Bi-Weekly Status Report 7

Dates: 11/18/2018 - 12/3/2018
Group Number: sddec18-02
Project Title: Steam Heat Controller Retrofit
Client/Advisor: Lee Harker

Team Members - Role
Sarah Coffey - Reporting Lead
Ken Wendt - Webmaster
Liz Wickham-Kolstad - Design Lead
Jevay Aggarwal - Technical Lead
Joe Filbert - Client Lead
Thomas Devens - Planning Lead

Summary

The group worked to finish development on the project, do final testing, and create the final report and post. The hardware team finished soldering the PCBs and fitting the coupler to the valve for the motor. In final testing, the team also discovered an issue with the MCU PCB. After some troubleshooting, it was found that the temperature sensor had become corrupted. The team also finished packaging for the MCU.
The software team worked on encrypting the traffic between the MCU and RCU. Due to several complications, we were not able to reliably implement this security feature. The team also worked on making the actual communication between the RCU and MCU more robust. This was done through testing the connections and possible interactions between the two devices for long periods of time. The team also tested the battery life by simulating a semester's worth of interactions. The testing results confirmed the calculations that showed it lasting an entire semester. The team also finished the email error reporting feature and tested it thoroughly. The web team continued working the security measures for the site, which included using LDAP to authorize users and enabling HTTPS on server. The team has not been able to get these measures working with our setup. Finally, the team finished making design changes to increase the look and feel of the site.

Pending Issues

As this is the final status report, no further issues can be brought forward.

Going Forward

The team is finishing work on the final report and user manual, making sure that the hand-off to ETG is successful.

Individual Contributions

Name	Contribution	Hours Worked	Total Hours
Sarah	Worked on implementing security measures for the RCU and MCU (LDAP authorization on the website, HTTPS secure web connection, and encrypted socket communication between RCU and MCU). Also wrote and tested the error emailing feature and tested it. Did final formatting and editing on report.	48	116

Ken	Finished soldering the PCBs for the project and worked on debugging issues with the PCBs and fixing them.	30	83
Liz	Finished RCU communication, worked on motor controller, fixed temperature sensor, worked on temperature sensor calibration	35	85
Jevay	Worked on cleaning up the arduino code. Added error handling to the RCU. Testing with the RCU with MCU.	34	83
Joe	Made Brass coupler, then aluminum coupler after brass did not work. Made MCU enclosure and populated enclosure. Connected motor. Power supplies.	40	81
Thomas	Finished adding various features to WCU, such as error checking, header and menu bar etc.	20	74.5

Meeting with Client/Advisor

Consulted with our client as needed for final requirements.