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A Review on Garbage Monitoring and Notification System

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ABSTRACT: In the recent spans of years, Urbanization has inflated terribly nice in size and there's a rise in waste production. Waste management has been a typical issue to be thought of. Governments have invested a considerable number of resources in solving this problem on waste source reduction and recycling. Accordingly, this study with a smart city concept developed a smart garbage monitoring system that could be used in various locations to help eliminate littering in the city (from inconsistent waste disposal), diminish labour costs, and achieve the goals of increased recycling and reduced waste. This study integrated WAN communication networks (networks developed using the Internet of Things) with garbage monitoring equipment to create a system that offers automated garbage can operation, environmental monitoring, and graphical interface monitoring.

This paper discusses about monitoring the garbage capacity through the webpage. The overflow of the garbage from the container as the result of the fullness of the container gives a bad effect in the environments. The stinging smell disturbs the comfort of the human. During this paper, sensible bin is constructed with Arduino microcontroller that is interfaced With Ultrasonic sensor which is placed at each of trash bin. Ultrasonic firstly measured the depth of dustbin so it can calculate how much volume of the dustbin is full. All information from sensors then pass to the website where an authority can visualize the data the data and gets regularly updated data.

The purposed system focuses on the garbage monitoring system so the authorities can identify and visualize the data of garbage filling in real-time and also got the best path to follow for the collecting garbage in minimum time and efforts which can increase their efficiency.

KEYWORDS: Arduino UNO, Ultrasonic sensor

I. INTRODUCTION

Scientific and technological advancements have contributed to global prosperity and a growing population worldwide. However, Global overpopulation has created problems such as increased waste from human living and social activities. Waste has also become a problem that affects urban development. It also results in varied number of diseases as sizeable number of insects and mosquitoes breed in them. This downside is probably faced by many metropolitan cities.

The increase in population, has led to tremendous degradation in the state of affairs of hygiene with respect to waste management system. The spill over of waste in civic areas generates the polluted condition in the neighbouring areas. In metropolitan or city areas, the clearance of waste management is one of the challenging tasks for the majority of the country all over the world. There is need of a well-organized waste clearance system is mandatory by keeping green environment.

This paper is proposed IOT based smart waste clean management system which checks the waste level over the dustbins by using Sensor systems. Once it detected immediately this system altered to concern authorized through WAN. For this system used Microcontroller as an interface between the sensor system and WAN system. To monitor and integrate a website is developed for the desired information which is related to the various level of waste in different locations. This is ensued the greenish in the environment and support for Swachh Bharat for cleanness.

II. LITERATURE SURVEY

Sr.No	Title of Paper	Author name	Innovation/Technology	Drawback/Limitation
1	Smart Garbage Monitoring and Clearance System using Internet of Things	S. Vinoth Kumar,T. Senthil Kumaran,A. Krishna Kumar and MahanteshMatha pati	Monitors the garbage in dustbin and send signals to concerned authority once the garbage level is reached.	No proper route and data is given.
2	Smart Waste Collection Monitoring and Alert System via IoT	Zainal Hisham Che Soh,MohamadAz eer Al-Hami Husa	Collects the data of the garbage and sends it to IOT cloud	No visualization of data.
3	Garbage Monitoring System using Arduino	PP. Ramchandrar Rao, S. Sanjay Kumar	The garbage level is been detected using Arduino.	No sending of data to the authorities.
4	Towards Shortest Path Computation using Dijkstra Algorithm	Neha Makariye	The shortest path and the best path is computed based on the problem of traffic condition shortest path.	it does a blind search there by consuming a lot of time waste of necessary resources
5	An Improved Dijkstra's Algorithm for Shortest Path Planning on 2D Grid Maps	Li Wenzheng, Liu Junjun, Yao Shunli	Finding a shortest path from an arbitrarily selected initial position to a single goal position	it does a blind search there by consuming a lot of time waste of necessary resources
6	Smart Bin: Internet- of-Things Garbage Monitoring System	Mustafa M.R and Ku Azir K.N.F	how waste management system demonstrates and monitor the level of garbage depth inside bin	System requires more number of waste bins for separate waste collection as per population in the city. This results into high initial cost due to expensive smart dustbins compare to other methods.
7	Garbage Classification and Environmental	Ben wang, WenliZhou	garbage classification	Waste segregation is difficult

	Monitoring based on Internet of Things			
8	Garbage Waste Monitoring System using Ultrasonic Sensors on FPGA	C. Phanindra, M. Kalyan, C. B. Sruthi	Use of ultrasonic sensors in garbage monitoring system.	Major part of this project depends upon the working of the Wi-Fi module which is operable only in small distances.
9	Environmental Monitoring and Smart Garbage Sorting System Based on LoRa Wireless Transmission Technology	Chun-Yen Chung, I-Ting Peng, Jong-Chao Yeh	How sensor will notify garbage bin is full.	Sensor nodes used in the dustbins have limited memory size.
10	Garbage Monitoring and Warning System	Nyayu Latifah Husni, Robi, Ekawati Prihatini	This paper discusses about the monitoring of garbage capacity and giving warning to authority regarding garbage capacity	High cost

III. CONCLUSION

In this project, an Arduino sensor based garbage monitoring system is described to monitor the garbage through the city. The system is more effective in informing the concerned authority about the status of the garbage at garbage bin location.

Measuring the level of the garbage and informing the concerned authorities on at which level the garbage is the main feature that is developed in the project which makes the system more reliable and efficient.

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