

CprE/EE/SE 491-- sddec20-23

Underwater Algae Bloom detection

Semester 2 week 5

10/11-10/24

Client: Santosh Pandey

Faculty Advisor: Santosh Pandey

Team:

Anastasia Golter -Housing Team

Nicholas Stasi - Sensor Team

Emily Kinne - Sensor Team

Zachary DeMaris - Housing Team

Jack Seiter - Communication Team

Andrew Koenen - Sensor Team

Overall Summary:

This last two weeks the team has been continuing to work on implementation of the device. This includes creating the correct wire setups, getting the correct tubing, figuring out the I2C issue from the last two weeks, and starting work on a perf board to hold it all together.

Individual Contributions:

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

10/11-10/24

Anastasia Golter: Over the last two weeks I worked with Andy and Zach to finalize the wiring and housing for the project. I got different lengths of wires cut from the ETG and was able to assemble three boards together. We tested this “leg” that we assembled and were able to collect data from all of the sensors. With the wiring and testing complete all that is left to be done is seal the boards with the waterproof plastic. I also started working on our poster and final presentation.

Bi-weekly total: 12 hours

Nicholas Stasi: These last two weeks I have worked on completing a perf board “hat” to our raspberry pi that houses the Fona cell board, 16:1 MUX, and all headers needed for our sensor boards. I tested the perf board with Andy and we are able to communicate correctly with our boards, I just need to finish the headers for the Fona Board. I also have worked with the team to come up with a final schedule for finishing everything up by the end of the semester.

Bi-weekly total: 8 hours

Emily Kinne: I worked on soldering temperature sensors and testing our PCBs with the new multiplexores. We are able to receive data from all 3 sensors by multiplexing the SDA lines. I helped Chloe get the wiring we need from the ETG and make sure it fits into the larger tubing. Lastly, I started working on our poster board and final presentation.

Bi-weekly total: x hours

Zachary DeMaris: These last two weeks I have worked with the team to create a timeline of things that need to happen before the end of the semester. I also have been working with Chloe and Andy on the housing and wiring layout that we would like to use. I also helped Chloe with creating diagrams we can use on the final poster.

Bi-weekly total: 8 hours

Jack Seiter: These last two weeks I discussed with the team what data types the sensors on the platform were going to use, particularly working with Andrew. I updated the configuration of the sensors and platform within the code and am in the process of testing the existing code with that configuration. Additionally I met with the rest of the team to participate in construction related preparation.

Bi-weekly total: 9 hours

Andrew Koenen: These last two weeks I have been working with the entire team to help out with integration. I have been helping to finish and test the analog mux setup to solve our last issues with the boards and successfully fixed the issue. After that I worked on the wire layout and how that would fit into tubing with Anastasia and Zach. I also helped to test the final wiring setup to make sure everything worked correctly. I also worked with Jack to make sure that his communication software can work with the sensor calling system. Lastly I have been starting work on the poster and presentation to help prepare for the ending semester.

Bi-weekly total: 12 hours

Pending Issues:

This week we have no pending issues and are on track!

Plans:

We plan to finish the building of the tubing and seal the sensors into the legs and start performing test runs to check our power limits and see if we can successfully send data. Along with this Nick will work on finishing the perf board to get a more packaged look for the device.