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Cody Roberts – *Team Treasurer*

To: Kyle Winfree

Date: 12 February 2019

Subject: Minutes Documentation

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## **Introduction**

This memo is documentation of the minutes taken during our team meetings. More specifically, this memo covers the meetings held on February 8th and 9th. In total, these two meetings logged a total of three and a half hours put toward the project. The bulk of the meeting on the 8th was covering our team's Gantt chart and scheduling documentation, toward the end of the meeting we began to plan the next meeting's goals. During the meeting on the 9th, we covered the network architecture to set up for the Raspberry Pis, ordering of our final parts, and the structure and setup of the project's website. The rest of this memo will cover these topics discussed; website layout, network architecture, schedule, and parts. Due to having a class at the meeting time on the 8th, Ryan could not make it, however, everyone else was in attendance, as well as everyone meeting on the 9th. Our meetings are typically scheduled at an agreed upon time in which we can all make it, due to this, our team meeting attendance is very often 100%.

## **Website Layout**

For the website, we determined we would begin with a basic layout covering the project description, the team, and technical specifications of the project. Below is the current structure of the website.

- Home
  - Short description
  - Abstract
- Project
  - Team
  - OG Problem
  - Solution
  - Demo

- Technical Specifications
  - Schedule
  - Code
  - Repos

## **Network Architecture**

For the network architecture, the team leader suggested we use sockets to switch between antennas. This would allow the client module to choose the antenna which it would be transmitting with, while the server module would switch the transmitting antenna to the one desired by the client. This would be beneficial to the project to allow for easier use, not requiring the user to change any programming within the Raspberry Pi modules. We agreed to use this and look into other ways to make the modules easier to use.

## **Schedule**

Throughout both meetings, we utilised time together to do work on our schedule documentation due the following week. For this we finalized our Gantt charts, which we all turned in the prior Tuesday. We also put down an outline for our client contract we would be submitting at the same time. About half of the work for this project was done outside of meeting time, finalizing the work discussed during the meeting and derived from the rough drafts submitted individually. This document was to solidify our project plan, including all work, parts ordering, website, and subsystems. To ensure we could complete the subsystems within the project, we made it a point to order all parts we would need, and dedicate the needed time to completed the work required for each antenna.

## **Parts**

For our final parts order to complete the project, we ordered the battery packs to make the system portable. For this, we needed to research the required power supply to meet the needs of our client. For this application, the client wanted the system to be able to run for six hours on a portable power source. With varying power demand of the Raspberry Pi, depending on the load on the processor, we found that a battery pack with 3800mAh should be sufficient to supply the module in use for the duration specified. With our previous order covering the third Raspberry Pi required, as well as the remaining antennas (LoRa and Zigbee), this order fulfilled our project's hardware requirements.

Sincerely,

Wireless Mesh Grid Capstone Team

*Hannah Caldwell-Meurer, Ryan Hitt,  
Jack Garrard, Cody Roberts*