LITERATURE SURVEY ON IOTBASED SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

Abstract:

In this paper, a system is introduced to manage wastein big cities effectively without having to monitor theparts 24x7 manually. Here the problem of unorganized and non-systematic waste collection issolved by designing anembedded IoT system that willmonitor each dumpster individually for the amountof waste deposited.

Here an automated system isprovided for segregating wet and dry waste. Amechanical setup can be used for separating the wetand dry waste into separate containers here sensorscan be used for separating wet and dry. For detectingthe presence of any waste wet or dry can be detectedusing an IR sensor in the next step for detecting wetwaste a moister sensor can be used. In this process, ifonly IR is detected motor will rotate in the direction of the dry waste container if both the sensor detectsthe waste then it will go to the wet container.

Introduction:

Today big cities around the world are facing acommon problem, managing the city wasteeffectively without making city unclean. Today'swaste management systems involve a large numberof employees being appointedto attend a certainnumber of dumpsters this is done every dayperiodically. This leads to a very inefficient andunclean system in which some dumpsters will beoverflowing some dumpsters might not be even halffull.

This is caused by variation in population densityin the city or some other random factor this makes itimpossible to determine which part needs immediateattention. Here a waste management system isintroduced in which each dumpster is embedded in amonitoring system that will notify the correspondingpersonal if the dumpster is full. In this system, it isalso possible to separate wet and dry waste into twoseparate containers. This system provides aneffective solution to the waste management problem.

Problem statement:

Generally, the solid waste is defined from households refusal and non hazardous solid waste is from industrial, commercial and institutional establishments such as hospitals, market waste, yard waste and street sweepings. Today, Solid waste management has changed a long way from the old days when garbage was collected by horse and disposed outside of town. Today, it is almost hard to manage waste collection process and management without high technology to pinpoint the locations of vehicles and recycling bins. In the developing countries, waste management is becoming an acute problem as urbanization and economic development increase leading to larger quantities of waste materials**.**

Problem Justification:

- Garbage level detection in bins.
- Getting the weight of the garbage in the bin.
- Alerts the authorized person to empty the bin whenever the bins are full.
- Garbage level of the bins can be monitored through a web App.
- We can view the location of every bin in the web application by sending GPS location from the device.

Application:

The project design is a part of the implication thatcan be used to improve the waste management of alocality. All the technical aspects have beenthoroughly designed keeping all the constraints inmind. The project resolves around whether theproject will be able to meet the future needs of theusers.

This project-based on IOT gives users thefreedom of changing hardware as well as softwarespecifications as per the arising need. IOT basedprojects are already designed while keeping futuredemands in mind and in a risingeconomy likeIndia where the concept of smart cities is new thedemand for our project will keep on increasing. This project here is a model of the large-scaleapplication which spans pan India in differentsmart cities.

Conclusion:

This project is very effective in managing waste inany big city. Rather than using convention al periodiccollection methods here priority system is used to thecity is clean all the time without any overflowingdumpsters. It has been tested and verified properlyto make sure all the different parts work together fora smooth function of the whole system.