EE/CprE/SE/CybE 492 Period Report
1/28/2020 - 2/10/2020

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

Throughout the past two weeks, the team has continued to work toward integrating the iOS application and the Arduino hardware. This was originally met with some challenges as the BlueTooth module was only connecting to Android phones and not Apple devices as needed. The API sub-team worked on the integration issues alongside the hardware members. Additionally, the mobile team continued to refine the user interface and have begun debugging the profile section of the tabbed view.

Past Period Accomplishments

Since the last report, the group met with the clients, faculty advisor, and the professors to discuss and plan goals and milestones for this semester (short term and long term). The iOS team worked with the hardware team to begin communications via BlueTooth. The team has successfully made communications over BlueTooth between the Arduino and a mobile application (not necessarily the app developed as part of this program). The integration between all components of the project has begun, and the team has shifted to discussing and working on how to combine the requirements into a coherent, functional, and reliable iOS application that communicates with the hardware.

Pending Issues

Determine how to communicate with the BlueTooth module on the Arduino from and iOS device.

Individual Contributions

Name	Individual Contributions	Hours this period	Hours cumulative

Madison Kriege	Worked on the profile page for the iOS app implementation and diagramming.	15	23
Sean Doran	Sean worked on continued scheduling plans for team and client meetings. The team also worked on integrating Bluetooth into the iOS application.	16	24
David Hayes	Kevin and David got Bluetooth working. The communication is working on android. We are currently working on getting communication with the iOS side.	15	23
Kevin Davis	In terms of hardware progress, the team mainly focused on the Bluetooth module. It currently works and communicates with an arbitrary Bluetooth android app (can send/receive data from an app found for Android platform). Began preliminary designs for a PCB that can hold modules and make connectors between the module and Arduino (would "plugin" to top of Arduino, as another card).	16	24
Shuangquan Li	Worked on the Bluetooth communication function for the mobile app, enable devices to share data/sync data. Tested the if data can be transmitted between devices.	16	24
Donald Laracuente	Worked on documentation, and scheduling, along with working on some of the code for the back end.	16	24

Plans for Upcoming Period

In the upcoming period, the hardware team plans to continue working on the Bluetooth module in hopes of sending information more reliably. Additionally, connecting the mobile application and the Arduino is a primary goal of ours. The API and mobile teams will be moving forward with business logic for the data display and testing application flow.

Summary of Advisor Meeting

The group met with the advisor on January 30th. During our meeting, the group reintroduced the core concepts of the project to the advisor. The group then proceeded to demo certain aspects of the project. Afterward, the group along with the advisor decided on what they would accomplish before the next meeting to occur on February 20th.