Manual Vacuum Floor Cleaner System

About This Project:

The "Automatic and manual vacuum cleaning system" has been designed for consumer, office environments, hotels & restaurants. Proposed design is being operated in dual modes. In one of the modes, the robot is fully autonomous and making decisions on the basis of the outputs of infrared proximity sensors. In manual mode, the robot can also be used to clean a specific area of a room by operating it manually.

Robot is an electromechanical machine and used for various purposes in industrial and domestic applications. Robot appliances are entering in the consumer market, since the introduction of Autonomous robot. Initially the main focus was on having a cleaning device. As the time pass on many improvements were made and more efficient appliances were developed. Detachable clothes were attached for sweeping and mopping purposes. In this research work a floor cleaner robot based on Atmega18 have been developed. This cleaner robot is an electric home appliance, which operating in two modes as per the user requirement "Automatic and manual". In this work we implemented a human friendly cleaning system with the advancement of technology to make human life easy and comfortable. The main objective of this project is to design and implement a floor cleaning robot prototype by using AC motors, fan, wheels, the garbage container and AC source is used to drive this project. The study has been done keeping in mind economic cost of product. Manual work is done by robot technology. The purpose of this project is to design and implement a Cleaning Robot Autonomous and Manual. Here Motor is creating air flow and fan suck the dust from floor. Floor cleaning system will have several criteria that are user-friendly. The whole prototype has been put under several tests to validate our work. We have also taken several notes for future improvements.

Block Diagram:

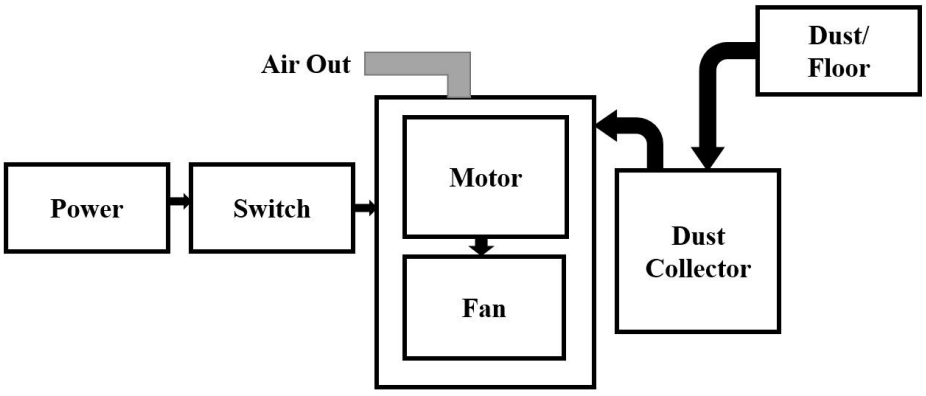

Figure: Block Diagram of Manual Vacuum Floor Cleaner System

Required Instruments:

- AC Motor.
- Blower fan
- PVC Pipe
- PVC Spring Hose Pipe
- Switch
- Dust Collector box

Advantages:

There are certainly many advantages of our project and some of the major ones have been given below:

- Easy implement
- Reliable and efficient
- Low cost and simple design.
- High Accuracy
- Nature friendly
- Requires low maintenance
- The project is compact and cheap

Applications:

Our project has many application areas and actually we need to use it in many industrial places to reduce human efforts in these kinds of works. Some of the application areas of the project has been pointed out below:

- We can use this system for industrial purposes.
- It's also can be used in households and offices
- This system can be used anywhere where there's a need for object detection and floor cleaning.

N.B: *Any modification of this project can be done as per your requirement. We will make the project according to your needs. Contact us with your any innovative engineering projects idea. We will help you to implement your project.*