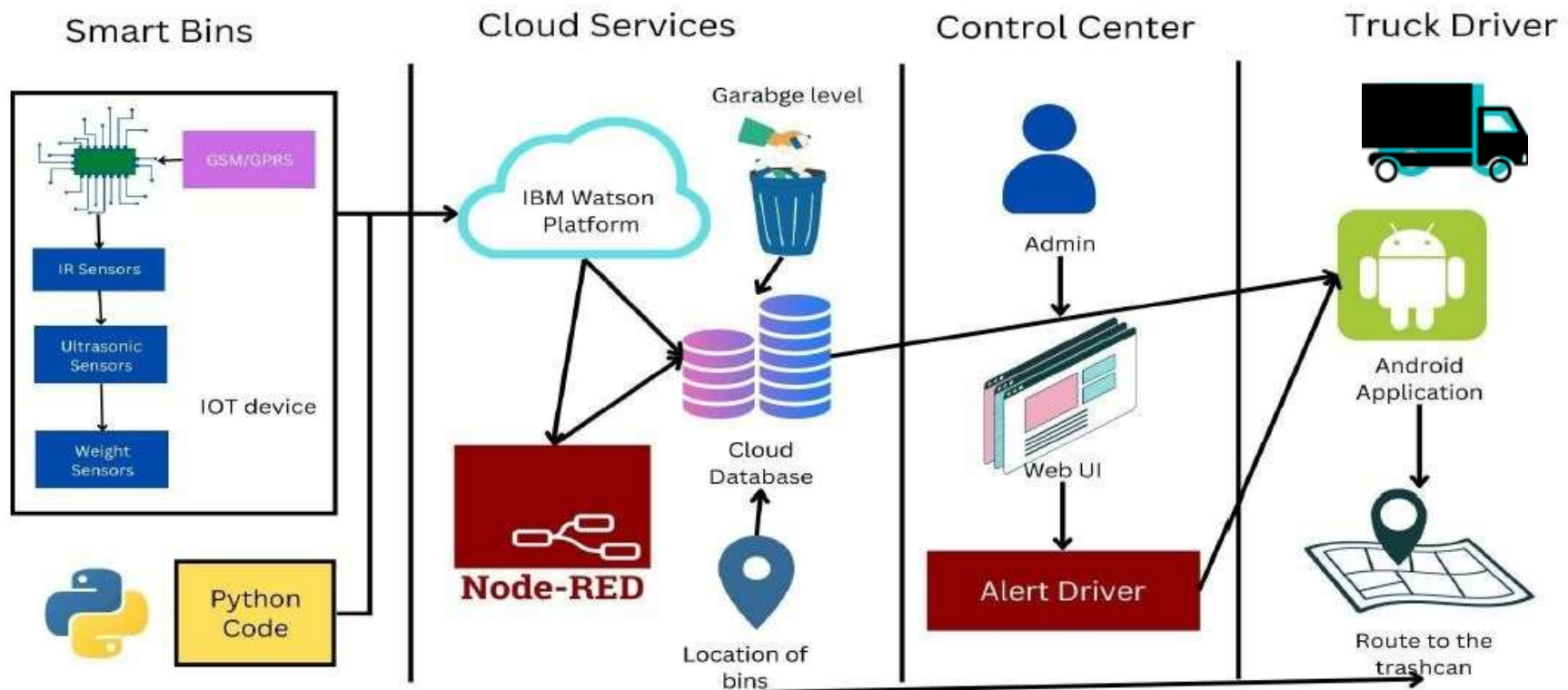


## Project Design Phase-II Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID01883
Project Name	Smart Waste Management 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	It is the platform for interaction of user with the admin (municipality corporation)	HTML, Python
2.	Ultrasonic Sensor	It measures the distance of top of garbage to the base of it using ultrasonic waves.	a transducer to send and receive ultrasonic pulses
3.	GPS Sensor	They receive the data from the satellites regarding the location of garbage to be collected	GPS satellites
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 as a key component of its electrochemistry.	the positive to the negative electrode
6.	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
7.	Transport	A vehicle for the collection of bins.	Garbage truck

**Table-2: Application Characteristics:**

<b>S.No</b>	<b>Characteristics</b>	<b>Description</b>	<b>Technology</b>
1.	Open-Source Frameworks	Template for software development that is designed by a social network of software developers. These frameworks are free for public use	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 Waston IoT Platform.