Mobile Soundscape Mapping

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1.   INTRODUCTION

Implicit in the notion of Acoustic Ecology as a discipline, is a deep sense of understanding the surrounding acoustic environment, the nature of its balance, and the subtlety of its sonic components and patterns of our interactions with it. One of the forms of understanding, developed and promoted by Schafer, is a trained aural awareness – the cultivation of a keener ear, a re-sensitizing of our hearing to the sounds of our environment. Other ways of engaging into a meaningful understanding of acoustic ecology are acoustic design on one hand, and soundscape composition on the other. As Shafer notes himself, "Acoustic design should never become design control from above. It is rather a matter of the retrieval of a significant aural culture, and that is a task for everyone." (Schafer, 1977). This point is further contextualized by acoustic communication theorist, Barry Truax who points out that, "the necessity of the ecological concept springs from the context of loss, or at least from the present threat to survival. The question for us now is whether a new balance can be regained. Can we – with consciousness – be part of a new eco-system?" (1992). In light of soundscape design, we have to be informed by the past, and maintain an ecological balance of sound components. To start, we have to understand design as a system that "comprises the knowledge and the techniques that we understand and can put into practice," (1992) and that it involves everyone as listeners and soundmakers, not just the designer/composer.

The changing conditions of our media and technology-saturated world may be in part the cause of the 'dulling' of our ears, however, they also offer surprising and exciting new possibilities for soundscpae and acoustic deisgn, sharing of listening experiences and building of online/media communities around soundscape mapping. Mobile technologies and the web - particularly social networking - have in the last several years "democratized" the collection and sharing of soundscape recordings. While audio recorders are now a standard feature in many personal and mobile computing devices, social networking sites like facebook, twitter, and audio-specific sharing sites such as soundcloud, audioboo and woices, not only make it possible, but encourage the "mapping" of soundscapes in relation to geographic locations, images of the surrounding and built environment, as well as sharing all of these mappings with a larger online community - thus building a "world soundscape project" of a different kind. For owners of smartphones there are now accessible and reasonably accurate sound level meters and related real-time analysis applications. In this report I will trace some of the available tools for soundscape analysis, mapping, recording and sharing, and present the beginnings of a study that aims at better understanding listening practices and the role of urban soundscapes in people's lives through mobilizing these tools in the purpouseful mapping of the soundscape and reflection of sounds and listening.

2.   ONLINE SOUNDSCAPE MAPPING

There seem to be several types of online communities for the sharing, recording, uploading and re-constructing of soundscapes and soundwalk recordings. Most use a type of geo-tagging or the aide of GPS-based geographic online typology, based on Google's already established project to allow audio google mapping.

2.1 Community-based online geo-tagging

Below are two screenshots – one from a dedicated online soundscape/soundwalking community called woices.org (world voices – Fig.1) and another from a project of radio Aporee (Fig. 2) initiated as a commemorative initiative for World Listening Day 2010.
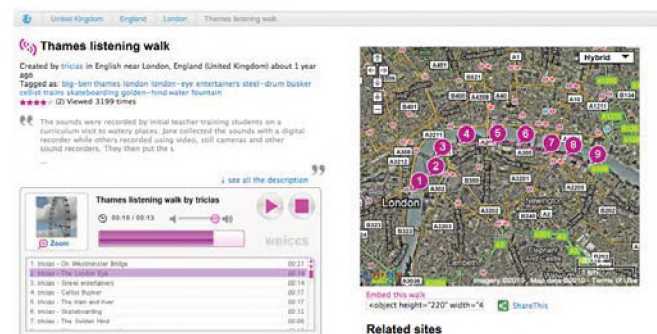

Fig. 1. An entry from woices.org – soundwalk around the Thames River in London presented as a series of nine recordings, contributed from several participants in the soundwalk.

Both are modeled after the World Soundscape project, and attempt, through a community-based contributions, to populate geo-web locations around the world, thus not only preserving sound environments, local soundmarks and personal experience, but also, in a more general way, promoting attentive listening and the active, creative, designer-ly engagement of people and soundscapes, an idea that has enjoyed a growing popularity among community artist groups and academics alike (Agoyard & Torgue 2005, Labelle 2010, McGregor et al 2002).

Fig. 2. A screenshot from radio aporee's contribution interface for World Listening day - utilizing Google Earth's API.

2.2 Generative geographic soundscape re-synthesis

A notable mention in surveying online community-based soundscape mapping spaces goes to Soundwalks.org (Fink et al. 2010) following Valle, Shirosa and Lombardo's work (2009). Soundwalks is a tool which collects user-uploaded sounds, organizes them according to an acoustic, semantic and social ontology and is then capable of re-synthesizing a desired soundwalk (as drawn in Fig. 3 below).
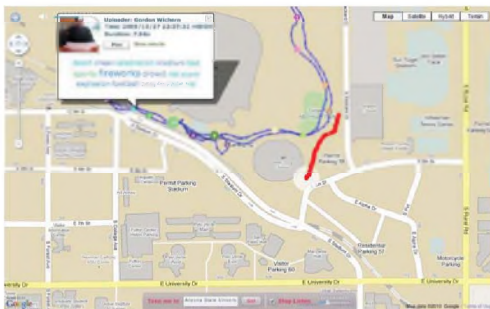

Fig. 3. Screen from Soundwalks.org – a tool that automatically generates a re-synthesis of a soundscapes, in the form of a soundwalk, from a user-uploaded sound file database for given locations.

3.   MOBILE MAPPING / ANNOTATION

What I'd like to suggest now is that one element missing from the examples discussed above – an element that may be crucial to soundscape research, rather than just community soundscape mapping – is a way of qualifying, annotating and otherwise analyzing the uploaded sound files. As it stands, contributors upload a variety of audio and recording quality, not to mention, the subjective selection of sound environments and events goes unacknowledged. What I would like to present is a different way of annotating and presenting sound recordings where the sonic environment or acoustic community is of research interest. Using only an iPhone with a Recorder app and Faber Acoustical's dB app, I've collected, visually organized and described a number of sound locales into a sonic inventory of 'aural postcards' (Tonkiss, 2003) Posted on my blog (natuaural.com) I hope to build an ontology of archetypal urban sound environments organized within an analytical framework combining visual, narrative and measurement information. What I hope to demonstrate is that this way of presenting sonic maps offers a valuable addition to other geo-tag-based soundscape communities online, and a potential combination of the two could enrich the field of acoustic ecology research by combining descriptive, geographical, sonic and analytical accounts.
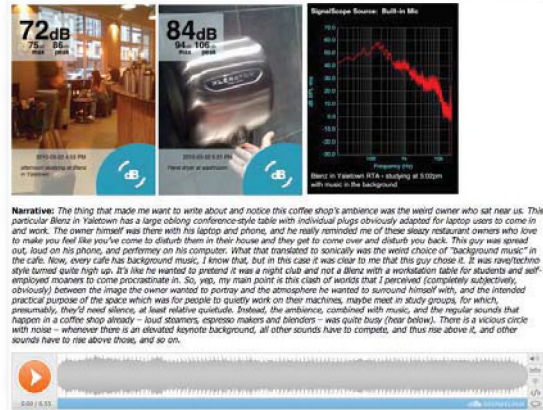

Fig. 4. An example of a blog entry with pictures of the space, overlaid decibel SPL readings, a screenshot of a real-time RTA graph, the sound file (using Soundcloud.org player) and a personal narrative/description.

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