Submission Date	2018-02-05
Project Name	PiRover
Student Names	Christopher Albarillo Lawrence Puig Patrick Ng
Project website	chris0707.github.io/PiRover
SensorsEffectors choices	UltraSonic Sensor HC-SR04
The database will store	The data base will store Registered accounts (optional) and information gathered by the PiRover.
The mobile device functionality will include	The mobile device functionality will include access to the PiRover, option to change modes; manual control, automatic control, and pre-made commands for testing.
I will be collaborating with the following company/department	N/A
My group in the winter semester will include	Lawrence Puig and Patrick Ng
50 word problem statement	The goal for this project is to have full control of the PiRover via voice recognition and Bluetooth integration using an Android app. It would give the user comfortability to explore the surroundings; for search and rescue, historical research, and for exploring. We believe that the most difficult part of this project is building the script that will handle the voice command functionality that will control the PiRover's pre-implemented features such as; lights and other code executions.
100 words of background	The project that we will be making is a portable rover using a RaspberryPi which is capable of being manually controlled or being an autonomous rover with the use of an application that will be created in Android Studio. PiRover coud be beneficial in case of emergency or any other exploring purposes. For example, It can be used for search and rescue purposes or simply basic outdoor research which where a person cannot fit. Portable remote control cars are widely used nowadays and it would be almost the same with the PiRover. This project is relevant to "Robotis with the Raspberry Pi" . However, the PiRover will be capable of gathering data using sensors which informs a user if there is an obstacle ahead and will be able to determine the temperature that is in it (future upgrade). In addition, it will grant the user control to the PiRover in their own personal Android mobile devices via WiFi or Bluetooth.
Current product APA citation	Python Programming Tutorials. (n.d.). Retrieved from https://pythonprogramming.net/robot-remote-control-car-with-the-raspberry-pi/
Existing research IEEE paper APA citation	Kubota, T., Kuroda, Y., & Yoshimitsu, T. (n.d.). Path planning for newly developed microrover. Retrieved from ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=933195&isnumber=20185
Brief description of planned purchases	Brief description of planned purchases for PiRover estimate: Raspberry pi 3, Rover chasis kit, two 3D printed micro servo wheels made at Humber, two micro continuous rotation servos, and complete parts kit. Most of the parts that are included in the parts kit is already present. Estimate budget will be 180-200 dollars.
Solution description	This proposal presents a plan for providing an IoT solution for search and rescue situations or even for historical research. This is an opportunity to integrate the knowledge and skills developed in our program to create a collaborative IoT capstone project demonstrating our ability to learn how to support projects such as the initiative described by T. Kubota, Y. Kuroda, Y. Kunii and T. Yoshimitsu, "Path planning for newly developed microrover,"

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