Title: bug 蛄聽器

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1. PROGRAM NOTES

bug demonstrates the potential of sound event recognition (SER) in locating insect-like noises or socially undesirable elements by navigating through spatial audio (Ambisonics) field recordings. It is a commentary on the increasing development of audio technologies with uses in entertainment and advertising, as well as in surveillance, law enforcement and the military.

In *bug*, an algorithm scans through spatial audio captured at urban environments in Hong Kong. Field recordings of Cantonese dialects, South-East Asian languages, Asian music and wildlife are analysed, pursuing insect-like sounds. They are then made audible by parametric speakers emitting modulated ultrasound with a laser pointing in the same direction using a pan-tilt base and servo motors. The emitted ultrasound is highly directional, creating a "beam" of inaudible sound waves more similar to light than conventional audio. As the waves collide with the interior of the installation space and demodulated, audible sound emanates from the point on the wall, ceiling or floor at which they are reflected.

2. PROJECT DESCRIPTION

bug is a sound installation which references audio surveillance where sound emanates from different points on the surrounding walls using rotating directional speakers as it scans through Ambisonics field recordings.

3. MEDIA LINK(S)

- Video: https://vimeo.com/ryoikeshiro/bug
- More documentation and info: https://ryoikeshiro.com/installation/bug

4. SPACE REQUIREMENTS

The work would be more suitable in a gallery.

5. FLOOR PLAN & LOGISTICAL REQUIREMENT

A dark space with little or no sunlight, around 4~8m x 4~8m.

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Fig. 1. Installation view with two sets of parametric arrays and laser on servo motors with spotlight.

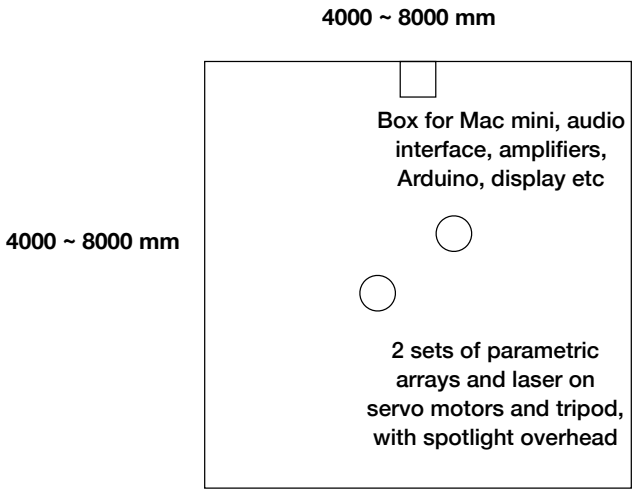

Fig. 2. Plan with two sets of parametric arrays and laser on servo motors.

Fig. 3. Installation view with a set of parametric arrays and laser on servo motors and tripod.

There are several options for displaying the work. The best would be to have two sets of parametric arrays and laser on servo motors as in Fig. 1 and 2, but mounted on tripods as in Fig. 3.

6. FEASIBILITY

Exhibited at Sanatorium of Sound Festival, Osage Gallery and Constructing Contexts/Art Machines 2.

7. EQUIPMENT REQUIREMENTS

2 heavy duty camera tripods, around 3kg or more, height 1.25m or more. (Hot shoe mount will be used to attach equipment)

Mac Mini, 2018 or later. Monitor, keyboard, mouse.

Software: Max 8 (with IRCAM spat5) and Arduino.

Audio interface. 3.5mm to 6.25mm adapter. (Will use 3.5mm jack cable).

2 x Arduino UNO

A suitable box or enclosure for storing/hiding Mac Mini etc.

2 ceiling-mounted spotlights.

Blackout / blind for the windows

Around 10 power sockets (for computer, monitor, amplifiers, servo motors, spotlights, light for setup, 1 spare)

For setup:
Desk, chair and light. Fast internet for downloading Max 8, spat5 and Arduino.

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ETHICAL STANDARDS

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