

Softball Team 2



EE/CprE/SE 491 Status Report 2

Jan 31, 2025 12:00 AM-Feb 13, 2025

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 Frontend Developer

- Weekly Summary

We have all officially moved to the mobile development side of our project and are attempting to fully integrate our code base into our flutter application. We have already run into issues resolving the OpenCV library into our configuration files, but it seems that once we resolve those our application will be relatively easy to transfer over. We have also created a full testing plan for when we have our application created, ready to start testing in March with our first set of tests completed by Spring Break.

○ **Past week's accomplishments**

- Andrew Kinneer: Fixed the Android build of our Flutter app, and now it fully builds and deploys to my Android emulator with no issue. Started playing around with using opencv functions within our Flutter app. Confirmed that the opencv_dart library does have support for all the functions we need besides the YOLO model we were using for human height. It seems like TensorFlow will be our way to go to circumvent that.
- Kyle Nachiengane: I worked on getting the flutter app running on my iphone. I was able to get the app installed and running but the camera would not pop up.
- Cael Schreier: I began trying to move our opencv application over to Flutter but quickly hit a brick wall in terms of emulator development. I worked with team members to attempt to solve namespace issues and camera initialization issues with mixed success. Luckily, it seems that most of our code will be able to transfer over after we get over this hump. While those issues were being resolved, I also created a detailed testing plan for our team of how we would test our application and our timeline for completing various types of testing.
Through some brief research, I also found that the YOLO model is incompatible with Flutter, but Flutter supports a very similar model called TensorFlow which can accomplish the same thing. We will move forward with this model for our Flutter Application.
- Kolby Moorman: I got a very simple home screen created in flutter with a button that once clicked, takes you to a page with the camera open and allows you to record videos.
- Sam Skaar: I got the flutter application running on my windows machine using a Pixel 7. It's running in landscape mode which I assume is how we're laying out our app so now I'm looking into rotational widgets.

○ **Pending issues**

- Universal ball tracking algorithm
- Height tracking improvements for edge cases
- OpenCV full mobile implementation

○ **Individual contributions**

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Andrew Kinneer	Fixed the Android build of our Flutter app. Experimented with opencv functions in Flutter. Confirmed opencv_dart library has what we need.	7	60
Kyle Nachiengane	Worked on getting ios environment running.	7	51
Cael Schreier	Began moving opencv code into our flutter application, android debugging, creating a detailed testing plan, and researching TensorFlow	9	58
Kolby Moorman	Got flutter up and running created pages and got camera open	6	51
Sam Skaar	Windows/Flutter/Emulator working.	3	57

○ **Plans for the upcoming week**

- Andrew Kinneer: Get some sort of functional tracking working with the camera in our Flutter app.
- Kyle Nachiengane: Work on camera/recording interface and finalizing integration.
- Cael Schreier: Keep moving Flutter Features over, ideally TensorFlow and our height tracking setup next, or our ball tracking logic.
- Kolby Moorman: Pending frontend questions in meeting today, begin

developing a better looking ui with a few more screens and make sure the camera process runs smoothly,

- Sam Skaar: Same as everyone else. Getting our old application to work here.

- **Summary of weekly advisor meeting**

We have all fully transitioned to our Flutter development environment and are discussing the challenges that come with that, as well as when we would like to fully have everything moved over. Additionally, we have developed a testing plan for how we will rigorously test our application once it is ready for testing, ideally by March.