NIME Mini Project

Rasmus Nuko Jørgensen

October 2022

What is your concept?

A handheld/table-top NIME that can be hit, shaken, brushed in order to produce percussive sounds.

Who is it for?

It is for percussionist, music producers, or the casual groover.

What is the interaction? (and) Where / how is it going to be performed?

It is meant to be played in live performances, or to be recorded in a studio setting. The performer can shake, hit, or brush this NIME in order to produce percussive sounds.

What technology are you using for Input / Mapping / Output? Hardware? Software?

An IMU sensor will be used to pick up whether the NIME is hit / being shaken. A piezo microphone could be used to pick up mounted to one of the sides could pick up when that side is being brushed.

The hardware will consist of the mentioned sensors, and a microchip running a synth engine aimed at making percussion sounds.

The mapping will come from the sensors, mapping the players hits / shaking / brushing to envelope and note onsets of the synth. Additionally knobs will be available to the player, mapped in a way in which the player can tweak the sound of the synth.

What past research / artistic projects are related to your concept?

Percussion Synthesis research by Stephen Dill using different forms of synthesis

Gesture Control of Sound Synthesis: Analysis and Classification of Percussion Gestures

Efficient analysis/synthesis of percussion musical instrument sounds using an all-pole model

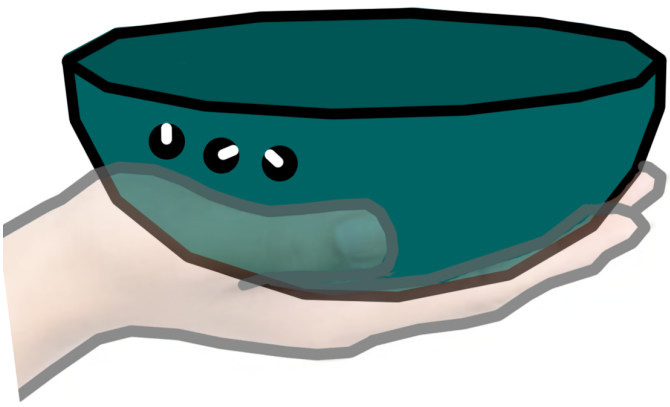

Figure 1: First sketch of this NIME, shown in handheld mode. From this position the player can shake entire instrument, hit the top/sides or brush the top in order to give input to the synthesizer engine. The knobs are there to tweak the sound of the percussion synthesizer.