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

Date	03 October 2022
Team ID	PNT2022TMID11434
Project Name	Project – Smart Waste Management 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	Detailed Explanation of bin	You can see bin details in the Dashboard – capacity, waste type, last measurement, GPS location and collection schedule.
FR-2	Monitoring using real time examples	Displays real-time data on fill-levels of bins monitored by smart sensors. With real-time data and predictions, you can eliminate the overflowing bins and stop collecting half-empty ones
FR-3	Cost of bins	It helps to identify bins that drive up your collection costs. The tool calculates a rating for each bin in terms of collection costs.
FR-4	Adjusting level of garbage	Identify areas with either dense or sparse bin distribution. Make sure all trash types are represented within a stand.
FR-5	Eliminate unsufficient garbage	Eliminate the collection of half-empty bins. By using real-time data on fill-levels and pick recognition, we can show you how full the bins you collect are.

FR-6	Planning for waste collection	The tool semi-automates waste collection route planning. Based on current bin fill-levels and predictions of reaching full capacity, you are ready to respond and schedule waste collection.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	In the design process with user experience as the core, the analysis of users' product usability can indeed help designers better understand users' potential needs in waste management, behavior and experience.
NFR-2	**Security**	Use a reusable garbage Purchase wisely and recycle Avoid single use food and drink containers
NFR-3	**Reliability**	Smart waste management is also about creating better working conditions for waste collectors and drivers.
NFR-4	**Performance**	Using a variety of IoT networks ((NB-IoT,GPRS), the sensors send the data to Sensoneo's Smart Waste Management Software System, a powerful cloud-based platform, for data driven daily operations, available also as a waste management app.
NFR-5	**Availability**	Another purpose of this project is to make the proposed waste management system as cheap as possible. By developing & deploying resilient hardware and beautiful software we empower cities, businesses, and countries to manage waste smarter.

NFR-6	**Scalability**	By using smart waste bins, we able to monitor the garbage frequently and number of bins will be reduced.