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| Submission Date | 2019-09-12 |
| Project Name | TMP007 IR Temperature sensor |
| Student Name | Jerreh Janneh |
| Project website | https://github.com/Jerrehj/Smart-Watch-Temperature-Sensor |
| My project will | Measure temperature of object in range and timestamp |
| The database will store | Temperature of object in range and timestamp. |
| The mobile device functionality will include | Temperature of the user and a suggestion based on how high or low their temperature was recorded |
| I will be collaborating with the following company/department | Humber College Institute of Technology & Advanced Learning Computer Engineering Technology Capstones |
| My group in the winter semester will include | Baltej Bal, Thomas Aziz |
| 50 word problem statement | The market for wearable devices is catered to comfort and luxury, most wearables with the array of sensors needed to track health are few and far between in selection. Creating a smartwatch that utilize sensors such as heartrate, body temperature and a pedometer may provide an option that stands outs. |
| 100 words of background | Wearable technology is a term used to describe devices that can be worn and provide a variety of features with devices we currently used by utilizing IOT connections. They have become immensely popular in recent years with the number of connected devices reaching 526 million worldwide as of 2017 and 1.1 billion sales in 2022, a few companies have created dedicated health and fitness technologies however many are low budget watches with few sensors and few embrace the features that appeal to most consumers those being including a more diverse array of sensors as opposed to usually only a pedometer. |
| Current product APA citation | Digikey.ca. (2019). *TMP007 Infrared Thermopile Sensor - TI | DigiKey*. [online] Available at: https://www.digikey.ca/en/product-highlight/t/texas-instruments/tmp007-infrared-thermopile-sensor [Accessed 9 Sep. 2019]. |
| Existing research IEEE paper APA citation | Enamamu, T., Clarke, N., Haskell-Dowland, P. and Li, F. (2019). *Smart watch based body-temperature authentication - IEEE Conference Publication*. [online] Ieeexplore.ieee.org. Available at: https://ieeexplore.ieee.org/document/8123790/citations#citations [Accessed 9 Sep. 2019]. |
| Brief description of planned purchases | Potential purchases include a raspberry pi 3 (wires include), SD card for the purpose for running firmware, an LCD/IPS display, a TMP007 IR Temperature sensor. |
| Solution description | The TMP007 IR Temperature sensors will allow a contact less analysis of the wearers ambient body temperature when integrated into the smart watch it will let the wearer know his/her temperature and provide a suggestion. These suggestions will be dependant on recorded temperature between the range of -40°C ~ 125°C. |