

Interactive Sound Installation: INTRIUM

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ABSTRACT

INTRIUM is an interactive sound installation exploring the inside vibration of the atrium. A certain number of architectural elements are fitted with acoustic sensors in order to capture the vibration they produce when they are manipulated or touched by hands. This raw sound is further processed in real-time, allowing the participants to create a sonic landscape in the atrium, as the result of a collaborative and collective work between them.

Keywords

Interactive sound installation, collaborative work, sound processing, acoustic source localization.

1. DESCRIPTION

The installation I am proposing is site-specific, using the existing elements of the atrium space to transform it into a giant, collaborative musical instrument. The sound source is the vibration produced when touching, taping, rubbing, etc. some element, object or surface of the atrium. This raw sound is amplified and processed in real-time, using the position of contact to control the processing parameters. This is possible thanks to the acoustic-localization technology developed in the context of the European project of research TAI-CHI (Tangible Acoustic Interfaces for Computer-Human Interaction), which is aimed at transforming usual objects into interactive interfaces [1, 2]. At present, the technology supports only one user at a time (one point of contact), so several architectural elements (or objects) will be chosen, so that several person can play together to form an ensemble. Usable elements should have a good sound transmission, such as wood, metal and glass, and the more interesting vibration they produce, the better. The final sound is spatialized, using the surround sound facilities of the atrium.

2. INSTALLATION

The installation consists of a certain number of physical elements of the atrium (~4), selected among the following ones:

- a. Tables on the raised platform
- b. Ramp and rails leading to the raised platform
- c. Seats around the platform

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- d. Floor of the platform.
- e. Hand rails on the walkways of floors above the space.

The elements are selected according to their sounding characteristic and the ease to attach contact microphones to them. In this process, I generally use a stethoscope to listen carefully to the response of objects and surfaces while I tap or scratch them with my other hand.

3. DESCRIPTION OF EXPERIENCE

3.1 Note of intention

As a sound artist, choreographer and performer [3], I develop my work around the common theme of *origin and transformation*. I try to track the source of vibration and movement as a metaphor for tracking the source of Everything. For that, we need to go beyond appearances, under the surface, and look where one might not necessarily expect it, like the objects that I use for my installations. Going inside and seek for the source is ultimately an attempt to reach a universal dimension that is linking all of us. Modern technology, with Internet and cell phones, for instance, is doing something similar, indeed ("Connecting People"). However, I look for a deeper link and a different experience, without words and images, using our sense of touch to explore the inside vibrations of our surrounding world and communicate with other human being.

3.2 Audience role

The role of the audience is to create a sonic landscape, resulting as a collective and collaborative work between participants. About 4 people can play at the same time, each one choosing a different area or element of the atrium prepared for this purpose. Usually, the experience is divided in two phases. At first, the audience has to discover and explore the sonic capabilities of the particular object or element that has been chosen. This implies the necessity to distinguish the unique sonic identity of each object, given that the sounds of all objects are mixed together. In the second phase, the creative and collaborative process can start, without time limit.

4. ACKNOWLEDGMENTS

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5. REFERENCES

- [1] <http://www.taichi.cf.ac.uk>
- [2] *Tangible Acoustic Interfaces and their Applications for the Design of New Musical Instruments*. Report at NIME05.
- [3] www.b-polar.com