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| Submission Date | 2019-09-10 |
| Project Name | IoT for SensorsEffectors |
| Student Names | Baltej Bal, Jerreh Janneh, Thomas Aziz, and Shawn Wechsel |
| Project repository | https://github.com/baltejbal/SWATCH |
| SensorsEffectors choices | SEN-11574 Pulse Sensor |
| The database will store | Changes in pulse rate from the sensor readings |
| The mobile device functionality will include | Changes in pulse rate from the sensor readings(in real time) |
| I will be collaborating with the following company/department | We will be collaborating with Humber Media Studies for our S-Watch or Smart Watch project. |
| My group in the winter semester will include | Jerreh Janneh, Thomas Aziz |
| 50 word problem statement | I am working on a wearable device or also know as a smart watch that detects the pulse/heart rate, the body temperature, and the motion detection of the body. The pulse/heart rate sensor amped is a plug-and-play heart-rate sensor for Arduino. The pulse/heart rate sensor can be used to incorporate live heart-rate data into our project. |
| 100 words of background | With the population at 7.53 billion and growing there is a lack of awareness with being healthy. Our Prototype is designed to be a basic wearable piece of technology that will analyze the vitals of the human body and will make the user aware of any drastic changes throughout their daily routines. Our watch is made to make life easier and help stop tragedies from occurring with loved ones, as we know with the lack of exercise , amount of processed foods, and with the BMI (Body Mass Index) on the rise everyday it is difficult to be aware of our health. |
| Current product APA citation | Pulse Sensor. Retrieved from https://www.sparkfun.com/products/11574 |
| Existing research IEEE paper APA citation | Wijaya, R., Setijadi, A., Mengko, T. L., & Mengko, R. K. L. (n.d.). 2014 IEEE 4th International Conference on System Engineering and Technology (Icset) (Vol. 4). |
| Brief description of planned purchases | The tools and equipments that I will need for this project will be the following, a parts kit from the library, I will also need a Rasberry Pi 3, an Lcd Display, an "Adafruit MCP3008-8-Channel 10-Bit ADC with SPI Interface" to convert analog-to-digital. I will also need a pulse/heart rate sensor. Altogether this project will cost me 200 dollars. |

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| Solution description | The idea of the S-watch was adapted from similar smart watch's using similar integrated features that can already be found on the market. Apple watch, Fitbit, Galaxy Watch, are just some of the smart watch's already on the market with the same technological features that we are going to have on the S-watch. These watch's use accelerometer which counts the users' motion otherwise know as steps walked, distance travelled, and calories burned. Our S-watch device makes for a unique design compared to our competitors as we will use the pulse/heart rate sensor to measure the heart rate and will alert the user for any drastic changes in the users vital signs. |