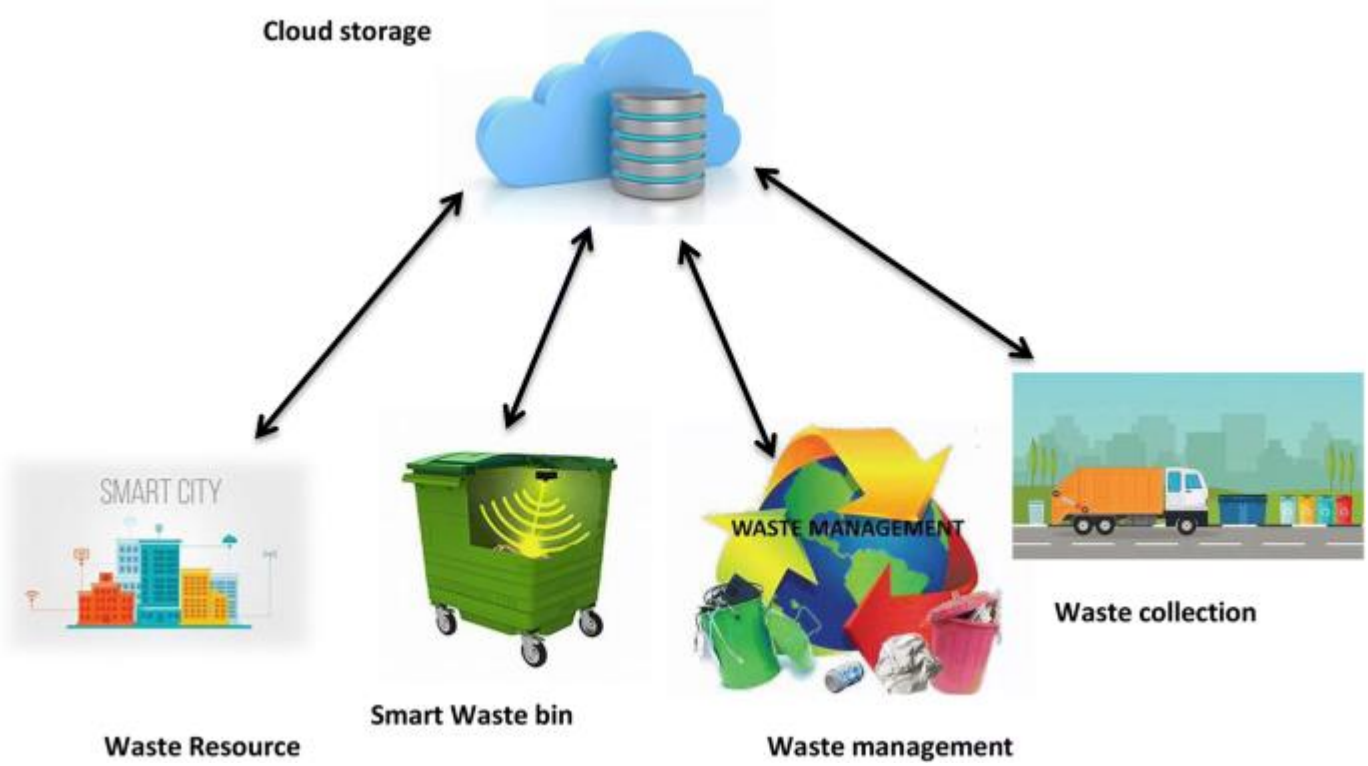
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	30 October 2022
Team ID	PNT2022TMID17404
Project Name	smart waste management system for metropolitan cities
Maximum Marks	4 Marks

Technical Architecture:

The architectural diagram of the model is as below and the Technology used is shown in table1 & table 2


Cloud storage
SMART CITY
WASTE MANAGEMENT
Waste collection
Waste Resource
Smart Waste bin
Waste management

