

Lan House Concert

Giuliano Obici

Group Mobile, LAMI, ECA
Music Department
University of São Paulo
São Paulo, Brazil
giuliano@usp.br

Flávio Luiz Schiavoni

Group Mobile, LAMI, IME
Computer Science Department
University of São Paulo
São Paulo, Brazil
fls@ime.usp.br

Abstract

*Concerto para Lanhouse*¹ (Lanhouse Concert) is an audiovisual installation for computers connected to a local area network (LAN, commonly used in internet cafes). The work arose from experiments undertaken during audio and interactive video workshops and hacklabs in rooms of free internet access throughout Brazil.

Keywords

Network Music, Internet Cafe, Meta-instrument, Media Art.

1 Introduction

Internet Cafe, popularly called in Brazil Lanhouse, is a commercial venue provided with a local computer network (Local Area Network - LAN) connection with Internet. Initially they offered internet connection, network games and software in general, charging a rate proportional to the time of use.² Over time, they began to offer office-related services (printing, scanning, photocopying, etc.) and basic courses for beginners in the use of computers and the internet.

In Brazil there are about 2.000 movie theaters³, 2.600 bookstores, 5.000 public libraries and 108.000 internet cafes.⁴ Given this large number, internet cafes are no longer seen exclusively as a space of game and internet access and began to be treated as "convenience centers offering services, culture and education."⁵ They occupy a significant role in cultural diffusion, configuring a new

1 Video and informations

<http://giulianobici.com/site/concerto-para-lanhouse.html> (accessed 19.03.2011)

2 Bechara, 2008, p.3.

3 Cf. "over 90% of municipalities do not even have a movie theater and more than two thousand cities have no libraries." (Report of the Steering Committee of the Internet in Brazil CGI, 2010, p.19)

4 Research conducted by the Fundação Padre Anchieta. <http://www.conexaoocultura.org.br/> (accessed 15/12/2010)

5 Cf. (CGI, 2010).

public space which exists both physically and virtually.⁶

1.1 Goals and related work

Concerto para Lanhouse #01 intends to:

- explore the possibilities of a local computer network as a platform to create an audiovisual experience;
- work with sonic spatialization, synchrony and illusion of movement (light-sound);
- think the LAN as an audio visual instrument;
- pre-set patches to a luthier digital mode.

2 About the installation

The installation was programmed and composed in two parts. The first part combines the lights of monitors and the sound from computer speakers spread around the room to create an interplaying game of sound, illusory movements and synchrony. In the second part, color variations are used in an extended intertwining of "horizontal temporal arrangements".

Considering the computer as a tool which brings together different media (metamedia), being it capable of articulating sound, light and machines in a metadata flux through the LAN, *Concerto para Lanhouse* incites the thought of the LAN as a metainstrument. The building of this metainstrument can be understood as a handicraft work analogous to the work of a luthier. The digital 'luthiering' would take place on a plane combining hard and software, the computer network and audiovisual programming environments such as Pure Data (PD).

2.1 First approach: netsend / netreceive

The first attempt to implement the installation took place during the workshop Luteria Digital conducted in October 2010 in *Internet Livre* room of SESC Pompeia in São Paulo. In this first experiment the goal was to perform some

6 Cf. (CGI, 2010)

exercises with the participants using the computer network to explore possibilities of working with more than one computer. The initial intention was to create audiovisual instruments in PD and provide a framework for collective performance using all the twenty-eight computers in the room connected to a network local. Still in the room, the result of these exercises would be shown at the end of the workshop as a performance-installation.

The greatest difficulty in these first tests was to establish connection with all machines. The stream from the network provided by the objects and NetSend netreceive PD required that a machine should fulfill the role of server and be responsible for the entire connection. That implied configuring every machine, finding the IP of each one, establishing a connection between the 28 stations with the server that processed and displayed schedules.

