**TO:** Kristian Medri, CENG355 Professor

**FROM:** Kanjav Patel, Wearable member  
**DATE:** February 6th, 2021  
**SUBJECT:** Hardware Status

I’m writing to inform you that all four group members have made significant progress in making successful connections with our microcontroller. Would also like to mention, there was a financial expenditure for this project. As of this moment everyone’s code is running through serial connection with the STM32. The code is available on our group’s GitHub account.

All members purchased the items required for this project last semester, the only item that was bought for this project is “Heart Rate Pulse Sensor Module for Arduino” from Amazon. The current status of its arrival is mid to late February. It was purchased for $6.36.

Since the purchased Heart Rate Pulse sensor has not arrived yet, we would use a potentiometer as a replacement. I have successfully connected the potentiometer with STM32. The plan is to create an environment that does certain actions if the heart rate value ever reaches dangerous levels. Therefore, the code right now will turn on green led when a certain resistance is reached. The next plan is to make connections with the Firebase database through the VM

For 7-segment display, the plan is to show heart rate values on it. At the moment the code is just counting from 0 to 9 every 0.5 seconds. The next step is to make connections with Firebase through VM and retrieve data in real time.

We successfully managed to read and write data to the SD card, using the Arduino IDE platform. The next step would be to get the STM32 connected to the firebase, take the data that is in the database and store into the SD card. Alexandra is currently working in establishing the connection between the STM32 and firebase.

For BME280, the Arduino IDE platform is used. The adafruit bme280 library’s code is uploaded to the programmer which then reads the temperature, humidity, pressure and altitude. All the values of the readings are currently displayed on the serial monitor of the Arduino IDE. The next step would be working on how to send the data to the firebase console. From our research, we would be connecting to VM (Debian) for the internet connection, however another idea is using NodeMCU ESP8266.

Please let us know if you have any questions.