Live Vocal Processor

By Annie Schenkman

What is my Project?

01
Live playback from mic

Application can take in audio signal and play it back

02
Reverb with tap feature

Add a plate reverb

03
Harmonies

Features live harmonies with an octave up, down a 5th and maj 3rd

Three ideas

Motivation

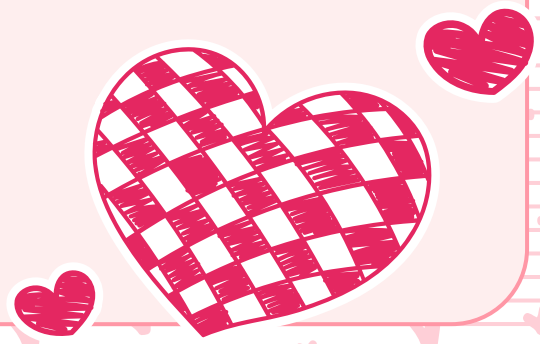
I'm a sound engineer and I love vocal processing and have always wanted to learn more about DSPs!

Motivation

Eventually I hope to make this an easy to use application with a fun girly design

Philosophy

I think digital signal processing is where the industry is/ is heading (digital over analog)



Breakdown!

Python

Originally coded in Python 3 (tried Pyo, ended with Pyaudio)

Reverb

Python works using Pyaudio

Harmonies

Harmonies Work using Scipy

High Latency

The reverb and Python had too much latency for live playback

Switch to C++

Switch to compiler language for faster processing using RTaudio and Rubberband

Monitoring Screen

Lastly added a monitoring screen using SFML

Product demo

Let’s Demo!