

EE / CprE / SE 491 – sdmay19-01

Athlete Motion Tracking

Week 5 Report

2/21/19 – 2/27/19

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 came up with testing scenarios for the pressure sensors. Work was started with getting readings from the Arduinos and interfacing with its capabilities. Additional resources were acquired from similar projects to use as guidance. In the data analysis program, work was done on creating separate plots for the angle calculations and the points of motion were isolated into subplots for easier viewing. In the web app, work was done on the UI along with testing some of its current features.

Past Week Accomplishments

- Testing scenario , breadboard prototype, readings from Arduino- Ryan
 - Testing scenario for sensors
 - Determined a testing scenario for the pressure sensors that would take dynamic readings instead of static readings
 - Prototype
 - Made a breadboard prototype with other components to get a response from the pressure sensors which was measured with a multimeter
 - Readings from Arduino
 - Uploaded the standard bootloader to the Arduino and currently figuring out how to take these multimeter readings and incorporate them into an Arduino program that can save those values and display them appropriately

- Ordering parts, Arduino interfacing, material from similar projects- Maddie
 - Ordering
 - Ordered parts with client
 - Arduino interfacing
 - Looked into basic language capabilities for Arduino and how to get a hold of the program for uploading and downloading
 - Similar projects
 - Determined a few additional resources for some similar projects and concepts for what we are trying to accomplish for some guidance

- Continued work on data analysis program - Nathan
 - Angles
 - Continued to work on creating separate plots for the angle calculations over time
 - Subplots
 - Managed to isolate the point of motion to easily view in another subplot
 - Setup subplot view to be side by side
 - Animation
 - Started to work on syncing plots with actual animation so the change over time can be easily seen

- Continued work on web application- Monte
 - UI
 - Continued working on the UI. Mostly focusing on testing the current parts this week.
 - Integration research
 - Continued research on the issue of merging Nathan’s code to mine, mostly focusing on reading the solutions other people came up with and seeing if they could relate to our session.

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Ryan Hansen	Determined a testing scenario for pressure sensors. Created a breadboard prototype for the components. Started looking into Arduino readings.	6	98

Madeline Rogers	Ordered parts with client. Looked into Arduino interfacing. Gathered resources from similar projects.	6	100
Nathan Mazarelo	Created subplots from tracking angles measurements over time. Isolated points of motion into separate plots. Starting to work on syncing subplots with animation.	8	104
Monte Friestad	Continued working on UI and testing current aspects of it. Researched other projects with similar integration settings to see how they handled the issues and if they could be applied to our project.	8	99

Plans for Coming Week

- Ryan
 - Continue figuring out how to take multimeter readings and incorporate them into an Arduino program
- Maddie
 - Start working more with Arduino language capabilities
- Nathan
 - Look more into integration of my program with Monte's web app
- Monte
 - Continue testing current components of the UI