

COSTANTINO RIZZUTI*Installation:* **MEMORIE ACUSTICHE****Abstract:**

Memorie Acustiche is an interactive multimedia installation based on a generative concrete music system. The audio of the installation consists in a virtual sound environment created, using a set of environment sound samples recorded in different places and times representing memories, "Memorie Acustiche". These memories come to light and are organized in a virtual sound environment through a generative music system based on Chua's oscillator. The evolution of the three time series defining the state of the Chua's oscillator controls three different parameters used to modify the virtual sound environment. The first parameter defines which sound samples have to be reproduced. The samples have been placed in an ordered sequence and a cross fade process is applied to create a continuous and smooth transition between near samples. The second parameter defines the spatial position of the virtual sound source affecting the panning of the sound between the left and the right channel of a stereo sound system. The third parameter modifies the perception of distance between the virtual sound source and the listener. To provide the perception of this change, various effects related to sound propagation have been simulated. A renderer shows on the screen the evolution in time of the chaotic attractor used in the generative music system. The interaction system is based on a camera combined to an image processing application that tracks the movement of its users. This system allows the user to choose, through its position, which attractor has to be used in the generative process. Ten different attractors have been chosen. In the bottom part of the rendered, a bar shows all the possible attractors and provides the user a visual feedback. Finally a microphone allows sound interaction, capturing the sound and placing it in the virtual sound environment after appropriate signal processing.

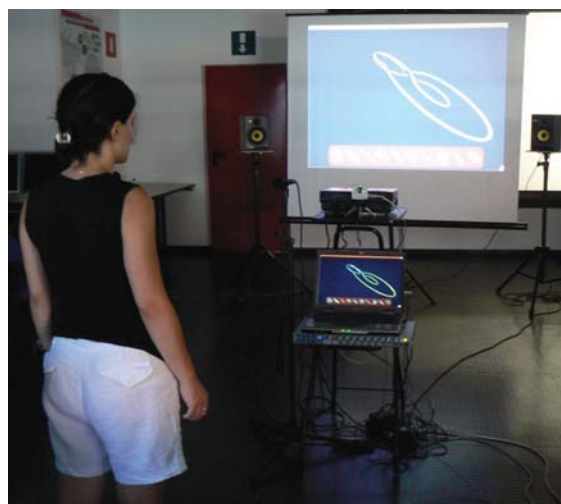
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References:

[1] Bossio E., Rizzuti C.,
An Interactive Virtual
Environment to Learn
Chaos, InTED, Valencia,
2009.

[2] musigen.unical.it



The images show the set up of the installation

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Chaos, Generative music, Concrete Music, Chua's Oscillator