Project Design Phase-II
Technology Stack (Architecture & Stack)

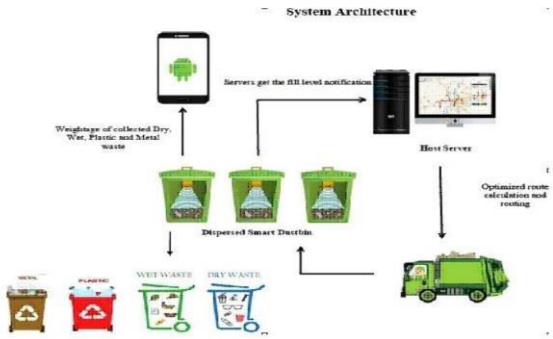
Team ID	PNT2022TMID07864
Project Name	Smart Waste Management System for Metropolitan Cities
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	Node Red.
2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	NA	NA
6.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	NA	NA
9.	External API-2	NA	NA
10.	Machine Learning Model	NA	NA
11.	Infrastructure (Server / Cloud)	NA :	NA

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2



Guidelines:

1. Our proposed model provide real time monitoring to the garbage bins placed in various locations.
2. The garbage bins are build with a sensor module(Ultrasonic sensor) which continuosly monitors the garbage bin.
3. Any moment the garbage level passes over the critical level (i.e 80%),the system generates a notification to the monitoring panel (admin panel /garbage cleaning team) and so the cleaning team collects the garbage from the identified garbage bin.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	Technology of Opensource framework
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	e.g. SHA-256, Encryptions, IAM Controls, OWASP etc.
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	Technology used
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	Technology used
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN’s) etc.	Technology used