Pandora's Box

Homework for Computer Music – Languages and Systems

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Myth Behind the Project

Pandora opened a forbidden jar out of curiosity, releasing all the evils it contained into the world.

Multi FX

We created a jar containing four effects, so that by opening the lead in the four directions, they can be combined to infect the sound

Zoom 100%

Distortion

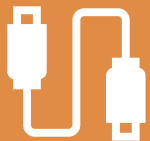Chorus

Delay

Reverb

Mouse

Reset

PK

Pandora Synth
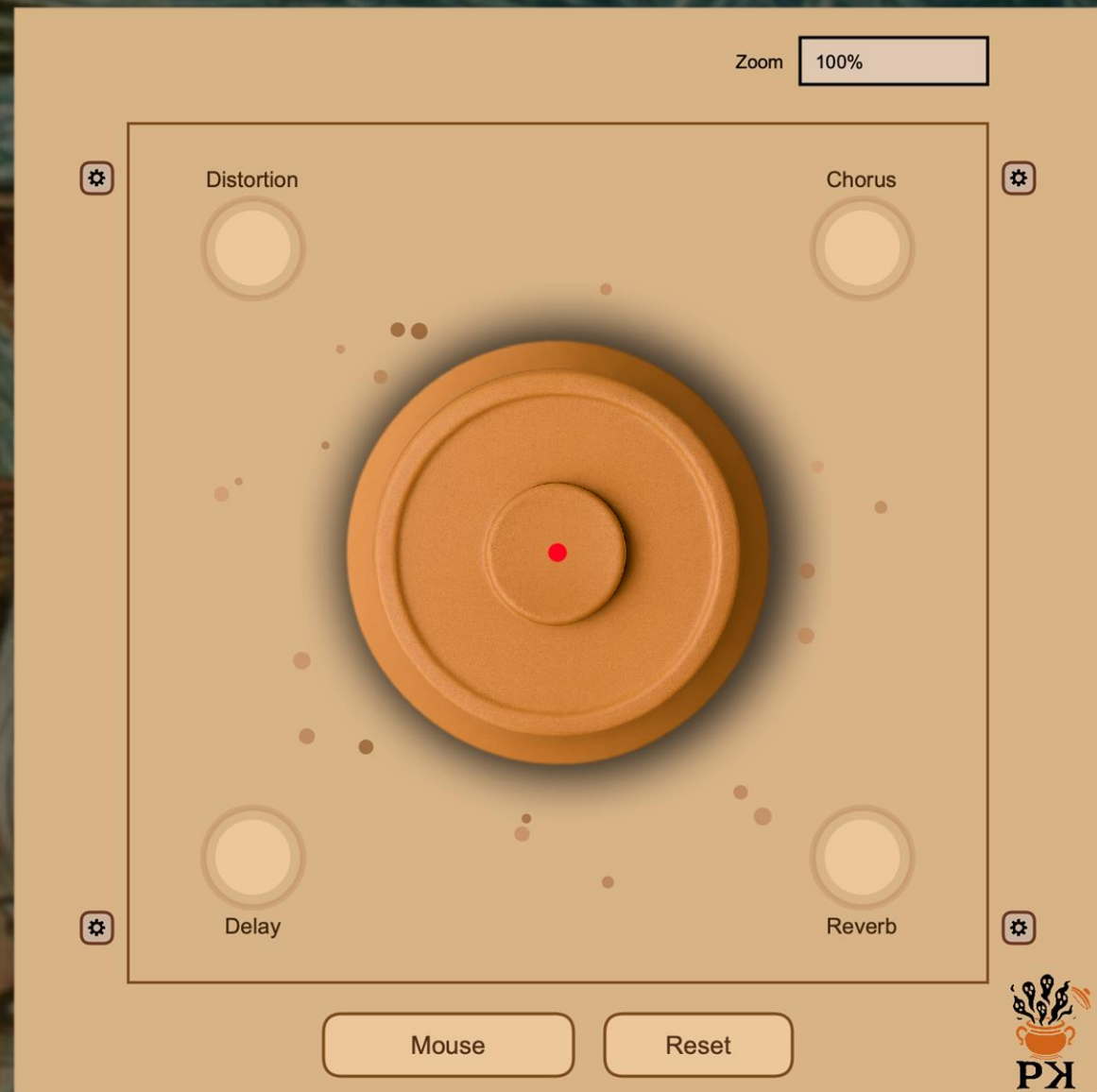
A synthesizer that emulates the sound of flutes, strongly connected to the idea of wind and air
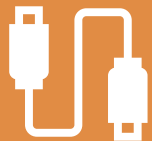
It can be manipulated to create sounds made of pure chaos

