

# Vacuum Cleaning Robot and Cleaning System

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**Abstract:** Manual work is taken over the robot technology and many of the related robot appliances are being used extensively also. Here represents the technology that proposed the working of robot for Floor cleaning. Households of today are becoming smarter and more automated. Home automation delivers convenience and creates more time for people. 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 Controller, Motor, Ultrasonic Sensor, and to achieve the goal of this project. The whole circuitry is connected with 12V battery. Vacuum Robot will have several criteria that are user-friendly. Although a robot vacuum cleaner is a well-known product, development is still interesting. Better working sensors and more sophisticated algorithms and sensors are used in new cleaners. The purpose with this thesis was to learn more about different sensors, algorithms, and designs of robot vacuum cleaners. The material required is knife cut plastic sheets, printed parts, and receiving motors, using this costs did not exceed the budget. Literature review in this area of interest was studied to find answers to some of the research questions. The development method used was iteration of finding useful information, testing components and codes. The components used were DC motor, stepper motors, ultrasonic sensors, Micro controller, switches and batteries. The different components required different voltage and the stepper motors used driver cards.

**Keywords:** Vacuum Cleaner, Robotic Mechanism , Floor Cleaning, Automation, Controller