

EE / CprE / SE 491 – sdmay19-01

Athlete Motion Tracking

Week 6 Report

10/18/18 – 10/25/18

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 demonstrated the current status of our project to our client. We showcased our motion tracking environment with the Kinect cameras, the angle tracking system using Python, and the sketches and outline of our web application. We also got to discuss the upcoming improvements and expectations to our project with our client.

Past Week Accomplishments

- Prepared a demo for client with regards to camera tracking - Ryan
 - Used the Kinect with the ipi software to create a demo for the client
 - Setup a motion tracking environment using 3 Kinect cameras
 - Recorded actual movement using the ipi software and displayed stats like the Euler angle on screen
- Completed design document and started research for cameras - Maddie
 - Design Document
 - Finished up writing the final specifications for the design document
 - Cameras Research
 - Started looking into cameras that would be better suited for motion tracking at higher fps and rpms
- Prepared a demo for client with regards to angle tracking - Nathan
 - Used Python and matplotlib to create a demo for the client
 - Created an anchor point and drew lines to random points simulating motion points
 - Found the angle between the anchor and motion point and displayed the value on screen

- Prepared a sketch of the web application for the demo to client - Monte
 - Created an outline of where information would go for the web app
 - Sketches showcased where the data presentation, UI, and other information will be seen
 - Made a presentable demo for the client

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Ryan Hansen	Created a motion tracking environment using 3 Kinect cameras. Recorded motion using the environment and demonstrated it to client.	8	38
Madeline Rogers	Completed design document and started research for camera upgrades to replace Kinect to improve recording quality.	8	41
Nathan Mazarelo	Developed a program to track angles between an anchor and points of motion and demonstrated it to the client.	8	40
Monte Friestad	Created sketches and outlines for the web application and demonstrated it to the client.	8	38

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

