

EE 492 Progress Report MAY15-23 Period 5 (3/23/15-4/5/15)

Advisors: Daji Qiao

Client: Halil Ceylan

Members (roles): Brandon Wachtel, Tyler Fish (Team Communicators)

Mitch Balke (Team Leader)

Brandon Maier, Johnnie Weaver (Web Masters)

Trieu Nguyen, Christofer Sheafe (Key Concept Holders)

Project Title: Wireless Embedded Roadway Health Monitoring

Period Summary

During this period, we have received the PCBs and components that are to be placed onto the PCBs. We have finalized the enclosure design and ordered prototypes for testing. Mitch has soldered the PCBs using the reflow oven in Coover. We had our second meeting with George for the semester and delivered our presentation to him. A new version of the charging circuitry has been chosen and testing is underway. The new charging chip has come in as well and testing has begun on it.

3/23 Group Meeting with Advisors

Duration: 1 Hour

Members Present: Tyelr Fish, Johnnie Weaver, Brandon Wachtel, Brandon Maier, Mitch Balke, Trieu Nguyen

Purpose and Goals:

The purpose of this meeting was to tell our advisers about the current status of the project. We told them that due to the small components that we are using for the PCBs, we would need to use the reflow oven to solder the boards. We discussed the new charging circuit and showed them a demonstration of how it works. Finally, we talked about the status of the node-to-node and node-to-base station communications.

Meeting Notes:

Boards have come in
Parts have come in for the PCBs
Still missing 1 capacitor for the PCBs
Ask parts shop/Lee about reflow oven soldering
Testing new charging circuitry
MOSFET keeps burning out in the charging transmitter
Ordering enclosures this week
Raspberry Pi should be working with communications soon
Working on transferring code from old MC to new MC
1011 Coover, Thursday from 7pm-9pm for programming tutorial
Get presentation done for Monday

3/30 Group Meeting with Advisors

Duration: 1 Hour

Members Present: All

Purpose and Goals:

The purpose of this meeting was to present our PowerPoint presentation to our advisers before we had our meeting with George to receive some feedback on what they like and what they thought should be added to the presentation.

Meeting Notes:

Gave presentation to our advisers
Fixes to make to the presentation

- Mitch's slide on power consumption calculations
- Add adviser's names and client name to title slide
- Add group # to each slide
- Scope – Past Projects, change to “Past Efforts”

- Look into nylon mesh for sensor exposure
- Test plan Networking/Routing, Add diagram of flow/pseudo code
- Slide near beginning listing functional and non-functional requirements
- Slide showing we met requirements bot functional and non-functional near end

4/1 Second Meeting with George Amariuca

Duration: 1 Hour

Members Present: All

Purpose and Goals:

The purpose of this meeting was to give our presentation to George to see receive his feedback on both our project's status as well as the presentation itself.

Meeting Notes:

There was no real major issues that he saw with the presentation
 We need to add pictures to some of the slides with little content
 Need a few videos for the presentation as well

Pending issues

We still need to finish the PCB design for the nodes containing the charging circuitry
 Small tweaks need to be made here and there to our presentation before it is finished

Plans for Fifth Period

Mitch Balke – Finish PCB design for node including charging circuitry, continue work on communications

Tyler Fish – Complete enclosure testing and order enclosures for the rest of the nodes

Brandon Wachtel – Test and finalize charging chip and its corresponding circuitry for PCB design

Brandon Maier – Work on base station and communications between the base station and nodes, work on networking algorithm

Johnnie Weaver – Work on charging circuitry and the testing of the current prototype

Trieu Nguyen – Work on charging circuitry and the testing of the current prototype

Chris Sheafe – Work on the design of the base station

Everyone – Work on updating and finalizing documentation for the project as well as coming up with the design for our presentation board

Individual Contributions (This Period)

Johnnie Weaver: Attended advisor meetings (2hr), attended group meetings (3.25hr), attended meeting with George (0.5hr), worked on charging circuitry (4hr), tested charging circuitry (2hr), worked on slides for presentation (2hr), attended meeting with Civil Engineering department (2hr), attended meeting to work on presentation slides (2.5hr)

Brandon Wachtel: Attended advisor meetings (2hr), attended group meetings (3.25hr), attended meeting with George (0.5hr), attended meeting to work on presentation slides (1.25hr), worked on charging chip circuitry (8hr)

Tyler Fish: Attended advisor meetings (2hr), attended group meetings (3.25hr), attended meeting with George (0.5hr), worked on presentation slides (2hr), worked on enclosure design and orders (4hr), wrote progress report (0.75hr), attended meeting to work on presentation slides (2.5hr)

Mitch Balke: Attended advisor meetings (2hr), attended group meetings (2hr), attended meeting with George (0.5hr), attended meeting with Civil Engineering department (2hr), board and communication testing

(2hr), 1st iteration board assembly (2hr), 2nd iteration board testing (3hr), attended meeting to work on presentation slides (2.5hr)

Brandon Maier: Attended advisor meetings (2hr), attended group meetings (1hr), attended meeting with George (0.5hr), attended meeting with Civil Engineering department (2hr), worked on network communications (1.25hr), attended meeting to work on presentation slides (2.5hr)

Trieu Nguyen: Attended advisor meetings (2hr), attended group meetings (3.25hr), attended meeting with George (0.5hr), attended meeting with Civil Engineering department (2hr), worked on charging circuitry (3hr), worked on charging circuitry measurements (2hr)

Christofer Sheafe: Attended advisor meetings (1hr), attended meeting with George (0.5hr), worked on charging circuitry (1hr), worked on base station (6hr), attended meeting to work on presentation slides (2.5hr)

Total Contributions (This Period)

Johnnie Weaver: 18.25 Hours

Brandon Wachtel: 15 Hours

Tyler Fish: 15 Hours

Mitch Balke: 16 Hours

Brandon Maier: 9.25 Hours

Trieu Nguyen: 12.75 Hours

Christofer Sheafe: 11 Hours

Total Contributions to Project

Johnnie Weaver: 114.75 Hours

Brandon Wachtel: 108.75 Hours

Tyler Fish: 110 Hours

Mitch Balke: 111 Hours

Brandon Maier: 95.75 Hours

Trieu Nguyen: 94.25 Hours

Christofer Sheafe: 71.5 Hours