Submission Date	2017-09-15
Project Name	PiRover
Student Name	Christopher Albarillo
Project website	chris0707.github.io/PiRover
My project will	This project will be integrated via Wifi and Bluetooth. It will have access to the database for sending and retrieving commands upon user's request. The goal of the project is to create a portable PiRover that could be beneficial for search and rescue situations or even for historical research.
The database will store	The data base will store Registered accounts (optional), Commands that can be retrieved using software project.
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 and will be further detailed in the mobile application proposal.
I will be collaborating with the following company/department	N/A
My group in the winter semester will include	In the winter semester I plan to form a group with the following students; Lawrence Puig and Alenric Apostol
50 word problem statement	The goal for this project is to have full control of the PiRover via WiFi and Bluetooth. It would give the user comfortability to explore the surroundings; for search and rescue, historical research, and for exploring. However, this will be a challenging project due to having a small amount of knowledge regarding the integration of Wifi, Bluetooth, and mechanical structure to the Raspberry Pi. Without any better knowledge to this project, it would be difficult to achieve the it. Thus, there is a need to examine or explore the functionality of Android Studio and Raspberry Pi and gather resources to successfully build the PiRover, which is the aim of the proposed project.
100 words of background	The project that I will be making is a protable rover using a RaspberryPi which is capable of being manually controlled or being autonomous rover with the use of an application that will be created in Android Studio. PiRover coud be beneficial in case of emergency. 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. 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	Science-influenced mobile robot guidance using Bayesian Networks - IEEE Conference Publication. (n.d.). Retrieved from http://ieeexplore.ieee.org/document/6030639/

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 80-150 dollars. Detailed project schedule will be provided by week 3 and a more complete budget will be added by week 4.
Solution description	This proposal presents a plan for providing an IoT solution for search and rescue and outdoor research that allows the user to explore things that are not suitable for a human being to be entered. In addition, the capability of saving one's life during a disastrous event where a small rover could fit and search for survivors.