

Sensing Shared Places: Designing a mobile audio streaming environment

Rui Chaves & Pedro Rebelo

Abstract

This paper addresses mobile audio streaming in the context of sharing a sense of place. This action is mediated by the network, the body and remote listening. These elements are essential in the concept and design of a platform for audio transmission (liveshout), that aims at intersecting mobility within the realms of radio, network and transmission art.

1. Introduction

In 1933, F.T. Marinetti and Pino Masnata in the manifesto *La Radia*, propose the appearance of a cosmic form of radio that will surpass all forms of previous media, such as Books, Theater or Cinema. It does so by destroying narrative, *imensifying* space and amplifying the immaterial, the vibrations of living beings and nonliving beings. This apparatus folds time-space and in the process allows for its performance, where the:

“Struggles of noises and of various distances, that is, spatial drama joined with temporal drama”
(Marinetti and Masnata 1992: 268)

The previous work in networked music reflects some of these issues. Audio connection between geographically displaced sites suggests the development of strategies that envisage the rendering of this new shared environment. This is done through the necessary coordination and collaboration between sites, or the use of distance as a compositional and performative process. These unique elements fuel the necessity for a dramaturgy that weaves different media elements in constructing presence between sites and participants, in a new social and cultural context (Rebelo, 2009, Schroeder 2009)

This new context is here addressed from the point of view of mobile streaming as a performative practice, situated outside the confines of a concert hall or formal performance environment. This type of mobility suggests the exploration of a landscape and its shifting soundscape through walking, through the presence of a remote body, mediating an experience in between sites.

Some of these critical and aesthetic issues permeate some of the work already done. That uses diverse technologies, such as cellphones or small fm transmitters.

2. Background

2.1 Tele-Tap

Tele-Tap was a project by Dutch group Cut n Paste (2010). A radio work based on a connection with a number of personalities that were active in Amsterdam's nightlife, such as: a member of the Salvation Army, a harbour worker, a musician and a woman that strolled through the pubs. This connection was based on the open mike of their mobile phones, being converted into live audio streams that were accessible in different formats and contexts. For instance, in 2001 they live aired the work on Dutch radio channel VPRO and at De Baile, an Amsterdam cultural center. Their group plays on the casual events that everyday actions bring forth, demonstrating how tenuous are the borders between public and private space. (Turbulence 2005)

2.2 com_muni_port

In 2002, the group Neurotransmitter (2010) created com_muni_port (2002) - a broadcast tool designed for short range pedestrian transmission. It consisted of a backpack containing an FM transmitter, a CD player, a microphone, a pair of headphones and a multichannel mixer. Its range was limited by the configuration of the outdoor space they were in, with an optimal range of one mile.

In com_muni_port, the idea of creating networks in urban landscapes is essential. The low range apparatus breaks down the relationship between transmitter and receiver. This localized work created in their words, *sonic diagrams*, a form of map making based on movement and mobile live sound capturing and mixing. (Francesco Ventrella 2007).

3. Transmission in the Everyday

Both of these practices are within a history of avant-garde sound described by Douglas Kahn (1994). This history accounts for ideas such as: vibration, inscription and transmission .

Vibration, reinforces the relational character of sound in determining the role of the body and objects in space. Inscription, due to the developments in phonograph technology, transcends the raw notation of musical notation and phonetics, and strives to incorporate and write all sounds. Transmission combines both aspects, fusing spatiality and corporeality, situating sound sources and objects within great distances. (ibid.)

