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Solar Floor Cleaner Robot

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Abstract: ***Households of today are becoming smarter and more automated. Home automation delivers convenience and creates more time for people. Domestic robots are entering the homes and people's daily lives, but it is yet a relatively new andimmature market.***
However, a growth is predicted and the adoption of domestic robots is evolving. The purpose of this project is to design and implement a Vacuum Robot Autonomous. 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. Vacuum Robot will have several criteria that are user friendly.
Keywords: Ultrasonic Sensor, Node MCU ESP8266 Module, L298N Motor Driver IC, OLEDDisplay, Battery.

I. INTRODUCTION

Cleaning is important work approximate every place. Sometimes this is easy and sometimes difficult. Sometimes we assigned people for purpose of cleaning and pay money and sometimes cleaning is required in areas where presence of living being dangerous so we cannot have assigned living being in every place. Some places are so that have a large floor area in that place for cleaning purpose we need more than oneperson so we required some technique to compensate this problem. In advancement of science a robot come in light but in operate by personnel. To avoid this limitations of personnel we require more technologies.
Automation is a great solution of this problem. Sowe make an autonomous floor cleaning robot.
Ultrasonic sensor is themost important componentfor autonomous floor cleaning robot because ultrasonic sensor works as eyes of robot.
Ultrasonic sensor useful for turning of robot bysensing the obstacle or wall. Sensing distance range set by programming.In this range robot sense, the obstacle and turn back. Cleaning is Important work inexact each spot. At times this is simpleand once in a while troublesome. At times we allocated individuals for reason for cleaning and pay cash and once in a while cleaning is needed in regions where presence of living being hazardous so we can't relegate living being in eachspot. A few spots are so that have a huge floor territory in that place for cleaning reason we need more than one individual so we required some method to repay these issues. In headway of science a robot come in light however it works by a faculty. To keep away from this limit of faculty we require more innovations.
Computerization is an extraordinary arrangementof this issue. So, we make a self-governing floor cleaning robot that worked by web of thingsand Arduino programming. Families of today are getting more astute and furthermore more mechanized. Home robotization conveys accommodation and makes more opportunity for individuals. Homegrown robots are entering the homes and individuals' everyday lives, yet it is yet a moderately new and juvenile market. Be that asitmay, a development is anticipated and reception of homegrown robots is advancing. Reason for this undertaking is planand actualize a Vacuum Robot Autonomous. Vacuum Cleaner Robot is intended to cause cleaning cycle to become simpler as opposed to by utilizing manual vacuum. The primarytarget of this undertaking is to plan and execute a vacuum robot model by utilizing NodeMCU, engine driver and to accomplish the objective of this venture. Vacuum Robot will have a few measures that are easy to use.

II. DESCRIPTION

The robot is built to help in daily cleaning tasks and simplify it. It brings together both dry and wet cleaning operation using sponge. The robot is controlled by a Bluetooth terminal. The Bluetooth terminal is used by the user to send the movement commandsto the robot. The robot consists of a receiver circuitry to receive movement commands and operate the motors to achieve desired movement. The robot uses a battery that is constantly charged by a solarpanel as it is drained by the motors. This provides a longer battery life when it is exposed to sun rays. The system consists of an ultrasonic sensor for obstacle detection. Thus the robot does not bump into any obstacle. The robot is integrated with a water tank that wet the sponge to clean the floor surface. Thus we here created a remote control floor cleaner robot.

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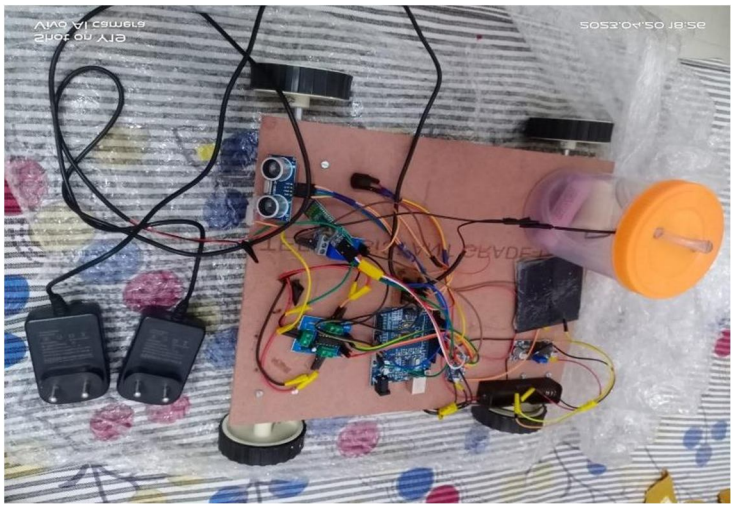


