### Association for Information Systems AIS Electronic Library (AISeL)

MG 2009 Proceedings

Mardi Gras Conference

February 2009

# Virtual Worlds and New Realms of Creativity: The Kritical Works in SL Project

Denise Doyle
University of Wolverhampton, D.Doyle@wlv.ac.uk

Follow this and additional works at: http://aisel.aisnet.org/mg2009

#### Recommended Citation

Doyle, Denise, "Virtual Worlds and New Realms of Creativity: The Kritical Works in SL Project" (2009). MG 2009 Proceedings. 4. http://aisel.aisnet.org/mg2009/4

This material is brought to you by the Mardi Gras Conference at AIS Electronic Library (AISeL). It has been accepted for inclusion in MG 2009 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

## Virtual Worlds and New Realms of Creativity: The Kritical Works in *SL* Project

#### **Denise Doyle**

University of Wolverhampton D.Doyle@wlv.ac.uk

#### **ABSTRACT**

Kritical Works in SL is an inWorld exhibition hosted on Kriti Island on the Second Life (SL) grid, curated by Wanderingfictions Story, my virtual counterpart, and includes work by ten international artists produced in and for SL. The project was launched at ISEA2008 in Singapore. The artists invited to contribute to Kritical Works in SL were selected because they were already exploring the SL platform in some way in their creative practice. Many of the contributors were already well known within SL for their virtual arts practice through their virtual personas and avatars. Under the theme of Reality Jam, the work produced explored the relationship between the virtual and the real within the SL environment. This is the discursive space, described by Jones as the struggle between the real and the virtual, 'that makes virtual reality and virtual worlds so compelling to the contemporary imagination' (2006: 15). This paper will reflect upon the challenges and opportunities of inWorld spaces for creative practice, the role of the virtual artist, and how new virtual practices and virtual relationships are transforming creative opportunities in online and virtual worlds.

#### **Keywords (Required)**

Second Life, Online Curation, Virtual Artist, Creative Practice, New Realms, Imaginary.

#### INTRODUCTION

Although there has been extensive research in the field of virtual reality and virtual worlds from the humanities and sciences, there has yet to be detailed research in the use of virtual worlds as new realms of creative practice. The research within this paper will focus in particular on the online virtual world of SL, created by Linden lab and launched in 2003 with barely 1,000 users (Rymaszewski 2007: 5). The number of residents is now over 16 million, or at least, this is the recorded number of those who hold an SL account<sup>1</sup>. A particular feature of SL is the accessibility of the platform to build and customize spaces. Using the SL building tools to create objects and manipulate terrain, along with the application of the SL programming language, it is possible to have a high level of control of the creation and manipulation of an environment. It is no surprise, then, that there is a growing creative community in SL taking advantage of both the capability and online accessibility of the platform and the relative low cost compared to developing a unique online virtual environment or world from scratch.

In this paper I discuss a number of art works recently developed on, or through, the *SL* platform, including the work of real world artists Joseph DeLappe, Paul Sermon and Lynn Hershman Leeson. I will focus in particular on the project *Kritical Works in SL* (2008) that was developed on Kriti Island, a research island for the What level of agency are the audience given in these virtual projects and creative spaces? We inhabit these virtual worlds through a visual and *SL* presence in the world, in the form of our avatar. What role does our presence as avatar play in these art works and creative investigations?

#### NEW REALMS OF THE VIRTUAL

The early use of virtual environments for artistic exploration has been well documented as a result of projects such as Art and Virtual Environments at the Banff Centre, Canada in the early 1990's (Moser, 1996). In the preface to the book Douglas Macleod, the Project Director, likens the moment of virtual reality to a similar moment in time when Vertov's, the *Man with the Movie Camera*, was released in 1929, cataloguing the potentials of the film medium:

Statistics from http://secondlife.com/whatis/economy\_stats.php Accessed 30.12.08

Virtual reality occupies a similar historical moment – it is unformed and hence its possibilities seem uncontrained [...] A new medium like virtual reality challenges traditional conventions not because the participant wears a helmet or glove but because it suggests new relationships between the viewer and the viewed.

(Moser 1996: preface)

Artists such as Char Davies, moved from painting to exploring virtual space in virtual environments in the early 1990's, resulting in works such as *Osmose* (1995) and *Emphemere* (1998). In the introduction to Changing Space (1997) she suggests that within her work, 'within this spatiality, there is no split between the observer and the observed' (Davies 2003:1). She argues that this is not tied to the Cartesian paradigm, rather allowing 'another way of sensing to come forward, one in which the body feels the space very much like that of a body immersed in the sea' (Davies 2003: 1). This is private virtual space. What of the shared virtual space of virtual worlds where we can have a bodily representation of ourselves?

