

Smart Dustbin using Arduino

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Abstract: A smart dustbin employing Arduino is a novel solution aimed at enhancing waste management efficiency. By Integrating sensors and microcontrollers, it can detect the level of garbage in the bin and notify users when it needs emptying. The main goal of the project is to create a smart vacuum cleaner that will help keep our environment clean and safe. Nowadays, technology is becoming more and more smart and we create a smart trash can using Arduino to clean the environment. This smart bin management system is made by a microcontroller based system with ultrasonic sensors installed on the bins. Arduino understands this problem and sends a signal to the servo motor, which opens the lid at the top of the chamber.

Keywords: Smart Dustbin IOT based, Ultrasonic Sensor, Servo Motor, Arduino, Battery.

I. INTRODUCTION

Waste management is becoming complex and Difficult day -by-day so for short solution to this have implemented the smart dustbin. The project based on sensor based circuitry which works automatically. It open of automatically if some garbage comes near by to the sensor. Usually dustbin require human interactions, it is some what hectic for the user to check for the level of garbage frequently, so this help a lot.

So here we come our projects smart dustbin we designed and implemented a smart dustbin in an unique way which will be fully automatic. The dustbin is for the dry trash so the whole idea behind this project is that the ultrasonic sensor will detect an object and automatically the lid will open and it will remain open as long as we are not throwing the garbage in it after that the lid will get close.

II. LITERATURE SURVEY

A Arduino UNO to check the level of garbage filled in the dustbin and sends the alert to the municipal web server once if garbage is filled. After cleaning the bin, the driver verifies that the bin has been disposed of with an RFID tag. RFID is a computing Smart Waste Bin for Smart Waste Management proposed by, In this paper, the system consists of sensors to measure the weight of waste and the level of waste inside the bin. Bluetooth is attached for short range communication. The waste management techniques suggested by researches are as follows:

In this paper technology that is used for verification process and in addition, it also enhances the smart garbage alert system by providing automatic identification of garbage filled send it to the trash and send a cleanup event to the server to confirm the operation is complete.

III. BLOCK DIAGRAM

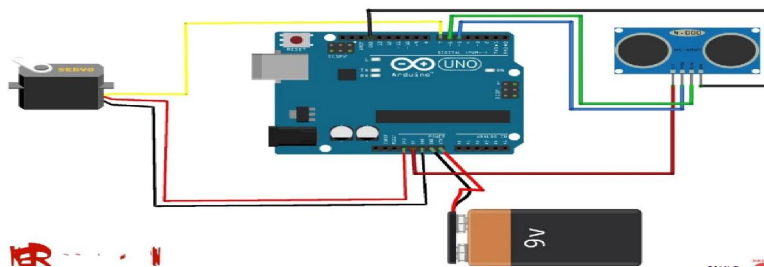


Fig. Block Diagram of Smart Dustbin Using Arduino

IV. RESULTS



V. CONCLUSION

Here , Smart Dustbin Using Arduino Was Designed Successfully. Using this project ,the lid of the dustbin stays closed , so that waste is not exposed(to avoid flies and mosquitos)and when you want dispose any automatically open the lid.it will help with health and hygiene for people and for business we are trying to make it affordable for as many people as possible. Everyone can benefit from it, from ordinary people to the rich. I believe this will lead to some changes in hygiene and technology.

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