Vibrational space that had existed only in representation was given breadth and depth once again by a signal silently crisscrossing space, bearing both sonic content and the objects that had been demobilized by inscription in a variety of manners, internal and external, point-to-point and centripetal narrowcast, broadcast, to and from an isolated inscription, to and from inscribed objects and bodies, to and from objects and bodies, and to and from the spaces they inhabit and that inhabit them. In other words, transmission was basically the return and invigoration of objects and bodies that had been fixed by inscription to the space implied by vibration. (Kahn 1994)

Steven Connor in "The Modern Auditory I" (1997) reflects the influence of these new auditory technologies in questioning models of explaining experience through visualism. (ibid.) The sonic prompts the subjective experience, where source and effect are ambiguous. The dominating presence of the phonograph, telephone and radio between 1875 and 1920, accompanied the rise of modern literary, philosophical and psychoanalytic texts. The telephone, for instance, brought fascination due to its ability [...] to convey messages and information as by its faithful preservation of the individuating tones and accidents of speech and even the nonverbal sounds of the body [...] (1997:205) Descriptions of this form of fascination signaled the disintegration of time and space, that represented such forms of technology.

According to Labelle (2010), the necessary infrastructural development that allowed the rise of such technologies, manifested in the construction of huge communication towers ,(i.e Berlin Tower) changed our spatial urbanism. These electronic macro-structures, signaled the utopic desire for freedom, communication and togetherness. Their appearance demonstrated the arrival of networks and a new spatial imagination(2010: 213). An imagination triggered by the existence of an invisible force - the electromagnetic. This electrical manifestation becomes the metaphor to explore and represent the psychological states that urban space contained, with the objective to sense the

immaterial and to escape the very society of spectacle that this apparatus conveyed. Such artistic and ideological project is evident in the work of the Situationist International. (Knabb 2006)

Other technological forces in the city have emancipated the individual to the potential of elsewhere. The continued developments in technology has diminished the size of those towers to our individual cellphones. The potential to transmit live content is at our fingertips, moving from radio and TV stations, to the street. It is within this new possibility, that we can potentiate the synthesis of transmission described by Kahn into significant forms of creative sound art practice.

The history of experimental radio, music and theory related to networks provides a basis for both the design of a platform and an artistic practice, that is rooted in a well documented fascination around the relationship between sound, space and the body

4 Listening to a remote body and place: an evocative process

4.1 What does it mean to listen remotely?

As we have seen, transmission poses remote listening as a force for new forms of space and time perceptions, raising new questions in terms to how we represent or perceive sound in terms of context. But how do we address this with previous research that posits the culture of listening in which a sound (object) is relatively unaffected by the subject (the listener); this interaction between the two being normally described according to intention. To further complicated things, most of these models were made for a recorded medium and the existing theories in networked art are predominantly visualist. Thus it is necessary to intersect listening frameworks that expose the importance of body and place. In an interplay between everyday life and compositional practice, intersecting with notions of immediate shared place. From there we investigate through new ecological aesthetics this site of sharing, the role of technology and our practice within this.

4.2 Listening Frameworks

The three listening modes proposed by Michel Chion in the context of audio-vision (1994) reflect methods for decoding sound which he describes as reduced, causal and semantic. The tradition of acoustic ecology criticizes this approach as disembodied, as disconnecting the individual from the source of the sound as a feature of what Schafer calls schizophonia (1967). There is a perception of the soundscape as a musical composition in which the listener has an active part, perhaps insofar as the listener is involved in the composition process.

More recently the work of Suk-Jun Kim, presents an interplay between these different listening modes. This is described as acousmatic reasoning, where concepts such as “Body”, “Place”, “Non-body” and “Non-place” are essential. (Kim 2008)

It is within this framework, sonic image, that imagination plays a big role in completing and establishing relationships within the sound sources that are not seen or remote, such as the case of our practice.

This model has been further described by Suk-Jun Kim (2010) appearing as an essential phenomena in creating a listening framework:

The making of a listening framework may propose or at least suggest an answer to the first question: that is, listeners imagine what is missing in order to complete the representation. Humans do this daily when faced with partial perception of events. For example, while I am writing this sentence in my study, I hear a series of loud sounds – beeps, sharp scratching, thumping and cranking – but I cannot see their source; nonetheless, I create, out of past experience, a visual image of a garbage truck just outside my apartment. (2010: 47)

4.2 Representation of body and Place

Other components proposed by Kim are: Body as a Sound Image, Place as a Sound Image, Interaction between body and place. The first takes into account, what we listeners perceive as sonic features that represent the body. The second, engages into two processes: one of recognizing the possibility of different sonic events existing in a particular place. The third and last idea, posits the possibility of a body existing in a place. This possibility can obviously change, and he gives the example of Alvin Lucier's *I am Sitting in a Room*, in which the initial voice and body disintegrates into the spatial properties of the room. (quote).

