## Ultimate Floor Cleaner Robot

In the current hectic schedule, cleaning houses and surrounding environment is more laborious. At present, there are vacuum cleaners which require humans to handle it. Thus, there is a direct need to implement vacuum cleaner and wet mopping system which works without human intervention. An efficient method to clean the desired area has been implemented through this project. By using this vacuum cleaner, hazardous places can be cleaned which thereby reduce risks to mankind. This is achieved by implementing an autonomous system. Here, moving platform (robot) which is embedded with a vacuum cleaner and water pump is used. This system has an ultrasonic sensor attached to it, that helps in avoiding large obstacles such as tables, chairs, walls etc. By measuring the distance via this sensor, the car takes the direction where the distance between obstacle and car is more, hence avoiding the collision with the obstacles. The vacuum cleaner is designed with a CPU fan and a pipe is attached to the mouth of the bottle. The entire system is run by batteries.

The purpose of this project is to design and implement a Vacuum cleaner Robot Autonomous and Manual via Phone Application. Vacuum Cleaner Robot is designed to make cleaning process become easier rather than by using manual vacuum. The main objective of this project is to design and implement a vacuum robot prototype by using ESP8266 WiFi enabled microcontroller, Motor Shield L293D, Ultrasonic Sensor and Motors to achieve the goal of this project. Vacuum Robot will have several criteria that are user-friendly

**The major Building blocks of the project are:**

1. ESP8266 microcontroller board
2. L293D or L298n Motor Driver
3. DC Water Pump
4. DC Vacuum cleaner
5. Electromagnetic Relays to control water pump and Vacuum cleaner
6. Ultrasonic Sensor
7. DC motors with wheels.
8. Solar with Rechargeable battery.

**Block Diagram:**