Perhaps it was inevitable that the artistic community would also move their creative practice to incorporate or explore virtual worlds as a new artistic space. However, little research currently exists on the use of virtual worlds in this context. In Klastrup's thesis, 'Towards a Poetics of Virtual Worlds' (2003), submitted just at the time of the expansion of online virtual worlds, and in light of the shift from virtual environments to virtual worlds, she attempted a number of definitions of a virtual world. Of those presented, two of the definitions of virtual worlds are "worlds, [that] you can move in, through persistent representation(s) of the user, in contrast to the imagined worlds of non-digital fictions, which are worlds presented as inhabited, but are actually inhabitable"; and virtual worlds "are different from other forms of virtual environments in that they cannot be imagined in their spatial totality" (2003:27).

What are the characteristics, then, of the virtual fabric of SL and what creative opportunities are there to this interface and virtual space? In conducting a survey of creative practice in SL, through work undertaken in the fields of Art, Media Arts, Architecture, Performance, Film, and Machinima, of particular note were the goals of the The Ars Virtua Gallery<sup>2</sup>, to be a laboratory for the formation of new art practices and to:

[...] provide a platform for the intersection of media and the information/knowledge fields and to promote the development of a commons in networked space, a place where ideas can be exchanged across physical borders inside a shared experiential space.

A number of real world artists, all of whom have engaged for some time in emerging technologies as an exploration for creative practice, have begun to also explore the SL space.

#### REAL ARTISTS EXPLORING SL SPACE

During 2008, in a recent project supported by the Tate in the United Kingdom, Lynn Hershman Leeson who, in collaboration with Tilda Swinton, interviews a series of leading thinkers and innovators in the SL space. Using SL as a mediated space, Gene Ware, Leeson's avatar and virtual counterpart, virtually chairs the discussion with Swinton, who is streamed into the space.

The performance artist Joseph DeLappe has incorporated online gaming into his work since 2001 and is well documented through *Dead\_in\_Iraq* (2006 – ongoing) and *War Poets Online* (2004 – ongoing). However, between the 12<sup>th</sup> March and the 6<sup>th</sup> April 2008 DeLappe re-enacted Salt March to Dandi in 1930 in *SL*, spending 26 days 'walking' through *SL* using a customized treadmill which powered the movements of his inWorld counterpart. About *Salt March to Dandi* (2008) DeLappe writes:

The original walk was made in protest of the British salt tax [...] for this performance I walked the entire 240 miles of the original march on a converted treadmill at Eyebeam in New York City and online in *Second Life*. My steps on the treadmill controlled the forward movement of my avatar, MGandhi Chakrabarti, enabling the live and virtual reenactment of the march.

(DeLappe 2008)

\_

<sup>&</sup>lt;sup>2</sup> Further information on the Ars Virtua Gallery can be found at http://arsvirtua.com/

Why did DeLappe choose to re-enact an actual protest from 1930 in *SL*? Why did he choose to mediate it through the *SL* space? Perhaps the answer lies in the ability of DeLappe to assume the presence of Gandhi, through his avatar counterpart. As Stockburger notes:

It is this dimension of actual performance that is realised within and through a social practice that strikes us as a fundamental element of games in general, and most poignantly of multi user online games. In other words, *just as space has to be practiced and experienced beyond the logical order of language, games have to be played/performed* [my emphasis] and it is not sufficient to study their symbolical surface aspects.

(Stockburger 2007: 232)

Another real world artist, DC Spensley, known as DanCoyote Antonelli in *SL*, extends his artistic practice in *SL* into performance. Early in 2008 the author watched the second only performance of *ZeroG Skydancers III* (2008), which is a group piece performed 'live' to very small (virtual) audience at a cost of \$3,000L per seat<sup>3</sup>. In this non-narrative performance, the dancers virtual bodies are abstracted, expanded and extended through magnificent and impossible in Real Life costumes. This is an attempt at an immersive space that is, effectively, 'performed'. The audience are seated in an amphitheatre styled area, are passive, and not invited to participate.

