current VLE OMEGA (based on Moodle) and the SL platform. First phase was based on exploring and experimenting with the platform, as well as investigating and analyzing the best educational practices. The second phase was oriented towards finding a suitable place for our test virtual educational environment and creation of the Faculty's building replica (so that students can recognize it and feel attached).

The problem of finding a place that was not surrounded by the negative aspects of this environment (like gambling, commercial shops etc.) was solved by connecting with the community of educators and librarians which had build user friendly islands for connecting the individuals with the same ideas. Alliance Library System, a consortium of US librarians receiving sponsorship grant to create and maintain two islands Cybarary city I and II, and granted us a place for creating and experimenting with the SL environment (Picture 1).



Picture 1. Building of Faculty of Humanities and Social Sciences, University of Zagreb in Second Life

As we have created a building to perform educational activities we furthered our goal to promotion of the Croatian culture and heritage by creating some interactive objects with the basic information about our land, science and trivia (Picture 2.)



Picture 2. Example of heritage presentation in SL

Furthermore, in order to get a feedback we have gathered the statistical data of residents' visits and interaction with the materials. Besides, we have created a small survey and asked them to fill it. The results showed that people were very much interested about heritage, and even asked to see more historical and cultural information about Republic of Croatia in this location. This has shown that

although a lot of information can be found on the internet, the new generation of virtual citizens prefer the visual and “tangible” approach to information. Therefore, our next steps will be working with students in creating materials that will promote, transform and adapt the information about the Croatian heritage for the virtual environment, which we hope will be a good combination of education challenges and heritage preservation.

In three months of monitoring the residents interaction with the objects placed in FHSS building we received a feedback from the users in two ways. One was the implemented script which alerted the teacher when the object was touched or used and the other one was the short survey where we wanted to find out more about the users interest. In general, the object that residents were interacting the most were: the replica of *Bašćanska ploča* with the information on the item as well as on the glagolitic alphabet (viewed around 50 times); objects with the information on the Croatian Nobel prize winners and the object with the information on Mohorovičić discontinuity (both viewed around 30 times); and the whiteboard with the several works from the artist Ivan Meštrović and his biography (viewed more than 20 times). Furthermore, the object offering external links to the FHSS services like its library catalogue, VLE, digital library etc. as well as the basic information on the Faculty was also one of the most viewed items.

The survey was filled by the 45 Residents and results of the showed that the majority of the Residents is still from the United States but closely followed by the Europeans who are getting more involved in the SL which has the potential of bringing various cultural influences and information. (Chart 1.)

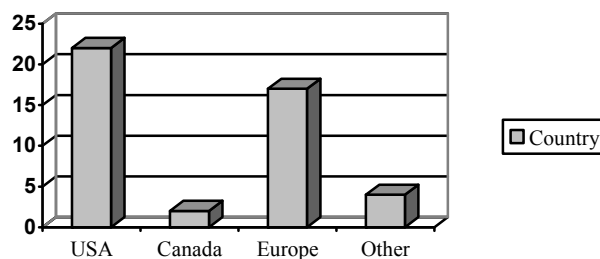


Chart 1. Origin of the users

The main goal of this survey was to find if the *Residents* liked the information found in FHSS building and found it useful, as well as to find out what would be the type of the information that they would prefer to find when and if they come back. (Chart 2.)

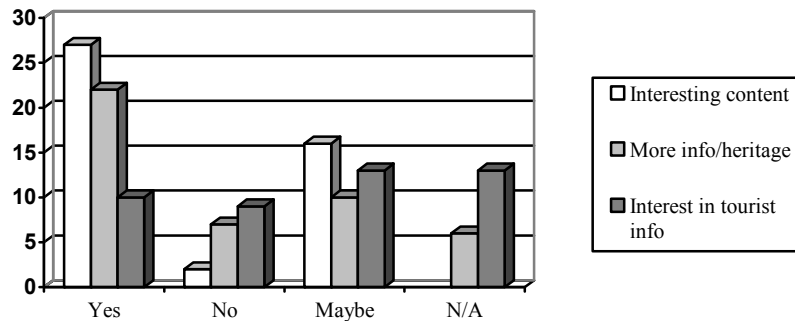


Chart 2. Users interest in materials to be offered in our SL building

The majority of the *Residents* found the content interesting and would like to see even more information on Croatian culture and art, history and language and literature.

Further steps in our project are now exploring the possibilities of creating a connection between SL and Moodle which is popularly called SLOODLE. The main problem that we have faced is that there are no connections between the various versions and upgrades of the Moodle platform but that the connection is possible only with the lower versions.

Educational and preservation of heritage

Preservation of heritage in SL is closely connected with the education and educational institutions. Student attending classes in SL are learning how to build objects, express themselves and even create programming scripts that trigger the objects to do certain actions (for example take you on a tour, teleport you, give you notecards...etc.).

