EE 491 Weekly Report **MAY1633 Week 1 (9/1/15-9/8/15)**

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 15th 2015

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

Summary and Accomplishments

Since the schedule of the group and advisors were kind of conflicted, the 1st meeting was set up on Tuesday of second week.

WHO	WHAT	HOURS
Anthony	▪ Contact advisors to set up the meeting ▪ Do research about requirements of the system and predict possible issues during the design process ▪ Create the mailing list	2.5
LiuChang	▪ Do research about requirements of the system and predict possible issues during the design process	2.5
Haisong	▪ Do research about requirements of the system and predict possible issues during the design process ▪ Make weekly update PPT slides	3
Tyler	▪ Do research about requirements of the system and predict possible issues during the design process	2.5
Yang	▪ Do research about requirements of the system and predict possible issues during the design process	2.5

Meeting notes:

1. List some draft of functional and non-functional requirement:
    - Functional requirement
        1. Portable and can be run by 5V power source (C-battery)
        2. Noise filter should reduce filter to less than 20%
        3. Boosting voltage of the circuit should be larger than 200V and generate pulses
        4. Database should be built to take less than 6MB as well as the app in the smart phone.

5. Easy-use interface, the use should learn how to use it within 5 min.
6. Wireless communication range should be no larger than 40m
7. Device can last 12 hours with 100 test every hour
8. Interval between samples should be shorter than 10s

- Nonfunctional requirement
    1. Performance: communication delay between device and cell phone should be short; analysis process should less than 30s
    2. Resolution should be high enough
    3. GPS chip would be integrated on the device, stored in the database and paired with the data.

2. The elements for the device can be ordered in the Electronic Shop
3. The commercialized spectrometer should be bring with de device so far to obtain the data.
4. Microcontroller, such as Arduino, can provide the voltage source for the voltage boosting, but the power source for the Arduino need to be considered. This is listed as an option

Pending issues

1. Read the voltage boosting voltage and discuss the functional and nonfunctional requirement of the voltage boosting.
2. Do research about each part and decide which part each person interested on and start to make project plan.

Plans for next week

1. Webmaster need to setup the website
2. Finish reading the paper and do some research about the paper and set up a discussion of the design.
3. Distribute the whole system to part and let each group member take one part.
4. Start to make the project plan