

EE / CprE / SE 492 - Team #15

Portable DAQ for Dogs

Bi-weekly Status Report #4

Client: Simon Lalflamme

Faculty Advisor: Nathan Neihart

Team Members:

Yan Jie Hui - Co-Team Lead

Rohan Yadlapati - Co-Team Lead

Daeyoo Kim - Hardware Lead

Rishab Kinnerkar - Web Developer

Matthew Faronbi - Communications Lead

Past Week Accomplishments

Yan:

Filter and Amplifier Circuit:

- Simulation of a couple of models on Spice.
- Simulation had 2 different parameters: Sensor value to determine the gain, and AC signal to filter noise.

Rishab:

Web application:

- Tested file reader offline
- Coded user class and tested user features for different user roles
- Tested web application by feeding 500 test users.
- Made changes to the front-end design

Matthew:

Power management

- Researched ways to design and implement a power switch
- Trying to find ways to implement a power save function in DAQ

Daeyoo:

Power management

- Built a circuit of boost converter and tested it with potentiometer to figure out the right values of resistors (3.7v to 5v).
- Tried to come up with how to build a battery management system for a lithium ion battery.

Rohan:

Real-Time Clock

- Completed Real-time clock function and ran tests to ensure it increments accordingly
- Began implementing into current arduino main code to synchronize data collection and RTC

Pending Issues

- Design PCB
- Finish and implement power and battery management design
- Finish signal conditioning board
- Finish Arduino Code
- Micro SD Card

Individual Contributions

Team Members	Contribution	Weekly Hours	Total Hours
Yan Jie Hui	Simulation of filter and amplifier circuit.	10	45
Rohan Yadlapati	Finished RTC function and made changes to ensure compatibility with current main code.	18	52
Daeyoo Kim	Built boost converter circuit and tested it and researched BMS for lithium ion battery.	10	42
Rishab Kinnerkar	Tested new website UI's for our project. Debugged issues which the website was giving.	14	44
Matthew Faronbi	Researched on Power Management systems for designing a switch and saving power	9	39

Plans for Coming Week

Yan:

- Design Sd card Slot
- Rework Arduino Code with RTC

Rishab:

- Integrate file reader application on the web-server
- Debug the web-application
- Test website with DAQ data

Matthew:

- Implement power switch
- Research more ways to implement for power saving feature

Daeyoo:

- Test boost converter with more accurate inductor that I ordered from digikey.
- Build a battery management system for the lithium ion battery.

Rohan:

- Implement file reader function into arduino code to communicate with the user and collect current time and date
- Make program more user friendly