Team sddec20-06
EE 492
12 October 2020
Batteryless, Encapsulated Hydrometer

Bi-weekly Status Report #4 [B4]

Individual Contributions:

Name	Contributions to the team	Hours Worked for the Week	Total Cumulative Hours
Tilden Chen	Orientation Detection	8	26
Josh Hall	Base Station Software	6	26
Jensen Mayes	Mechanical Prototype Work	6	34
Chris McGrory	Web Server Development	8	36
Griffin Orr	Schematic Design/PCB Layout	6	36
Chris Pedersen	Orientation and Code Development	8	38

Summary:

In the past week we have been working on our different subtasks. In the mechanical aspect, we are working on getting a new housing printed and tested. For the software there has been progress made on both the board firmware and for the base station web development with the raspberry pi. Lastly, the PCB is nearing completion so that we can get it ordered and built up.

Individual Contributions

- Griffin Orr
  - Over the past few weeks I have been reviewing my design for the PCB and will share with the team when I feel they are at a final state for review. I have also been working on simulating my antenna matching network to verify that it will behave as expected.
- Chris McGrory
  - In the past week I have been working with the web server to output dynamic content from the Raspberry Pi. I will connect with Josh this week to synthesize a solution for the final software design. I will also look into more of the aesthetic features of our webserver.
- Josh Hall

- o I added some extra implementations to the Beacon code. I need to coordinate with Chris on the web server implementation so the Beacon RX code can communicate with the web server.
- Christopher Pedersen
  - o I have been working on the code for orientation and looking at the Thunderboard Sense 2.0 as well as the necessary calculations still. Tilden and I are working on building a project that we can load and test on the thuderboard sense 2.
- Jensen Mayes
  - o I was able to print off a first prototype model and tested it in a tub of water. I've made some adjustments to it and am in the process of printing a second generation.
- Tilden Chen
  - o This past week I worked with Chris and looked at the board code some more. Next step is building and testing the code on the controller to verify that it does what we think it does.

Pending Issues:

- Getting access to the needed lab equipment (Reflow oven)
- Determining how to continue project process with limited in person contact

Plans for Next Week:

- Verify Kinematic Equations for finding tilt angle.
- Figure out Equipment Access abilities
- 3D print new CAD housing and test in a tub of water.
- Begin adding symbols for the energy harvesting module to the schematic