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:
Low power Arduino:
- Improved the power saving code on arduino

Final design:
- Put all the circuits together: Boost converter, amplifier and filter, Sd card board, battery charger Board, power LED and all the necessary connections for the final design.
- Helped transport design to PCB.

PCB design:
- Started working on the PCB design

Filter and Amplifier Circuit:
- Final design of filter and amplifier circuit done and tested.
- Need to implement with arduino

Boost converter circuit:
- Tried to find out why the feedback loop was not working properly on the IC, which made the voltage drop.

Rishab:
Web application:
- Integrated file reader application on the web-server
- Debugged the web-application's social media aspects
- Tested the website with DAQ data using the newly implemented forms
- Researched and worked on arduino code.

Matthew:
Power management

- Implement a power switch
- Implement a power save function in DAQ

Daeyoo:
Power
- Worked on building boost converter circuit, and changed some resistors to fit 5v output voltage based on formula on its datasheet.
- Calculated efficiency and accuracy of boost converter.
PCB
- Checked the whole connection on breadboards whether it works.
- Designed two separated PCB layers with Multisim/Ultiboard software.
- Designed the first PCB which includes ATmega328 microcontroller, boost converter, SD card slot, temperature sensor, RGB LED, and charger.
- Designed the second PCB which includes filter sensor.
- Connected these two PCB layers with header pins.
- Checked final design of PCB, especially connection between two PCBs.

Rohan:
Real-Time Clock
- Working out bugs in arduino code
Miscellaneous
- Began working on Final Report and Final Poster

Pending Issues
- Finish and implement power and battery management design
- Complete RTC method and implementation
- Finish signal conditioning board
- Finish Arduino Code
- Micro SD Card
- Finish Website
- Design PCB
- Order PCB and solder components to board

Individual Contributions

Team Members	Contribution	Weekly Hours	Total Hours
Yan Jie Hui	Worked on the power saving mode of arduino. Put the final design together for PCB fabrication.	20	75

Rohan Yadlapati	Continued work on arduino code and fixing bugs. Worked on the Pirm presentation and began working on Final Report and poster.	3	70
Daeyoo Kim	Final checked on boost converter. Designed two PCBs to stack the first layer on the second layer. Checked the final circuit and reviewed all the connections between these two PCBs.	15	72
Rishab Kinnerkar	Debugged web application with regard to the social media aspects. Tested website with DAQ data. Researched and worked on arduino code.	15	74
Matthew Faronbi	Designed a switch and saving power and reduced size or arduino by removing unneeded components	7	65

Plans for Coming Week

Yan:
- Order final components, solder on the PCB and do final test.
- Improve code to make it more power efficient.

Rishab:
- Final website testing
- Implement mobile version

Matthew:
- Reduce size of DAQ by removing unneeded component from Arduino
- Find math function relating sensor and effects of temperature

Daeyoo:
- Double check the final design of PCB and then will order the boards.
- When the boards come, will do solder all the components on the PCBs.

Rohan:
- Continue work on arduino code and implementation of dateTime library
- Continue working on Final report and Final Poster.