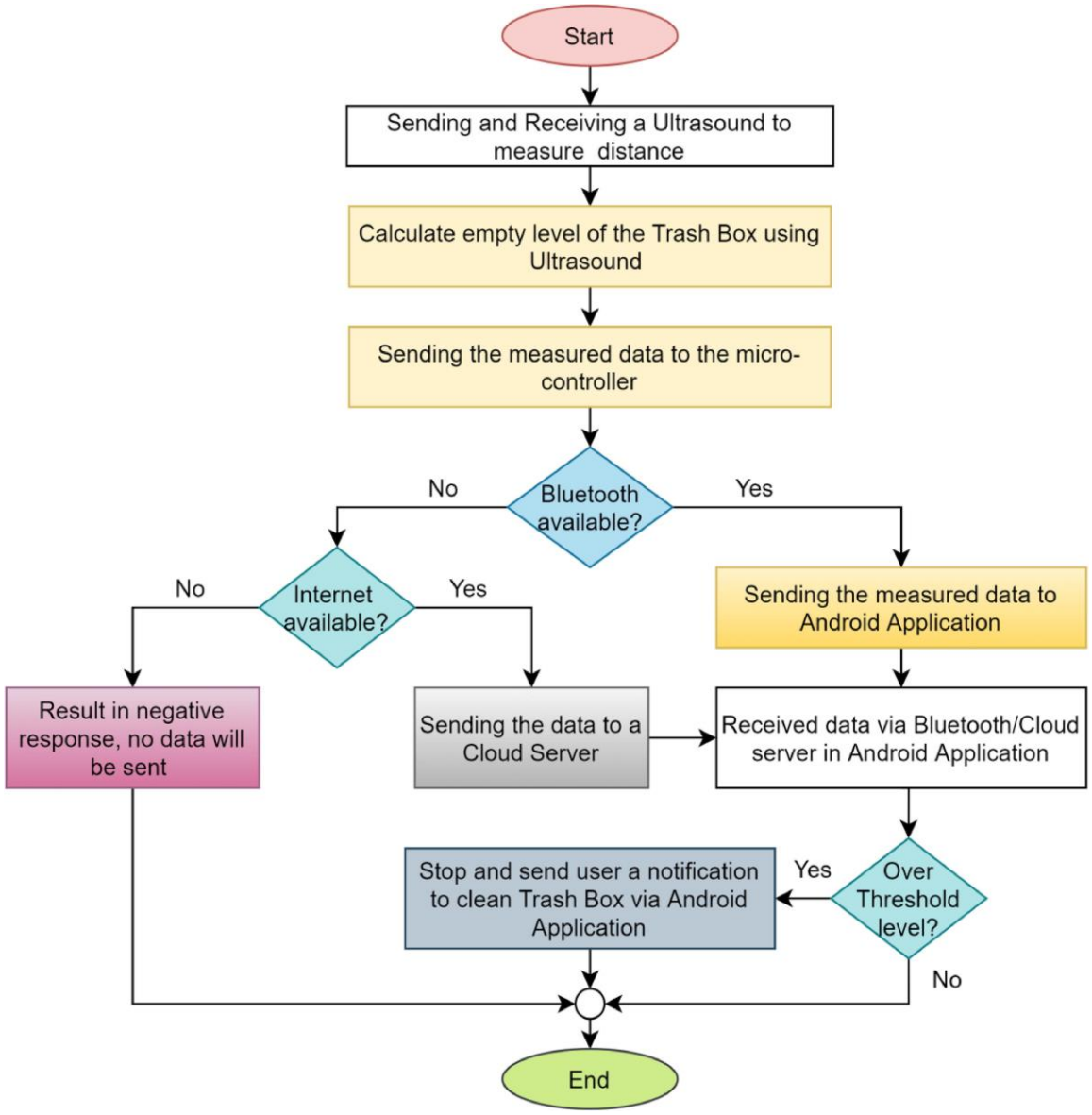

Start
Sending and Receiving a Ultrasound to measure distance
Calculate empty level of the Trash Box using Ultrasound
Sending the measured data to the micro-controller
Bluetooth available?
No
Yes
Internet available?
No
Yes
Result in negative response, no data will be sent
Sending the data to a Cloud Server
Sending the measured data to Android Application
Received data via Bluetooth/Cloud server in Android Application
Over Threshold level?
Yes
No
Stop and send user a notification to clean Trash Box via Android Application
End

FIG. 1. BLOCK DIAGRAM

Table-1: Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application e.g., Mobile Application	HTML, CSS, JavaScript / Angular JS / Node Red.
2.	Application Logic-1	Logic for a process in the application	Java / Python
3.	Application Logic-2	Logic for a process in the application	IBM Watson STT service
4.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
5.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
6.	Cloud Database	Database Service on AI	IBM DB2.
7.	File Storage	File storage requirements	IBM Block Storage or Other Storage Service or Local Filesystem
8.	External API-1	Purpose of External API used in the application	IBM Weather API, etc.
9.	IoT Model	Purpose of AI Model is for integrating the sensors with a user interface.	IBM AI Platform

10.	Infrastructure (Server / AI)	Application Deployment on Local System / AI Local Server Configuration AI Server Configuration	Local, Kubernetes, etc.