

LSSL & New Atlantis

Locus Sonus Exploring audio possibilities of virtual spaces

Introduction

Generally speaking LS is concerned with the innovative & transdisciplinary nature of audio art. We explore these areas in a group context, within which we aim to evaluate the groups own projects & realizations, however we also have a tendency to provide openings for other artists & researchers. An important aspect of our research centers on the exploration of multi user systems and requires by definition collective collaboration. Our research is englobed by two main themes - audio in it's relation to space and networked audio.

Locusstream

Locus sonus' first project is called "locusstream project". It consists of an international network of open-microphones which stream soundscapes real-time over the internet. The project was conceived as a resource - a source of sound materiel permanently available to be exploited for different art forms. Details of these projects are available on the LS website, for the present it is only necessary to develop the aspect of the locus stream project which has led to our current interest in virtual space **Networked Sonic Spaces and Field Spatialization**.

Locus Sonus in Second life

Second life is a multiuser online world which has recently gained a certain importance, in the sense that it is used by a large number of people. Unlike the majority of virtual worlds, second life is not organized as a game, but rather as a social space, and the architecture of the world is built and maintained by users. LS started to take an interest in SL as an online communal space in 2007 when a discussion took place as to whether it could be used as an annex for our experimentations.

The first action which LS accomplished in second life was to build an interface, in the form of an old "Marconi" radio set, which offers the possibility to access the LS streams from SL.



The « Marconi » radio inerface built by Brett Balogue in second life

The question then became how to get an audio stream out of second life? It rapidly became apparent that since the possibilities for creating audio in second life are limited to using basic sound effects and playing back samples, we needed to add an audio engine in order to generate spatial effects and other complex audio operations.

It was decided to use PD for this purpose. A system was devised to allow PD to recuperate x,y,z coordinates of objects in second life via the web & generate the consequent sound and stream it back into second life. This was done in collaboration with SAIC (school of arts institute of chicago).

Second life Second Nature

The result of this experimentation was presented publicly in June 2008 during the Aix-en-provence new-media festival "second nature". The proposed installation mixed the virtual online, sound space with the local physical space:

LS/SL 'Locus Sonus in Second Life'

During the Second Nature Festival, Locus Sonus Lab sets up an extension of the Cité du Livre venue in Aix en Provence in Second Life.

The idea is to experiment the possible permutations between the physical and the virtual world using audio as the main vector.

The aim is to verify the way resonant spaces influence and mix with the local acoustic space leading to a paradoxical hybridization possibly placing the user in both places simultaneously.

Avatars visiting the "Cultures Digital island" in Second Life are invited to manipulate sound objects.

Their action is spacialized in the physical space in Aix and the resulting audio signal in the physical space is recorded and "streamed" into Second Life.



Mockup of the LSSL installation at Second Nature Juin 2008

LSSL conclusions

The experience during the Second Nature festival led to the following conclusions:

The relationship between visual space and audio synthesis, in particular virtual resonant spaces appears as a fruitful terrain to explore and develop. We are also very interested by the artistic possibilities offered by linking physical world and virtual spaces via, streaming in one direction and multi loud-speaker spatialization in the other.

Some notes proposed by scott Fitzgerald following the LSSL presentation:

Regarding our experience with Second Life at Seconde Nature, I think it would be best for Locus Sonus to consider moving to a different platform, or tool, for creating aural networked virtual spaces.

Second Life, in my opinion, has one thing going for it: a built in user base. However we did not capitalize on that base for a number of reasons. With an estimated population density of 87 people per sq km, one has to wonder what second life really offers us in terms of interaction with people from around the world.

<http://lev-kamenev.blogspot.com/2006/12/second-life-population-density.html>

A last minute email sent to the locus sonus email list, and no "in world" publicity accounted for (from what I saw) 2 visitors in second life who visited the space during the seconde nature festival, that were not physically present at the event.

