LITERATURE SURVEY
SMART WASTE MANAGEMENT SYSTEMS

TOPIC1:

IoT-Based Smart Waste Management Systems for Revolutionary Changes

AUTHORS:

https://evreka.co/blog/iot-based-smart-waste-management-systems/

ABOUT:

Our waste generation is constantly growing to form a **global garbage crisis**. Even though we compromise on creating a more sustainable and green world with 2050 climate targets before too late, we still fail to recycle or handle our waste generation. Combining technology support with a vision of social, economic and environmental sustainability is the only way out of this problem. **Solutions for smart cities,** of course, go through IoT technology, making it easier for us to perceive objects and communicate. From day to day, countries, regions, cities, and municipalities embrace the ‘’smart’’ systems and solutions in their operations. Accordingly, key waste management players are already operating with digitized solutions. So, IoT technology is a crucial step to embed in your operations.

LIMITATIONS:

1.Increasing cost of the dustbin.

2.for ex: There are 3 different levels of sensors.

3.One sensor for each level.

4.Also rough action and usage of the user may cause damage to the sensor.

TOPIC2:

Smart Waste Management System for Crowded area

AUTHORS:

https://ieeexplore.ieee.org/document/8645576?denied=

ABOUT:

In implementing the smart cities the great challenge is how to manage waste with low cost and high performance. Three factors make it a big challenge, behind its natural, small area, short period of time and the increasing of the Pilgrimages' member. The process of collected wastes, separated it, and transports the containers daily and quickly to avoid any prospect of a spread of diseases is a complex process. This paper aims to study the concept of the waste management and proposed smart systems for waste management system with recycling .The proposed system will use the sensors technique insite the container, as a lower level, to separate the waste into 4 categories [food, plastics, papers, and metal] and use actuator at a top level to inform the management system to collect the container. The proposed system will save time, money and efforts compared to the recent process of the waste management system and improve the society quality as all.

LIMITATIONS:

1.insufficient data collection.
2.quality aspects-recycling.
3.energy recovery of waste.

TOPIC3:

Smart Waste Management using Wireless Sensor Network

AUTHORS:

https://www.researchgate.net/publication/344664441_Smart_Waste_Management_using_Wireless_Sensor_Network

ABOUT:

In most of the places, the garbage bins are not cleaned at proper time intervals which results in overflowing of garbage resulting in hygiene problems, land pollution; also it creates ugliness to that place. This shows the need for a system that monitors the status of the garbage bin and provides information to the concerned authorities to manage the collection intervals for cleaning the bins. A solution to this problem is proposed in this paper in the form of a 3 tier waste management system: Intelligent bin, gateway, remote base station. The parameters of the bin monitored are transmitted through a gateway to remote base station to be stored in a database.

LIMITATIONS:

1.It is prone to hacking by hackers.

2.Cannot be used for high speed communication.

3.Expensive to build.

TOPIC4:

Smart waste management for green environment

AUTHORS:

https://ieeexplore.ieee.org/document/8075303

ABOUT:

The objectives of the project are to design a Smart Waste Management (SWM) system based on Bootstrap platform, develop the system and test its functionality in fulfilling the requirements of the project. The methodological approach selected in this project is the waterfall methodology in which it comprises of four crucial phases: planning and analysis, system design, system implementation and system testing whereby each phase must be completed systematically prior to the commencement of subsequent phase. It is expected that the Smart Waste Management (SWM) system would be able to fulfill all of the project's objectives. This system is aimed to address the problems of overflowing trash bins and public complaints on trash collection trucks. The development of this system brings a huge significance in which operators would be able to know which trash bins require immediate collection and request for immediate dispatch by collection trucks.

LIMITATIONS:

1.The site are often dangerous.
2.The resultant product has short life.
3.The practices are not done uniformly.

TOPIC5:

Smart Waste Collection System Based on Location Intelligence

AUTHORS:

https://www.sciencedirect.com/science/article/pii/S1877050915030008

ABOUT:

Cities around the world are on the run to become smarter. Some of these have seen an opportunity on deploying dedicated municipal access networks to support all types of city management and maintenance services requiring a data connection. This paper practically demonstrates how Internet of Things (IoT) integration with data access networks, Geographic Information Systems (GIS), combinatorial optimization, and electronic engineering can contribute to improve cities' management systems. We present a waste collection solution based on providing intelligence to trashcans, by using an IoT prototype embedded with sensors, which can read, collect, and transmit trash volume data over the Internet. This data put into a spatio-temporal context and processed by graph theory optimization algorithms can be used to dynamically and efficiently manage waste collection strategies.

LIMITATIONS:

1.Waste management can cause more problems.
2.Process is always not cost effective.
3.Needs more global buy- in.