

## **EE/CprE/SE 491 WEEKLY REPORT 3**

10/8/2019 – 10/15/2019

**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:**

This week, we were able to pick up the parts we ordered in from the ETG. After that, we broke into our technical areas to start working on the different areas of the projects. Vincent picked up a bulky heart rate monitor from the ETG that we will be using to compare our heart rate monitor to. In order to compare the two, Vincent and Sam tried to set up the heart rate monitor to get that one working.

### **Past Week Accomplishments:**

**Andrew O'Brien:** I have been working a lot with android to figure out how it works with what we will be doing for our project.

**Peyton Sher:** Started working on the arduino.

**Ruiyu Sun:** Work with Scott to test Sparkfun AD8232. Met with client.

**Scott Beard:** Met with our client to discuss project progression, read up on how to use the sparkfun AD8232

**Samantha Kimball:** Met up with our client and Vincent to start working with another heart rate monitor. The ETG had another heart rate monitor that we will be using to compare ours to so we were figuring out how to set it up and use it. I also did a little bit more research on bluetooth communication before we start working on the project.

**Vincent Lazzaro:** Worked with Sam to learn about our testing equipment that will be used to check to see if our device is reading correctly. Tried finding the software that will run the equipment and read the data from the testing devices. Did research on how to connect the bluetooth device to the arduino and research on how to write the code to send the data out to a smartphone.

### **Pending issues:**

**Andrew O'Brien:** Android always has weird bugs but there is a large help community online

**Peyton Sher:** I need to talk to the team to figure out what pins will need to be used for both the heart monitor and for the bluetooth to see how many need to be initialized.

**Ruiyu Sun:** Output wave of Sparkfun is disordered, affected a lot by movement and electrodes position.

**Scott Beard:** The sparkfun board has space for headers that will need to be populated. Testing of this board yet to come.

**Samantha Kimball:** There is a software that is needed for the bulky heart rate monitor from the ETG that was unable to download onto Vincent's laptop. We will be talking to the ETG about getting that software onto a computer in the senior design room next week.

**Vincent Lazzaro:** The software I found that is supposed to be able to read the data from the testing equipment does not work correct. I have not been able to any information on setting up the equipment and getting it to calibrate the software to the testing equipment.

**Individual contributions:**

Name	Contribution	Weekly Hours	Cumulative Hours
<b>Andrew O'Brien</b>	Android functions	7	25
<b>Peyton Sher</b>	Arduino	6	19
<b>Ruiyu Sun</b>	Client meeting. Sparkfun test.	6	20
<b>Scott Beard</b>	Client meeting, datasheet reading	6	19
<b>Samantha Kimball</b>	Client meeting, heart rate monitor setting up/testing, bluetooth research	6	21
<b>Vincent Lazzaro</b>	Tried setting up the testing equipment and bluetooth research	8	24

**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:** Try to start working on a bluetooth implementation function based on our parts.

**Peyton Sher:** Hopefully get a lot of work on android studios done, plus get the arduino where it needs to be functionality wise.

**Ruiyu Sun:** Find what causes an unstable output and do more testing.

**Scott Beard:** Test sparkfun board for output waveform clarity, power consumption

**Samantha Kimball:** Work with Vincent to figure out the software needed for the bulky heart rate monitor and start working on the communication aspect of the project.

**Vincent Lazzaro:** Working with Sam to try getting the testing equipment up and running as well as getting the bluetooth module set up to send data.

**Summary of weekly advisor meeting:**

During the meeting this week, we told our client that we had just picked up our parts from the ETG so we were about to start working on the project.