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Smart Garbage Collection

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Abstract: The waste collection process is a critical aspect for the service providers. The traditional way of manually monitoring the wastes in waste bins is a complex, cumber some process and utilizes more human effort, time and cost which is not compatible with the present day technologies. This idea is compatible mainly with the concept of smart cities. The smart waste management mainly avoids the congested collection of waste generated domestically which creates difficulty to manage its disposal. In this GPS system is used which would detect the garbage level according to the location of the society and level sensors are used which would detect the level of the garbage.

Keywords: GPS System, Level Sensors.

I. INTRODUCTION

Smart waste management is a idea where we can control lots of problems which disturbs the society in pollution and diseases. The waste management has to be done instantly else it leads to irregular management which will have adverse effect on nature. The Smart waste management is compatible mainly with concept of smart cities**.** The project is based on Smart garbage collection in this we are using a level sensor which would detect the garbage level and sends the sms to the respective three persons that is corporation, contractor, society supervioser. Then the corporation clears the respective garbage according to the Gps location system and thereby the garbage level is cleared by smart system. The main objectives of our this system is 1. Monitoring the waste management. 2. Providing a smart technology for waste system. 4. Reducing human time and effort 5. Resulting in healthy and waste ridden. On this manner, proper authority could be conscious and people could get relief.

The main focus is on using android based application for collecting garbage which would saves human efforts and time. it is the biggest hooked up base of any mobile platform and growing at a fast velocity. It will stop overflowing of dustbins along roadsides and localities as smartbins are managed at real time.The filling and cleaning time of smart bin will also be reduced thus making empty and clean dustbins available to common people.It also aims at creating a clean as well as green environment.

II. LITERATURE SURVEY

[1] City Garbage collection indicator using RF (Zigbee) and GSM technology. This paper gave the details for the module required for the transmission of the data to the receiver side and also the main channel follow of the project. Initially we used GSM technology for our project but later on decided to us Wi-Fi module for the ease of data transmission.

[2] Smart Garbage Management System It provided us with additional details and designs needed for flow and management of garbage while collection.

[3] IoT-Based Smart Garbage System for efficient food waste management by Insung Hong, Sunghoi Park, Beomseok Lee, Jaekeun Lee, Daebeom Jeong, Sehyun Park. This paper gave the overview working of the IoT based smart garbage bin and the food management.

[4] BURBA is a waste management system. BURBA project proposes an innovative method of optimization of the waste management through the application of RFID and LBS technologies integrated into an Intelligent Waste Container (IWAC).

This Android Smartphone or Tablet application aids citizens on monitoring waste disposals as well to determine the availability of the waste containers. There are so many Social awareness android applications available in market regarding waste management like BURBA, but it fail to clean the city.Urban waste Management and promotion of in Wuhan city, China proposed a system of reuse, reduce and recycle (3r) in Wuhan City which is a manual application and takes a lot of time to execute.

[5]. In the present days we have many more android applications for smart city development which is not much effective. Government campaigned too many times to see the clean city by the name called “Swachh Bharat” which is fading away. There is no record to show that our municipal corporation is working properly or not. Government is not taking any actions towards Municipal Corporation. There are no such rewards for volunteers when they work for our city to see the clean city. So we Constructed a system for integrating the citizen and authority in a Common platform and work in together to make city Healthier.

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[6] Real time smart garbage collection T89S52 microcontroller is used to interface the sensorsystem with GSM system. Sensors are use to monitor thedesired information related to the garbage for differentselected locations. This will help to manage the garbagecollection efficiently. Level detector consists of sensorswhich are used to detect the level of the garbage in thedustbin. The output of level detector is given tomicrocontroller. Two sensors are used to indicate thedifferent levels of the amount of the garbage collected in thedustbin which is placed in public area. When the dustbin isfilled up to the highest level, Distance sensor sense the levelof garbage. This output is given to microcontroller to sendthe message to the Control room via GSM module.

II. PROPOSED MODULE

The module is based upon smat garbage collection system in this level sensor is used in dustbin .Initialy the level is 0 which indicates that the dustbin is empty when the level becomes 3 it sends the sms to the 3 aurthorized persons.

1. Supervisor
2. Contractor
3. Corporation

This persons are informed about the level of garbage then the corporation links and the garbage is cleared and the cleared sms is sent to all three persons if the garbage is not cleared within 24 hours then the complaint is sent to the aurthorized persons that is corporation and contractor.

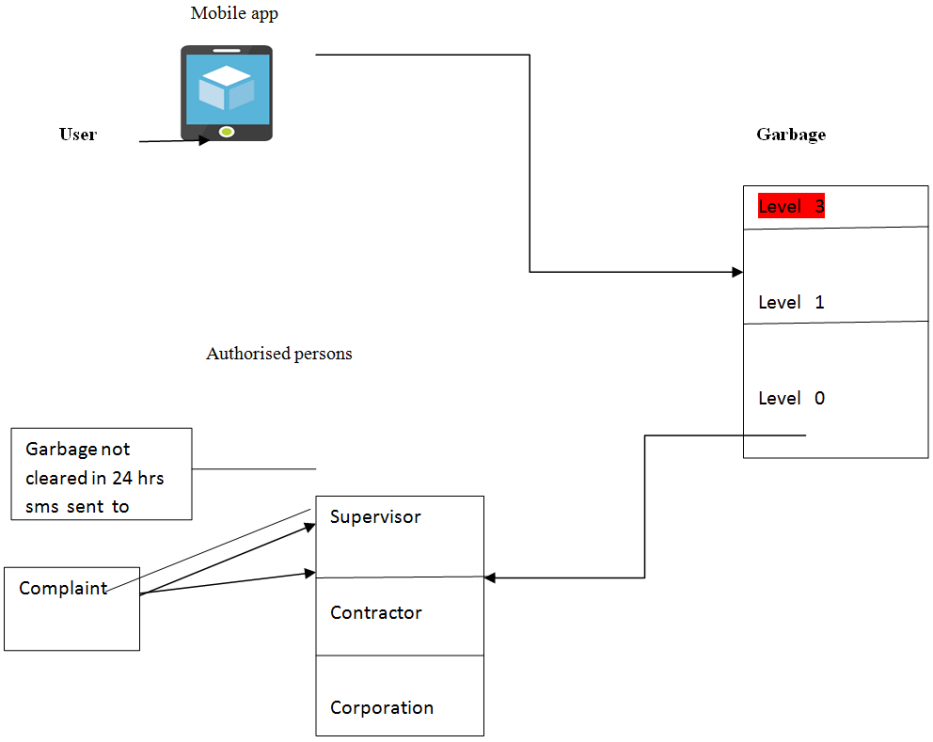

Fig. Smart Garbage Collection

Objectives and goals:-

- People can contribute themselves more swiftly in order to keep their city clean.
- The application provides two types of reporting system- user notification for help and report to authority.
- The application provides a list of nearby police stations and user can immediately make a call if needed.
- User can also complain to police station with providing necessary information and evidence through this application.

III. CONCLUSION

This paper has described the development of a smart garbage monitoring system, which is based on Android app. It is very useful in improving the efficiency of solid waste disposal management especially in the flat residential areas, where the garbage piles at the bins are one of the residents' major concerns owing to its ability to continuously measure the garbage level in the bin and alerting the municipality for immediate collection. The outputs from the conducted tests show that all the functionality of the system has performed correctly. The proposed system is suitable to be implemented in all flat residential areas, due to its practicality, reliability and reasonable cost.

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