

Smart City Waste Monitoring system using IOT

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Abstract- As the world is in a phase of upgradation, there is a stinky problem that we have to deal with. Garbage! In our daily lives, we see that garbage bins are overflowing and all the garbage has spread out. A large number of insects and mosquitoes breed on it. A major challenge not only in India but for most of the countries in the world is solid waste management. Therefore, a system must be built that can eliminate this problem or at least reduce it to a minimum level.

I. INTRODUCTION

Waste management is all activities and actions required to manage waste from its establishment to its final disposal. This includes the collection, transportation, treatment and disposal of waste along with monitoring and regulation. Waste collection methods vary widely in different countries and regions. Household waste collection services are often provided by local government officials. Curbside collection is the most common method of disposal in most countries, in which waste is collected at regular intervals by specialized trucks. The collected waste is then transported to a suitable disposal area. Now, cities with developing economies experience exhausted garbage collection services, insufficiently managed and uncontrolled dumpsites and worsening problems. Waste collection method is an ongoing challenge in such countries and there are many conflicts due to weak institutions and rapid urbanization.

To begin with you must first enter the height of the dustbin. This will help us to generate garbage in the trash. We have two criteria, which need to be satisfied to show that the particular bin needs to be emptied.

- The amount of garbage, in other words, assume that if your bin is half full, you do not need to empty it. Our threshold, or the maximum amount that we allow trash, is 75% of the bin.
- If a particular trashcan is filled by 20% and then does not change for a week, it falls into our

second criterion, time. Over time, small amounts will also rot, which will stink around. To avoid that our tolerance level is 2 days, so if any garbage is less than 75%, but it is two days old then it also has to be emptied

II. LITERATURE SURVEY

R. Narayanamurthy, Shubham Thakkar: Smart and Wireless Waste Management System. The system that provides prior bin filling information that alerts the municipality and proposes a "smart trash bin", which will notify the authorized person and notify the bin bin to be filled. NIR spectroscopy is used for the separation of biodegradable wastes.

The camera captured the image for the trash bin. Radio Frequency Identification (RFID), GPS and GIS send the image to the workstation. The truck is equipped with an RFID reader and camera when the truck bin comes close to the RFID reader and communicates with the RFID tag. & Send all information. The system is used to control the hut. This is the controlling hull SMS technology. GPS and GPRS Mapping Server to analyze various location data. The control station compiled all the information and stored it in the system database. Bin status and waste truck were monitored. In [1] [2], he came to a point. It is important to understand social concerns over the increasing rate of resource consumption and waste generation and as a result policy makers encourage recycling and reuse to reduce raw material demand and reduce the amount of waste going into landfills for. In [3], in this paper it is proposed that the integrated system combined with radio frequency identification, global position system, general packet radio service, geographic information system and integrated system of webcam will solve the solid waste problem. They also analyzed the actual performance of the system. [6] states that the major challenge in urban areas around the world is the management of solid waste. In that system, an integer

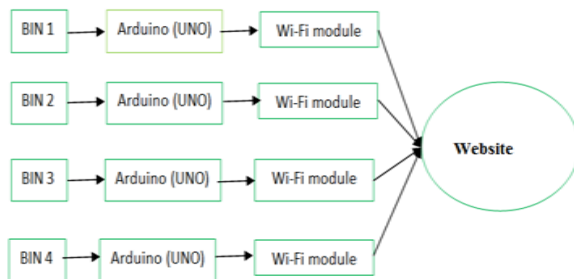
is introduced A unified system combines Radio Frequency Identification (RFID), Global Position System (GPS), General Packet Radio Services (GPRS), Geographic Information System (GIS) and Web Camera. The RFID reader is built into the truck and will automatically receive all types of customer information and bin information from the RFID tag mounted in each bin. GPS is used to inform the location of the collection truck.

III. MATERIALS & METHODS

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 - If a particular trashcan is filled by 20% and then does not change for a week, it falls into our second criterion, time. Over time, small amounts will also rot, which will stink around. To avoid that our tolerance level is 2 days, so if any garbage is less than 75%, but it is two days old then it also has to be emptied.
1. To analyze the work done so far to monitor waste
 2. Propose and design a waste monitoring system that can be controlled with a GU

IV ARCHITECTURE



VII CONCLUSION

When designing these smart dustbins, various features such as durability, affordability, damage prevention and maintenance issues are addressed.

This smart dustbin can contribute a lot to the creation of a smart city for a clean and hygienic environment. But since technology is new in India, proper awareness should be created among people before it can be implemented on a large scale. Otherwise, sensitive devices such as sensors may be damaged due to the rough action of the users.

REFERENCE

[1] Pro. RM Sahu, Akshay Godse, Pramod Shinde, Reshma Shinde, Garbage and street light monitoring system using internet

[2] International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, issn (oNLINE) 2321-2004, VOL.