From: Jack Garrard – *Project Leader*
Ryan Hitt – *Sponsor Liaison*
Hannah Caldwell-Meurer – *Scheduling Coordinator*
Cody Roberts – *Team Treasurer*

To: Kyle Winfree,
Arnau Rovira

Date: 5 March 2019

Subject: Meeting Minutes

Section I. Introduction

In this memo we will be looking at what our team, the Wireless Mesh Testbed Capstone group has done over the week of 21 February 2019 to 5 March 2019.

We will be looking at the continued research on existing technologies for how to communicate between the Raspberry Pi antennas. The Work Breakdown Structure as presented during the Design Review Presentation along with our developed documentation. Finally we will look into the scheduling conflicts we have run into up to this point and how we've dealt with them.

Section II. Research

Throughout the past couple of weeks we have been focused on finally finding the technologies to use for the network between the different antennas. We have found ways to run the wifi and bluetooth technologies within Linux but the more specific technologies such as LoRa and Zigbee we've been forced to do more research. Right now although we have these antennas we are still looking into what languages would be best to transmit data between them and then how to use the network to communicate in between them.

Section III. Work Breakdown Structure

We have broken the Work Breakdown Structures into five different categories, Software Configuration, Network Communication, Hardware, GUI, and Documentation. Duties in these categories have been split between all four members of our team with each of team member taking a lead on each section.

Jack will be leading Network communication and software configuration, this involves getting data from the antennas and relaying it between the Raspberry Pi's to create a modular network. The Hardware side is led by Cody Roberts and involved the research into the different types of antennas needed based on client requirements and ordering them, as Treasurer Cody was able to

effectively research and order all of the parts we needed. Ryan will be working on the website including the documentation of meeting minutes, software, hardware, and all the network configuration used to make the project work. Hannah is leading the effort to develop a Graphic User Interface for the data. This will make output the data and make it easier to read by students, high configurability was necessary as part of this project and will be accomplished here.

Section IV. Design Review Presentation

The Design Review Presentation took place on 27 February 2019. The whole team was able to present the information laid out in Section III. From here we will work on developing Documentation based on this and submitting it to Kyle Winfree as well as uploading it to the website.

Section V. Scheduling Conflicts and Client Contract

We have still been working on setting up a consistent time to meet with our client to show them how far we have gotten. At this point according to the Gantt chart we produced at the beginning of the semester we should be getting to a point where each of the antenna technologies is working.

Once we have those technologies working we will wait to implement the technology until after we have met with her. First we will show Vigil-Hayes the working technology then as agreed in our client contract we will talk about the options for interconnecting the different network technologies through the Raspberry Pi. Right now as stated in Section II we are looking towards python running in the Linux of the Pi's to trade off the data.

Vigil-Hayes has denied our request to add her to Slack claiming that email is the best way to reach her. To get over our conflicts we put together a poll to find what times would work best for everybody, this will then be sent to our client to see when we can meet.

Section VI. Conclusion

In conclusion, we have been looking to taking the final steps in developing our technology, the last semester and couple months has led to us getting ready to process the data between the Pi's. This technology has been done before and we are working towards implementing many different types of data and code together.

As we finish our research we will implement the codes we found and develop a network along with a Graphic User Interface so the project meets Dr. Vigil-Hayes standards for what we were set out to do. It has been a surprise how much research this project has been instead of focusing on hardware but in the end hopefully we will have a good final product that can be used for education on network technologies.