

## Project Design Phase-II Solution Requirements (Functional & Non-functional)

Date	09/11/2022
Team ID	PNT2022TMID05290
Project Name	Project - Smart Waste Management system for Metropolitan cities
Maximum Marks	4 Marks

### Functional Requirements:

Following are the functional requirements of the proposed solution.

FR.NO	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Product Installation	Trash bin installation of embedded components such as sensors and Raspberry Pi
FR-2	User Interface	Getting the sensor readings from the ultrasonic sensor and load cell
FR-3	Pushing data to Database	Storing the data in cloud for backup When the threshold level is reached, 1. Notifies the user 2. Sends the GPS location
FR-4	Adjust bin distribution.	Ensure the most optimal distribution of bins. Identify areas with either dense or sparse bin distribution. Make sure all trash types are represented within a stand.
FR-5	Eliminate inefficient picks	Eliminate the collection of half-empty bins. The sensors recognize picks. By using real-time data on fill-levels and pick recognition, we can show you how full the bins you collect are. The report shows how full the bin was when picked. You immediately see any inefficient picks below 80% full.

## Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

FR.NO	Non-Functional Requirement	Description
NFR-1	Usability	IoT device verifies that usability is a special and important perspective to analyze user requirements, which can further improve the design quality.
NFR-2	Security	Use reusable bottles Use reusable grocery bags Purchase wisely and recycle Avoid single use food and drink containers
NFR-3	Performance	The users are notified and get the location of bins in a very efficient way, which reduces human effort.
NFR-4	Availability	By developing & deploying resilient hardware and beautiful software we empower cities, businesses, and countries to manage waste smarter
NFR-5	Scalability	Using smart waste bins reduce the number of bins inside town, cities coz we able to monitor the garbage 24/7 more cost effective and scalability when we move to smarter.