

# Augmented virtual 3D-Community spaces as an intercultural interface for higher media art education

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**Abstract:** The paper looks at the use of SecondLife in higher media art education. A project realised through the co-operation of two institutes in two countries is introduced. It aims to explore the opportunities opening up by augmenting the virtual 3D-community space with real time video streaming for collaborative artistic project-based work of dispersed teams.

## 1 Introduction

In the last months, the 3D Internet-based community Second Life (SL) grew impressively. It seems there is not a place on earth which is not represented in the online space anymore. Nowadays, over five million people have their SL identity in the cyberspace, the numbers grow every day. Companies, cities as well as educational institutions are rebuilt in the virtual environment. Second Life as a shapeable space allows the users to become producers and develop their own 3D objects, buildings, representations and spaces where people represented by avatars interact with each other. The potential of a social space represented in SecondLife is an issue to be reflected in order to explore and understand what the online environment and the community of users is about and how it can be used for art education processes linking the physical and the virtual space.

In the last months, a lot of activities have been introduced related to the development of art, art galleries as well as artist-in-residence programs such as ArsVirtua.<sup>1</sup> OSMOSA is an example for an open source museum for open source art [AFY07]. However, only little attempt has been undertaken in scrutinizing the use of such a community space for arts and higher art education.<sup>2</sup> Further, the exploration of the virtual spaces in SL through the user is mostly limited to working in front of the computer screen using avatars as representations of oneself through immersion and simulation. In order to develop a Mixed Reality environment for learning [RWHH03], the linking of the virtual community space with the material world through the integration of Web cams and video streams is suggested. How can the medium be augmented towards a Mixed Reality learning space [R06], extending the SL community space with real time data? What are the poetics and aesthetics? [M02] Rather than just taking into consideration the technical aspects and possibilities that are involved in such a project, the educational aspects which involve the cognitive and the subjective subject will be analysed. The cognitive and creative subject is our aim of study as a project that intends to bring about results concerning the field of art education.

## 1.2. Evolution of the project

The project is based on the idea of an international co-operation between dispersed groups of students in higher education from diverse fields: Students from different countries including interested groups of undergraduates as well as graduate students, from teams located in Porto Alegre, Brazil as well as in Linz, Austria via the 3D-Community SecondLife are integrated. The objective is not to replicate classroom lectures in SL but (as an aim of the second phase of the project) to have the 3D-community environment augmented through Web cams and video streaming facilities to extend the communication as well as artistic collaboration processes online in the second phase of the project. In the first module, the students were asked to develop an avatar, get familiar with the opportunities opening up to edit the appearance, to control the behaviour, to navigate through the community space and use chat function for communication. The first joint meeting was held in Porto Alegre in SecondLife. As we intend to explore the extended SL environment in two ways: Firstly as a means for communication and online collaboration to be explored in the framework of a project based seminar, and secondly, as a new artistic medium the main research question for the students is in terms of reflecting the medium itself: What are the opportunities and constraints opening up for arts and artistic processes using these media? After this first meeting students were asked the above questions in order to reflect on the extension of SL added through such media.

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<sup>1</sup> See on <http://arsvirtua.com/> [20.04.2007]

<sup>2</sup> A first seminar on game design and communities of practice in education by Reimann and Attwell looked at SL in initial art teacher training at the University of Flensburg held in the framework of the Experimental Grounds lecture series in fall 2006/07.

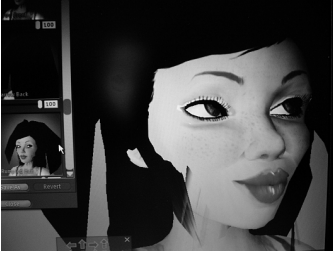


Fig. 1 Editing the appearance of the avatar



Fig. 2 Online meeting

The impact on future learning and education scenarios will be reflected more thoroughly in seminar meetings to follow in SL.<sup>3</sup>

Course design		
Module 1 avatar design (edit appearance, control, navigate) exploring SL and the functionalities (to chat, to create)	Module 2 art project, machinima. Write a plot for an art projects in SL/ to be recorded (video), artistic research book	Module 3 Augmented Virtual space using video streams Exhibition (SL, real world)

