

SOUND COMPUTING SYSTEM

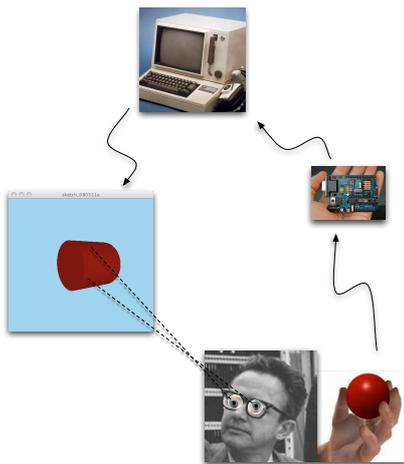
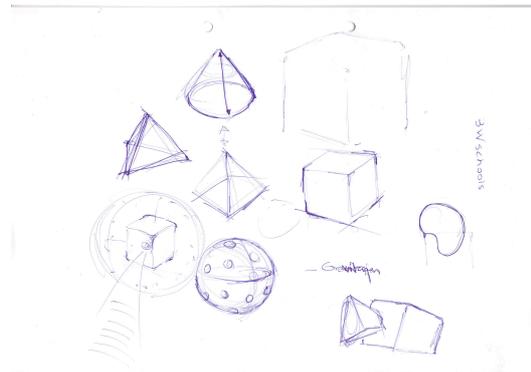
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INTRODUCTION

The  Sound Computing System is a work in progress project for my master thesis in Musicology, and will end up as a digital musical instrument (DMI) for real-time processing based on flexibility with regard to different kinds of movement.

My objectives with this project are to decrease the gap between the performer and the computer, and hopefully the technology will end up transparent.

In my project I have focused on physical computing and visual feedback, and the materials consist of different objects with different sensors.



VISUAL FEEDBACK

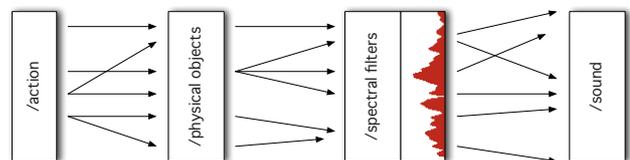
The visual feedback will create a 3D animation of the accelerometer using Processing and an Arduino micro controller. This gives the performer a possibility of always having an animated 3D overview to locate where the accelerometer sensors are with regard to its position.

THE SOUND ENGINE

The sound engine will be based on cross-coupled many-to-many mappings, and action to spectral filters is the most natural choice. In this section I will use Max/MSP and the module based Jamoma technology.

RESULTS

From several usability evaluations, based on the so-called theory of human factors, my conclusion is that the 3D animation interface is more easy to use. For further details regarding different usability evaluations, current progress, hardware and software links, and prototypes please visit my home page.



FURTHER WORK

- Work more on different sensor solutions
- Work on the action to spectral filter
- Establish a connection between Processing and Arduino
- Optimize the sound engine
- Optimize the visual feedback
- Replace the Arduino with a OSC board
- Make the controllers wireless

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