

EE/CprE/SE 491 WEEKLY REPORT 4

10/19/2019 – 10/26/2019

Group number: sdmay20-24

Project title: Wearable Cardiac Monitor

Client &/Advisor: Huang Cheng

Team Members/Role:

Andrew O'Brien - Software

Peyton Sher - Software

Ruiyu Sun - Hardware

Scott Beard - Hardware

Samantha Kimball - Communications

Vincent Lazzaro - Communications

Weekly Summary:

On the communication side: Vincent picked up our Bluetooth module for our project; we were able to get connected to the Bluetooth module on a test Arduino. Once we got connected, we were making a game plan to get the signal to send to our application since neither one of us are experts on coding. We did talk to Andrew about helping us out with the coding aspect a little bit.

Past Week Accomplishments:

Andrew O'Brien: This week I started working on the Android side of the Bluetooth. I also did some research on how to use the bluetooth with the Arduino.

Peyton Sher: This week I started to look into how the bluetooth can link up to the android studio app. I also spent a few hours fighting with android studio on my home computer to get it to play nicely.

Ruiyu Sun: Scott and I got the Sparkfun board work properly and have nice ECG.

Scott Beard: Populated headers onto Sparkfun board, worked with Ruiyu and to read an ECG

Samantha Kimball: Worked with Vincent to setup our Bluetooth module and set up a meeting with our client/advisor. We got connected to the Bluetooth module and we will be starting the code to get a signal to send to our application next week.

Vincent Lazzaro: Sam and I worked on setting up the bluetooth module. We were able to get connected with it. We planned out our next step to test how to send data across to a smartphone.

Pending issues:

Andrew O'Brien: I'm not sure what the best way to send our data back and forth will be yet. It might just take some experimenting to see which is best.

Peyton Sher: I think we need to sit down and get some details panned out on the project. I think it may help us in setting some things up.

Ruiyu Sun: Motion has strong effect to ECG. Need to find a way to cancel the noise. The LED on the board is not necessary.

Scott Beard: Reading is very sensitive to lead placement and motion. Average power around 1-2 mW, which could probably be decreased.

Samantha Kimball: Getting our code to work with sending the signal to the application. Neither Vincent or myself are the best at coding so it will be a challenge to get that working properly. We will also need to test it somehow to make sure it's sending correctly.

Vincent Lazzaro: Finding an app that we can use to test if we are sending data correct through our bluetooth module while we waiting for our own app to be created. Coming up with an accurate test to so that we can see what we are doing with our bluetooth module is correct.

Individual contributions:

Name	Contribution	Weekly Hours	Cumulative Hours
Andrew O'Brien	Android Bluetooth work	5	30
Peyton Sher	Android studio work	6	25
Ruiyu Sun	ECG, researching on solution of motion effect	7	27
Scott Beard	Sparkfun ECG, IC datasheet reading	7	26
Samantha Kimball	Bluetooth setup, preparation for testing, coding research, setup meeting with client/advisor	6	28
Vincent Lazzaro	Bluetooth set up and preparing for testing	6	30

Plans for the upcoming week:(Please describe duties for the upcoming week for each member. What is(are) the task(s)?, Who will contribute to it? Be as concise as possible.)

Andrew O'Brien: This week I plan to push some working code onto our git Lab

Peyton Sher: Keep working on app and talk with team.

Ruiyu Sun: Meet client. Redesign the board.

Scott Beard: Meet with client. Create schematic of new PCB modeled from sparkfun board to optimize power.

Samantha Kimball: Meet with client on 10/28/19 and work on getting our signal to communicate properly with the application.

Vincent Lazzaro: Meet with client. Work on creating a testing circuit so that we can work with our bluetooth module to see if we are sending the data correctly.

Summary of weekly advisor meeting:

There was no advisor or client meeting this week but we did set up a time on 10/28/19 to meet up with our client and advisor (the same person).