

EE / CprE / SE 491 Weekly Report 5

Feb 28 - Feb 5

sddec24-16

Designing a Smart Plant Nurturing System Enabled by IoT Technology

Faculty Advisor / Client: Md Maruf Ahamed

Team Members:

- Tejal Devshetwar - Frontend / Backend
- Holden Brown - Frontend / Backend
- Blake Hardy - HW / SW Integration
- Cameron Jones - HW / SW Integration
- Cayden Kelley - PCB Design
- Chase O'Connell - PCB Design

Weekly Summary:

This week, our team primarily focused on completing in-class assignments and catching up on prior tasks. The sensor necessary to proceed with testing just arrived recently, and we are still waiting for the rest of our test setup to arrive. We started the implementation of the app for our system with some rough drafts for the login and account creation pages. Additionally, we began to look into different methods of communication with the server and how exactly we should format our data. We determined that for the hardware side of the project, the next steps were primarily testing basic sensor functionality as well as finalizing a decision on actuator selection.

Past Week Accomplishments:

- Our advisor Maruf couldn't meet at our normal time so we rescheduled for Thursday at 2:00pm 3/7
- Team website
 - Began updating the bio and role for each member.
 - Completed the project overview description.
- Submitted ETG item order form
 - Received notification that the sensor has arrived today.
- Mobile App
 - Began work on account login and creation screens in React Native.
- Server Connection
 - Conducted some initial research on REST API and Python request library to be used in data handling and processing with the Raspberry Pi.

Plans for Coming Week + Action Items:

- Holden Brown - Push to out teams gitlab. Finish login and create account screen. Use create/login frontend to test and start work on the backend.
- Tejal Devshetwar - Work on the login screen and begin working on the home screen.
- Blake Hardy - Spring break
- Cameron Jones - Write at least skeleton code for intersecting data from sensor/ sending to server
- Cayden Kelley - Work with Chase to select actuators for our project. Continue researching additional nutrient sensors and come to the team with a proposal.
- Chase O'Connell - Continue actuator research and prepare comparison list for team. Test sensor functionality and setup Raspberry Pi.

Pending Issues:

- Tejal Devshetwar
 - No issues
- Holden Brown
 - No issues
- Blake Hardy
 - No issues
- Cameron Jones
 - No issues
- Cayden Kelley
 - No issues
- Chase O'Connell
 - No issues

Individual Contributions:

Team Member	Contribution	Weekly Hours	Total Hours
Tejal Devshetwar	Looked at the React app a bit and EC2 server.	1	13
Holden Brown	Started work on the app in React Native finishing a basic login screen. Got a software development environment set up for React Native.	3	22.3
Blake Hardy	Looked into rest implementation on PI, mostly waiting on hardware to arrive	1	16
Cameron Jones	Investigated python request library which will be used to send data to the server. Studied I2C protocol which is used by the current sensor.	3	12

Cayden Kelley	Further researched the Nitrogen sensor that is being designed/created by ISU faculty. Began compiling sensor voltage and power requirements and laid out sensor pinout to that of our Rasberry Pi.	3	14.5
Chase O'Connell	Finalized list of items to order and submitted order request to ETG.	1	14