

Garbage Monitoring System using IoT

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Abstract— With a rapid increase in population and India being the second most populated country in the world it's facing major problems in managing the garbage system. As of now there are many traditional methods used for the cleaning of the garbage by the government. But these methods are not so efficient and there is frequent overflowing of the garbage which leads to bad smell and makes the environment unhygienic to live. It also leads to spreading of deadly diseases and human illness. This is happening because there is no proper system to monitor the garbage bins located in the different areas of the city by the government authorities. To overcome such situations, we are implementing a system called IOT Based Garbage Management. In our proposed system, there are various bins situated at different parts of the cities are given with unique id numbers.

Key words: IoT, Garbage Monitoring System

I. INTRODUCTION

Our proposed system based on IOT is used to detect the dry waste. So in this project we aim at detecting the level of the garbage at a particular bin and informing the concerned authorities to clean the bins at the appropriate time. This project will help to minimise the garbage disposal system. This is a low cost, easy to implement and can be used anywhere around the city. The government officials can use the system from anywhere and send the appropriate BBMP workers on their duty. We can login into the system using a home page and check the status of bins.

We have used sensors which is kept over the bins to monitor the level of garbage. A transformer of 12V is being used. The monitor is used to show the garbage level status collected in the bin.

A webpage is being created for the users to view the status of bins. Thus, cities are maintained clean and it provides information about the various bins to the government (with respect to areas).

II. RELATED WORK

Earlier, "City Garbage collection indicator using RF (Zigbee) and GSM technology", used the technology of GSM module which could detect garbage for small cities. It also gave details about the data transmission to receiver.

A. Disadvantages

- It consumes less time
- Expensive

III. SYSTEM WORKING

A. Flow Chart

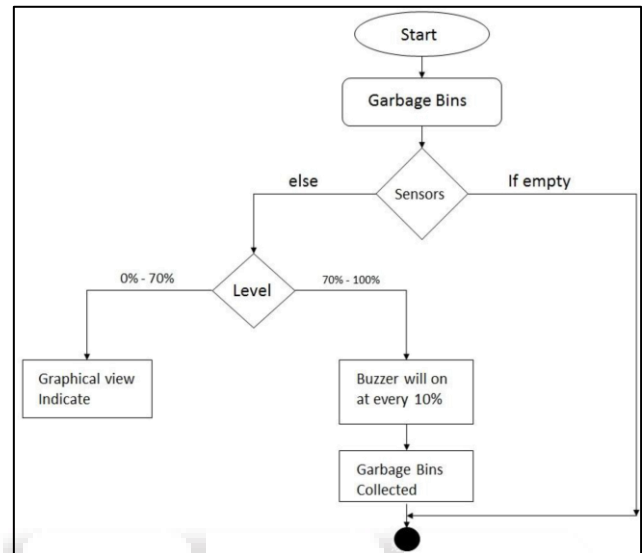


Fig. 1: Flowchart

B. Specification

- 1) CPU type: IP 4
- 2) Clock speed: 3.0 GHz
- 3) Hard disk capacity: 40 GB
- 4) Code: JAVA (JSP)
- 5) Back End: My SQL
- 6) Report: Ms-Office

IV. IMPLEMENTATION

In this proposed project, we are using 2 sensors that are located at 50% and 100% of dustbins that is used to detect whether the bin has reached its threshold limit. Microcontroller is being used. A power supply of 12V transformer is being used to convert the AC to DC power. We have used MySQL database to store the data about the status of bin.

In the front end, we have 3 types of users namely admin, BBMP worker, user. The admin can view all the users and status of all the bins and take proper action for cleaning of bins. The BBMP official can only check the status of bins and send lorry for cleaning. The user can only view the dustbin status.

V. MERITS

It is used to keep the cities clean and keep the environment safe and hygienic place to live in. It also prevents bad smell. It is cost efficient and easy to maintain

VI. CONCLUSION

In our proposed project we can have dustbins having sensors that is used to detect whether the bins are full or not. This system also reduces the trips of the BBMP vehicles. It also has a user friendly web page that helps the end user to access the status of the bin from anywhere.

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