JUCE

- Subdivision into classes to allow modular design

- Adoption of Smoothed Values

- Pre-defined effect chain to increase user friendliness

JUCE

Delay
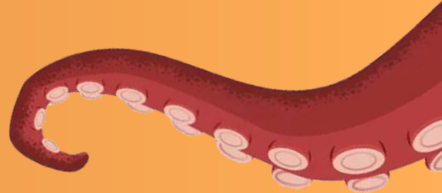
- Emulation of analog delay

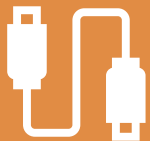- All-pass interpolation

- Pitch modulation when changing time

JUCE

Distortion

- Waveshaping trought an iperbolic tangent function

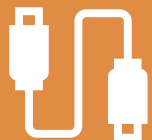- High-pass filtering with 1 kHz cut-off
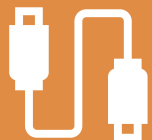
JUCE

Chorus & Reverb

- Implemented using JUCE DSP modules

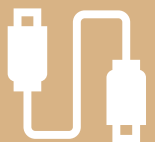- Some parameters were fixed to achieve better sound

SuperCollider

- Flute like synthetizer developed into a Frequency Modulation one

- Code block structure:
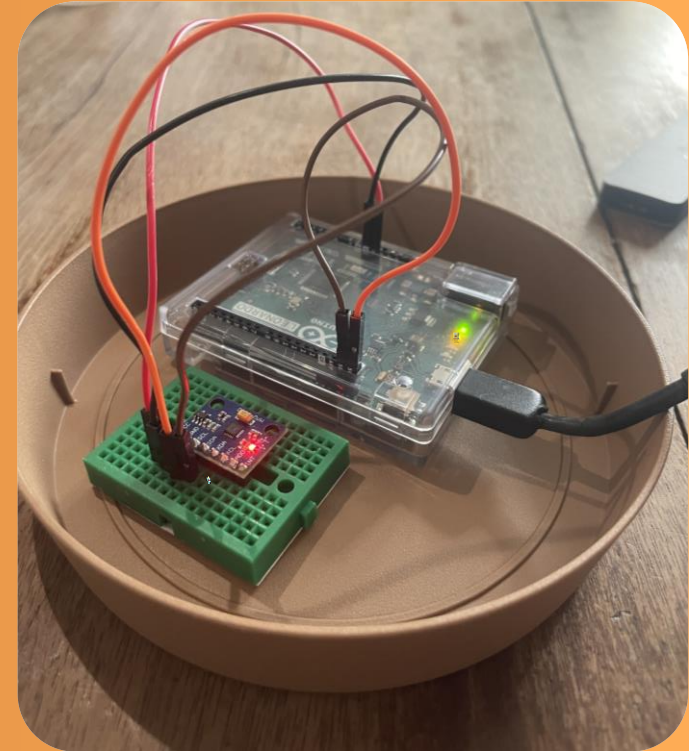 - OSC communication
  - Synthesis
  - MIDI communication

