

## Overall Summary:

During the past two weeks, the team met with the client a couple of times to continue to refine details about the design. We worked on the design document and wrote our version one draft. This will be adapted continuously throughout the semester as we make more progress on our project.

## Individual Contributions:

These are the descriptions for individual contributions for the two weeks of this reporting period:

2/16-2/29

**Anastasia Golter:** During the last two weeks, we have been waiting for our PCBs to arrive. In the meantime, we have been researching other sensors that could be used in our project as well as preparing for presentations. In the upcoming weeks, we hope to assemble and test our PCBs.

Bi-weekly total: 5 hours

**Nicholas Stasi:** During the past two weeks, we have been researching different components that may play a role in our project while we wait for our PCBs to arrive in the mail. We are also researching papers for similar projects on Hardware X which is a free, open-source journal for hardware projects. We have also been working on our design document. In the next two weeks, we hope to be able to have our PCBs soldered up and start testing.

Bi-weekly total: 3 hours

**Emily Kinne:** These past two weeks while we have been waiting for our sensors and PCBs to arrive I have been doing research on existing technologies similar to our sensor array. I have reviewed some of our C code and helped draft the first version of our design document. Next week I am planning to help put the sensors on our PCBs and do more testing.

Bi-weekly total: 7 hours

**Zachary DeMaris:** During the last two weeks I spent time researching the datasheets for temperature sensors and the cellular shield for Arduino to understand what kind of code will be required. I worked with Andy to test the temperature sensors when they came in. We were able to get fairly accurate readings from both temperature sensors. I also researched waterproofing techniques for PCBs such as nail polish. I researched the one-wire interface for sensors and found out it is similar to I2C in the sense that multiple devices can share the same bus.

Bi-weekly total: 10 hours

**Jack Seiter:** These last two weeks I worked on our methodology and generic protocol for how we would get information from platforms back to the central report receiving server(s). I made a TCP based binary implementation of the generic protocol which I am currently debugging. Finally, I helped order the SIM card.

Bi-weekly total: 8 hours

**Andrew Koenen:** During this sprint, I have been working on learning the flash process the lab uses to upload software to the hardware. After figuring out the overall existing system I then worked with Zach to test the new temperature sensors we ordered. I also did some research on how to use multiple one wire sensors together on the same wire.

Bi-weekly total: 10 hours

## Pending Issues:

We hope to get PCB boards figured out and start planning more iterations to help reduce the time wasted in waiting for boards to arrive. We also hope to plan better around these issues to make more use of this waiting time between boards arriving.

## Plans:

For the next two weeks, we hope to first assemble and solder all pieces onto the boards we ordered. Then we will have to test these boards and begin to write the software they will need to transfer data. Jack will begin work on a cellular module that he researched to use as a communication method. Zach and Andrew will also continue developing code to access and manipulate the new sensors that we researched and ordered to get a system of multiple sensors working. Ideally we would have a simple two sensor system working in air and order a fish tank to test it in water.