EE 491 WEEKLY REPORT 6 ***Date: 10/10/16- 10/17/16***

Group number: 19
Project title: ***Portable Nutrient Data Collection System - Phase II***
Client &/Advisor: Dr. Qiao & Dr. Qeu

Team Members/Role:
Ben Theisen - Group Leader
Michael Rupert - Webmaster
Zakk Belloma - Key Concept Holder
Ben Engebrecht - Communication Leader
Logan Boas - Communication Leader #2
Ryan Young - Key Concept Holder #2

- **Weekly Summary (Short summary about what you did this week)**
  - In anticipation of the arrival of the spectrometer breakout connector, we have been writing prototype code to be as prepared as possible when it arrives. We have been moving forward with the Android app development now that the bluetooth module has arrived, and we are having success with that.
- **Past week accomplishments (please describe as what was done, by whom, when)**
  - Project plan is almost completed, need to fix formatting issues - All
  - Updated website styling, added pictures, reports and links - Michael
  - Continued researching how to effectively use bluetooth in an Android application - Zakk, Ben T
  - Started implementation of bluetooth in an android app - Zakk, Ben T
  - Prepared serial communication interface for arrival of breakout board, continued inspecting bus standards to facilitate rapid software to hardware interface - Ben E, Ryan
  - Searched, read datasheets and priced parts for the voltage booster portion of the design in order to design a more functional system - Logan
  - Met again with faculty mentor to test spectrometer and get some hands-on experience with how it works - All
- **Pending issues (if applicable)**
  - Ordering the microcontrollers that we will use for testing (waiting)
  - Get a breakout board for the GPIO pins of the spectrometer (ordered)

o Individual contributions

NAME	Individual Contributions	Hours this week	HOURS cumulative
Michael Rupert	Updated the website's styling, added picture and links to reports. Researched serial communication.	3	22
Ben Theisen	Experimented with Bluetooth on Android and creation of app. Worked heavily on the project plan.	5	23
Zakk Belloma	Researched issues with bluetooth permissions over android.	5	20
Ben Engebrecht	Continued designing communication interface, testing interface to prepare for breakout arrival	4	19
Logan Boas	Searched, read component data sheets, and priced components needed to build step up voltage converter.	3	19
Ryan Young	Project plan write up, looked into commands more.	4.5	24

o Comments and extended discussion

- The code that will be written for serial communication still will need to wait to be tested.
- Currently, other than the breakout board for the spectrometer, the group has access to all parts that will be used in the system. These are parts from each student's collections so we will still need to order parts in the future.

o Plan for coming week (please describe as what, who, when)

- Meet with advisor on Thursday -All
- Start Design Document - All
- Further experimentation with bluetooth and android app -Zakk, Ben T
- Research master - slave relationship in bluetooth - Zakk, Ben T
- Work on extracting data from the spectrometer - Ben E, Ryan
- Modify Website - Michael R

- Look into creating a sustained voltage (1 second) booster - Logan B

o Summary of weekly advisor meeting (if applicable/optional)

Discussed the website format, our advisor wanted more pictures and for the format to look less like a report. Looked at data from a graduate student working with the spectrometer. Learned that a sustained voltage (>300V for ~1 second) would benefit data collection greatly. Will need to perform experiments with this in order to see if this is viable for the system. Slightly looked over the app, working on have some bluetooth communication working for the next meeting. Informed our advisor that we are waiting on the breakout board for the GPIO pins on the spectrometer. Discussed working on code for serial communication before the breakout gets here. That way, we will be prepared for the breakout board once it gets in.