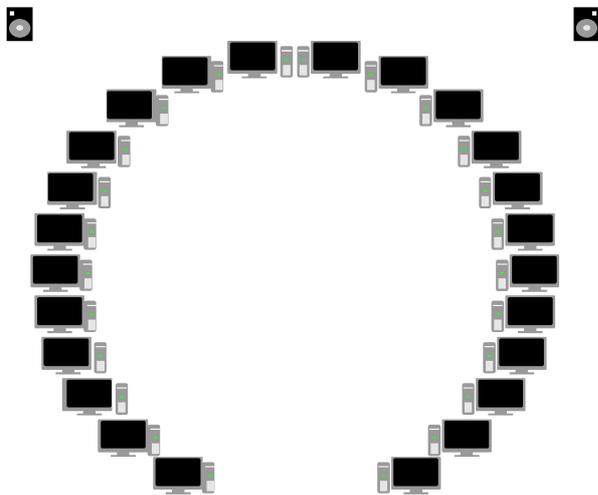


fig. 1 -Arrangement of SESC Pompeia computers

While testing, the network broke down a few times, causing some computers to lose their connection. On the last day of the workshop, and after several attempts, we managed to establish a stable connection with all computers for some time. We invited people who were there to watch the installation-performance. At the time of presenting the system crashed again and we didn't manage to reestablish it on time. Total frustration, which led to a few questions. What happened for the network to fall? What was the network's problem? How could the connection be simplified? How could a networking system be set up which didn't need so much time for configuring and testing?

In this first experiment, the aesthetic procedures were very simple. The monitors worked as linking lamps which would turn on and off sequentially after randomly sorting out colors for the screens. The idea was to create effects of optical illusion related to movement while using the computer screens as synchronized lights.

2.1.1 Considerations and possible diagnosis

During the first experiment, there was insufficient time to establish synchronization relationships between sound and image, or even to create something more elaborate for the network system. This occurred because the access and use of the room for tests at SESC was limited by the operational dynamics of the space, as it worked as a Lanhouse (internet cafe) with a continuous flow of people which makes any testing unviable. Below are some considerations:

- inability to make tests beforehand on the spot;
- Unfamiliarity with the SESC's LAN;
- Existence of cloned machines;
- Different operating systems (Curumim, Ubuntu 9.04, 9.10, 10.04, Ubuntu Studio 9.04, 9.10), making it difficult to install some libraries and reduce the time for testing the network;
- different versions of Pd extended 0:39, 0:41, 0:42 some machines couldn't initially install the PD extended given errors in the libraries and dependencies, which only allowed for the installation of PD vanilla and, by the synaptic, extended GEM.
- large amount of computers for the first test;
- non-exclusive which was also used by other people and applications.



fig.2. Arrangement of computers IME-USP

2.2 Second approach: netclient / netserver

After the first unsuccessful experience, it had become possible to perform the installation in the workshop room organized by the Museum of Image and Sound (MIS) in the *Comprimido* show.⁷ Since then, testing passed on to involve the same configuration as of the workshop room at MIS (fig 2 and 3).

⁷ <http://www.giulianobici.com/site/comprimido.html> (accessed 21.03.2011)

Considering the various problems mentioned before, it became necessary to conduct tests in a place offering both more control and time. The following experiments were done in the laboratory of the Computer Center for Education (CEC) at the Institute of Mathematics and Statistics (IME) at the University of São Paulo. The main operating system was Debian and some basic difficulties arose during the installation of Pd extended 0.42.5 making it necessary to compile some libraries.

The objective of this stage was to simplify the installation montage. Contrary to what happened before, we now tested other network objects (netclient and netserver) enabling each station to connect to the server. To connect all nodes of the network it was sufficient to know only the IP of the server. The data flow was also simplified by sending the same list of commands to all computers connected to a broadcast transmission mode. In this way, each computer was responsible for selecting the part of the message allocated to it.

At the CEC sound test wasn't carried out by lack of speakers both in the room and in the computers. The tests focused on resolving the issue of networking and some computer synchronization aspects, such as latency and, especially, image and movement-related effects.

2.2.1. Considerations and possible diagnosis

Although some circumstantial difficulties such as the configuring packages to install the PD, or not being yet able to test the sync with sound, the progress and results at this stage were positive in comparison to the first experience, and justified by the following aspects:

- smaller amount of computers;
- better control of the network;
- enough time to test the configuration of the machines;
- simplification of the connection between the machines and netclient / netserver.

2.3 Third approach: sound and video

The following three tests were conducted directly in the workshop room of MIS where the installation occurred. The lab computers were iMacs. We installed the PD extended 0.42.5 and began to perform the tests.

The main objective at this stage was to establish a relationship between sound and image, exploring aspects of spatial synchrony. We had some problems with the sound card and the quadrasonic system had to be adapted for stereo.

