EE/CprE/SE/CybE 491 Period Report 11/2/2019 - 11/15/2019

Group number: sdmay20-53
Project title: Smart Backpack Sprayer for Small-scale Agriculture Applications
Client &/Advisor: Tim Andersen, Taylor Greiner, and Daji Qiao
Team Members/Role: Madison Kriege, Sean Doran, Kevin Davis, David Hayes, Shuangquan Li, Donald Laracuente

Period Summary

Our goal for this two-week timeframe was to further our hardware testing and continue working on API and iOS components of the project. The mobile app has gained moderate functional improvements since last report. Similarly, the API and hardware teams can now gather and use data of single sensors. They are continuing to work toward combining them into a single object.

Past Period Accomplishments

For the past two weeks, we have made more progress. It was a busy couple weeks with other classes. We continued working on improving our hardware, software and API parts of the project.

Pending Issues

Hardware Team: The Bluetooth module is less user-friendly than originally anticipated and has led to some project difficulties. We will need to ensure the code is putting the module in the correct mode to communicate with, and troubleshoot the communication issues we are encountering. We are working also on formatting the data still. The team hopes to have this stuff figured out before break.

Software Team: Format of the data which is generated by the hardware device.

Individual Contributions

Name	Individual Contributions	Hours this period	Hours cumulative
Madison Kriege	Started implementation on profile page for mobile application	14	76

Sean Doran	Worked on Mapbox API and created base map layout. Worked on datasets along with getting data from GPS into Firebase Firestore. Successful implementation of Firebase authentication into iOS application.	16	78
David Hayes	Got a new GPS antenna. It works pretty well. Working on formatting the data still and the bluetooth.	14	76
Kevin Davis	Received new GPS antenna and tested the new hardware (it works better). Also worked on Bluetooth module - able to communicate via command line, though not properly yet.	15	77
Shuangquan Li	Implemented mobile application's table view, data table view. Set up the Core data/local database. Worked on iOS part of the Interface Specifications, Functional Testing requirements, Non-Functional Testing requirements and the process diagram for the design document.	16	78
Donald Laracuente	Worked on design documents such as architecture diagram, use case diagram, gantt chart for timeline and design document revisions.	16	78

Plans for Upcoming Period

To finish out the semester, we are planning to finish out the next draft of the design document and develop a basic prototype of the hardware components with the sprayer. On the mobile

side, we are hoping to have a functional app with basic data being plotted on Mapbox and displaying on the table-views of the iOS interface.

Summary of Advisor Meeting

We did not have an advisor meeting this period due to his scheduling.