

EE 491 Weekly Report MAY1633 Week 4 (9/22/15-9/29/15)

Advisors: Dr. Daji Qiao, Dr. Long Que

Client:

Members (roles): Schilling, Anthony (Team Leader)

Bennett, Tyler (Concept Keeper)

Li, Liuchang (Web Master)

Lin, Haisong

Tian, Yang (Communication Leader)

Time: Sept 29th 2015

Project Title: Portable Nutrient Data Collection System Based on MEMS Sensors and Smartphone technologies

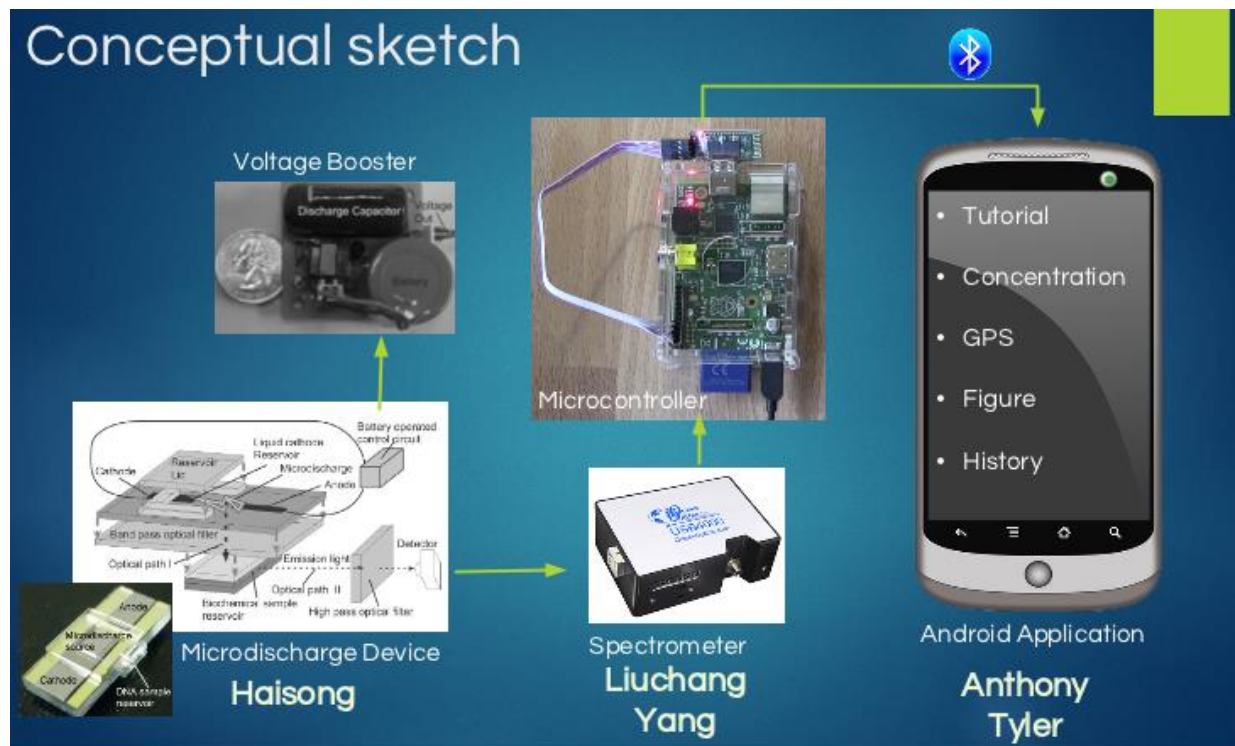
Summary and Accomplishments

The main goal of this week is to mainly compare the microcontrollers to find the best low power options to build the system. Besides, group members started to sum up the time line for each part. The PhD student demonstrated how the spectrometer would work. Website design was basically finished.

WHO	WHAT	HOURS
Anthony	<ul style="list-style-type: none">Contact advisors to set up the meetingResearch the Microcontroller option: ArduinoSketch the system diagram, figure the relation and connection between each components and fill details about how system run	5
LiuChang	<ul style="list-style-type: none">Research the transmission method (USB or RS232), format from spectrometer to microcontroller and find the most fitable cableBuild the project website and upload filesResearch TI MSP430 microcontroller technical feature	5
Haisong	<ul style="list-style-type: none">Research background of the electronic component voltage boost circuitCollect the results and design of group member and made slicesDesign the subsystem of the circuit and trigger device	5
Tyler	<ul style="list-style-type: none">Working on the background of the GPS and Bluetooth module on Samsung cell phoneDesign the subsystem of the App	3.5
Yang	<ul style="list-style-type: none">Compare and research the transmission method(USB or RS232), format of the data file from spectrometer and the method of pulling the data to microcontrollerResearch the technical features of Raspberry PiStart to draft the project plan	5

Meeting notes:

1. Discussion about the options about the microcontrollers between Arduino, TI MSP430 and Raspberry Pi. The board kit, such as Arduino and MSP430 consume too much power. It would be more power efficient if building our own board by only using the processor and certain ports.
2. Microcontroller is the core of the system, it will connect to the detecting device, GPS, Bluetooth and cell phone
3. Storage alarm, storage format, connection alarm, method of connection between microcontroller to cell phone will be showed on a LCD screen
4. The sketch of the system is:



Pending issues

1. Do more research about build our own board and available low power microcontroller
2. Make the project plan draft

Plans for next week

1. Find more materials about building board
2. Purchase the components of voltage booster voltage.