Granular Synthesizer

ACTaM PROJECT
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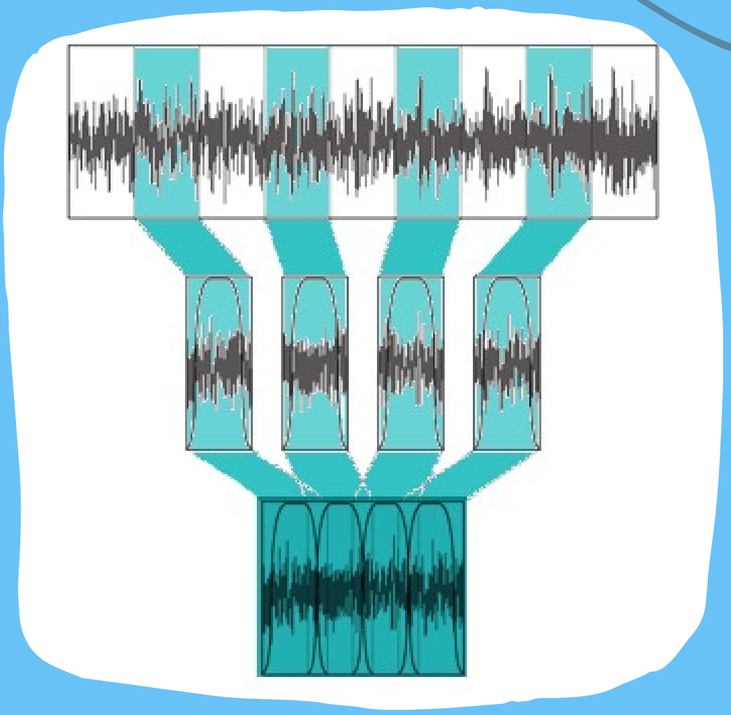
The idea behind

GRANULAR SYNTHESIS CONSISTS IN THE CREATION OF MULTIPLE GRAINS OF LENGTH COMPRISED BETWEEN 20-100 MS. THOSE GRAINS GENERATED FROM AN AUDIO BUFFER CONTAINING THE ORIGINAL SIGNALS CAN BE PLAYED AT DIFFERENT RATIO OR ORDER CREATING PARTICULARLY INTERESTING SOUND TEXTURES