It is within these ideas that we position dialogue between displaced geographies and listening. The body acquires different modes of presence, potentiated by the technical framework (see section 4) of this practice, where the function of sender/receiver is clearly differentiated. The “sender” explores, captures sound, performs to an invisible audience. This audience, due to the nature of the application, is inhibited from communicating with the performer. This impossibility reinforces the ephemeral link based on time, space and body.

4.3 Sharing an environment

Remote listening certainly influences our reading of sound source and space, but also how we share an environment.

The phenomenological model proposed by Gary Backhaus (1997) proposes imagination and the immediacy between telephone users, as crucial in constructing a new form of empathy.

This immediacy relates directly to the idea of sharing a place, making this form of technological transcendence, different from a description in a written statement or I may argue a recorded soundscape. By sharing, we create empathy, we enter into the other's motivation, changing our own subjective experience of our space of description. A we-subjective identity appears, within the synchronousness of our different streams of experience.

4.4 Mobile Transmission as a form of evocative mediation

Transmission and remote listening are part of a process mediation. In what Timothy Morton (2007) calls the relationship of an inside/outside, private/public, me/ the other, background /foreground. This process of contextualizing the otherness reveals the in between, the ambiance. Being part of a wider practice deemed Ecomimesis (2007: 63). In which artists tend to describe nature in a metaphysical, aesthetics discourse; believing that there is something beyond the inside or outside of a work. This maintains a difference between us and nature, between us and the city. While, we should be aiming at an aestheticized politics, that bears the context of us in here.

Mobile audio transmission becomes the perfect media from which to explore the rituals involved in the familiar/unfamiliar settings of everyday life and context. We have already seen that the development of these new technologies prompt new ways at experiencing the city. Radio for instance, triggers memories and moods, but it can also question the when, why, where and how you are listening. We pose this process as evocative and this is the background from which we pursued the development of Liveshout.

4.5 Liveshout

The software (liveshout) was developed in collaboration with Ecliptic Labs and with support of CoMeDia¹, a european union funded project.

Think of someone in the city, under a bridge, equipped with a mobile phone, running an application that streams audio to a server, this allowing broadcasting to a player embedded on a website. By listening, we follow him through the bridge into a footpath near the river and we start hearing teenage kids far way. We don't know where he is. His movement, mixes the different soundscapes. Bodily sounds become apparent... It is the presence of this performer, that gives scale to the sound source and soundscape.

The above description is, of what we consider to be one of the basic premises of this project: allow the practice of a live and mobile form of site-specific sound art. That engages the city and the audience, using remote listening to stimulate new forms of wireless imagination (Kahn and Whitehead 1997) that reveals the role of networked mediation in prompting new notions of place.

Current audio live broadcast applications for mobile devices are a recent development with issues regarding the quality of signal, lack of design flexibility and high costs in acquiring the server structure or performing a simple broadcast.²

Our goal was to create a platform that is easy to share with different creative practitioners and to be being opened in different platforms, from musical programming environments such as Pure Data³ to open source media players such as VLC⁴.

Within this backdrop, we created liveshout, an application that allows for single or multiple user mono/stereo mobile audio broadcast made for the iPhone⁵.

LiveShout works with the expansion of Wi-Fi and 3G networks available in urban space. This way, live audio mobile streaming emerges as a practice, that while relying on ubiquitous technology, suggests new modes of situated listening. In the next section we will describe some of examples of work done with this application.

