Submission Date	2017-09-18
Project Name	Altimeter
Student Name	Princess Hernandez
Project website	princess97.github.io/Altimeter
My project will	measure the altitude from a given point to how elevated the device is
The database will store	elevation data retrieved from the device
The mobile device functionality will include	a series record of altitude, atmospheric pressure, as well as the date the data is retrievd
I will be collaborating with the following company/department	Arduino or Raspberry Pi, and Prototype Lab
My group in the winter semester will include	Ravneet Singh
50 word problem statement	Determining a pinpoint location of a person is important for navigation purposes using longitude and latitudinal points. However, that person can be inside a building on the 20th floor and incorporating longitude and latitude lines are ineffective to know how high they are from ground level.
100 words of background	There is an exponential decay in pressure when height increases. So, the altitude can be determined based on the measurement of pressure in the atmosphere as you go up. The altimeter can determine altitude using the atmosphere's pressure. It utilizes a pressure sensor with an I2C interface to give exact pressure and altitude data. The sensor outputs are digitized by a high resolution 24-bit ADC. Therefore, it is able to detect a pressure change in 0.05 kPa which is equal to an altitude change in 0.3
Current product APA citation	Unknown. (2016). Altitude, Pressure and Temperature Using Raspberry Pi with MPL3115A2.*Instructables.* Retrieved from http://www.instructables.com/id/Personal-Electronics-Altimeter-Using-Raspberry-Pi
Existing research IEEE paper APA citation	Liu, T. & Shen, S. (2027). High altitude monocular visual-inertial state estimation: Initialization and sesnor fusion. Retrieved from http://ieeexplore.ieee.org/document/7989528/
Brief description of planned purchases	Raspberry Pi/Arduino will be used as the main component of the project. MPL3115A2 Precision Altimeter is a pressure sensor that will be used to measure altitude. I2C Shield for Raspberry Pi. I2C Cable will connect the sensor and the
Solution description	An altimeter can provide an exact pinoint height of a person, or a machine wether one is on an nth floor of a building or even at the ground level. In addition, this can be used in aircrafts to ensure that there is enough oxygen supply when the air pressure is too low at a high altitude. Also, tests and data can be used to examine human body response to high altitude and low pressure, and the development of