Granular.js

- WORKING PRINCIPLE
  GRANULAR, AUDIOBUFFER, VOICE
- PARAMETERS LINKED TO GUI
- MODIFIED LIBRARY

Used libraries

Granular.js

P5.js

Bootstrap.js & Popper.js

Wavesurfer.js

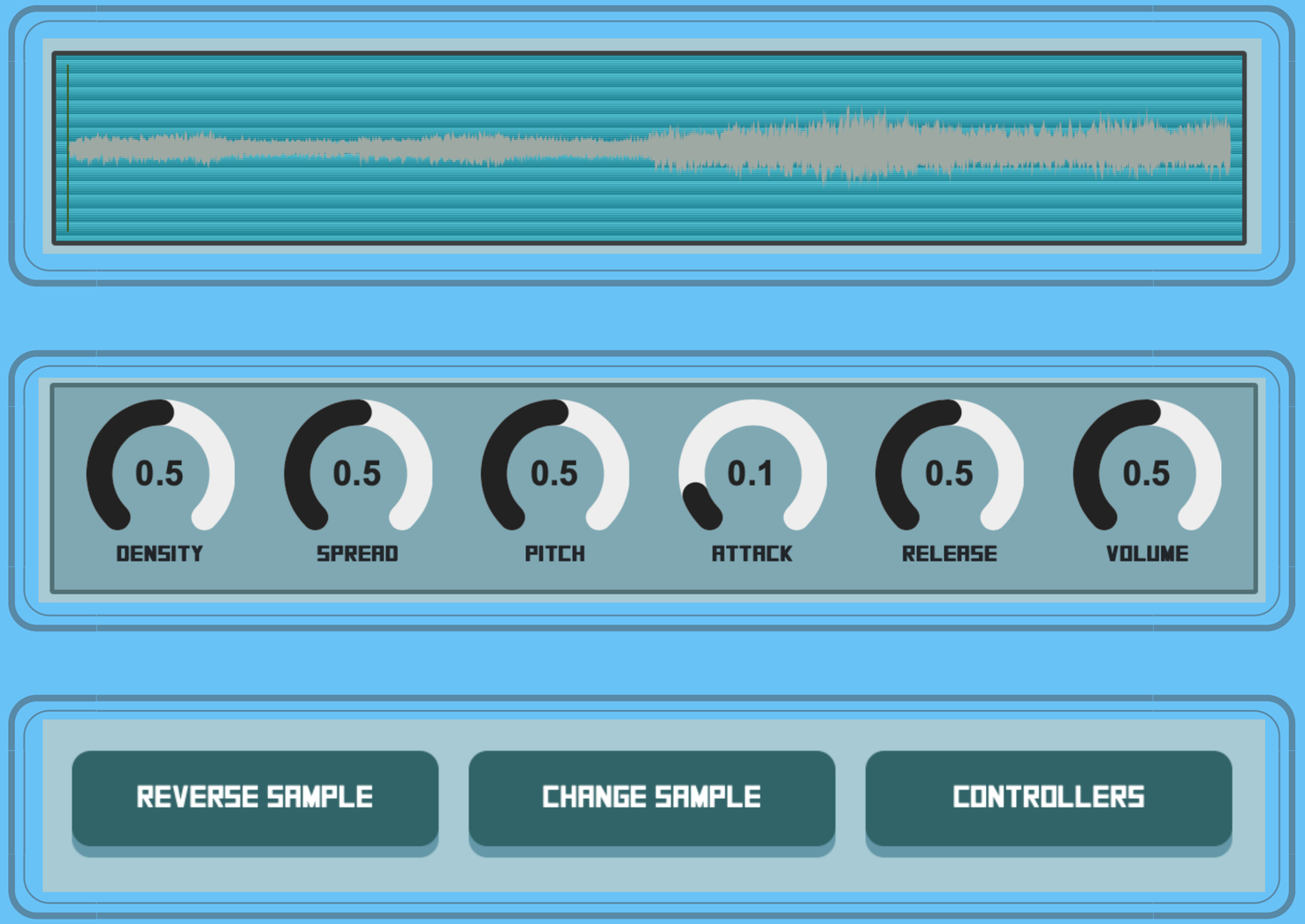