In 2007 Paul Sermon, whose work on telematics and telepresence is well known through a body of work including *Telematic Dreaming* (1992), was asked to make a project for the Urban Screens Festival in Manchester. *Liberate your Avatar* (2007) was the result. Based around All Saints Gardens on Oxford Road in Manchester and a replicated space in *SL* the:

[...] 'first life' visitors and 'second life' avatars [...] coexist and share the same park bench in a live interactive public video installation. Entering into this feedback loop through a portal between these two parallel worlds this event exposes the identity paradox in Second Life.

(Sermon 2007)

Based on a protest by the Manchester born suffragette, Emily Pankhurst, who at one time locked herself to the railings in the All Saints Gardens, *Liberate your Avatar* (2007) is, curiously, another historical re-enactment.

Real life Australian artist Adam Nash, known as Adam Ramona in *SL*, has developed a substantial body of conceptual work in *SL* through an exploration of sound and immersive spaces. Of the interactive installation, or participatory artwork, *A Rose Heard at Dusk* (2007) Nash writes that the work:

[...] is designed to be "played" by visitors avatars. Walking, flying and jumping through the space, avatars create a unique audiovisual composition, different every time. Colours and sounds combine to create a spatially immersive musical and visual experience. It blends the different meanings of "play". By playing in the space, visitors are actually playing the space like an audiovisual instrument, creating endless variations of sound and vision.

(Nash 2007)

This piece, and many of his others, asks the avatar audience to explore the spaces he creates and perhaps uses some of the opportunities inherent in the platform itself.

#### THE KRITICAL WORKS IN SL PROJECT

In July 2007 an island was purchased by the University of Wolverhampton on the SL grid for the purpose of research in teaching and learning and to support existing PhD work by the author. Since then Kriti Island has hosted a number of events, research projects and experimentations and has quickly (and strangely) assumed a real sense of place. As island owner and co-curator of the exhibition,  $Kritical\ Works\ in\ SL\ (2008)$ , Wanderingfictions Story, my virtual counterpart, has been the link and the collaborator in this SL space.

With a growing number of artists and designers continuing to specifically work with the *SL* platform itself the project aimed to bring together a range of art works to explore if common themes were emerging. This project and subsequent virtual exhibition aimed to investigate if there was a maturing of the languages and spaces within *SL*. Was there a commonality of approach and emergent experience? Could the art works produced, and presented together, expand our understanding of the

Proceedings of the Fifteenth Americas Conference on Information Systems, San Francisco, California August 6<sup>th</sup>-9<sup>th</sup> 2009

<sup>&</sup>lt;sup>3</sup> This is an approximate cost of \$11 based on the Linden Dollar rate on 05.10.08. http://secondlife.com/whatis/economy-market.php

characteristics of the virtual fabric of the SL space? The works presented in the exhibition contributed to the exploration of the potentials and limitations of the medium itself.

#### SL ARTISTS AND AVATARS

The artists who were invited to contribute to *Kritical Works in SL* were selected because they were already exploring the SL platform in some way in their creative practice, whether it was in the fields of art, design, media arts, virtual environments or sound technology. The aim was to include a diversity of practice and to encourage responses from a range of backgrounds. Some contributors, or virtual artists, are very well known within SL, or rather their virtual personas or counterparts are (Figure 1).



Figure 1. Seven of the contributing SL Artist Avatars to the Kritical Works in SL Project (2008)

The process of inWorld curation was both interesting and challenging. A number of meetings were held inWorld and a blog space was set up to monitor the development of the project. The author has never met in person, or spoken to, at least half of the contributors, making the curation of the inWorld exhibition, essentially, an avatar to avatar experience. The exhibition was launched at ISEA2008 in Singapore and inWorld and can be visited until early 2009.



<sup>&</sup>lt;sup>4</sup> SLurl for the exhibition is http://slurl.com/secondlife/Kriti%20Island/205/20/21/

Figure 2. Wanderingfictions Story planning the exhibition on Kriti Island (2008)

