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

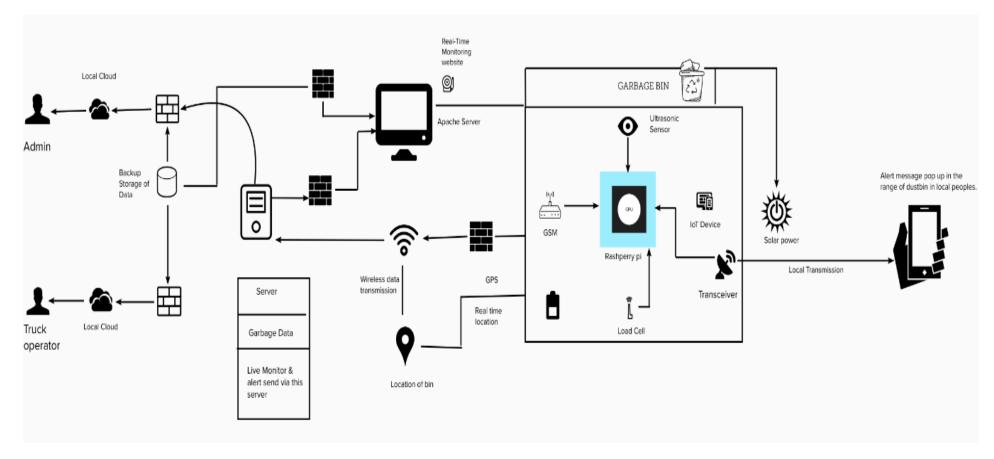| Date	15 October 2022
Team ID	PNT2022TMID33070
Project Name	Smart Waste Management for Metropolitian Cities
Maximum Marks	4 Marks

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.	HTML, CSS, JavaScript / Angular Js / React Js etc.
2.	Ultrasonic Sensor	An ultrasonic sensor is an instrument that measures the distance to an object using ultrasonic sound waves.	a transducer to send and receive ultrasonic pulses
3.	Weight detection Sensor	Weight sensors are a device used to measure force and load. They convert weight into an electrical signal which can be processed and used within various applications.	A load cell is essentially a force transducer or force sensor.
4.	. GPS Sensor	GPS sensors are receivers with antennas that use a satellite-based navigation system with a network of 24 satellites in orbit around the earth to provide position, velocity, and timing information.	GPS uses the satellites in space and the GPS receiver on the ground.
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud etc.
6.	LED	LED, in full light-emitting diode, in electronics, a semiconductor device that emits infrared or visible light when charged with an electric current Electroluminescence 7. Solar Panel A solar panel is actually a collection of sola	Electroluminescence
7.	Wifi Module	The ESP8266 WiFi Module is a selfcontained SOC with integrated TCP/IP protocol stack that can give any microcontroller access to your WiFi network.	IEEE 802 protocol
8.	Lithium Ion Battery	A lithium-ion (Li-ion) battery is an advanced battery technology that uses lithium ions as a key component of its electrochemistry	the positive to the negative electrode
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud	Local, Cloud Foundry, Kubernetes, etc.

		Server Configuration :	

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. These frameworks are free for public us	Python, Embedded C.
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 Waston IoT Platform.