

SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

INTRODUCTION:

In our system, the Smart dustbins are connected to the internet to get the real time information of the smart dustbins. In the recent years, there was a rapid growth in population which leads to more waste disposal. So a proper waste management system is necessary to avoid spreading some deadly diseases. Managing the smart bins by monitoring the status of it and accordingly taking the decision. There are number of dustbins are located throughout the city or the Campus (Educational Institutions, Companies, Hospitals etc.). The aim of the mission is to cover all the rural and urban areas of the country to present this country as an ideal country before the world. With the proliferation of Mobile network devices such as smart phones, sensors, cameras. It is possible to collect massive amount of garbage.

LITERATURE SURVEY:

1. Monitoring the fullness of bins through the use of sensors, it is possible to achieve a more efficient system than the current existing. Our idea of “Smart waste management system”, mainly concentrates on Monitoring the waste management, providing a smart technology for waste system, avoiding human intervention, reducing human time and effort and which results in healthy and waste ridden environment.
2. Because ineffective waste management is due to a lack of methodology to categorise waste and collect it on an effective time schedule, the system designed will influence people to categorise their waste on their own, and

the municipal council will be able to collect it on a proper schedule with the notifications they receive from the smart dustbins when they are about to fill and overflow, because ineffective waste management is due to a lack of methodology to categorise waste and collect it on an effective time schedule, because ineffective waste management is The waste collection is no longer a concern for the municipal government. The local government can sell most garbage categories since the collected garbage volumes at municipal waste collection centres may be appraised by those recycling businesses. Furthermore, the government may implement this system to address a variety of issues, including trash classification, collection, disposal, and recycling.

3. Future work can embrace several spaces. One area that may be improved on, however restricted at this point thanks to attempting to create this project low cost, is a characteristic kind of garbage from the bin itself, so removing human segregation. If may be} implemented, in a very single location rather than four bins for the four differing types of garbage, one giant bin can be placed that segments the rubbish by itself. Another area which might be improved is instead of every bin connecting to an access point to speak with the server, bins can communicate with one another and hook up with an access purpose through the most hub. This technique could scale back network prices associated create the network method a lot of efficient.
4. In most of the metro cities globally poses a challenge on effective waste solid waste management and maintenance of the waste bins. In this work an IOT enabled Smart Waste Bin with real time monitoring is designed and presented. In addition to the waste level measurement by using ultrasonic sensors, a sensing mechanism based on simple parallel plate capacitance is also developed and presented. Experimental investigations are carried out where the waste level of the smart bins is measured using the parallel plate capacitance and ultrasonic sensors and the statuses of the bins are communicated to the cloud effectively. The results prove the efficiency of

the designed smart bins qualitatively. A smart waste management system incorporating robotic smart bins, where the smart bin has the mobility to move to the waste dockyard by localizing itself in the environment, is also proposed in this work. This system could find an application in smart buildings where the waste management could be practiced autonomously in a smarter way. Our future work is to investigate the performance of the proposed traditional and robotic waste management system in outdoor and indoor environment respectively in our Institutional campus

5. Improper disposal and improper maintenance of domestic waste create issues in public health and environment pollution thus this paper attempts to provide practical solution towards managing the waste collaborating it with the use of IOT i.e. providing free internet facilities for a specific time once the trash is dumped into the bin. the proposed system will definitely help to overcome all the serious issues related to waste and keep the environment clean
6. The development and validation of a hybrid network architecture approach to efficiently manage trash bins in public places and residential areas of cities were discussed in this paper. All facets of an IoT system have been developed, including the design of end nodes, i.e., PBLMU and HBLMU; long-range data transmission with LoRa network for public places and Wi-Fi connectivity for homes; long-term data storage; and hierarchical visualization of trash bin level with the intelligent GUI. Experiments were conducted to validate the developed IoT system, as well as to estimate current consumption and maximum life expectancy of the end node. First, the trash bins had been filled with waste, and the corresponding unfilled levels on the Intelligent GUI were monitored. Second, based on the measured active and sleep current contributions, the PBLMU's average current Smart Cities 2021, 4 1015 consumption is calculated as 1.5 mA. Finally, the life expectancy of a PBLMU was estimated as approximately 70 days under hypothetical conditions. According to the obtained results, the proposed IoT-enabled solid waste management system is well suited for

monitoring real-time trash bin information in smart cities. Future work in this area, trash bin information (unfilled level and geolocation coordinates) obtained through the proposed IoT system can be used for framing geographic information system (GIS). Furthermore, optimum routes can be obtained through machine learning algorithms for waste collection trucks.

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