#### REALITY JAM

The works in the exhibition are responses to one of the 2008 ISEA Symposium themes: Reality Jam. The confusing of the real and the virtual, already something that is hotly debated within the SL platform itself, forces us to re-evaluate our perceptions and registers of the real. With a particular focus on the agency of the avatar, there are ten projects that form part of the exhibition. Remembrance and Remains is a powerful recreation of an Iraqi village where stories are held, like memories, within the virtual brickwork, Altered States, the only photographic contribution to the exhibition, captures real, everyday lucid moments and playfully presents the final photographs on imagined virtual walls. Whilst The Autonomical Grid created by Kisa Naumova, discussed later, covers an impressive geography, the White Cubist Chair and the associated works of Cubist Scarborough give us the real cubed, pulled apart and visibly given its three separate dimensions. Map to Grid, a collaborative work from Lime Galworthy and Wanderingfictions Story, plays with their narrative exchanges and questions concerning what it means to map virtual space. Two machinima pieces available to watch in the amphitheatre area, Watch the World and Meteors, both made in 2007 by Robbie Dingo, are each working with imagined spaces whether it is the imaginary space of a painting or the space of our desires. Re-Imagining the Dress, examines the meaning of time in a virtual world in contrast to the time of the screen. whisperBox (2006), the third contribution by Dingo, is best experienced in virtual company. Capturing parts of your conversations in text form, whisperBox also translates the text to music beats when an avatar is within the space. The final project, *Ping Space*, directly connects real and virtual space and again is, curiously, working with sound. Echoing Dingo's earlier piece, it captures conversations in either real or virtual space, and re-translates that information into binaural sounds projected into two different, but connected, spaces on Kriti Island.

#### REMEMBRANCE AND REMAINS

Remembrance and Remains gives us a Wall of Remembrance of the Iraq War and a link to teleport us to an Iraqi village where we can wander at our own pace through this eerily deserted space.



Figure 3. Standing next to a group of Avatar Bots in Remembrance and Remains (2008)

Of the work created by the avatar sisters Chingaling and China Bling, Morie writes:

This project creates a space of remembrance, contemplation and renewal for those affected by the Iraqi war. It will serve as a gathering place where people can explore an Iraqi village in Second Life that is full of memories, sounds and images of the people who might have lived there [...] It is hoped that this artwork will, through sounds, videos and evocative imagery, give some sensibility of the spectrum of wartime experiences, good and bad.

(in Doyle 2008:12)

This project is incredibly powerful and is the only piece in the exhibition that is working with narrative and memory. Wandering through a deserted village, meeting avatars (bots)<sup>5</sup> who, (understandably) ignore you, makes you feel that you are in a dream – where time has stood still. Held in these moments, the art work allows you, or rather your avatar, to wander. This is a most disconcerting experience and a very powerful narrative emerges. The voices are quite literally held within the 'virtual fabric' of the brickwork.

#### THE AUTONOMICAL GRID

The Autonomical Grid (2008) created by inWorld artist and educator, Kisa Naumova, can be 'rezzed' almost anywhere and covers an impressive geography. In the project description Naumova writes:

The Autonomical Grid is a self preserving synthetic ecosystem of digital life – created from altered versions of Conway's original algorithms in the Game of Life – that simulate a different kind of virtual existence, and reactively regenerate to form a contained entity that asks us to question what 'Second' life is when experienced in a space that is shared by our own creations who take on a life of their own.

(in Doyle 2008:10)

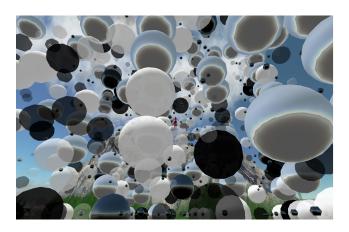


Figure 4. Inside the Autonomical Grid (2008)

It is an interesting experience teleporting into the centre of the *Autonomical Grid* from the Water Gallery space on Kriti Island. In Figure 4 it is almost possible to see my avatar, Wanderingfictions Story, if you look closely enough at the centre of the image. Either rezzed as spheres or cubes, watched carefully, the ecosystem quietly replicates, expands, contracts, changes colour from white to black and back again.

#### WATCH THE WORLD

Watch the World (2007) by Robbie Dingo takes it inspiration and fundamental concept from the imaginary picture space of Van Gogh's work Starry Night, painted in 1889. Dingo explains that it was shot on location in SL and then post-produced; 'the Sim in this work was on temporary loan so it's all been swept away now, leaving only the film behind. It was always intended however that the video would be the end product, not the build' (Dingo 2007). Recreating the picture space in a virtual 3D space provides a kind of double virtuality. Lindstrand suggests that:

[...] before the invention of linear perspective, spatial experience was detached from imagery. Once the tools to depict three-dimensional space on a two- dimensional surface were developed, architecture and the understanding of space leaped into a new era.

(Lindstrand 2007:354)

<sup>&</sup>lt;sup>5</sup> Bots are avatars who are pre-programmed and do not necessarily have a real person controlling them.