5. Examples of work

5.1 left+right⁶

Left+Right was a piece designed by Paul Stapleton and Rui Chaves. It explored ideas of soundwalking, choreography and improvisation to create a realtime site-specific audio performance, in which two performers who simultaneously broadcast audio from overlapping journeys across the city of Belfast, employing the form of interaction found in radio transmission as a source for relational dialogue between performers, place and listener. Each performer, "Left" and "Right," supplied part of the stereo chain that was broadcast to multiple listeners across the internet. The piece investigated the diverse soundscape of Belfast, as well as the changing distances and relationships between each

performer's unique sonic perspective. The concepts of liminality, psychogeography, ritual and play are interrogated through this adapted metaphor of the stereo image. The resulting audio broadcast was dynamic in nature, shaped by realtime decisions that were transmitted through a mobile and multivocal ecological network. The piece was presented in radiofutura, part of digital arts festival Future Places (2010)



5.2 wewalktogether⁷

This piece was presented during the 2010 Sonorities Festival at the Sonic Arts Research Centre at the Belfast Platform for the Arts gallery in Belfast.

wewalktogether was a mobile broadcast piece for 3 performers in three different cities: Graz, Hamburg, Belfast. They were symbolically united by a “timeframe”, a score with a series of notes and timed instructions and a multichannel system that allowed for simultaneously listening of each stream. Each performer explored different soundscapes, but also specific situations that are enhanced through on the spot engaging with urban space.

The piece aimed at providing the audience new time-space relationships based on the layering of the three sites, the gallery and the actions of the performers

6.Conclusion:

With liveshout, we aim at developing a live sonic practice in the current use and performativity of internet and mobile devices. The act of capturing sound, walking and the body of the artist, renders the city as an instrument - a place for a distant, locative and sensuous listening. We pursue a new place of becoming, a networked mediated process, where imagination puts in contact our everyday experience, with new forms of urban

exploration and presence. Drawing between the performer and listener a new consciousness of place.

Endnotes

1. <http://www.comedia.eu.org/co/comedia-home.html>

2. http://www.luci.eu/wphome/?page_id=15

<http://www.tieline.com/products/G5/Report-IT-Live>

<http://www.ipadio.com/>

3. <http://puredata.info/>

4. <http://www.videolan.org/vlc/>

5. Liveshout is a working progress, but functional prototype. If you have any enquiry, please don't hesitate in contacting us.

6. <http://www.vimeo.com/17681321>

7. <http://www.vimeo.com/17651391>

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Rui Chaves (Sonic Arts Research Centre, Queen's University Belfast), researches and does creative work in the areas of sound art, performance and mobile audio, through existing technology or by participating in collaborative work for the development of new tools. He positions listening as a performative and embodied experience that enables to use contextual media in enabling a 'locational identity' to emerge. Rui did his undergrad in media studies, worked in a arts organization called c-e-m: centro em movimento and did an MA in Sonic Arts with funding from the Fundacao Calouste Gulbenkian. Currently I am pursuing a phd at the Sonic Arts Research Centre with funding from Fundacao Ciencia e Tecnologia: rchaves01@qub.ac.uk

Pedro Rebelo (Sonic Arts Research Centre, Queen's University Belfast), Pedro is a composer/digital artist working in electroacoustic music, digital media and installation. His approach to music making is informed by the use of improvisation and interdisciplinary structures. He has been involved in several collaborative projects with visual artists and has created a large body of work exploring the relationships between architecture and music in creating interactive performance and installation environments. This includes a series of commissioned pieces for soloists and live-electronics which take as a basis the interpretation of specific acoustic spaces. In the duo laut with saxophonist Franziska Schroeder he investigates the extension of interfaces and control in interactive performance practices. His electroacoustic music is featured in various CD sets (Sonic Circuits IV, Discontact III, Exploratory Music from Portugal, ARiADA). His audio-visual work "lautomata.3" has recently been awarded the Special Recognition prize from the CynetArt Festival, Dresden. Pedro conducts research in the field of digital media,

interactive sound and composition. His writings reflect his approach to design and composition by articulating creative practice in a wider understanding of cultural theory. Pedro has been awarded a PhD in composition from the University of Edinburgh and is currently Director of Research at the Sonic Arts Research Centre and Chair of the Sonorities Festival of Contemporary Music: p.rebelo@qub.ac.uk