PROJECT DESIGN PHASE-II
FUNCTIONAL REQUIREMENT

Team ID	PNT2022TMID52326
Project Name	SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITIAN CITIES

Functional Requirements:

Following are the functional requirements of the proposed solution:

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	Detailed bin inventory.	• The Google Street View function allows you to visit any of the monitored bins or stands at any time. They are all visible on the map. • On the map, bins or stands appear as green, orange, or red circles. • The Dashboard displays information about each bin, including its capacity, trash type, most recent measurement, GPS location, and pick-up schedule..
FR-2	Real time bin monitoring.	• The Dashboard shows real-time information on the amount of fill in bins being tracked by sophisticated sensors. • In addition to predicting the percentage of fill, the programme also forecasts when the bin will be full based on previous data, one of the features that even the best waste management software does not offer. • Sensors also recognise picks, allowing you to determine when the bin was last emptied. • You can get rid of the overflowing bins and cease collecting half-empty ones with real-time data and predictions.
FR-3	Expensive bins.	• We assist you in locating containers that increase collection prices. The tool determines a collection cost rating for each bin. • The tool takes local average depo-bin discharge into account. The tool determines the distance from depo-bin discharge and rates bins (1–10).
FR-4	Adjust bin distribution.	• Ensure the best possible bin distribution. Determine which regions have a dense or sparse distribution of bins. • Ensure that each type of waste has a representative stand. • You can make any necessary adjustments to bin position or capacity based on past data.

FR-5	Eliminate unefficient picks.	• Dispose of the accumulation of half-empty trash cans. Picks are recognised by sensors. • We can demonstrate to you how full the bins you collect are using real-time data on fill-levels and pick recognition. • The report details the bin's initial level of brimmingness. Any picks below 80% full that are inefficient are seen right away.
FR-6	Plan waste collection routes.	• Route planning for rubbish pickup is partially automated by the tool. You are prepared to respond and schedule garbage pickup based on the current bin fill levels and estimates of reaching full capacity. Inconsistencies can be found by comparing planned and actual paths.