

# REPORT 3

## PROJECT TITLE :

SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

## DOMAIN : IOT

## TEAM MEMBERS:

1. Indhumathi S
2. Kodali Gireeshma Chowdary
3. Meena M
4. Iswarya S P

## MENTOR NAME :

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### 1. Prepared Empathy Map Canvas to capture the user.



## **2. Prepared list of problem statements.**

1. Urban India generates tonnes of wastes annually. Our country faces major challenges associated with waste management. Conventional garbage collection is not efficient since the authorities are not notified until the waste bin is full, and this leads to overflow of waste material. Efficient waste disposed of garbage is essential for a sustainable and clean India.

2. This project smart waste management using IOT based waste bin for collection and monitoring the level of waste inside the bin. The system is implemented using two ultrasonic sensors which are controlled by Node MCU. One of the ultrasonic sensors detects the level of the waste in the bin and another detects the person approaching the bin to dispose of the waste. This detection helps in automatic opening and closing of the lid. Servo motor is connected to the lid which serves the action of closing and opening of the lid. In this system, the level of waste in the bin will be sent to concerned authorities. The IOT data is stored and monitored using an app.

3. The current process of waste management starts with the waste being created by people in the cities and disposed of in trash bins near its creation point. The disposed trash is collected by municipality or private company trucks at predefined times and transferred to temporary collection centers. The trash at the collection centers is then sent for recycling.

4. This process in the current city setting solves the waste problem partially while it creates other problems such as.

5. Some trash bins are overfilled while others are underfilled by the trash collection time.

6. Overfilled trash bins create unhygienic conditions.

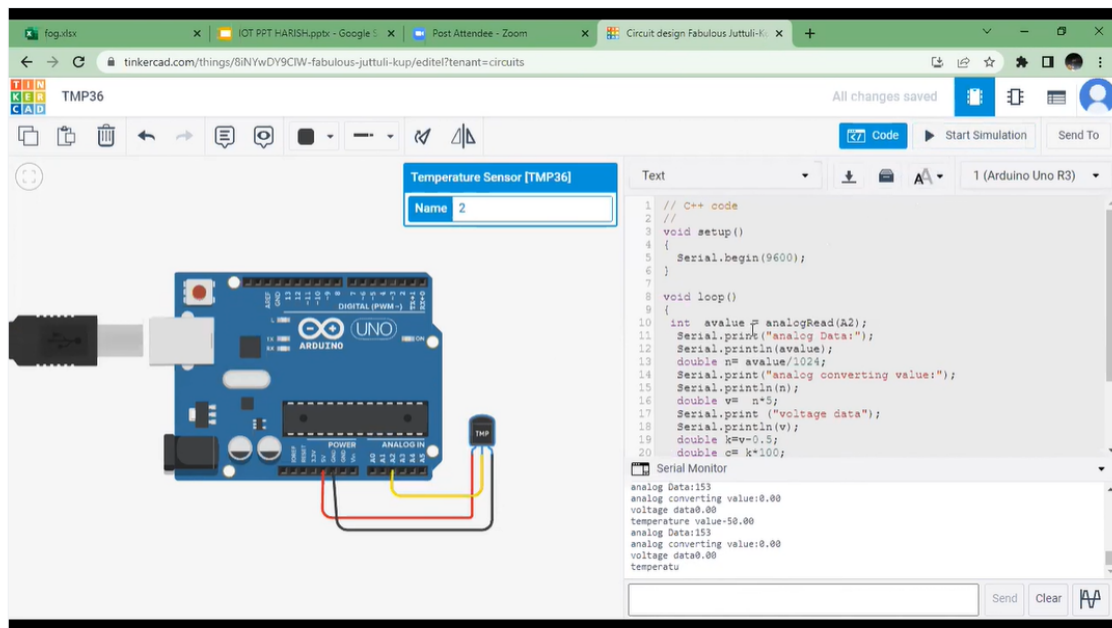
7. Unoptimized truck routes result in excessive fuel usage and environmental pollution and

8. All collected trash is combined which complicates sorting at the recycling facility.

9. Some of these problems can be mitigated by implementing smart waste management systems.

10. In today's world there is no proper management and control system for proper garbage collection. Humans have a tendency to avoid their duty. People in the societies use to throw garbage in filled garbage containers and garbage authorities also do not collect the garbage timely. Hence it leads to various types of pollution and many serious health issues.

## **3. Attended the technology training as per the training calendar.**



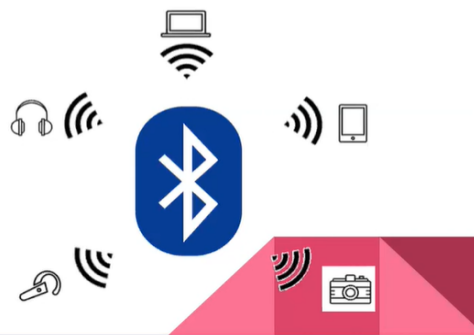
## IoT-B4-4M6E(Morning Session)-Day-3

### Bluetooth Low Energy (BLE)

BLE is meant for situations where battery life is preferred over high data transfer speeds

#### Applications

- Mesh profiles
- Health care profiles
- Sports and fitness profiles
- Asset tracking
- Indoor navigation



## IoT-B4-4M6E(Evening Session)-Day-4

## 4. Submitted the Assignment-1

The screenshot shows a GitHub repository page for the repository `IBM-EPBL / IBM-Project-25424-1659963153`. The repository is public and has 1 watch, 0 forks, and 0 stars. The main branch is `main` with 1 branch and 0 tags. The repository contains 4 commits by user `IswaryaSP`. The commit history shows four commits, all titled "Add files via upload", with the most recent commit being 2 days ago. The repository also has a README file. The right sidebar shows the repository's name, "Smart Waste Management System For Metropolitan Cities", and the number of stars, forks, and watchers. The "Releases" section shows no releases published, and the "Packages" section shows no packages published.

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Go to file Add file Code

IswaryaSP Add files via upload 8c036e yesterday 4 commits

4061-Assignment-1 (Smart Home Au...	Add files via upload	2 days ago
4063-Assignment-1 (Smart Home Au...	Add files via upload	yesterday
4076-Assignment-1-SHA.pdf	Add files via upload	2 days ago
4094-Assignment-1 (Smart Home Au...	Add files via upload	3 days ago

Help people interested in this repository understand your project by adding a README. Add a README

About

Smart Waste Management System For Metropolitan Cities

0 stars  
1 watching  
0 forks

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