The diffusion of sound in the first part of the schedule, used only the computer's speakers to emphasize synchrony with the image. As the screen lit

and erased at the same time, it made heard or silenced the computer's speakers.

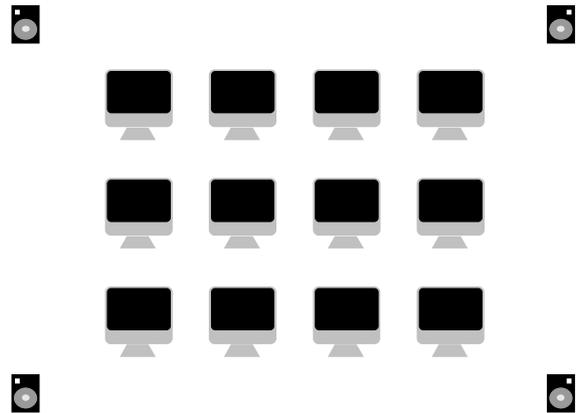


fig 3. Arrangement of computers MIS

The effect was one of synchrony and movement between both light and sound in the room. In the second part, the computer speakers were turned off and the sound was broadcast only by the quadrasonic system of the room.

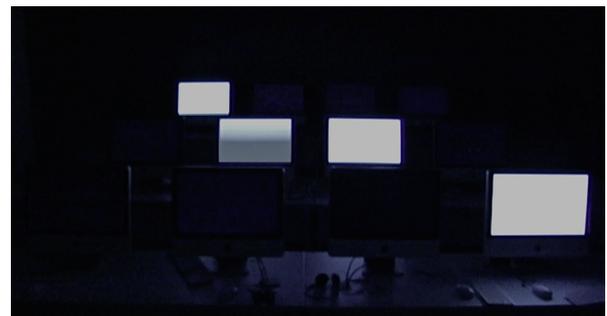


fig 4. 1ª part of installation MIS

2.3.1 Considerations and possible diagnosis

In this stage, there were little problems in relation to the final results, only a few unforeseen aspects such as:

- the network did not work initially because it wasn't alone. The solution found was to disconnect the LAN from the external network;
- menu bar of the GEM window was appearing even in fullscreen mode. The solution was to hide the menu bar of the Finder on the Mac;
- quadrasonic sound system did not work and was adapted to stereo mode.

3 Future initiatives and final considerations

The LAN is a presence in several areas: offices,

schools, universities, companies, telecenters, medialabs, cultural centers, among others. One of future developments of *Concerto para Lanhouse* would be to take on a significant number of initiatives, document them and provide them in ways that can be repeated and adapted to different configurations, platforms and places.

Also as future developments we intend to explore various resources that can offer a local network. A few questions remain: what would the results be like in other network topologies (ring or bus)? What elements could be exploited aesthetically in terms of sound and image? What strategies of interaction and automation is it possible to establish?

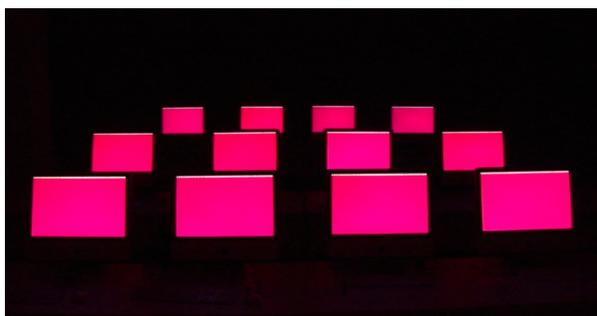


fig 5. 2ª part of installation MIS

In another aspect, even though it isn't the case in this present work, it seems provocative to use the LAN to design works of larger proportions. Given the computational costs involved in real time image and audio processing, using a computer network can offer other types of processing possibilities and a greater scalability of computational resources.

Different from proposals that involve the Laptop Orchestra (LORk)⁸ - whose design rethinks the place of musical performance and the use of the computer as a meta-instrument in a station composed by loud speakers and sound card with the presence of musicians on stage⁹ - in *Concerto para Lanhouse* the proposal was to create an installation.

In LAN house concert the notion of musical performance is different from the notion of LORks which are based on the model of music performance in group. Instead of the installation, we can rethink the musical performance while using the network as a meta-instrument.

