

EE / CprE / SE 491 – sdmay19-01

Athlete Motion Tracking

Week 8 Report

3/28/19 – 4/3/19

Client: Nathan Johnson

Faculty Advisor: Phillip Jones

Team Members:

Nathan Mazarelo — *Weekly Reporter/Software Developer*

Monte Friestad — *Spokesperson/Software Developer*

Madeline Rogers — *Meeting Facilitator/Hardware Maintainer*

Ryan Hansen — *Scribe/Hardware Maintainer*

Weekly Summary

This week our team worked on finalizing the pressure sensor circuit with the Arduino shield. The final pins were soldered along with the sd card. Research was completed on pin functionality and sd card code. In the data analysis program, a bar graph was implemented to hold the angle data alongside of the animation. Integration was started with the web app by converting the animation to a video file for easier display. In the web app, integration was started with the data analysis program by making a http request which finds the video output by the python code and returns the video, which is then placed into the framework.

Past Week Accomplishments

- Finalizing and testing the Pressure Sensor circuit - Ryan
 - Pressure Sensor Circuit
 - Finalized the pressure sensor circuit and got the sd card soldered and communicating with the Arduino mega.
 - Built and tested the pressure sensor circuit on a breadboard
 - I also designed a custom PCB for these sensors that can be printed if it is something the client would like to do.
- Soldering the Arduino pins for the shield - Maddie
 - Arduino shield pin setup
 - Worked with Ryan to solder the pins and researched more into their use in terms of functionality. Soldered the final pins to get the shield working

- Looked into the various SD codes for the Arduino in order to save the output when it's done computing
 - Issues
 - Struggled with the Arduino Shield for a few hours while trying to get it to function correctly
 - Tried different pins via breadboards and various other components while attempting to get it to function
- Continued work on data analysis program -Nathan
 - Subplots for additional data
 - Continued to make subplots for the tracking of certain body parts
 - Began to investigate the different types of graphs like bar and scatter to better suit the data
 - Implemented a bar graph to hold the angle data
 - Integration with web application
 - Met with Monte to discuss to the integration of the data analysis program and what would be needed to have a smooth transition
 - Started to work on exporting the script as a video file for easier integration with the web application
- Continued work on web application – Monte
 - Integration with data analysis program
 - Worked to start integrating Nathan's code into the web app
 - Currently, this is done by making a http request which finds the video output by the python code and returns the video, which is then placed into the framework I had made previously
 - Over the next week, I plan to finish this integration in time for the meeting on Monday with our client.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Ryan Hansen	Finalizing and testing the Pressure Sensor circuit. Got the sd card soldered and communicating with the Arduino mega. Designed a custom PCB for sensors if client would prefer.	10	122
Madeline Rogers	Worked on soldering thee pins for the Arduino shield. Researched more into the	9	121

	functionality of the pins. Looked up various sd codes for the Arduino for saving output.		
Nathan Mazarelo	Began to investigate different types of charts to house the requested data. Implemented a bar graph to hold the angle data. Started working on exporting animation as a video file for easier integration with web application.	8	126
Monte Friestad	Worked to start integrating Nathan's code into the web app. This is done by making a http request which finds the video output by the python code and returns the video, which is then placed into the framework I had made previously.	10	116

Plans for Coming Week

- Maddie & Ryan
 - Working on getting the pressure sensor voltage conversion figured out
- Nathan
 - Finish integration with the web app in time for client meeting on Monday
- Monte
 - Over the next week, I plan to finish this integration in time for the meeting on Monday with our client.