

Softball Team 2



EE/CprE/SE 491 WEEKLY REPORT 6

Oct 17, 2024 12:00 PM - Oct 24, 2024

Group number: 49

Project title: Slowpitch softball device

Client/Advisor: Nicholas Fila

Team Members/Role:

Cael Schreier: Bookkeeper and Code Review

Andrew Kinneer: Lead System Designer

Kyle Nachiengane: Lead Testing Engineer

Sam Skaar: Coordination and Documentation Lead

Kolby Moorman: Lead Client Outreach

○ **Weekly Summary**

This week had a big focus on figuring out softball height tracking. We went out to the softball fields and captured some footage of pitches at multiple legal and illegal heights to use. We had some discussion about camera placement. We initially thought we would mount our camera to the side fence. However, if we can place the camera on the back fence, the complexity of our calculations and setup for the end user can be significantly reduced. Next week, further testing will have to be done to determine if mounting a camera on the back fence is viable.

○ **Past week's accomplishments**

- Andrew Kinneer: Further testing into pitch detection and lowering the area where we are looking for the ball. Did some research into the math required for ball height tracking. Did fieldwork taking videos and measurements for proper height testing
- Kyle Nachiengane: Worked on getting QT environment and Iphone emulator. Got more testing footage for more accurate framing.
- Cael Schreier: Developed an initial iPhone environment to start getting familiar with app development for future deployments. Tested running our current code on a phone to compare performance, framerate, and resolution.
- Kolby Moorman: Fieldwork with Sam and Andrew to gather different aspects of a slowpitch to allow us better knowledge of the height of a pitch. Gathered some tracking with mosse.
- Sam Skaar: Website + Research + Field work

○ **Pending issues**

- Daytime Tracking
- Specific tracking algorithm
- Specific device to use

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Andrew Kinneer	Added to pitch detection experiment. Looked into ball height calculations. Getting videos in the field	5	24

Kyle Nachiengane	Worked on getting QT environment and Iphone emulator. Got more testing footage for more accurate framing.	5	23
Cael Schreier	Initial phone development and phone performance testing	5	24
Kolby Moorman	Fieldwork, and mosee tracking implementation	6	25
Sam Skaar	Figuring out the math we need to determine ball height, and what error that might be.	3	28

○ **Plans for the upcoming week**

- Andrew Kinneer: Work on solidifying a method for tracking the ball. Experiment with daytime tracking.
- Kyle Nachiengane: Continue working with QT and experimenting with Xcode and Swift-Objective-C.
- Cael Schreier: Help the team with field testing and measuring, help with accurate height detection from known points, continue testing on a phone as well.
- Kolby Moorman: Gather more footage with all the knowns (measurements) experiment and explain with creating apple application
- Sam Skaar: Go out and measure exact dimensions of new footage. Research QT. Try both behind the plate and side angle.

○ **Summary of weekly advisor meeting**

This week in our advisor meeting we discussed our device calibration and what that will look like. We also discussed the need to start getting a mockup of an Apple application. We also discussed the different struggles we could encounter revolving around cameras. This included shutter speed, frame rate, and what this process would look like barring we cannot use an iPhone to gather accurate measurements.