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

Date	03 October 2022
Team ID	PNT2022TMID47715
Project Name	Project - Smart Waste Management System For Metropolitan Cities
Maximum Marks	4 Marks

Technical Architecture:

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

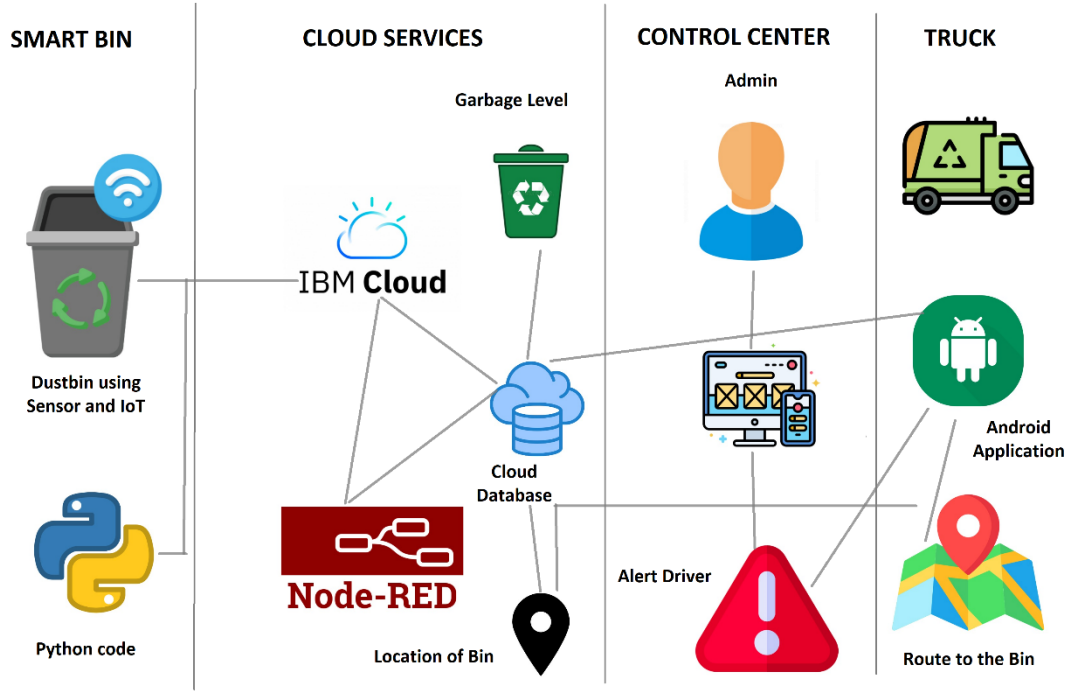

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	Application	User Interact with admin and know the status of the Dustbin	HTML, Python
2.	GPS	They receive the data from the satellites regarding the location of garbage to be collected	GPS satellites
3.	Ultrasonic Sensor	It measures the distance of garbage to the base of it using ultrasonic waves	A Transducer to send and receive ultrasonic pulses
4.	Cloud Database	For the storage of user info, location of garbage bins etc.,	IBM DB2, IBM Cloud etc.
5.	Lithium Ion Battery	A lithium-ion (Li-ion) battery is an advanced battery technology that uses lithium ions.	The positive to the negative electrode
6.	Wi-Fi Module	The ESP8266 Wi-Fi Module is a self-contained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your Wi-Fi network.	IEEE 802 protocol
7.	Transport	A vehicle for the collection of bins.	Garbage truck

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Template for software development that is designed by a social network of software developers.	Python
2.	Security Implementations	provides the technical security policies, requirements, and implementation details for eliminating the security weaknesses	GSM/GPRS.
3.	Scalable Architecture	scalable architecture supports higher workloads without any fundamental changes to it.	Node Red.
4.	Availability	The quality or state of being available trying to improve the availability of affordable housing	Cloud, DB.
5.	Performance	The execution of an action	IBM Watson IoT Platform.