Fig. 3 Course design

We discuss the space and the interactivity it allows as pointed out by authors and artists such as Peter Weibel, who borrowed from Endo-Physics the concepts of Otto E. Rössler [R02] into what has been called Endo-aesthetics [G02]. This new theory comments the difference between systems and models, and the principles concerning the external observation of such world models as well as of the internal systems. This way, as we are a part of the world we live in, we observe our world, our reality with our own subjectivity. In order to observe such reality from the outside, it is proposed by Endo-Physics to work with exo-models (external) from endo-systems (internal). This is where technology and the digital apparatus come into view as a way to help us to understand whether, and how, the simulated life, in this case, SL, can help students foster their creative processes. This concept that places the observer, the user of the virtual worlds – the interactors – as participants of the inner as well as of the outer world seems to be appropriate as a conducting line of thought when analysing such interactions and the augmented possibilities in the environments we are proposing. In view of this, our question is how to propose learning activities that will let the learners interact with their learning objects. At the same time, it is expected that they have the chance to engage in a dialogical process that will let them take some decisions concerning the paths to take in their activities leading to a significant learning and creative process.

<sup>3</sup> Fall semester to start in Brazil in August 2006/08

The perspective concerning dialogism comes from the Bakhtinian dialogical theory learning processes in arts education and how they can become more pregnant of significance [B81]. Bakhtin believes that the person's expression is a product of several *voices* in a dialogical perspective. In *Dialogic Imagination*<sup>4</sup> Bakhtin describes the concept of *voice* as the utterance in which the interaction of multiple individual, as well as social perspectives, unveil the subject. In other words, the language we speak, and we can make the relation to the art we make, is not a process from one's inner self solely, but a result from the context and time we live and all in that this involves. All that ranges from style to intentions and has a mark of the temporality in which we are embedded [B06]. We have found in the Bakhtinian dialogical theory support in order to help us analyze if and when we can observe that the interaction in a simulated 3-D world is able to produce meaning, which in other words means educational, creative processes, that is, from the interaction in and with these virtual environments and objects.

### 1.3. Technical realisation and media

In the project, Secondlife.com serves as an overall learning and shaping space for dispersed groups of students. In module 1, SecondLife was explored by using the standard functionalities such as avatar development, control for representation as well as the chat and navigation tools. The aim was to get familiar with the environment and reflect on first impressions as well as for art practice. In the second phase of the ongoing project, the students will use Web cams, Quick Time Broadcaster software on the Mac as well as a Darwin Streaming Server (OS clone of the QuickTime Streaming Server) on a Linux server which will constitute the technical basis of the system. The video streaming can support the following processes: 1. Students can appear online via video streams; 2. Videos of the community environment will be developed, e.g. in the form of machinima, that is, to develop movies in virtual environments using particular tools provided in SL. The term of machinima is a neologism which brings together machine cinema or machine animation<sup>5</sup>. 3. Videos are projected online in SL. Additionally the videos produced by the teams of students will be published in YouTube.com, streamed and discussed in the SL community world. The documentation and exchange of ideas will be realised through Web blogs and Wikis.

## 2 Artistic research projects in SecondLife (SL)

Art practice can be initiated research driven, and perceived as a form of artistic research. [S04]. A research approach is introduced to facilitate to find out what kind of art projects can be realised well in SL. For example in order to overcome museum and exhibition-based concepts, more project-based interventions in the public community space as an environment for art practice could be realized.

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<sup>4</sup> The Dialogical Imagination. by Bakhtin, M.

<sup>5</sup> For machinima see at <http://www.machinima.com/>

Different genres might be taken into consideration: Artistic interventions, performance as well as SL-based land art. In this project, the students will link their projects to the genre of video and machinima. The main focus of the project is on the scrutiny of the artistic and art educational contents, the opportunities and constraints opening up using the augmented SL community world as a medium for art practice. Further aspects to be scrutinized in the second phase are the creative processes developed and elicited through being an active part of such a 3D-community space. Our reflections concerning the cognition that involve subjects in a creative and inventive process while interacting in a 3-D digital environment has focused in the identification of the relations that are established among the processes developed and the opening up of creative possibilities by the subjects as well. We are interested in the point that mingles artistic production and aesthetic reasoning, since we understand creation in art education as the generating movement of paths that could engender the production of *meaning* by the subjects. The dialogic theory of Bakhtin will help us understand and analyse the establishment of meaning while in interaction with the 3-D world in view of art education processes. In the second module, the students are asked to develop artistic research questions and issues of meaning related to the development of interactive 3D-Avatars. The following main questions are to be reflected and answered visually as well as in written form and published online to make available the results to the other project participants: 1. Does the ability with the environment foster the artistic production? 2. Simulations are part of the artistic world. Are SL simulations able to develop and support artistic processes? 3. In what scope will this virtual poetics be able to enhance the creative processes? Does the process of creation change considering virtual environments? In what does it differ from traditional artistic creation? 4. What can be considered an artistic project concerning SecondLife? The exhibition will take place in the SL as well as in the Scientific Research Students Show at the UFRGS.

