EE/CprE/SE 491 WEEKLY REPORT 2

September 19, 2024 – September 26, 2024

Group number: 49

Project title: Slowpitch softball device

Client/Advisor: Nicholas Fila

Team Members/Role:

Cael: Lead Code and Design Review

Andrew: Lead System Designer

Kyle: Lead Testing Engineer

Sam: Coordination and Documentation Lead

Kolby: Lead Client Outreach

- **Weekly Summary**

  The two main aspects of the project we focused on this week were product research and starting our designs. Our product research assignment let us see what the market (or lack there of) was like for our product, and some potential ideas for how we could implement this device. We also began implementing some basic code from different libraries to start on some proof of concept ideas and to start identifying issues we may see in the future. This is also an ongoing task for the next weeks as well.

- **Past week's accomplishments**
  - Andrew Kinneer: Set up a Python environment on local computer. Did further research into potential object-tracking solutions
  - Kyle Nachiengane: Worked on getting open cv into my environment. Looked into Python and C++.
  - Cael Schreier: Researched pitch camera systems in the MLB as a comparison. Worked to implement basic OpenCV programs.
  - Kolby Moorman: Researched the idea of using ARKit (iphone software) as well as how vernier video analysis works (a current app that you submit a video and it can tell height and trajectory).
  - Sam Skaar: Played a softball game and talked with umps about call frustrations. Researched current market products for camera mounts.

o **Pending issues**

- C++ or Python for image processing?
- What our frontend application will be

o **Individual contributions**

NAME	Individual Contributions *(Quick list of contributions. This should be short.)*	Hours this week	HOURS cumulative
Andrew Kinneer	Research object tracking, set up Python environment on local computer	2	3
Kyle Nachiengane	Worked on getting open cv into my environment. Looked into Python and C++.	2	4
Cael Schreier	Product Research, implementing OpenCV into my environment	4	6.5
Kolby Moorman	Gathered information about using ARKit which is an iphone software. Going to try some test cases and see what I can come up with.	3	4
Sam Skaar	Recorded some pitches for reference. Generated sketches for Product Research assignment as well as initial brainstorm. Will begin research on the optimal environment for future application.	6	8.5

o **Plans for the upcoming week**

- Andrew Kinneer: Get some sort of experiment working with OpenCV
- Kyle Nachiengane: Goto a softball game. Mess around with videos/images gathered.
- Cael Schreier: Start researching and experimenting with the OpenCV library
- Kolby Moorman: try to develop some of the ARKit and see the capabilities it has to benefit us as a team as we go forward.
- Sam Skaar: Record the next softball (professor Filas?) game, and research possible architectures for initial design.

- **<u>Summary of weekly advisor meeting</u>**

In our meeting this week, we talked about starting to design some concepts in opencv to get a better understanding of the open source library. We also talked about the need for some different videos of slowpitch pitches so that we have something to base our project off of and have a better understanding of what it truly looks like.