The possibility for a viewer to imagine him/herself walking around inside a painting opened up a whole new chapter in art, as well as, causing a fundamental shift in the experience of space. There is a potency to what Dingo has produced in *Watch the World (2007)* on at least two levels. Throughout the machinima piece, Dingo allows us to see the construction of this virtual, imagined space and to watch, literally, the artist re-create the landscape of the painting itself. In fact, it seems that the process of creation within the platform holds the biggest fascination for Dingo. Placing his avatar into the film space changes our relationship to what is being created. The use of Don McLean's song *Vincent (1971)* provides a lyrical backdrop that perfectly matches the reflection upon real, imagined and virtual space.

#### PING SPACE

The final project, *Ping Space* (2008), consisting of two cubes on Kriti Island, connecting real and virtual space. Each cube is 40x40x40m with a void interior other than small sound emitting objects; one cube is placed at ground level, and the second cube is 300 m directly above the first. Of the project, which is a work in progress, Angrybeth Shortbread explains that the sound generated is:

[...] a mixture of organic pink noise [...] water/wind and binaural beats - sine wave tones of sound that range from 7 - 30 hz difference. The type of beats and other sound design within the void is controlled by an external source outside of *Second Life* [...] Avatars flying around inside the void will also be sending data back out to the interface - effecting its presentation. Between these two spaces ping playful interaction - where each space's activity affect the other.

(in Doyle 2008:14)

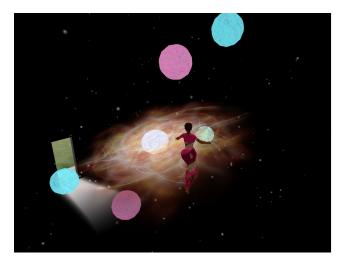


Figure 5. Inside Ping Space (2008)

She goes on to say that the binaural sounds are used to explore the idea of 'virtual sound', an auditory experience created in the brain. The soundscape produced when moving through each cube space is quite beautiful and is entirely dependent upon the speed and direction of the participating avatar(s) travel in the space. Harder to tell are the subtle impacts of the other avatar, playing *Ping Space* through their interaction 300 m above.

#### NEWS REALMS OF CREATIVE PRACTICE

Within this paper I have discussed a number of art works that were produced on, and in, the SL platform. Two of the artists work discussed, DeLappe and Sermon, are well known as artists in the real world, whereas other artists have made their name through the SL platform through their creative and artistic practice. In fact, the art works and artists contributing to Kritical Works in SL (2008) discussed here have almost all become known to the author through the platform itself. Through the art works discussed, can we respond to the question, of how the emerging space for artistic and creative practice on the SL platform is developing into a new realm for creative practice? The role of the virtual artist is an interesting one, as, unlike the real world art establishment, the real artist is hidden behind the virtual one. As discussed previously, often the persona of the

virtual artist can be better known than the persona of the real world artist. A case in point is the extremely well known in World artist Angrybeth Shortbread.

Playing another person through the medium of the avatar raises interesting questions with respect to DeLappe's re-enactment of Gandhi in the *Second Life* space, although acting as though you are another person is, of course, not a new concept. Would the re-enactment in physical space have changed the performance? The answer would have to be, yes. Perhaps it would have to be geographically specific, and would attract another type of audience to the one found in *SL* itself. It is, therefore, the mediated avatar space that changes the performance work and determines our interactions with it. *Second Life* provides a third space for Sermon's explorations of telematic shared spaces, as demonstrated in *Liberate your Avatar* (2007); although the representations of the human and an avatar sharing space, creates a different dynamic compared to the human and human sharing a space on screen in his earlier works such as *Telematic Dreaming* (1992).

The Autonomical Grid (2008) and A Rose Heard at Dusk (2007), both rely on the relationship of the avatar to the space of the artwork presented, although the presence of the avatar in Autonomical Grid (2008) is a passive one. Here, it is the artwork that randomly lives, breathes, and changes, but it also the avatar's view through both the first person and third person perspective that determines the experience of the audience member. Remembrance and Remains (2008) has closer associations with a game space, although of course, it does not operate like a game. Like the bullet time filming that has been explored in films such as The Matrix (1999): time here, has stood still. You are 'in a moment', and yet this time is disrupted by the sounds that are happened upon. This only magnifies that sense of the still, timeless, moment of memory.

