

EE / CprE / SE 491 – sdmay19-01

Athlete Motion Tracking

Week 5 Report

10/11/18 – 10/18/18

Client: Nathan Johnson

Faculty Advisor: Craig Rupp

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 started preparing for a demonstration to our client showcasing the current status of our project. We began using the Kinect cameras with the ipi software to capture motion data in a controlled environment. On the software side, we began to design sketches for the what the web application will look like and started angle analysis on random points of motion.

Past Week Accomplishments

- Experimentation with Kinect cameras and ipi software - Ryan
 - Started to use all three Kinect cameras with the ipi software
 - Was able to get all three cameras to configure and initialize with the software
 - Began testing the different capture modes the ipi software provides
- Worked on the design document and getting necessary cameras for ipi software - Maddie
 - Met with multiple university divisions to get a hold of necessary Kinects for project
 - Was able to get a hold of extras as well in case more are needed
 - Worked with Ryan to figure out that 3 cameras were going to be needed to fulfill ipi requirements
 - Spent time significant time planning and writing the design document
- Research for Python web integration and angle analysis - Nathan
 - Researched more on how to integrate Python into web application
 - Looked into using Django to be able to merge previous matplotlib and computational code onto web application
 - More experimentation with angle analysis with 3D plots in python

- Was able to create an angle between a stationary point and a dynamic point to represent points of motion
- Began creating the design of the web application - Monte
 - Worked on creating sketches and proof of concept designs for web application
 - Sketches will showcase where the data presentation, UI, and other information will be seen

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Ryan Hansen	Experimentation with Kinect cameras and ipi software in a controlled environment. Began testing the different capture modes the ipi software provides.	7	30
Madeline Rogers	Met with multiple university divisions to get hold of the necessary Kinects for the project. Spent significant time planning, researching, and writing the design document.	9	33
Nathan Mazarelo	Began research on python web integration with Django to merge previous plots and angle computations. Continued testing with finding angles between random points in a 3D plane.	8	32
Monte Friestad	Began designing sketches and proof of concept drawings for the web application in preparation for upcoming demo with client.	6	30

Plans for Coming Week

- Ryan
 - Try to get data exported from the ipi software after using the Kinect cameras in a controlled environment
- Maddie
 - Find a way to test if the Kinect can capture video at the required fps and rpm needed to complete the project
- Nathan
 - Start programming points that move in motions similar to a person riding a bike, so the angles can be analyzed

- Monte
 - Research more into creating charts and graphs from the data extracted from the cameras in python
 - Add previous code to the GitHub