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

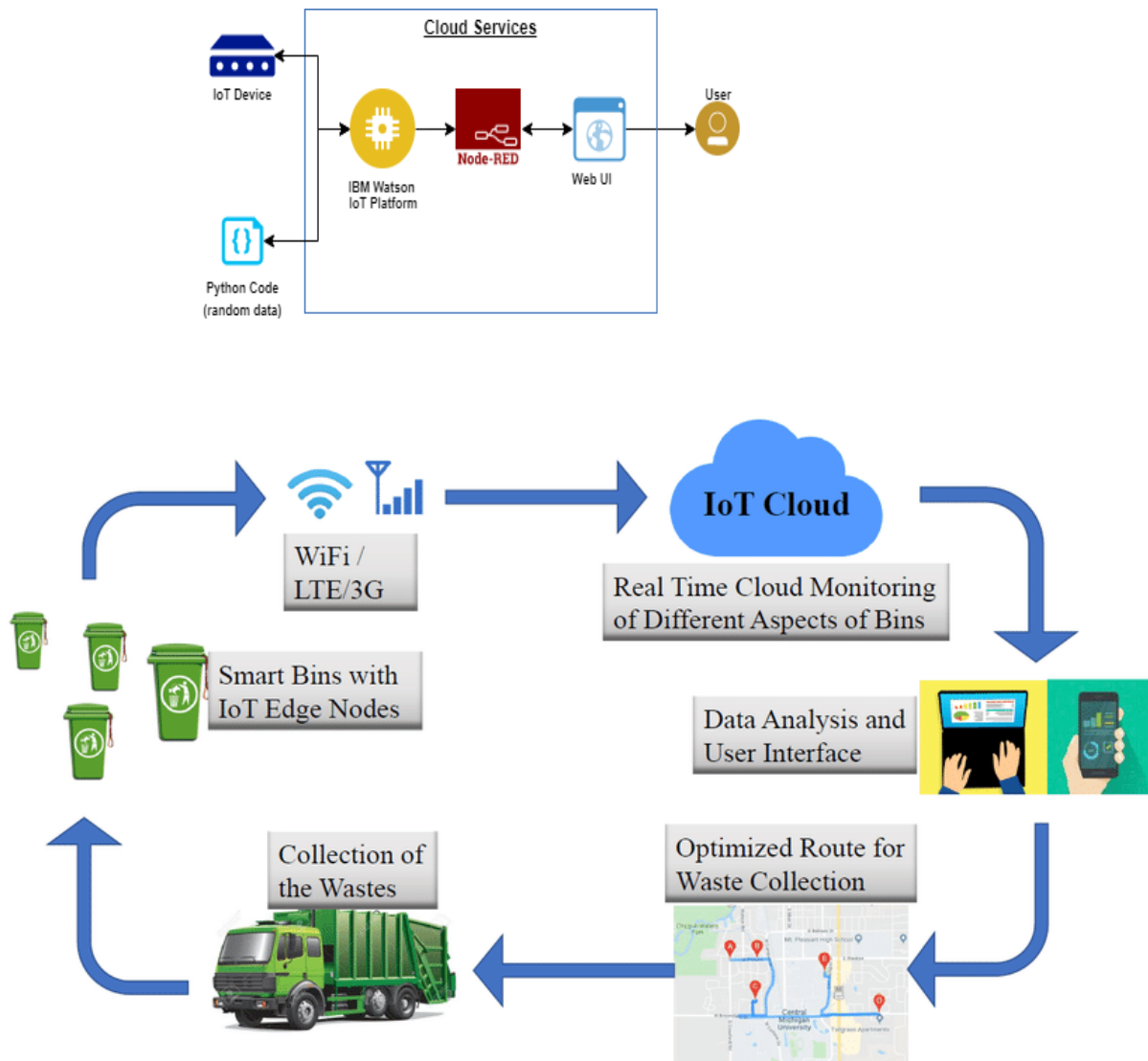|	
Date	03 October 2022
Team ID	PNT2022TMID35789
Project Name	Project - Smart waste management for metropolitan cities
Maximum Marks	4 Marks

Technical Architecture:

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web UI, Mobile App, SMS alert	MIT APP inventor
2.	Application Logic-1	Data processing, data segmentation	Java / Python
3.	Application Logic-2	Node-Red, sensors	IBM Watson STT service
4.	Application Logic-3	Web application user interface	IBM Watson Assistant
5.	Cloud Database	Database Service on Cloud	IBM Cloudant etc
6.	File Storage	File storage requirements	IBM Block Storage
7.	External API-1	Random data	Google maps API
8.	Machine Learning Model	Optimizing route for trucks	Linear regression
9.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud	Local, Cloud Foundry, Kubernetes, etc.

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Cloudant, sms alerts	Python
2.	Security Implementations	Implementation of Authentication	Sensor data, beacon device scanner
3.	Scalable Architecture	Micro services	Web UI, cloud, SMS
4.	Availability	Data from sensor is collected to cloud	Sensors, Beacon Scanner
5.	Performance	High performance, reliable, high accuracy, secure device.	Portable device.