Processing

- Pandora's Suite consists of two separated GUI's

- Reads user interaction and redirects it to SuperCollider

Arduino

- MPU-6050 Accelerometer

- Jumpers: 5V, GND, SDA, SCL

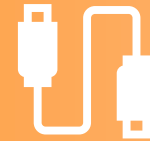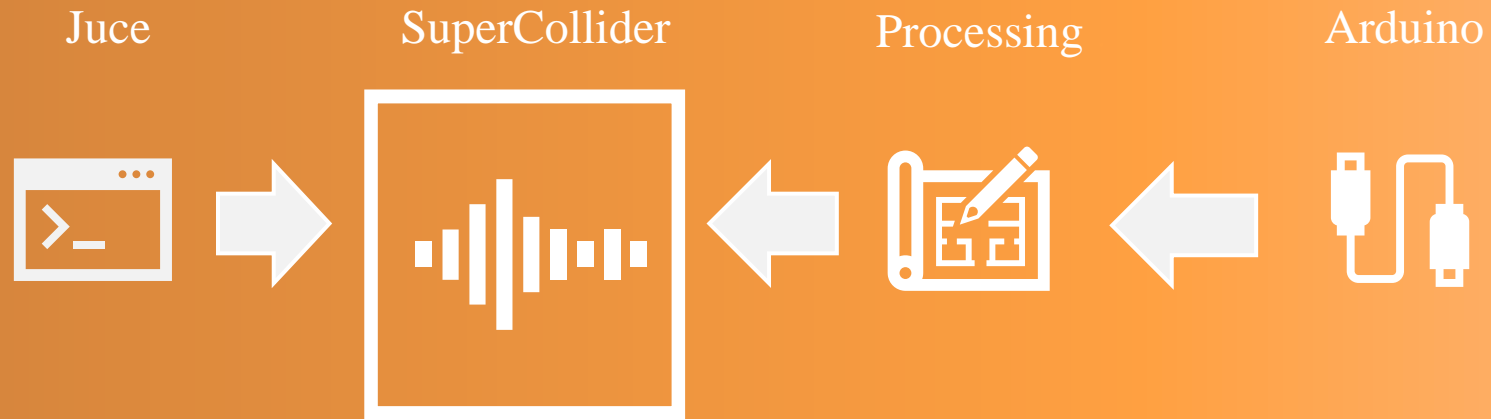- Normalize value to 0-1 range
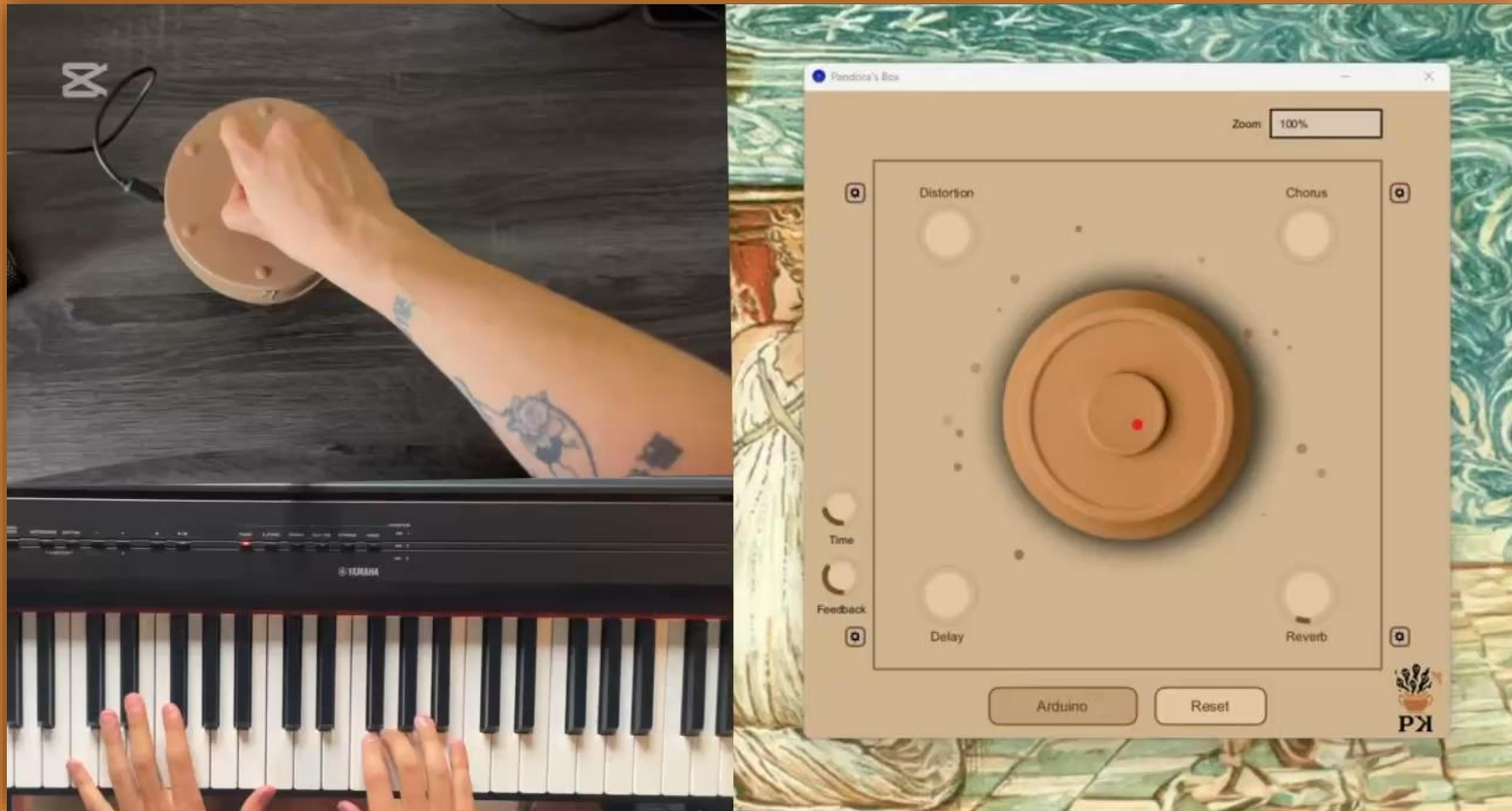
Pipeline

Juce   SuperCollider   Processing   Arduino

Pipeline

Juce   SuperCollider   Processing   Arduino

Pandora's Box

Pandora's Synth

Thanks for the attention

Pandora's Knights