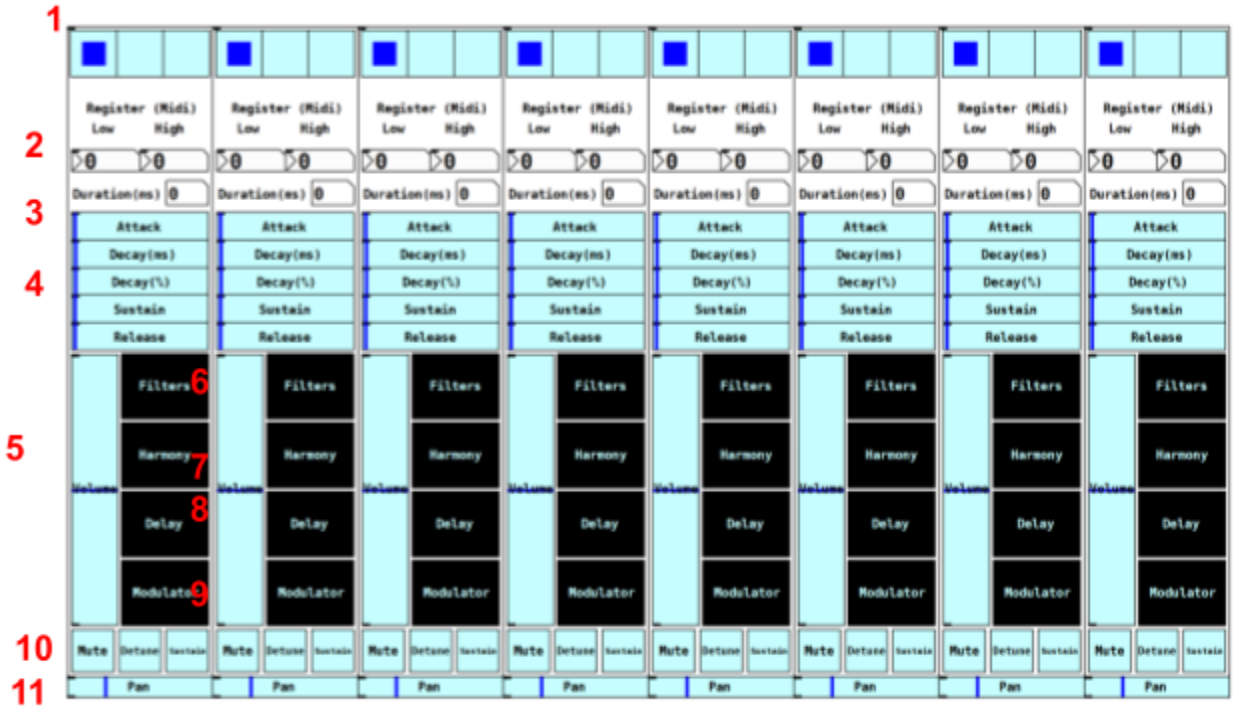
Author: Logan Kirkendall
Made for MUS172, WI23.

main.pd: This project is a modular (set up as 8 channel) sample synthesizer. It allows you to load samples (default has 3 for bass, guitar, and vocals. To change see 1) and play them in different intervals across a midi keyboard. With each midi range voice, you have the option to load a sample, change the lower and higher midi range these voices activate, apply an ADSR filter, or apply multiple filters and effects.



1. There are 3 options in this version, the default samples being Bass Guitar / Guitar / Vocal Choir. These .wav files are contained within the directory of this README. You can remove these files and add different samples using the same name, or rename the .wav files within noisegen~.pd
2. The lower and higher midi register (inclusive) in which the voice will activate. If there are overlapping voices, both will play on the same midi note. This allows for overlapping samples or overlapping effects, if desired.
3. The duration is the total duration of the note when sustain is unchecked.
4. The ADSR sliders (except for Decay(%)) are all proportional to the duration and each other. The sum of the durations within the envelope total to the duration located in 3. Eg when you bring down the decay(ms), the attack goes up.
5. The volume and mute are applied after processing the effects.
6. To open 6-9, click on the dark box. Filters contain a Low pass, Low and High Pass, and High Pass filter option. The High HZ and Low HZ will only be used in their perspective filter selections.
7. You can add some harmony on top of the sample. By default, they are unselected, and contain the M3, P5, and Octave.
8. A basic delay, with an option for delay in milliseconds, the feedback each delay is scaled by, and how wet (how much) the delay is added to the original signal.
9. A basic AM modulator. Multiplies the signal by a modulator frequency and amplitude, to create timbre, sideband frequencies, or harmonics.
10. The Detune button enables the voice to be affected by the detune knob on a midi keyboard.
    The Sustain button turns off the automatic release supplied by the ADSR, and instead acts as an ADR. When a note is held, it'll be sustained until let go, in which the release from the ADSR envelope will then be applied.
11. Pan to either channel out to the DAC.