

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

Date	28 October 2022
Team ID	PNT2022TMID36338
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	Web Portal	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Application Logic-1	To compute the distance of rubbish and show the continuous level in online interface ,data getting through ultrasonic sensor and the alarm message initiate with python content to the online interface.	Python /Ultrasonic sensor
3.	Application Logic-2	To ascertain the weight of the trash and show the constant weight in a web-based interface, this data gets by means of burden cell and the alarm message actuated with python to the online interface.	Load cell /Python
4.	Application Logic-3	Getting area of the Trash.	GSM/GPS
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloudant etc.
6.	File Storage	File storage requirements	GitHub, Local file System.

7.	External API-1	Firebase is a set of hosting services for any type of applicationIt offers NoSQL and real-time hosting of databases, content, social authentication, and notifications, or services, such as a real time communication server.	Fire box
8.	Ultrasonic sensor	To toss a ready message at the point when trash is getting full.Distance Acknowledgment Model.	Distance Acknowledgment Model.
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: localhost Cloud Server Configuration: localhost, Firebox	Local host, web portal

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	NodeRed,Python,IBM Simulator.	Internet Of Things (IOT)
2.	Security Implementations	For example used to broadcast live data, further security measures are recommended and use the UFW(uncomplicated Firewall).	Internet Of Things (IOT)
3.	Availability	These garbage bins use sensors like ultrasonic and load cell to send ready message about the rubbish level acknowledgment innovation, and counterfeit knowledge, empowering them to consequently sort and arrange reusing litter into one of its more modest receptacle	Internet Of Things (IOT)
4.	Performance	Number of request:RPI manages to execute 129 -139 read requests per second.Use of Cache:512mb Use of CDN's:Real time	IOT/ web portal

