

EE 492 Progress Report MAY15-23 Period 1 (1/12/15-2/1/15)

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

This is the first period of the semester for EE492 and is the first three weeks of the semester. We had our first meeting with our faculty advisers on 1/26 and discussed what the current status is of the project, what we had completed during the first two weeks of the semester, and our current goals and timeline for the project. We also met with our EE492 professor George Amariuca to talk with him about the project and what he will be expecting from us as the semester goes on. Overall, he likes the project and feels that we are making good progress.

1/26 Group Meeting with Advisors

Duration: 45 Minutes **Members Present:** All

Purpose and Goals:

The purpose of this meeting was to discuss the status of the project and tell our advisers about the work that we have been completing thus far into the semester. They wanted us to give them a rough timeline and project outlook for the semester to make sure that we were allocating enough time into the areas that are of the most concern to the group.

Meeting Notes:

Look into college of design for enclosure printing
Finish PCB design
Start working on larger circuit testing
More testing with the charging circuitry
Get sizes and start designing enclosure
Look into different enclosure materials

1/28 EE492 First Meeting with George Amariuca

Duration: 45 Minutes **Members Present:** All

Purpose and Goals:

The purpose of this meeting was to inform George of our project, tell him the current status of the project, and discuss the material that he will be looking for as the semester continues. He said that he liked our project and feels that we are making good progress. We will have a second meeting with him after Spring Break to show him our presentation and receive some feedback before we present in front of the panels.

Meeting Notes:

Add short videos that demo the prototypes (30sec max) into final presentation
List challenges and how we overcame them
Talk about the original design of the previous project and how ours differs from theirs
Formal presentation for George will be an almost finalized presentation for the end of the semester

Pending issues

Found errors in charging circuit design; currently rebuilding and needs testing
More testing needs to be done on the microcontroller RAM
More testing of EM coils needs to be completed before final charging coils can be made
All testing needs to be completed before final PCB design can be created

Plans for Second Period

Finish testing for creation of final PCB design
PCB will be ordered as soon as testing is finished
Node enclosure will be finalized and created once final PCB and charging coils are designed

Individual Contributions (This Period)

Johnnie Weaver: Attended advisor meeting (0.75hr), attended meeting with George (0.75hr), attended group meetings (1.75hr), moved EM coils chip over to Multiboard/ultiboard (2hr)

Brandon Wachtel: Attended advisor meeting (0.75hr), attended meeting with George (0.75), testing and resoldering charging board (3.5hr), writing progress report (.25hr)

Tyler Fish: Attended advisor meeting (0.75hr), attended group meetings (1.75hr), attended meeting with George (0.75hr), battery circuit testing (0.5hr), enclosure design and research (3.25hr), EM coil work (1.75hr), writing progress report (1hr)

Mitch Balke: Attended advisor meeting (0.75hr), attended meeting with George (0.75hr), attended group meetings (1.75hr), communication protocols and testing between 2 cc1101 devices (6hr), resolving memory issues and ordering sample parts for memory expansion (1hr)

Brandon Maier: Attended advisor meeting (0.75hr), attended meeting with George (0.75hr), attended group meetings (1.75hr), setting up and configuring raspberry OS (3hr), starting raspberry pi base station coding (4hr)

Trieu Nguyen: Attended advisor meeting (0.75hr), attended meeting with George (0.75hr), attended group meeting (0.75hr), moved coil chip to multiboard/ultiboard (2hr), researching and ordering high frequency RF rectifying diodes and high current BJTs (2hr), building and testing RF rectifying circuit (2hr), testing power transmission circuit (2hr)

Christofer Sheafe: Attended advisor meeting (0.75hr), attended meeting with George (0.75hr), enclosure design (1.5hr), plastic material research (1hr)

Total Contributions this Period

Johnnie Weaver: 5.25 Hours
Brandon Wachtel: 5.25 Hours
Tyler Fish: 9.75 Hours
Mitch Balke: 10.25 Hours
Brandon Maier: 10.25 Hours
Trieu Nguyen: 10.25 Hours
Christofer Sheafe: 4 Hours

Total Contributions to project

Johnnie Weaver: 67.25 Hours
Brandon Wachtel: 69.5 Hours
Tyler Fish: 74.5 Hours
Mitch Balke: 72.75 Hour
Brandon Maier: 69.25 Hour
Trieu Nguyen: 61.5 Hour
Christofer Sheafe: 52.5 Hour