In these proposals, the computer is thought as a meta-

8 We can cite several laptop orchestras (Lork) like: Stanford Laptop Orchestra (SLOrk), Princeton Laptop Orchestra (PLOrk), Seattle Laptop Orchestra, Tokyo, São Paulo, Moscow Cyberlaptop Orchestra, Linux Laptop Orchestra (L2Ork) other the mobile phone orchestra (MoPho) in Michigan (8) Helsinki (9) and the Berlin. (Kapur, 2010, p. 1)

9 "One of the most exciting possibilities afforded by the laptop orchestra is its inherent dependence on people making music together in the same space." (Trueman 2007, p.177)

media or meta-instrument capable of performing a series of procedures of different natures, articulating a set of content from existing media as well of as of others not yet available. From this articulation and the versatility of combining different media techniques, new performance species emerge in the media ecology.

In this sense we can say that the LAN can present a different perspective of the distribution of tasks in relation to the medias. We bet on pointing out how a deviant inflexion offering creative possibilities of syntaxes, fluxes, temporalities, machinical gestures, are becoming sensible, audible, visible.

With regard to the *Concerto para Lanhouse* the exercise is to think not only the creation through the network but the creation with the network - what it can offer, its articulations, hierarchies, settings, inflections and rate transmissions while considering the network as metamedia that puts the media in a performative state, or even a kind of "performedia".

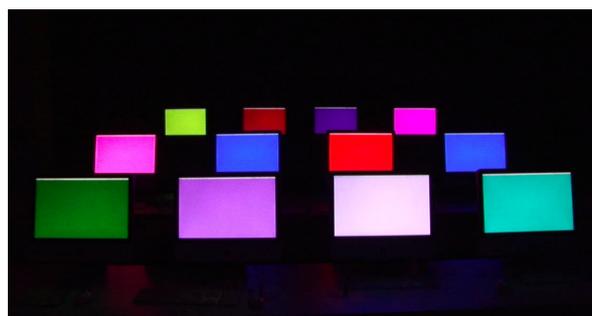


fig 5 - 2ª part installation MIS

4. Acknowledgements

The authors would like to thank the support of FAPESP - São Paulo Research Foundation (grant 2008/08632-8) and CNPq. To SESC for offering projects and workshops. Teachers Fernando Iazzetta and Eduardo Santos which allowed the space to develop this work during the courses at the ECA-USP graduate program. The Graduate Program of Music and IME which paid for transportation cost to present the work at PDCon. Fabio Kohn and Marcelo Queiroz that allowed for testing in the IME laboratory. Marcelo Bressanin for the invitation to present the work at MIS.

References

[1] Ajay Kapur (2010). The machine orchestra (2010) International Computer Music

Conference.

[2] Alexandre Barbosa org. (2010) Pesquisa sobre o uso das tecnologias da informação e da comunicação no Brasil : TIC lanhouses 2010. São Paulo: Comitê Gestor da Internet no Brasil, 2010.

[3] Dan Trueman (2007). Why a laptop orchestra?. *Organised Sound*, 12, pp 171-179 doi:10.1017/S135577180700180X

[4] Fernando. Iazzetta. (2010) Música e mediação tecnológica. São Paulo: Perspectiva, 2009.

[5] Jaime Wagner (2010). O PNBL e os Pequenos Provedores. In: CGI.br (Comitê Gestor da Internet no Brasil). Pesquisa sobre o uso das tecnologias da informação e da comunicação 2009. São Paulo, pp. 81-85

[6] Laubier, S. 1998. The meta-instrument.

Computer Music Journal 22(1): 25–9.

[7] Lev Manovich. (2010) Estudos do Software. In: *File Teórica Digital*. São Paulo: Imprensa Oficial (pp. 182-195)

[8] Marcelo Bechara (2008). Banda larga: Os espaços públicos de acesso à internet. In: CGI.br (Comitê Gestor da Internet no Brasil). Pesquisa sobre o uso das tecnologias da informação e da comunicação 2007. São Paulo, pp. 47-50. <http://www.cgi.br/publicacoes/artigos/artigo52.htm> (acessado 21.02.2011)

[9] Relatório do CGI (2010) e Fundação Padre Anchieta <http://www.conexaocultura.org.br/> (accessed 15/12/2010)