If the population of Second Life is 1) not informed about LS and the work and 2) nowhere near the event at the time, then it defeats the purpose of using such a space, as the pre-existing community offers us nothing.

The participants at seconde nature certainly enjoyed themselves, but it's hard to say how many of them thought of it as a "game" or as a "second life thing" and not as a sound work. wrestling with cumbersome controls and using machines that are not designed to run the simulator did not help people experience what the work should have offered.

Also, as we witnessed, the second life scripting language has a large number of flaws that seriously inhibit accurate position tracking, making the environment not ideal for what we wished to achieve.

or, in bullet points :

1) the controls are awful and people in the space who had never used it before did not know what they were doing

2) the second life scripting language is horrible, sends bogus data and is generally prohibitive

3) the one asset that second life does have, a large user base, is offset by the fact that a) there was no "in world" advertising of the event and b) population density in the simulator is so low that a "walk-in" is unlikely

4) people perceived the whole experience as a "game" and their take-away experience was more about that aspect, the "game second life," and not a sound piece, detracts from the intent.

Having said all that, I think the ideas we worked with (virtualized sound spatialization/linking the virtual and the real), are valid points of investigation. Perhaps LS could explore various other virtual spaces to work with. Panda <http://panda3d.org/>, as mentioned by Alejo, and used by SAIC, can run over the network, and allow many people to log in remotely. Ogre <http://www.ogre3d.org/> is another open source 3d engine, though I am not sure of it's ability to be networked (interesting project though : <http://jitogre.org> is a project that exposes Ogre to Max/MSP/Jitter).

Of course, there's also the possibility of creating a 3d environment in GEM, and streaming it to clients, for another approach. obviously it wouldn't have all the functionality of an ogre or panda, but could serve as a simple sandbox (much like second life already serves).

New Atlantis

Locus sonus & ESAA (Ecole superieure d'Art d'Aix) decided along with the art and technology department at SAIC (School of the Art Institute of Chicago), to create a multi user virtual world based on the second life model, but entirely dedicated to audio experimentation.

Like second life or many online video games each user or visiter will download an application which will render the world locally on their computer. Each copy of the world is linked to a server so each user can perceive the actions of other users online. The principal difference between the proposed world and second life is that it will incorporate relatively sophisticated audio processing possibilities and that the navigation, architecture & esthetics are to be thought out primarily to enhance the listening experience.

Methodology & context

The project is being developed within the context of a university exchange program between ESAA represented by LS and SAIC funded over a 3 year period (starting 08/09) by PUF (Partner University Fund anciennement FACE), Roland Cahen from ENSCI (école nationale superieure de design industriel) in Paris is currently collaborating in an unofficial mode, however we would hope to include ENSCI in the exchange programme sometime in the futur. The major part of research and development is being carried out by faculty from Aix-en-Provence and Chicago and by artist/researchers from LS, however one of the main aims of the project is to provide a "sandpit" for students from both establishments and indeed students from other art education institutions. Much of the development is taking place in sessions on either side of the atlantic where students participate in a workshop type context, building objects and "patches" to inhabit the world.

Objectives

We began with a text by Francis Bacon "New Atlantis" dating from 1614, an extract from which can be found below, which describes a utopian world filled among other things with incredible audio phenomena. Using this text as a starting point we have defined types (or classes) of objects to be represented in the visual space and which can have "concordant" digital audio processes.

1. Sound Objects (sound sources)

They can integrate interaction, they are mobile and can be moved by the user.

2. Sound Spaces

resonate or reverberate when activated by the sound object which is introduced.

3. "Helps"

An accessory which the listener can wear, ear plugs, listening trumpet, a fish bowl over the head - something which modifies the sound but only for the user.

4. Sound Pipes

transmits sound from one place to another (like a long pipe) without diminishing amplitude in relation to distance.

5. Zones

creates an effect locally (other then resonance) when a sound object is introduced.

other ideas which we wish to instigate which do no figure in the original text:

6. Microphones - opening on to the physical world

streams - those already existent in the locus sonus project, also the possibility of transmitting a sound into a given space in order to recuperate the acoustic reverberation.

