EE 491 WEEKLY REPORT 2 ***Date: 2-6-2017***

Group number: 17

Project title: Irrigation Monitoring App

Client &/Advisor: Dr. Ajay Nair and Dr. Manimaran Govindarasu

Team Members/Role:

Team Leader: Sierra Lucht

Team Communication Leader: Landon Woerdeman

Webmaster: Sam Jackson

Key-Idea-Holder: Daniel Albers

Key-Idea-Holder: Seth Lightfoot

- **Weekly Summary**

This week, we had our first meeting with our client and advisor. We were able to hear additional details about the project, and to ask questions. After the meeting, we worked to begin researching many of the details given to us. With this research, we were able to begin formulating a project plan and brainstorming questions for the next week.

- **Past week accomplishments**

  - Daniel Albers: Assembled existing hardware into manageable packet in hopes of testing/calibrating sensor to current moisture sensor in use.
  - Sam Jackson: Read documentation of soil sensors. Began exploring system architecture ideas.
  - Seth Lightfoot: Started to flesh out new ideas and refine existing ideas in terms of hardware and software to use after advisor/client meeting helped narrow the requirements of this project.
  - Sierra Lucht: Spoke with cient to receive more specifics about the project, then began researching end result given those ideas and the current solution.

- Landon Woerdeman: Met with advisor and client in order to discuss specifications. Read about the WatchDog sensor, which is a sensor that client currently uses in the field. Began to research various soil sensors and communication protocols that would meet the client's specifications.

- **Pending issues**
  - Daniel Albers: N/A
  - Sam Jackson: N/A
  - Seth Lightfoot: N/A
  - Sierra Lucht: N/A
  - Landon Woerdeman: N/A
- **Individual contributions**

NAME	Individual Contributions	Hours this week	HOURS cumulative
Daniel Albers	Created a perf-board moisture sensor, which when provided a wifi connection will post the moisture sensor's reading to an online postBin. The ESP8266 dev board is powered by a battery bank, when configured properly, could last a very long time. Goal is to calibrate new sensor to existing sensors, as well as testing to see if the board will be able to communicate through dirt/water.	3	6
Sam Jackson	Read given documentation on moisture sensors. Began requirement elicitation (with group) and light research into cross-platform mobile development strategies (individual effort).	2	3
Seth Lightfoot	Began research on potential avenues of hardware/software integration and created a shortlist of potential hardware devices and software tools that could prove useful in our endeavours. I plan to further flesh out the direction of the project with group considering my findings.	3	4
Sierra Lucht	Read the provided information about the currently used sensor technology. Begin researching alternative options, and start discussing with the group an approach to the problem at hand.	2	3
Landon Woerdeman	Read given documentation; began looking into other commercial moisture sensors and near field communications like NFC and Bluetooth. Researched if there are any competing tools/applications that currently exist.	3	4

- **Comments and extended discussion**

- **Plan for coming week**
    - Daniel Albers: Research what wireless technologies will be applicable, research what backend/app-end framework will work best
    - Sam Jackson: Look into cross-platform solutions for mobile application development.
    - Seth Lightfoot: Need to get a group consensus on hardware/software tools and design
    - Sierra Lucht: Speak with client and advisor in more depth about the project, then begin working toward finalizing the tools used and creating the project plan.
    - Landon Woerdeman: Meet with group to discuss appropriate tools and sensors, and begin to write documentation for the project starting with requirements and specifications given by the client and improvements that we could make. Need to choose between implementing a custom design or modifying existing IP.

- **Summary of weekly advisor meeting**

During our meeting with our advisor and client this week, we first covered introductions, as this was our first gathering. We were then able to hear from the client about what he was looking for with this project, and were able to view the current system in place. Finally, we were given some advice from our advisor about how to proceed with the project.