Firebase

jQuery & jQuery Knobs

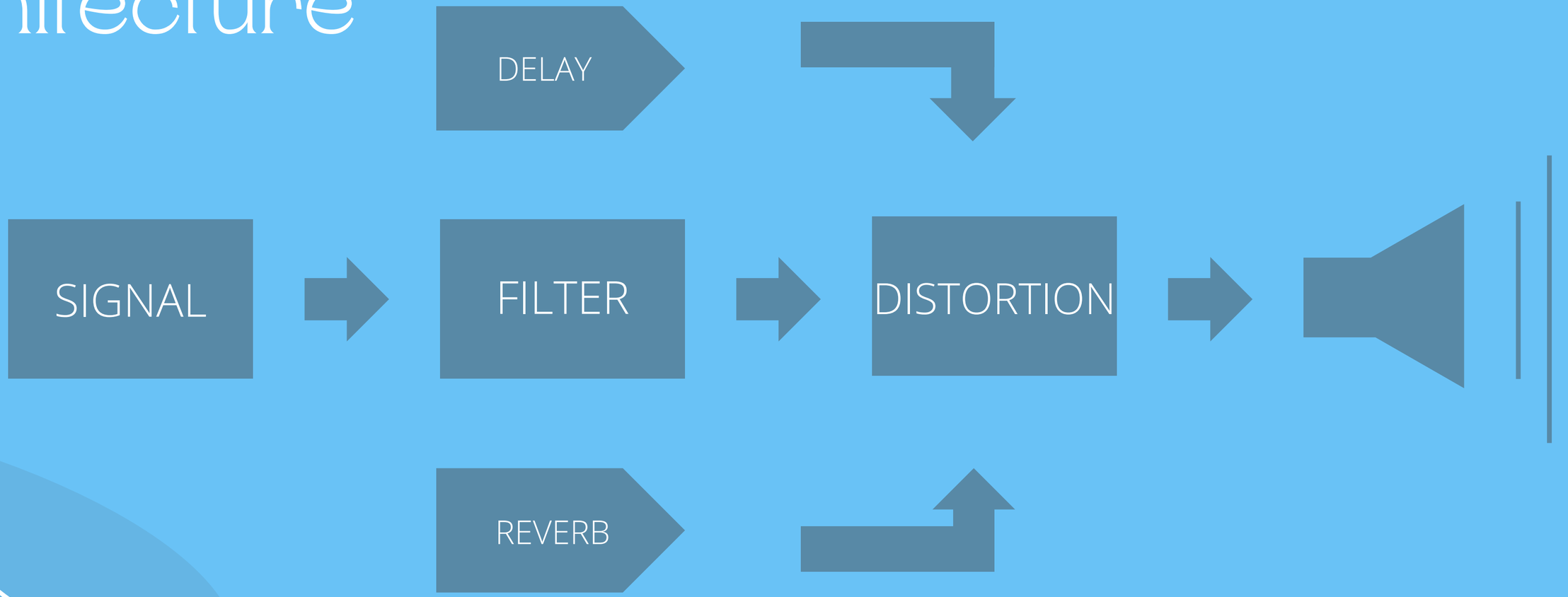
Our features

REAL TIME GRAPHIC WAVESHAPE FEEDBACK, CUSTOMIZABLE GRANULAR SYNTHESIS PARAMETERS, PRESET SELECTION & SAVE POSSIBILITY, EFFECTS AND MIDI CONTROLS

