

TUB Soundscape Report

Project description and Measurement Report

Group: Circling Sound

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1. Introduction

In this semester's project workshop, we dealt with the topic of "soundscapes" and how this term, which describes an acoustic environment, can be analyzed, measured and adapted in the context of the campus. Through different methods we approached this topic and learned how versatile it can be worked with regarding its analysis, measurement, intervention or general use. The project workshop is already in the second semester, and the current focus is set on "Measurements and Interventions". Therefore, first a small summary is provided which depicts the methods that were utilized, leading to the project of our group, which is partly based on the previous work and aims at an intervention of the Campus soundscapes.

2. Seminar

During the past months of the semester, we as a group primarily focused on measuring the soundscape of the campus and its impressions in order to come up with an idea of intervening in it. During the appointments, many contextual impressions were offered, from which ideas could emerge. For example, we often started the seminar with listening exercises in which conscious listening was trained and conducted excursions that illuminated different aspects, related to the topic "Measurement and Intervention". An excursion that for instance strongly shaped our idea of a public intervention was the trip to *Klangdome*, a space that hosts a spherical speaker dome enabling it to represent three-dimensional soundscapes, which we found is a perfect tool for the conscious experience of artificially generated soundscapes. The group around *Klangdome* is making a use of the DAW *Reaper* due to its multichannel functionality and within it they host the IEM spatialization plug-ins in order to pan artificial sources on a spherical speaker set up. Here we were given a little introduction into the software components and had a few listening experiences.

As this already approaches the means of intervening in a soundscape, a stronger focus on the measurement of it was set during the visit and workshop of Thomas Kusitzky. He presented a method that can be used to graphically capture soundscapes. So-called auditory maps are used to record mainly acoustic impressions. The given figure shows an auditory map, which was created during his lecture at the TU Berlin. Literature work was also done in the format of a World Café workshop, where the students prepared 5 texts in order to explain them to each other. The texts

focused on methods that can help to realize acoustic projects. The literature served not only as a reference book, but also as an inspiration on how to approach projects. Here another inspiration to our project was found since we were concentrating on the topic of sound art in public space, by reading *Site-Sounds: On strategies of sound art in public space* by Georg Klein.

Figure 1: red: Sources, green: Emotions, blue: sound attributes, yellow: externals

3. Project

With the purpose of increasing the awareness of students and employees for their acoustic environments in the TU campus, which they come across on an everyday basis, we thought to set up an installation that also utilizes 2D/3D sound in order to implement a sonic artificial soundscape into the one that already exists on the campus. From this we came to the idea of setting up a circular arrangement of 8 flat panel loudspeakers, of which each uses a wooden plate as its membrane and becomes a sound body through the distribution of vibration on it. With a diameter of about 8 meters, the center encloses a space in which the sound field is constructed and dynamically unfolds through movements of the digital sound sources. The auditory result within the circle plays with the perception of the participants, so that they are holistically enveloped by the sonic shifts.