

Sound and Space

Modes of Interaction and Technical Details

***** Spoilers Ahead! *****

Sound and Space comprises nine ultrasonic rangefinder sensors mounted in wooden artists' panels that transmit distance data to a synthesizer patch running in Max on a computer. Data is transmitted wirelessly using XBee radio modules.

The synthesizer generates tones that correspond to an octave divided evenly into nine intervals. In combination, these tones frequently evoke more familiar intervals, but over time tend to dissipate back into a composite drone. The tones fade in and out independently of one another, each time emerging from a different combination of speakers to produce varied spatial effects.

Each sensor is paired with a specific tone. Slightly detuned overtones emerge as visitors approach each sensor. These “ripples” function as a marker of human presence in the space: without visitors they are neither produced (by design) or heard (axiomatically). A filtered and time-stretched sample of an orchestra tuning fades in and out periodically as well.

Each iteration of **Sound and Space** also makes use of site-specific “golden points.” When a visitor stands at one of these points, the corresponding tone becomes frozen in time and space: its precise envelope duration and speaker configuration are maintained until the visitor moves away. With individuals standing at all nine golden points, it is theoretically possible to “freeze” the entire environment...

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