

Mark Prettyman

Capstone Statement of Work for the Remainder of Spring 2020

In order to successfully complete the learning objectives outlined in the ECE 18500 course description, I will be attempting to implement the design for a glove-like instrument that will enhance the CV Studio experience by allowing the user to press buttons on their fingertips. I believe that this is a possible “at home” project given the materials and procedures necessary, but am not certain. First, I will be building the glove, which entails fastening four buttons, one on each finger, to the inner layer of a right hand glove, and soldering these wires, positive and negative, to the GPIO and ground pins of a Raspberry Pi Zero W. This will require the ordering of a simple soldering kit and associated materials (wire, wire cutters/strippers), as the buttons have already been ordered. The next phase of my project will be to ensure that button presses can be recognized by the pi and relayed to a laptop via Bluetooth connection. This will require some learning about RPI Bluetooth and how it works. Lastly, I will be working with Chris on wrapper software that will combine out gesture recognition component with the glove component to perform keyboard shortcuts on our music production software, Ableton Live. In terms of requirements and measuring success for this part of the project, I will be considering the glove to work if button presses on any of the fingers result in the desired function in Ableton Live, which has yet to be determined but is flexible in nature. Determining how the glove portion will work with the rest of our project at this point is our biggest challenge, as our inability to work in the same place limits us. Nevertheless, my objectives have not been significantly affected.

Mark Gantt Chart						
Task	3/22 - 3/28	3/29 - 4/4	4/5 - 4/11	4/12 - 4/18	4/19 - 4/25	???
Glove Component						
Order additional materials						
Finalize button read script						
Solder connections						
Fasten pieces to glove						
Generate ping via bluetooth						
Overall Project						
Connect to ableton						
Write keystroke wrapper						
Demo glove standalone						