**Progress Report**

In the beginning when we had to choose a sensor on which our whole project was going to be based on I was confused about a lot of things. One such thing was whether I can use Arduino but after consulting my professor I was clear that we had to use a Raspberry Pi. We chose to work on Breathalyzer in the software program so me and my partner got to work on XD-58C Pulse Sensor and Alcohol Gas Sensor respectively. I made a proposal for the same and got approval. Next, the project schedule was made with proper time allotments to every milestone. This schedule was then revamped due to six weeks long strike. But before that everything was on track.

After that I decided on all the parts which I thought should be included in the budget. Here I would like to mention that I had to buy stuff worth $109.78 but later on I did not order LED display pack because I used the LED on the PCB board and the computer screen to serve my purpose. The budget dropped to $106. While I was preparing to order the stuff, there was a strike from mid October to November 21. During the strike I acquired all the parts. I came to college a number of days and made my PCB board and tested it under the supervision of Professor Kelly. I received all the sense hat sensors from him. During this time, I was working on my sensor also. I made all the necessary installations on my Raspberry Pi. Along with this, I documented everything in the blog which I did till then.

After the strike we had to show the parts that we acquired and get our blogs checked. In the last week of November, I ran the listings provided to us to test the sense hat sensors and blinked the LED. All the sensors worked properly except the humidity sensor. On December 4 when the PCB board was due Professor Kristian told us that we need to cut a trace on the board to make it work properly. I made the change immediately and ran the listings provided and got them working.

Afterwards my prime focus was my sensor. During the strike I had already tested my sensor by setting up the circuit on a breadboard where I used MCP3008 ADC converter. Later on, when I had my PCB ready I figured out a way to attach my sensor to the PCB board and use the LED on the PCB as a signal. In this I did not require to use the MCP3008 ADC. A group placard, video script and the video were due in the second and third weeks of December respectively. I had a couple of doubts regarding the script and video which I cleared via an email to Professor Medri.

During the winter break I made a 3D case for my sensor. I had the raspberry pi case already and the PCB fits on to it perfectly. Now I am ready for the demo on January 8.

**Activities versus the schedule:** Overall all my activities were either prior to or on schedule.

**Current Progress:** Currently my sensor works fine. I have attached it to the PCB board. So when the heart rate is normal led blinks green otherwise it is red. On computer screen also heart rate readings are shown.

**Problems and opportunities**: Above I have mentioned a few problems. With this project I learnt scheduling things, soldering, gained the knowledge about the Raspberry Pi and learnt about Python scripting.

**Financial Status** My budget was $109.78 but as I mentioned above it was reduced to $106. For the raspberry pi I had some issues with micro SD card so I installed NOOBS on my old Samsung phone’s SD card and used that one. Currently my blog and repository are up to date.