

Buddha Institute Of Technology

GIDA, Gorakhpur

(Department of Electronic and Communication Engineering)

Project Name:- Smart Waste

Collector With Rewards

By:-Ambikesh Prajapati

INTRODUCTION

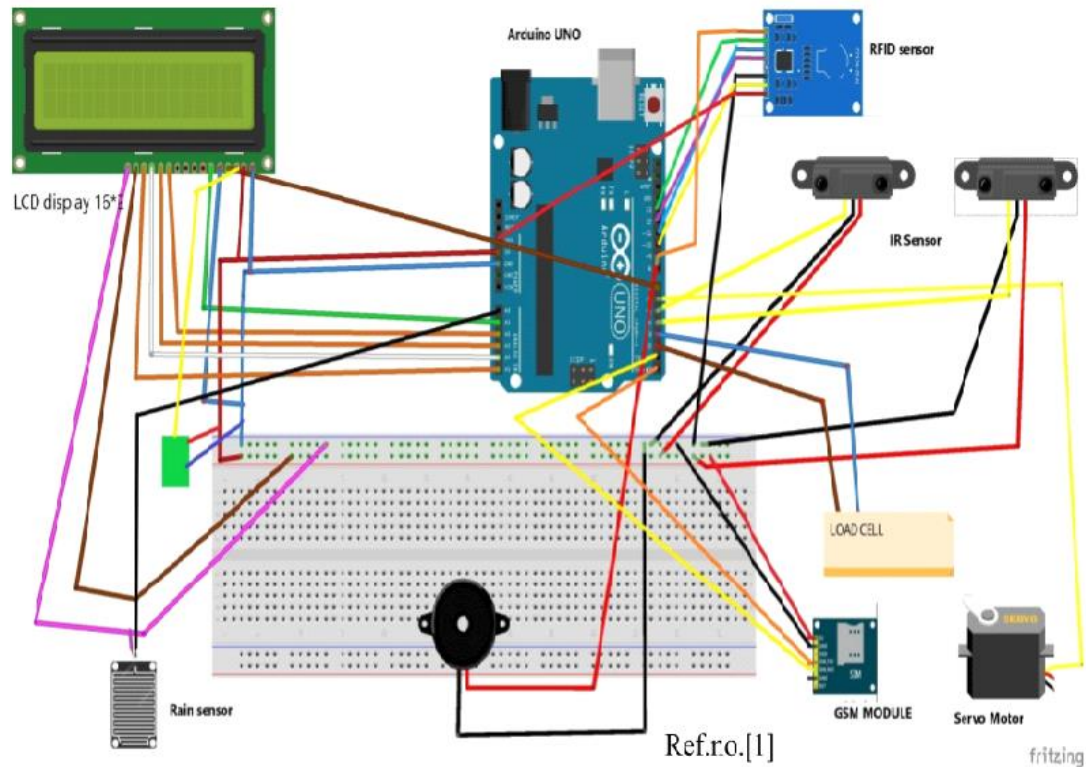
- In cities there are many public places where we see that garbage bins or dustbins are placed but are overflowing.
- Hence we need such a system that can minimize this problem to some extent.
- With the advancement in technology, it is high time that we use technology for waste management systems.
- By the virtue of human tendency people wish to get something in exchange of the things which they are giving.
- In order to that we have integrated a feature of reward point in exchange of the waste dumped by a particular person.

- The idea of this project is also motivated by some projects which are earlier undertaken like plastic bottle collector.

WORKING PRINCIPLE

- In this project a RFID Sensor detects the user and thereafter a moisture sensor discriminate between the dry and wet waste.
- Waste is segregated on the basis of dry and wet with the help of servo motor controlled flapper.
- A load cell is used to weigh the waste and according to the weight user gets some reward point.
- An IR sensor is used to detect whether dustbin is full or not if dustbin is full it sends a message to the authority with the help of GSM.

CIRCUIT DIAGRAM



ADVANTAGES

- It keeps our surroundings clean and green.
- If the dustbin is relocated to another location ,it get automatically registered with the server with the new GPS location.
- It also helps administration to generate extra revenue by advertisements on smart devices.
- Provides greater accessibility to the dustbin.
- It reduces infrastructure, operating and maintenance costs.

LIMITATION

- The waste collection capacity of this system is 1kg.
- RFID tags are affected by surrounding metal objects (if any).
- Sensor nodes used in the dustbins have limited memory size.
- Season can affect the working of system.

FUTURE SCOPE

- This product is for small capacity but it can be taken up to the product level.
- Usage of such separate systems also upgrades the method of decomposition of wet waste and the production of biogas from it.
- Convert the reward points in real money like Paytm, Flipkart and other apps.
- We can use this reward points to pay electricity bill also.
- We can use solar panel for power.
- We can use anti theft alarming function for device safety.