**STELLA MARY’S COLLEGE OF ENGINEERING**

**Azhikal Post, Kanyakumari, Tamilnadu-629202**

**Department of Electronics and Communication Engineering**

**SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES**

**Domain of the Project : IOT Batch ID : B3-3M5E**

**Team ID : PNT2022TMID52303**

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**Objectives**

* The objective of solid waste management is **to reduce the quantity of solid waste disposed of on land by recovery of materials and energy from solid waste** as depicted.
* The GPS coordinates of the garbage bin will be sent to the IB M IoT platform.
* The location of the bins along with bin status can be viewed in the Web Application.

# Abstract

* The Internet of Things (IoT) paradigm plays a vital role for improving smart city applications by tracking and managing city proc esses in real-time.
* One of the most significant issues associated with smart city applications is solid waste management, which has a negative impac t on our society’s health and the environment.
* This work proposes an IoT-enabled solid waste management system for smart cities to overcome the limitations of the traditional waste management systems.

# Introduction

* The Internet of Things (IoT) is a concept that refers to the ever-expanding network of internet-connected devices that are currently in use all over the world.
* IoT plays a pivotal role in enhancing smart city applications through real-time monitoring and management of city processes.
* One of the biggest challenges associated with smart city applications is solid waste disposal, which impacts our society’s health and nature.
* By 2050, global waste is estimated to reach 3.40 billion tons, more than doubling population growth over t hat period .

**Literature Survey**

|  |  |  |  |
| --- | --- | --- | --- |
| **TITLE** | **AUTHOR**  **& YEAR** | **JOURNAL NAME** | **REMARKS** |
| Smart Waste Management System Using IOT | S.A.Mahajan&  2017 |  | This project shows how the smart waste management system using IOT cam be implemented. This proposed system assures the collection of garbage level reaches its maximum lev el. Thus, dustbins will be cleared as and when filled, giving way to clean er city. |
| Smart Waste Management System Using IOT | Tejashree Kadus  & 2020 |  | Improper disposal and improper maintenance of domestic waste create is sues in public health and environme nt pollution thus this paper attempts to provide practical solution toward s managing the waste collaborating using IOT. 4 |

**Literature Survey**

|  |  |  |  |
| --- | --- | --- | --- |
| **TITLE** | **AUTHOR**  **& YEAR** | **JOURNAL NAME** | **REMARKS** |
| Garbage Managing System Using IOT | Asha and Balamurugan  2019 |  | This model creates awareness about how hygiene of our surrounding garbage cans is important. It also helps in segregating dry and wet waste & also helps in checking the toxicity level of the waste further simplifying the municipality work of collecting g arbage . |
| Automation of S mart Waste Management Using I OT | Madhuri Mohare  2019 |  | Here using a one variable voltage source & set -250v as a threshold value By varying voltage below threshold value we got output on virtual terminal that is dustbin is not full.  5 |

**Literature Survey**

|  |  |  |  |
| --- | --- | --- | --- |
| **TITLE** | **AUTHOR**  **& YEAR** | **JOURNAL NAME** | **REMARKS** |
| IOT Adoption barriers of smart cities waste management | Manu Sharma &  2020 |  | Waste management of smart cities is considered to be the most important issue in developing countries over the past decades. A review of existing literature revealed fifteen IOT of s mart cities waste management. |
| IOT Technologies Smart Waste Collection | Brucu Oralhan and Yavuz Yigit  2016 |  | Our presented smart waste management system can be improved by using some other knowledge such as a garbage container area population, using future garbage container fill lev el estimation.  6 |

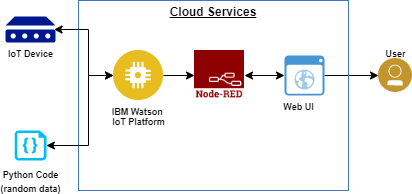
# Problem Identification

* Some trash bins are overfilled while others are underfilled by

t he trash collection time.

* Overfilled trash bins create unhygienic conditions.
* Unoptimized truck routes result in excessive fuel usage and environmental pollution.
* All collected trash is combined which complicates sorting at the recycling facility.

# Block Diagram



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**THANK YOU**