


# Chimecloud

By: Lutz Reiter, Marco Dondana and Arnim Jepsen

From: the Chalmers Institute of Technology

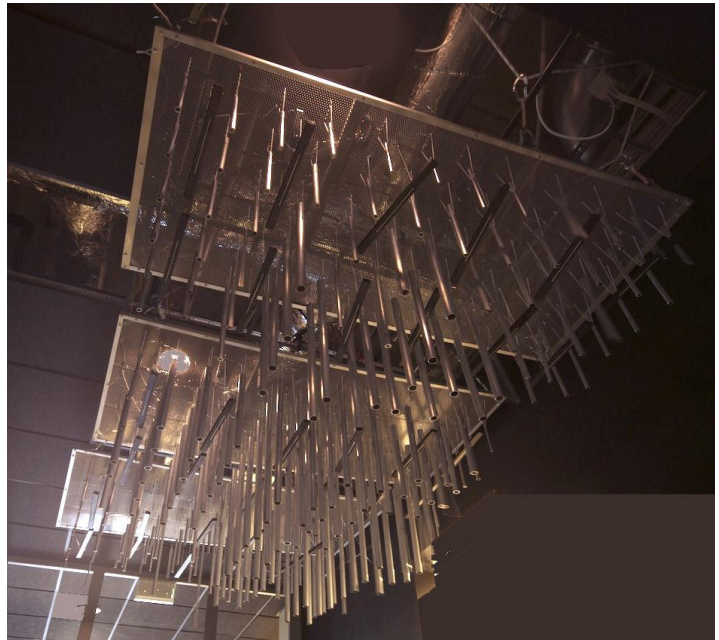
Göteborg, Sweden. December, 2012

See the video here 



We (Arnim Jepsen, Marco Dondana and Lutz Reiter) are three students from the Chalmers Institute of Technology in Göteborg, Sweden. We are all studying Interaction Design and this project was aiming to explore new interactive ideas and solutions to equip and constitute a culture house here in Göteborg.

The Chimecloud is an evocative, responsive sound and visual installation aiming to make users actively take part in the creation of soundscapes using their body and movements in interaction with the space surrounding them. It takes its idea from nature, where the wind is the main element creating natural soundscapes. The Chimecloud is using this as a metaphor, making the peoples presence and movement matter and bringing the space to live.



The chimecloud is an interactive multimodal installation, which borrows the idea of a classical windchime. In a windchime, the wind triggers the movement of the tubes, creating different sounds, depending on the length, thickness and material of the tubes. The Chimecloud instead is triggered by the presence and movement of people.

The installation consists of clusters of differently tuned tubes hanging from the ceiling above the visitors' heads. The different length and diameters of the tubes create a cloud-like shape. Each of these clusters is tuned to a certain note, and a person passing under it, will only trigger the tubes above its head.

As a person walks slowly beneath the installation, the soundscape gets created by single notes, if he or she walks faster, the sound will resemble to chords. Every movement will create an instant visual and acoustic feedback by the moving tubes. Visitors can collaborate creating soundscapes together, as the installation is able to track the movement of many people simultaneously.

As the only sensing device, the Chimecloud is using a Microsoft Kinect camera to track the movement of the people. The 3-D cloudmap of the tracking area gets projected on a 2-D grayscale image, on which we are using a simple blob-detection algorithm. The tracked blobs then get projected on a 6x6 grid.

Servos are used as actuators. They are connected to the wooden “strikers”, which themselves hit the tubes. By adjusting the speed and angle of the servos, it is possible to create sounds in differing intensities and tonal characteristics. We used 36 servos to trigger the same amount of clusters, each one consisting of 6 tubes (216 tubes in total). An Arduino microcontroller connects the 36 servos to a notebook on which the tracking software is run. They communicate with each other over serial commands. The tubes are tuned in the pentatonic G-major scale in 4 different octaves (G4 till G8).