One of the very good examples of combining the educational process and creating a presentation of a local culture and heritage was the Global Outreach Morocco (G.O. Morocco) project which brought students with backgrounds in technology, business, and hospitality together to study economic development in Morocco through the growth of the travel and tourism industry. The G.O. Morocco team created a plan for using Second Life as a promotional tool for the country of Morocco. Over three months, the team created a technical prototype, rebuilding the symbolic Hassan II mosque and the traditional souk on the Campus island in Second Life. The location provides basic information on the country. Further plans are to develop the site in order to recreate the experience of visiting Morocco in Second Life, while promoting cultural education and knowledge.

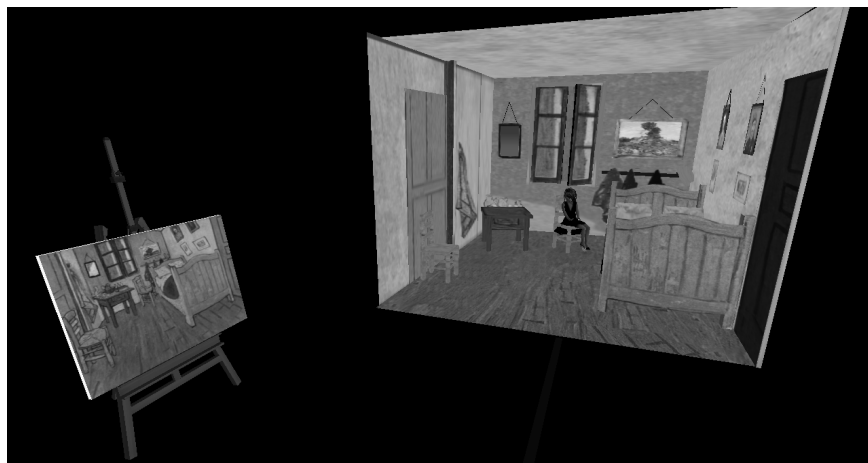
There are numerous other projects where people have rebuilt either the existing locations (such as Paris and its Eiffel tower, Chichen Itza, London...etc), even in the different periods like the Renaissance island (Picture 3.) for people

to visit in Second life but also fantasy islands based on books like Hogwarts school of witchcraft (based on Harry Potter novels).



Picture 3. Globe theatre at the Renaissance Island

On the other hand artists are exploring the possibilities of presenting their work and creating artistic works in a new environment. Even the museums have started to create their replicas in SL like for example the Second Life Louvre, a virtual representation of the Louvre Museum. Furthermore, different approach to the experience of the artworks of famous artists can also be found on Van Gogh's *Starry Night* (Picture 4.)



Picture 4. One of the Van Gogh's artwork at the Starry Night Island

It is necessary to emphasize that the main difference is that apart from enjoying the 2D replica of the artists work resident can virtually go into the picture, like in the example shown above (Picture 4.) where we have entered the *ROOM*, explored it and even sat on the chair.

Conclusion

The advancement of ICT combined with the emergence and growing popularity of virtual worlds opened a numerous opportunities for educators and information professionals to utilize their skills and approach the new generation of students and patrons. Currently, Second Life is the most exciting virtual world platform available for extending the traditional real world and Web 1.0 learning and information environment. The possibilities are numerous but one should also be careful of the disadvantages and negative sides of these environments such as the digital divide and technological problems like crashes of the system or so called lags when the usage becomes problematic. We can say that we are still at the very beginnings and the necessary definition of advantages and disadvantages as well as the methodology of its usage in education still has to be done.

References

- Freitas, S. Learning in Immersive worlds: A review of game-based learning. JISC, 2006. http://www.jisc.ac.uk/media/documents/programmes/elearning_innovation/gaming%20report_v3.3.pdf (05.09.2007.)
- Keats, D. Smith, J. P. The genesis and emergence of Education 3.01 in higher education: the potential for Africa. // First Monday. http://www.firstmonday.org/issues/issue12_3/keats/index.html#author (12.9.2007.)
- Kelly, R.V. Massively Multiplayer Online Role-Playing Games: The People, the Addiction and the Playing Experience. McFarland & Company, August 2004.
- Proceedings of the Second Life Education Workshop at the Second Life Community Convention // editors Daniel Livingstone and Jeremy Kemp. San Francisco 20.08.2006. <http://www.simteach.com/SLCC06/slcc2006-proceedings.pdf> (05.09.2007.)
- Urban, R. Marty, P. Twidale, M. A Second Life for your Museum: 3D Multi-User Virtual Environments and Museums. http://www.ideals.uiuc.edu/bitstream/2142/1619/2/MiSL_ill.pdf (05.09.2007.)
- Virtual world, http://en.wikipedia.org/wiki/Virtual_world (12.9.2007.)