Figure 4.2: Solar Floor Cleaner Robot

III. CONCLUSION

There are so many cleaning and wiping robots present in the market however just some of them are moderate and monetary. There are exceptionally less robots that incorporate both cleaning and wiping. With this work, we attempted to diminish the expense of the robot and make it more viable with the Indian Users and the Industries. The primary purpose of the Cleaner Robot is to clean the floors efficiently. As earmarked, it can clean the dirt with efficacy. The robot can detect obstacles and can avoid those to clean the area. The use of innovative technology not only reduces cost significantly but also reduces the human effort while increasingthe effectiveness of floor cleaning. Reduced human effort means more frequent floor cleaning which results in increase in overall cleanliness and supports healthywell-being. Small steps in technological advancement like this will have higher impact in long run in future, making India a better country.

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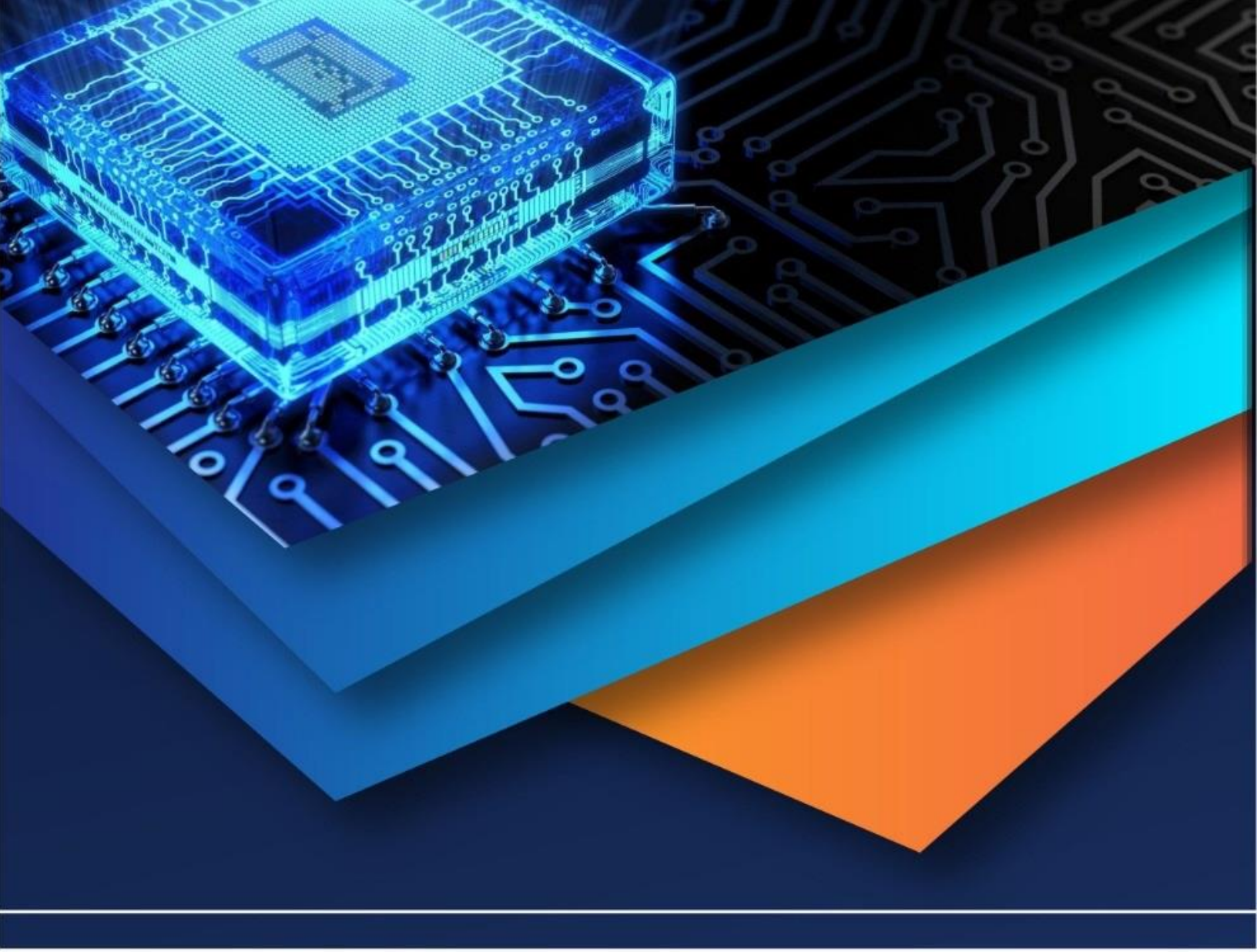
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