EE/ CprE / SE 491 - sddec20-25

Automated Battery Characterizer

Week 13 Report

3/16/20 - 4/12/20
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 last several weeks progress has been made on temperature sensing, battery charging, and voltage regulation. We have also selected a microcontroller. At this point all of the main components have been selected and over the next few weeks we will be getting them added to the schematic.

Past Week Team Accomplishments:

- Started Altium project
- Main components for project selected

Pending Issues:

- Starting schematic work when we can't meet as a group
- Altium Library Management

Individual Contributions

Team Member	Contribution	Weekly Hours	Total Hours
Bryan Kalkhoff	Made microcontroller schematic symbol and started schematic	10	70
Kyle Czubak	Worked on website prototype and finished database diagram.	10	66
Ben Kenkel	CAN related planning and design	10	58

Ryan Willman	Finalized temperature component	10	62
Joe DeFrancisco	Created Altium project, started adding framework for overall project structure. Completed schematic pages for voltage and current measurement.	15	74
Connor Luedtke	Power Circuitry	10	65

Upcoming Plans

Joe DeFrancisco

- Simulations on stability and response time for constant load circuit
- Spec components to handle thermal loads required by load circuit
- Continue adding to schematic

Connor Luedtke

- Complete charging and power circuit diagrams in altium

Ryan Willman

- Start sketching board layout

Ben Kenkel

- Continue planning the CAN database and work with Kyle on UI.

Bryan Kalkhoff

- Finish microcontroller schematic portion
- Start buffer logic schematic

Kyle Czubak

- Finish working on website prototype.
- Make flask app skeleton code.

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.