

**Short:**

Speaker Grid is a reactive, autonomous installation which uses the sounds of grains of rice. It is constructed from 24, 4-inch loudspeakers set into acrylic, mounted with polycarbonate bolts. This is set on a plinth containing a light which shines through the speakers and bolts. The installation reacts to movement which changes the behaviour of the grid from generating via a mathematical process to playing back composed fragments.

**Extended:**

Speaker Grid is a reactive, autonomous installation which exclusively uses the sounds of grains of rice. The sounds are triggered as samples with varying amounts of transposition and filtering, the latter of which is more extreme in the composed fragments.

The grid itself is constructed from 24, 4-inch loudspeakers set into acrylic, mounted with polycarbonate bolts. This is set on a plinth containing an LED light which shines through the speakers and bolts. The installation reacts to movement (passive IR sensor) which changes the behaviour of the grid from triggering samples via a Conway game of life algorithm to playing back pre-composed fragments.

The game of life algorithm is animated within a 25x25 matrix which is then divided into smaller 5x5 sub-grids that map to the physical speakers. There are two linked algorithms running together, one for lower frequency samples, the other for less transposed, more recognisable rice samples. The lower version runs at roughly half the speed of the higher. Subtle colour changes from the light indicate changes to the sub-grid, whilst a strobe effect indicates the sensor has been activated.

As well as the samples deriving from grains of rice, actual grains of rice are placed onto each speaker, thus adding an extra acoustic sound source when lower frequency samples are triggered. The self-referential, cyclic nature of the work explores different layers of movement from micro to macro level, not all of which are explicit. There is also a dynamic relationship between the computer generated, organic nature and the pre-composed fragments. The work is open-ended, but can reach a state where all the cells in the game of life algorithm 'die', at which point the 25x25 matrix is repopulated with random cells to re-start the process.