EE/ CprE / SE 492 - sddec20-25

Automated Battery Characterizer

Week 4 Report

8/31/20 - 9/13/20
Client: Solar Car
Faculty Advisor: Nathan Neihart

Team Member Roles
- **Kyle Czubak:** Scribe
- **Ben Kenkel:** Meeting Facilitator
- **Joe DeFrancisco:** Chief Engineer & Team Lead
- **Ryan Willman:** Safety Manager
- **Bryan Kalkhoff:** Report Manager
- **Connor Luedtke:** Test Engineer

Weekly Summary

In the past two weeks, progress has been made on creating and ordering the micro pcb. This allows the software team to work in parallel so when the hardware design is finished the embedded code will be complete. We have started to finalize our schematics and will be able to have a rev 1 pcb within two weeks.

Past Week Team Accomplishments:
- Basic GUI
- Rev 1 of schematic complete
- Prototype PCB of load circuit tested and findings implemented.
- Started board component placement and layout.
- Microcontroller dev board ordered

Pending Issues:
- Board Layout to reduce cost
- Potential time to received PCB

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Bryan Kalkhoff	Ordered the micro test board and added the I2C multiplexer to the schematic.	10	20
Kyle Czubak	Word on writing up code for CAN and I2C on the microcontroller.	10	20
Ben Kenkel	Started working on the webpage for the PI's html templates.	10	20

Ryan Willman	Updated footprints	10	20
Joe DeFrancisco	Load circuit testing. Schematic finalization, board layout started. BOM simplification.	20	35
Connor Luedtke	Schematic update, battery polarity protection design	10	10

Upcoming Plans

    Joe DeFrancisco
- Have component placement and board ready for routing by the end of week.
- Help testing of microcontroller dev board if needed. Will not be my primary focus.

    Connor Luedtke
- Battery research, battery holder design

    Ryan Willman
- Help work on main PCB and assist where needed

    Ben Kenkel
- Work on the webpage that will be displayed on the PI for controlling the testing. I'm going to try to focus on minimal viable products so the functionality it there before pivoting to better interfaces and functionality

    Bryan Kalkhoff
- Plan to finalize what pins are being used on the microcontroller.
- Going to make sure that the I2C bus is set up correctly.
- Help with the PCB layout as that has started

    Kyle Czubak
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Summary of Weekly Advisor Meeting

We have moved to bi-weekly meetings with our advisor since we haven't had many issues, and have been able to make progress without needing much for help. We have discussed with Dr. Neihart our plans for the user interface on the raspberry PI. Advisor feels we are in good shape to have the project completed well before the deadline.