Transparent Sculpture: An Embodied Auditory Interface for Sound Sculpture

Daichi Misawa

Interface Cultures Department,

Institute for Media Design,

University of Arts and Industrial

Design Linz

Kollegiumgasse 2

4010 Linz, Austria

Daichi.MISAWA@ufg.ac.at

Abstract

Toward ecologically distributed interactions of sound in the real world, this paper presents an embodied auditory interface for a sound sculpture; it is composed of orientations' structure of sounds from directional speakers and a pedestal to capture a certain real space.

Keywords

Transparent Interface, Interaction, Sound Sculpture

ACM Classification Keywords

H5.5. Sound and Music Computing.

Transparent Sculpture

Toward ecologically and spatially distributed interactions of sound in the real world, this paper presents an embodied auditory interface for a sound sculpture, called *Transparent Sculpture*; it is composed of orientations' structure of sounds from directional speakers and a pedestal to capture a certain real space as a sign. See figure 1. The orientation's structure is made with directional speakers installed at the space.

To appreciate the artwork, audience steps up on the pedestal placed at the ground, and become a part of the artwork. While paying attention to noise and moving around on the pedestal, like experiencing music

or sculptures, the audience emits his own noise, and also perceives and experiences a structure of sounds sonically molded on the pedestal. In this process, the structure of sounds is an orientations' structure of sounds; it is invisibly and spatially composed of the directional speakers' orientations, like a three-dimensional web. The audience can listen to different sounds depends on his place on the pedestal. The sound emitted by the audience interactively can be heard as a mirror of sound in almost real time. Feedback noise does not happen, owing to the speaker's narrow orientation. As a consideration for the artwork, some notions constitute the basis of artwork, such as *Total-artwork*, *Framing the space*, *Noise*, *Diffuse Interface, Transparent Interface* and *Transparent Sculpture* [1, 2, 3, 4, 5, 6].

The artwork was exhibited at Ars Electronica 2012 for its premiere. I could observe there that audience were walking, dancing and screaming on the pedestal. It seemed the vision of the artwork was achieved somewhat. The size of artwork was approximately: 6m width, 6m depth and 3m height; the interaction was designed with iPod Touch 4th Generation and an original application written with Objective-C; the outputs from the directional speakers were 6 in total.

Conclusion
The artwork functioned as an embodied auditory interface, to such an extent that audience started to walk, dance and scream.
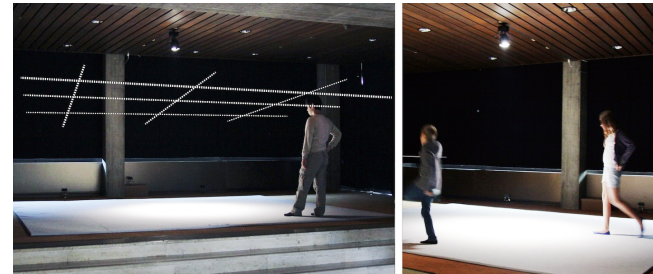
Acknowledgement

figure 1. The left image illustrates orientations' structure of sounds; the right image captures the moment in which two audiences were dancing on the pedestal.

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