

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

Date	11 October 2022
Team ID	PNT2022TMID01883
Project Name	Project – Smart Waste Management in 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	User Registration	Registration through Gmail
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	GPS Access	GPS access to know the location
FR-4	Bin level Analysing	Acquire the levels of Waste bins in a regular interval of time.
FR-5	Transport Router	To make a efficient route for the collection of garbages around a area.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	<ul style="list-style-type: none">➤ A smart solution has been proposed to make the waste sorting more simple and accurate , and improve the user experience, usability, and satisfaction.➤ It aims to optimize ease of use while offering maximum functionality.
NFR-2	Security	<ul style="list-style-type: none">➤ The information of the users will be highly secured,the accounts are verified with Gmail.➤ If the products are misplaced then the GPS driven sensor gives an alert.
NFR-3	Reliability	<ul style="list-style-type: none">➤ Operates in a defined environment without failure resulting in less manpower, emissions, fuel use and traffic congestion.
NFR-4	Performance	<ul style="list-style-type: none">➤ The system will provide accurate reports, thus increasing the efficiency of the system.➤ The real-time monitoring of the garbage level with the help of sensors and wireless communication will reduce the total number of trips required of Garbage collecting truck.➤ This will reduce the total expenditure associated with the garbage collection.

NFR-5	Availability	<ul style="list-style-type: none"> ➤ The smart waste bins are available in Convention centers, buildings, stadiums, and transportation facilities and captures high-quality waste data and informs staff when it gets full.
NFR-6	Scalability	<ul style="list-style-type: none"> ➤ A versatile scalable smart waste-bin system based on limited waste management could potentially lead to great improvements. ➤ Once these smart bins are implemented on a large scale by replacing the traditional bins, the waste can be quickly managed to its efficient level as it avoids unnecessary lumping of wastes on roadside.