

EE / SE 492 Week 2 Status Report

Sep. 16, 2019 - Sep. 27, 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 and analysis of Sweat sensor

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)**

- Received parts from the ETG, including new BLE chips and prema-protoboards, wires, and sticky-pads
- Obtained datasheets to solder pieces to the perma-protoboards
- In the process of putting together the ECG prototype on the flexible prototype
  - Learning how to properly read datasheets for the device and attaching the devices without blowing the circuit
- Unsoldered accelerometer from pinouts to add to perma-protoboards

##### **(Justin)**

- Continued development of android application
- Continued research into different libraries that android provides
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#### *Electrical Engineers*

##### **(Omar)**

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##### **(Sungmin)**

- Check the sticky pad whether it is good for measuring ECG or not

- Thinking about more efficient ways to fabricate the sensors.
- Considering how to improve the measurement way.

**(Sangwon)**

- Check sensor to be more thin
- Find ratio to make thin but durable

Individual Contributions

| Team Member | Contribution  | Weekly Hrs | Total Hrs |
|-------------|---|------------|-----------|
| Sovann      | Received parts and began to assemble them into the new design.  | 6          | 69        |
| Justin      | Continued development on android app  | 4          | 64        |
| Omar        |   | 5          | 48        |
| Sungmin     | Check sticky pad and consider the better way to fabricate sensor. Also, think about how to improve the measurement. | 5          | 69        |
| Sangwon     | Check sensor to be more thin  | 6          | 63        |

Plans for Next Week

- (Sovann) Utilize iOS BLE library to begin receiving serial data on the device
- (Sovann) Attempt to port the heartbeat algorithm into the iOS application from the heartbeat arduino (included algo)
- (Sovann) Begin to interface the redesigned prototype and receive serial data via BLE
- (Sungmin) Finish building a circuit which can measure the conductivity of our sensors
- (Sungmin) Start to measure the mobility and ECG
- (Sungmin) Normalize the measurement graph
- (Sangwon) Start to measure the mobility and ECG

(Justin) Research libraries used for multiple views

(Justin) Find implementation of graphing api for android

(Omar)