7. Auras

something like a help but which also influences the audition of other users in close proximity.

8. Voice

the possibility to incorporate the users own voice, a sort of ventriloquist which allows the user to place their streamed voice somewhere and listen to the resulting modified sound from another position.

Current state of research

At the time of writing work is just beginning on this project which is programmed to develop over the next 3 years. We have concentrated our efforts on choosing basic principles concerning the way in which the world

is to function, the foundations, if you will of the world. Various aspects of the task have been discussed in detail: credibility of interaction opposed to creative liberty. Esthetics realism opposed to imaginary. Many aspects of the project remain to be discussed and also to be verified in practice. A consensus exists in as much as everyone agrees that the world should have an abstract form while maintaining a certain acoustic credibility in relation to space distance etc. It is clear that the objective is not to concentrate our efforts on realistic simulation and at the same time the user needs to "believe" in the relationship which is established between the visual and the audio synthesis.

The question was raised as to whether the notion of personalized avatars (predominant in second life) should exist or not. The decision is to use "camera vision" thus focussing participants efforts on the creation of sound as opposed to the visual esthetics of an avatar. the question remains as to whether the user is represented visually in the world or not and if so how, or indeed if the presence is purely audio. Lengthy discussions have also taken place concerning the manner in which the audio is calculated in relation to the space and the degree of complexity which is manageable or desirable, however the discussion is a little too technically involved to be discussed here.



Workshop « New Atlantis » ESAA Janvier 2009

Extract From the original New Atlantis text Francis Bacon 1614

"We have also sound-houses, where we practise and demonstrate all sounds and their generation. We have harmony which you have not, of quarter-sounds and lesser slides of sounds. Divers instruments of music likewise to you unknown, some sweeter than any you have; with bells and rings that are dainty and sweet. We represent small sounds as great and deep, likewise great sounds extenuate and sharp; we make divers tremblings and warblings of sounds, which in their original are entire. We represent and imitate all articulate sounds and letters, and the voices and notes of beasts and birds. We have certain helps which, set to the ear, do further the hearing greatly; we have also divers strange and artificial echoes, reflecting the voice many times, and, as it were, tossing it; and some that give back the voice louder than it came, some shriller and some deeper; yea, some rendering the voice, differing in the letters or articulate

sound from that they receive. We have all means to convey sounds in trunks and pipes, in strange lines and distances.”

Participants:

Peter Gena, Professor, SAIC (Art and Technology Studies; Sound)

- Peter Sinclair, Professor, ESAA (Locus Sonus).
- Ricardo Garcia, Professor, ESAA (LOEL).
- Jerome Joy, Professor, ESBA Villa Arson (Locus Sonus)
- Roland Cahen, Professor, ENSID (Sound)
- Ben Chang, Assistant Professor, SAIC (Art and Technology Studies)
- Brett Balogh, Instructor, SAIC (Art and Technology Studies / Liberal Arts)
- Robb Drinkwater, Sound/ATS, SAIC
- Gonzague, developer independant.
- Margarita Benitez, Instructor, SAIC.
- Alejo Duqué, researcher (Locus Sonus).
- Scott Fitzgerald, researcher (Locus Sonus).
- Julien Clausse, researcher (Locus Sonus).
- Anne Roquiny, coordination (Locus Sonus).

Students from ESAA

Charlotte Benedittini, Benoit Espinola, Bastien Vacheron, Michael Barret.

Students from SAIC

Matt Griffin, Ping-Yao Chen, Joseph Grimm.

New Atlantis complete text:

<http://art-bin.com/art/oatlant.html/>

LocusSonus/ESAA SAIC exchange:

<http://transatlab.net/>

Second Life:

<http://secondlife.com/>

Pure Data:

<http://puredata.info/>

Panda:

<http://panda3d.org/>