

Group number: May1719

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

o Weekly Summary

Finished version two of the Project Plan. Started version two of the Design Document. Some more work was done with the serial communication from the spectrometer. More parts went on order with what should be our the final version of the BOM (Bill of Materials). Included on this list was a level shifter to help facilitate communication from the spectrometer to the raspberry pi, as well as the necessary parts to create the high voltage arc necessary for optical spectrometer acquisition.

o Past week accomplishments

- ❖ Extracted data through RS232 interface on spectrometer, began designing interface between spectrometer and Android device via a Raspberry Pi Zero.
- ❖ Finished Project Plan V2.
- ❖ Planned out the slide set for the final presentation.
- ❖ Ordered needed parts for the voltage booster and a level shifter (Max3232)
- ❖ Started Design Document V2.

o Individual contributions

<u>NAME</u>	<u>Individual Contributions</u>	<u>Hours this week</u>	<u>HOURS cumulative</u>
Michael Rupert	Worked on the web site, making the requested changes.	5	46
Ben Theisen	Finished Project Plan V2. Started work on V2 of the Design Document.	5	48
Zakk Belloma	Worked on my portion of Project Plan v2. Researched graphing utilities for android	4	44
Ben Engebrecht	Continued design of program and interface to Raspberry Pi	5	50
Logan Boas	Project Plan version 2 work. Ordered parts for the Voltage booster, after getting approval from or Advisor. Researched the material for the container that holds voltage booster, raspberry pi, spectrometer, and the bluetooth chip.	5	45
Ryan Young	Worked on rs232 communication with raspberry pi. reviewed project plan II.	3	50

o Comments and extended discussion

- We received the raspberry pi kit and currently have parts for the voltage booster and level shifter on order.

o Plan for coming week

- Finish V2 of the Design Document - All
- Prepare for final presentation - All
- Finish final version of the Project Plan - All
- Set up dedicated testing system with the raspberry pi that we received - All
- Get data retrieval through bluetooth working -Zakk
- Implement sending commands to the spectrometer through Bluetooth - Zakk
- Work on developing a system for extracting data from the spectrometer and analyzing it - Ben E, Ryan, Michael
- Research more materials for the final container. - Logan B

o What we learned this week

- ❖ It is very hard to motivate yourself to do school work while on break. - All

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

We did not have a weekly meeting with our advisor during the week before Thanksgiving Break.
We plan on meeting with our advisor once more this week before our presentation.