Controls and audio buffer features



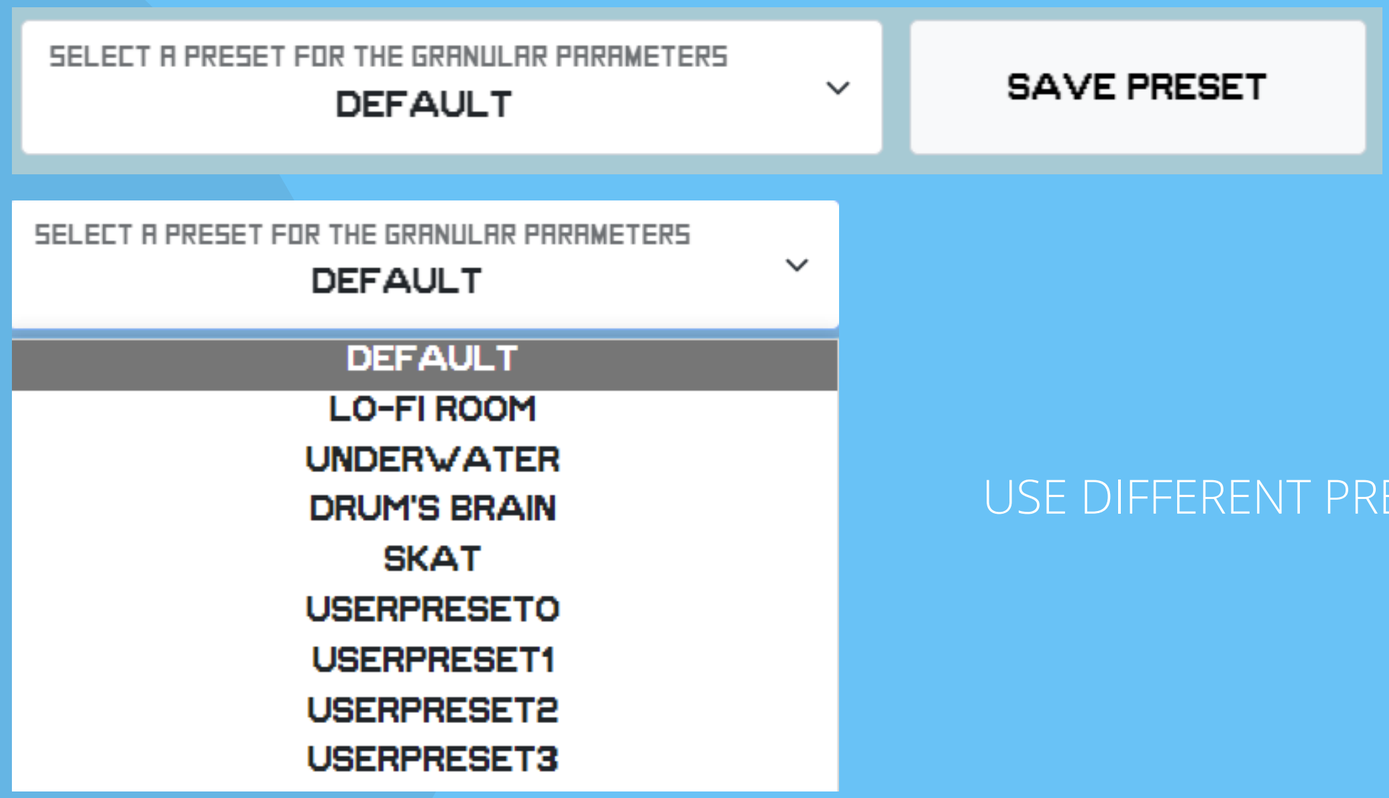
Effects architecture



Effects Controls

THE EFFECTS ARE PREBUILT FUNCTIONS OF THE p5 JAVASCRIPT LIBRARY CREATED WITH THE CLASS "Effects()". THEIR PARAMETERS ARE CONTROLLED THROUGH THE KNOBS PRESENT IN THE GUI AND EACH INDIVIDUAL EFFECT CAN BE TURNED ON OR OFF BY PRESSING THE RELATIVE BUTTON

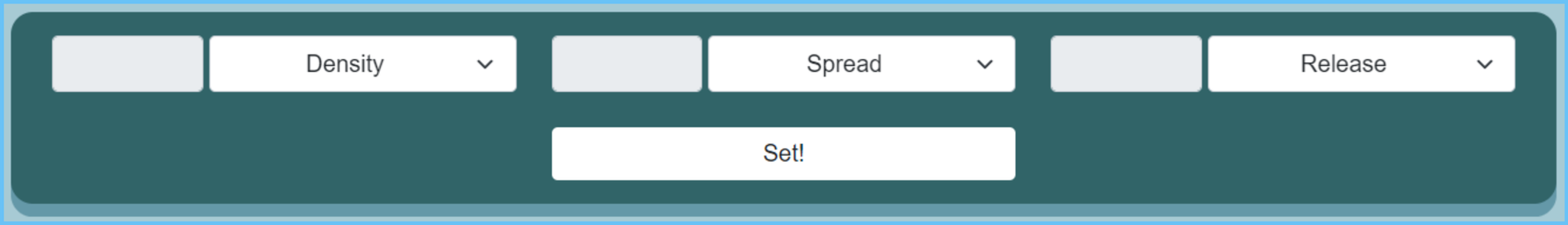
Firebase integration



USE DIFFERENT PRESAVED PRESETS AND SAVE YOUR OWNS!

MIDI Protocol

THERE IS THE POSSIBILITY OF CONNECTING A MIDI DEVICE WHICH IS AUTOMATICALLY RECOGNIZED AND SYNC'D TO THE SYNTH ENGINE. VELOCITY AND NOTES ARE HANDLED AND SCALED ACCORDING TO OUR ALGORITHM



WE ALSO MADE IT POSSIBLE FOR THE USER TO PROPERLY LINK ANY INTERACTIVE CONTROL HE MAY HAVE ON HIS KEYBOARD TO A SET OF DIFFERENT SYNTH PARAMETRES