EE 492 Weekly Report **MAY1633** **Week 7(2/25/16-3/2/16)**

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Members (roles): **Schilling, Anthony (Team Leader)**
Bennett, Tyler (Concept Keeper)
Li, Liuchang (Web Master)
Lin, Haisong
Tian, Yang(Communication Leader)
Wang, Wentai

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

Summary and Accomplishments

This week some tests about the subsystems has been done to verify the function of our work. The group starts to put all subsystems together. An alternative option has been made to make sure there will be a chip can work as a stand along controller.

WHO	WHAT	HOURS
Anthony	▪ Bluetooth module chip program testing ▪ Comparison of Sam L21 and b11 chip	10
LiuChang	▪ PCB design ▪ Evaluation of replacing original chip to Sam b11	11
Haisong	▪ Voltage booster and micro discharger fabrication ▪ Schedule the testing of for the voltage booster and micro discharger device	10
Tyler	▪ Program design for the cell phone app ▪ Building the database for the data reference	9
Yang	▪ Data transmission method research and testing: USB mode ▪ Bluetooth testing	12
Wentai	▪ Case design improvement and evaluation ▪ Data transmission method testing	8

Meeting notes:

1. An alternative chip Sam b11 has been purchased and evaluated to determine if it can replace Sam l21. Different from Sam l21, Sam b11 is a MCU embedded with a Bluetooth chip. If it is possible, the chip can save some space for the device.
2. Testing about the USB mode connection between spectrometer and computer does not work. The reason of using the USB mode, it the USB cable is given but RS 232 connection needs some soldering work. According to the datasheet, the spectrometer requires a 32-bit system to recognize the COM port, it could be a possible reason. So, the next step is testing it with a RS 232 mode.
3. 3d case may more than a hundred dollar budget, the group can take advantage of some easy-obtain materials to build a simple box to test.

Pending issues

1. Anthony is working on Sam B11 Bluetooth code testing
2. Tyler is working on the cell phone app programming.
3. Haisong is working on testing the micro discharger device.
4. Liuchang is working on the PCB design of the board and reevaluate possible arrangements for external MCU.
5. Yang is working on data transmission from spectrometer to SAM L21 MCU.
6. Wentai is working on build the case with cheaper and easy obtained materials.