

EE/CprE/SE 492 WEEKLY REPORT 3

02/10/2020 – 02/24/2020

Group number: sdmay20-24

Project title: Wearable Cardiac Monitor

Client &/Advisor: Cheng Huang

Team Members/Role:

Andrew O'Brien - Software

Peyton Sher - Software

Ruiyu Sun - Hardware

Scott Beard - Hardware

Samantha Kimball - Communications

Vincent Lazzaro - Communications

Weekly Summary:

This week we met with some people at the Student Health Center and learned more about how to detect heart beats and what to look for for irregularities. We also got our batteries for our device and continued to work on the application side.

Past Week Accomplishments:

Andrew O'Brien: This week, I worked on making sure our data is getting transmitted properly to our grapher activity and also worked on some of the Firebase stuff for the app to help with login and data storage.

Peyton Sher: Cleaned up some things, and met with the student health center. Got sick for a week and a half.

Ruiyu Sun: Visit student health center with team. Try out different types of PCB tools. Find schematics of boards we use.

Scott Beard: Found existing models of some of the components we are using, drafted conceptual view of final product

Samantha Kimball: Visited the Student Health Center to gain more knowledge on pointing out irregularities. Worked with Vincent on the data plotting for our heartbeat.

Vincent Lazzaro: Worked with Sam getting all the peaks of a heartbeat noticeable when plotting. Visited the student health center to verify what we were plotting is a heartbeat. Got more information on how to detect heart issues.

Pending issues: (If applicable: Were there any unexpected complications? Please elaborate.)

Andrew O'Brien: We need to do some more work with Firebase to make sure it is reliable and also start looking at power optimization.

Peyton Sher: Work with andrew on firebase optimization

Ruiyu Sun: Combine boards together properly. Minimize the size.

Scott Beard: Combine boards together properly. Minimize the size

Samantha Kimball: After visiting the Student Health Center, Vincent found a placement that works better for the electrode placement so we plan to look into that more.

Vincent Lazzaro: Finding a defined spot for the electrodes so that all peaks are always noticeable when the device is put on the body.

Individual contributions:

Name	Contribution	Weekly Hours	Cumulative Hours
Andrew O'Brien	Worked on Android Application and started seeing what all Firebase has to offer	15	25
Peyton Sher	Worked on application/meeting with health center	6	12
Ruiyu Sun	Meet with health center staff; try different PCB tools.	8	14
Scott Beard	Working with PCB tool to design combined arduino/bluetooth/read board	6	12
Samantha Kimball	Talked to someone at the Student Health Center about detecting a heartbeat	10	20
Vincent Lazzaro	Talked with the student health center, found spots to place electrodes to get all the peaks we are looking for in a heartbeat.	10	27

Comments and extended discussion: (Optional)

Feel free to discuss non-technical issues related to your project.

After meeting with the Student Health Center, the concern was brought up about having the wrong people getting ahold of this device and it might scare or worry people. For this reason, we really need to make sure our data is accurate and correct.

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 want to start working on the functionality of the app to improve user performance.

Peyton Sher: Improve performance of app, clean up ui.

Ruiyu Sun: Keep working on PCB board design.

Scott Beard: Keep working on PCB board design

Samantha Kimball: Work on the received signal to determine when a peak happens and when a heartbeat occurs.

Vincent Lazzaro: Find a way to determine when a heartbeat occurred and determine when each peak has happened.

Summary of weekly advisor meeting: (If applicable/optional)

(Provide a concise summary on the contents and progress made during the advisor meeting.)

We did not meet with our advisor this past week but we are planning to meet with our advisor and client next week.