Week 3 and 4

A large part of past two weeks was spent figuring out timing. In order to get an audio file to play right after a button is pressed, there needs to be no internal delay from pygame. Originally, I needed to upgrade pygame, which I could only do by uninstalling the old version on python and installing a new version. This completely destroyed the operating system of my Raspberry Pi, so I was forced to wipe its SD card clean, reinstall the Raspberry Pi operating system and start that whole process over. Eventually, after many annoying hours of troubleshooting, I got everything to work and figured out the best settings that maintain audio quality but minimize delay.

Now that I finally got all of the basic functionality working(basic sequencing, multithreading multiple channels, arranging the audio files in data structures, processing analog and digital input, etc.), I am ready to start envisioning the device that I want to create. Right now, I plan on making a looper/sample player that can be used for musical performance. Here is a rough sketch I made:

A picture containing white, clock, room

Description automatically generated

It should be easy to loop things with perfect timing, and also this device should support playing multiple loops at the same time. If a button is clicked X number of times, then it will loop that sound X times. I want it to be durable and robust because I think this device would be the most useful if it could be activated by a musician’s foot while they are playing a guitar, piano, or another instrument with their hands. I am not exactly sure how I want the device to know which sample to play. As of now, I am considering two options. The first is using the resistor schematic to have physical pieces that could be plugged into any one of the channels. The other would be to have a potentiometer and depending where in the circular range the potentiometer is, a different audio file would be playable. I want one of the six buttons to always play drum tracks, one to always play chord progressions, one to be an absolute wildcard, and I don’t know about the others yet. I want the wildcard one to pick a sound at random from a list of weird noises(hahaha).

I will have access to a 3d printer, so once I can figure out what I want the design to look like exactly, I will start modeling. I also need to make the program executable from the Raspberry Pi’s boot code. That way, when it is inside of the case, and no longer connected to a monitor, the program will run as soon as the raspberry pi is turned on.

I also wrote a pretty goofy and interesting song last week called *The Tales of Ichiro* and, after I finish this sampling device, I plan to record this song, using the pedal to activate different parts of the song while also playing my guitar. If that comes out good, I think it would be cool to incorporate some interesting graphics using Jitter. I am currently working through tutorials that Professor Mauceri has created and also watching video tutorials on YouTube. It is truly astonishing what some people are capable of doing with the graphical tools in Max and Jitter.