Submission Date	11-9-2018
Project Name	SSD 1306 Monochrome OLED Graphic Display
Student Name	Delroy Christie
Project repository	https://github.com/dchristie75/SSD1306-Monochrome-OLED
SensorEffector Choice	**SSD1306 Monochrome OLED**
The database will store	Texts, images, and animated graphics
The mobile device functionality will include	A capacitive touch interface that allows users to input data, stores the data to a remote database, and displays results on the OLED display for viewing.
I will be collaborating with the following company/department	Humber College School of Applied Technology
My group in the winter semester will include	Ryan Maynard, Jonas Gamao
50 word problem statement	LEDs have been the display of choice for both small and larger devices for many years. However, there some limitations to their usage in terms of display. The SSD1306 monochrome OLED seeks to solve those limitations by working with the Raspberry Pi to create animated graphics and monochrome bitmap images for individuals that require more flexibly displays. The device consumes very little power compared to its counterparts and offers improved response time and quality of output.
100 words of background	The LED is currently the display of choice in small and larger devices. Regular LEDs often form the digits on digital clocks and many other electronic applications. OLEDs, on the other hand, offer many advantages over regular LEDs. The plastic, organic layers of the 1306 Monochrome 3D OLED display are thinner, lighter and more flexible than the crystalline layers in a typical LED. Because the light-emitting layers of this display is lighter, the substrate can be flexible instead of rigid. And since the display makes its own light, no backlight is required. This reduces the OLED power consumption, making it more efficient with a higher display contrast. The OLED therefore offers a crisper display and operates at wider ranging temperatures and wider viewing ranges.
Current product APA citation	Devara, K., Ramadhanty, S., & Abuzairi, T. (2018, February 13). Design of wearable health monitoring device. Retrieved from https://aip.scitation.org/doi/pdf/10.1063/1.5023992?class=pdf
Existing research IEEE paper APA citation	Smith, J. T., Obrien, B., Lee, Y., Bawolek, E. J., Christen, J. B. (2014). Application of Flexible OLED Display Technology for Electro-Optical Stimulation and/or Silencing of Neural Activity. Journal of Display Technology, 10(6), 514-520. doi:10.1109/jdt.2014.2308436
Brief description of planned purchases	Purchases will include a Raspberry Pi, 32 GB SD card, heat sinks, SSD1306 OLED Sensor, bread board, GPIO connectors, and jumper wires.
Solution description	Monochrome displays generally display simple text or numbers. Hence, organizations are generally limited in what they can display using regular LEDs. The SSD1306 Monochrome OLED display will solve that problem by not only displaying text and numbers, but also high contrast bitmap images and animated graphics.