SMART BIN FOR SMART CITY

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ABSTRACT:-This project smart garbage dustbin system is very smart system which will help to keep our cities clean. In several urban areas although the dustbins are provided so that it can be used by the people but without proper maintenance of waste which cause a major factor for environment pollution and also destroying our environment day by day also resulting severe adverse effects for mankind. In the traditional system, the garbage uses to be collected in a manual way. So that time is consumed. This project which can reduce their time effort in efficient manner. It will be helpful to develop green and smart city. It ultimate helps to keep cleanness in the society and hence the expansion of diseases caused by waste material is reduces, Automation is most demandable feature now a day. For this Smart Bins are much suitable approach.

Keywords- Ultrasonic Sensor, ARDUINO-UNO, SERVO MOTOR, GSM module ,

I. INTRODUCTION

Internet of things is nothing but the applications performing with the help of internet access. Most of the cities, towns and villages in India are not well designed to facilitate the suitable garbage collection methods. Common public dustbins are filling over with garbage and no one is concerned to clean them up as when they get completely packed with overflowing garbage. With the help of smart dustbin it will check the waste level over the dustbin by using ultrasonic sensor. Once it detected immediately this system alerts to the concern authorized person to clean the dustbin.

II. OBJECTIVES

The salient feature of this method is to build a clean environment and to empower the "SWACH BHARAT" Mission. It is very time consumed and easy to use.

III. EXISTINGSYSTEM

In existing method the ULTRASONIC SENSOR and SERVO MOTOR is used .Automatic lid opening and closing method is used in smart dustbin and microcontroller programming is done in this system.

IV. PROPOSEDSYSTEM

One of the sensor uses an Ultrasonic signal to monitor the level of garbage in the dust bin and If the level exceeds the set point a warning signal is sent to the concerned Authorities based on an Arduino program and another sensor detect the person who is near the dustbin as the sensor detect the person the lid of dustbin gets open automatically and when the person moves the lid will get closed.

V. ARDUINO UNO

The Arduino Uno is the best board to get started with electronics and coding. The UNO is the most used and documented board of the whole Adriano family. Arduino Uno is a microcontroller board based o the atmega328p. It has 14 digital input/output(of which 6 can be used as PWM outputs), 6 analog inputs, a 16 mhz ceramic resonator, a USB connection, a power jack, an ICSP header and a reset button. It contains everything needed to support the microcontroller simply connect it to a computer with the help of USB cable or power it with AC to DC adapter battery to get started.

Ultrasonic Sensor:

The Electromagnetic signals transmitted bythe Ultrasonic sensor are reflected back by the garbage whose level relative to the height of the dustbin need to be measured.The difference in time between transmission and receiving the signal helps to know the exact level of the garbage in the dustbin and "HC SR-O4" sensor is employed in our model.

SERVO MOTOR:-

Servo Motor helps in opening and closing the lid of the dustbin. The Adriano is programmed in such a way that after detecting the waste using ultrasonic sensor the lid should open automatically and this is done using servo motor.

GSM Module:-

GSM Module is the Standard used for Communication and interfaces a terminal and another GSM system.The entire signal transmission and receiving of signals from the controller to other device and to the controller from other device is achieved by the GSM system. .

CONCLUSION:-

This system will help the local Muncipal corporation waste management system i.e, monitoring of domestic wastage clearance at proper time to avoid damage to the public health. It uses sensors for sensing information of bins and sending to workstation which is situated at municipal office for finding shortest path. This project came in comfortable which a worthy elucidation for maintaining green environment. The proposed system is an attempt to improve current waste collection system in India for "CLEAN INDIA MISSION". These dustbin model can be applied to any of the smart cities. A waste collecting and monitoring team which is deployed for the collection of garbage from city can be guided in well manner for collection.

METHODOLOGY ANDWORKING:-

This method is proposed to make the city clean and neat. In this method the Ultrasonic sensor detect the person who is near to the dustbin to throw the garbage. As the sensor detects the person the lid of dustbins opens. The another sensor detects the level of the garbage. At the certain level when the dustbin gets full it send the notification to the authorized person who has given the authority of cleaning the dustbin. The authorized person will come and clean the dustbin and dustbin is again ready to used.

REFERENCES:-

1] Prakash Prabhu, "IOT based waste management for smart city", published in URCCCE volume 4, Issued on 2nd February 2017.

2] Trandeep Singh, Rita Mahajan, Deepak Bgai, "Smart Waste Management using Sensor Network" in URCCE volume 4 issued in June 2017.

3] Alexey Medvedev, Pert Fedchenkov, A Arkady Zaslavsky.

4] Wireless monitoring and alert system using Arduino,P. Siva Nagendra Reddy ; R. Naresh Naik ; A. AmareshwarKumar ; S. NandaKishor2017 SecondInternationalConference on Electrical, Computer andCommunication Technologies (ICECCT).

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