

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

Date	03October 2022
Team ID	PNT2022TMID38943
Project Name	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	User login	Log in using user id and password. Log in through Gmail
FR-2	User Confirmation	Check the Log in credentials. If credentials are correct then move next page.
FR-3	Select the waste bin	In web application to Search the bin using unique id. You can see bin details such as capacity, bin level, GPS location.
FR-4	Node red and cloud	Node red used to connect the IOT devices. Details are stored in cloud and update periodically.
FR-5	Notifier and sensor	Notification should send automatically when bins are filled. The sensor is used to monitor the level of bins.
FR-6	Monitoring using real time examples	Display real-time data on fill level of bins monitored by smart sensors. with real-time data and predictions, you can eliminate the overflowing bins and stop collection half-empty ones

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	It will stop overflowing of dust bins along roadsides and localities as smart bins are manage at real time.
NFR-2	Security	Details in the cloud are more secure. The electronic components in the bins are protected
NFR-3	Reliability	Smart waste management is also about creating better working conditions for waste collection. The details or data are maintained efficiently.
NFR-4	Performance	This software system is a cloud based platform for data driven operations, available also as a web app. Optimization of waste collecting routes, frequencies and vehicle loads resulting in route reduction by at least 30%. It aims to create clean environment
NFR-5	Availability	This method is available for all urban peoples for clean environment. By developing and deploying hardware and software we empower cities and countries to manage waste smarter.

NFR-6	Scalability	Using smart waste bins reduce the number of bins inside town, cities we able to monitor the garbage 24/7 most cost effect and scalability when we moves to smarter.
-------	--------------------	---