

EE / SE 492 Week 6 Status Report

Nov. 9, 2019 - Nov. 22, 2019

Group: sddec19-20

Project: Ultra-thin electronic skin for real-time health Monitoring

Advisor/Client: Liang Dong

Team Members:

Sovann Chak: Software Architect, iOS Developer

Omar El-Sherbiny: Circuit Design of Data Processing and Communication

Justin Gordon: Software Developer, Communication research

Sungmin Kang: Circuit design and analysis of Mobility sensor

Sangwon Lee: Circuit design and analysis of ECG

Passing Week's Accomplishments

Software Engineers

(Sovann)

- Added the ability for the application to graph multiple sensor data points onto a single graph
- Added a security feature such that the users have to enter a device code before pairing, as to avoid MiTM attacks

(Justin)

- Worked on implementing a new graphing api

Electrical Engineers

(Omar)

- Worked on implementing NFC module for signal transmission and reception
 - The module bought online is a receiver module, and we would need an ADC that's connected to a receiver to make it work.
 - NFC transmitter chips are commercially available, and are inexpensive. However, given time constraints it will not be possible to implement NFC wireless transmission.

- The idea will put as possible future improvements in the final Design Document.

(Sungmin)

- Be familiar with DAQ, and test it.
- Fabricate more sensors for the testing.

(Sangwon)

- Fabricate more sensors for the testing

Individual Contributions

Team Member	Contribution	Weekly Hrs	Total Hrs
Sovann	More development on the application, adding some simple security features to provide a secure connection between iphone and device	5	92
Justin	Worked on revamping application to use a different plotting api.	7	88
Omar	Worked on NFC transmitter/receiver module.	7	83
Sungmin	Now, I am familiar with DAQ (DI-245), and I could get some data from it. I also fabricated more sensors for a testing.	6	93
Sangwon	Fabricated more sensors for a testing.	5	92

Plans for Next Week

(Sovann) Continuous iPhone application development

(Sovann) Instead of adding extra user-types, I want to look into how we can provide extra pages to those who want to view more information

(Sungmin) Thinking about how to build operational amplifier to amplify ECG signal

(Sungmin) Thinking about how to apply multiple channels at the DAQ

(Sungmin) Testing our sensors, and get some data

(Sangwon) Testing our sensors

(Justin) Be able to connect through BLE

(Justin) Plot multiple graphs continuously

(Omar) Build circuit on prototype boards