

ENVIRONMENTAL MANAGEMENT

INTRODUCTION

Today big cities around the world are facing a common problem, managing the city waste effectively without making city unclean. Today's waste management systems involve a large number of employees being appointed to attend a certain number of dumpsters this is done every day periodically. This leads to a very inefficient and unclean system in which some dumpsters will be overflowing some dumpsters might not be even half full. This is caused by variation in population density in the city or some other random factor this makes it impossible to determine which part needs immediate attention. Here a waste management system is introduced in which each dumpster is embedded in a monitoring system that will notify the corresponding personal if the dumpster is full. In this system, it is also possible to separate wet and dry waste into two separate containers. This system provides an effective solution to the waste management problem

EXISTING SYSTEM

Manual systems in which employees clear the dumpsters periodically

No systematic approach towards clearing the dumpsters

Unclear about the status of a particular location

Employees are unaware of the need for a particular location

Very less effective in cleaning city

PROPOSED SYSTEM

In this system, a 24×7 monitoring system is designed for monitoring dumpsters

Here a smart and organized system is designed for selective clearing

The ultrasonic sensor is used for measuring the level of waste in the dumpster

DC motor powered platform is used for segregating wet and dry waste

IR sensor and moisture sensor is used for separating wet and dry waste

If either of the containers is full then an alert message is sent from the dumpster

In turn, employees can clear the corresponding dumpster

All these sensors are connected to an Arduino Uno board

It can be used for controlling all mechanical setup based on current conditions

BLOCK DIAGRAM DESCRIPTION

Ultrasonic sensor Sensors measure distances by using ultrasonic waves. The sensor emits an ultrasonic wave and receives the reflected wave back from the target.

IR Sensor emits in order to sense some aspects of the surroundings.

Moisture Sensor measures the volumetric water content in the soil. ... Reflected microwave radiation is affected by the soil moisture and is used for remote sensing hydrology and agriculture.

DC motor which is connected to the digital pins of Arduino

We are using the serial monitor for the display

HARDWARE REQUIREMENTS

Arduino Uno

Ultrasonic Sensor

IR Sensor

Moister Sensor

Dc Motor

SOFTWARE REQUIREMENTS

Arduino IDE

The above figure shows the graphical representation of levels of waste in both containers as uploaded to the thingspeak cloud. This page can be accessed by any person who has the username and password of the account.

CONCLUSION

This project is very effective in managing waste in any big city. Rather than using conventional