## **2.1 Developing collaborative artistic projects in SecondLife**

In the first module the students were asked to firstly create their avatars (design, edit appearance, dress) 2. To create their avatars' personalities. This can be done in two ways. Either, students get together, decide on the characters they would like to create and then make changes to the avatar design following the "persona" they would like to have on screen, or they give form to a certain character and then make up a story and write a plot for that avatar. In the second module the students will be asked to 1. write a plot to be developed by the avatars (more than one in team). This will include the argument (story / plot/ machinima) and the story board of the video that will be produced by each team of avatars. A suggestion is made that the videos to be produced reflect the interactors (students - in this project and world known as avatars) Real Life (RL) world. This way, Real Life images and stories will be seen and discussed by avatars in their SL world.

The avatars will use endo-systems<sup>6</sup> (internal) of the digital world, but approach the observation from an external point of view, or exo-model among several models of worlds that can be looked at. In module 2, the students are asked to develop artistic research projects which are coined by an overall collaboration through the use of synchronous (SL) and asynchronous (Web/Vlog) forms of communication.

## 2.2 Research methodology and project evaluation

The first module has been realised in the framework of a pilot seminar with a group of students. Online meetings have been held in SL, intended as kick-off meetings. The pilot seminar was accompanied by a questionnaire the students used for the reflection. The project will be evaluated by a series of semi-structured interviews realised between the working groups themselves online as well as by using surveys. Further, the research books will be presented online in SL as well as on the Web/Vlog.



Fig. 5, 6 Exploring Porto Alegre in SL and the opportunities of controlling the avatar

## 3. Conclusion

The first lessons learned from the seminar meetings as well as from the data delivered by the students are in terms of reflecting SL and its characteristics and opportunities linked to it. In media and art education nothing can be considered more important than the development of contexts to make the students develop meaningful projects. On the other hand, the creative processes depend on the functionality of the media technologies used. The latter we consider a big challenge for art educators. The issue of the time consuming, complex immersive environment highlighted by the students is of importance for teaching and learning scenarios which aim to develop in-depth art works and results. The students have identified a variety of issues related to SL. For instance, a student stated: “As far as I’ve seen, one of the features I like the most is the ability to fly around the cities. Also I found amazing the capability of customizing your character as you wish to, without any strong restrain about what to make and also the possibility of saving different sets of outfits and shapes for easy loading after they’re ready”.

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<sup>6</sup> According to Weibel [W98] and referred by Giannetti [G02], we propose to look at SL with this approach of the Endo aesthetics considering the features and possibilities of such a virtual world, but also taking into consideration all the constrains of the real world [RL] of the students which encompass a wide range of variables involving from technology use to the development of new learning paradigms.

The difference of physical space (Porto Alegre, PA) and the SL space (Porto Alegre in SL) is commented by another student this way: “I think that PA island is still in a very primitive stage in SL and still lacks much of the real PA. It would be nice to have a full scale PA in SL in the future, with all the cultural and touring spots that the city has, also university centers and administrative buildings”. Interestingly, the issue of the interaction of the immersive SL community space was perceived differently between the participants: “To tell the truth, I still can not visualize how we can use this environment, maybe due to my lack of experience or some prejudice towards this type of interaction, I have never been attracted to such immersions” as a female student puts it. As a medium for the arts, SL was perceived as follows by a student: “The works of art would be endless as we could allow other people to choose the works of art and to contribute with this collection of what artists have produced along the history of humanity.” SL allows “people to create works of art in places for exhibition and also be capable of interacting with other art pieces, as happens in OSMOSA. Also people can use a variety of media inside SL, making them able to create videos for example. As the system is still limited on avatar animation and behaviour; it is not possible for acting projects such as an online play exhibition. The environment could also allow us to make use of modern art expressions, such as graffiti walls on restricted areas [...]” The characteristics of the environment, such as the media specific extension SL adds to the physical limitations were addressed by students, but also confronted with the disadvantages of the interface perceived as non-intuitive with a lack of usability. In the ongoing process of the project, the students’ works as well as the project results will be presented in the framework of an online exhibition in SL as well as in the physical space.

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