#### CONCLUSIONS

There is no doubt that virtual worlds, and online gaming, are making new art forms and creative spaces available for both the maker and the viewer/participator. Particular to the SL platform are the discursive game/non-game elements that perhaps make some audiences question the nature of the space itself. The fact that a number of these pieces specifically work with the opportunity of interaction from the presence of the avatar or audience to trigger events, sounds, or changes in the architectural space and environment places this inherent opportunity in the forefront of future potentials and developments on the platform. This new realm of creative practice on the SL platform is developing because of the relationship of the work to the audience as avatar.

The nature of interactive space on a virtual world platform such as *SL* creates a complex set of relationships for participants, and also for the artists themselves. As Naumova writes:

[...] the virtual environments that we allow our alternate selves to inhabit are composed of ephemeral beings, in the form of the scripts, the prims and the animations that we litter around ourselves. These alternate inhabitants of our imaginations are often neglected...ignored, forgotten, side-stepped, brushed aside as a background to our avatars' meshes.

(in Doyle 2008: 10)

The research being presented in this paper contributes to an emerging area of virtual worlds and creative practice. Further, the Kritical Works in SL (2008) project will extend to the Kritical Works in SL II exhibition in 2009. The exhibition, which will be presented in an Art Gallery environment, will aim to not only include the virtual exhibition on Kriti itself, but also present the virtual artists and the documentation of the process, from the planning stages of the virtual space through to the development of the virtual works themselves. The presentation of the documentation will offer a point of reflection which is critical to the understanding of the paradigm shifts occurring through digital technologies, and in particular, virtual worlds and the staging of Kritical Works in SL II exhibition in a gallery environment will further demonstrate how new virtual practices are transforming creative opportunities in online and virtual worlds.

#### **REFERENCES**

- 1. ANON (2008) Ars Virtua Gallery Mission Statement. http://arsvirtua.com/about.php Accessed 10th February 2008.
- 2. DAVIES, C. (1997) Changing Space: Virtual Reality as an Arena of Embodied Being. IN PACKER, R. J., K. (Ed.) *Multimedia: From Wagner to Virtual Reality*. New York, W.W. Norton & Company.
- 3. DELAPPE, J. (2008) Tourists and Travellers Exhibition. <a href="http://saltmarchsecondlife.wordpress.com/">http://saltmarchsecondlife.wordpress.com/</a> Accessed 3<sup>rd</sup> July 2008.

- 4. DINGO, R. (2007) My Digital Double: The Second Life and Times of Robbie Dingo. <a href="http://digitaldouble.blogspot.com/2007/07/watch-worlds.html">http://digitaldouble.blogspot.com/2007/07/watch-worlds.html</a> Date Accessed 3rd February 2008.
- 5. DOYLE, D. (2008) Kritical Works in SL. Exhibition Catalogue. Lulu Publishing. Publish on demand.
- HERSHMAN LEESON, L. (2008) Curing the Vampire
   http://www.tate.org.uk/intermediaart/lynn\_hershman\_leeson.shtm Accessed 30th November 2008.
- 7. JONES, D. E. (2006) I, Avatar: Constructions of Self and Place in Second Life and the Technological Imagination. *Gnovis, Journal of Communication, Culture and Technology*.
- 8. KLASTRUP, L. (2003) *Towards a Poetics of Virtual Worlds: Multi-User Textuality and the Emergence of story*. Copenhagen, IT University of Copenhagen.
- 9. LINDEN LAB, I (2003) Second Life. San Francisco, California.
- 10. LINDSTRAND, T. (2007) Viva Pinata: Architecture of the Everyday. IN BORRIES, V. F., BOTTGER, M., & WALZ, S.P. (Ed.) *Space Time Play: Computer Games, Architecture and Urbanism the Next Level.* Basel, Birkhauser Verlag AG.
- 11. MOSER, M. A. (Ed.) (1996) *Immersed in Technology: Art and Virtual Environments*, Cambridge, Massachusetts, MIT Press.
- 12. NASH, A. (2007) A Rose heard at Dusk. <a href="http://yamanakanash.net/secondlife/rose">http://yamanakanash.net/secondlife/rose</a> heard at dusk. <a href="http://yamanash.net/secondlife/ro
- 13. RYMASZEWSKI, M. E. A. (2007) Second Life: The Official Guide, Hoboken, New Jersey, John Wiley & Sons.
- 14. STOCKBURGER, A. (2007) Playing the third place: Spatial modalities in contemporary game environments. *International Journal of Performance Arts and Digital Media*, 3.2&3, pp.223-236