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

Date	03 October 2022
Team ID	PNT2022TMID30606
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	Bin invention	1.Our proposed model provide real time monitoring to the garbage bins placed in various locations. 2.Overflow of dustbins will be notified
FR-2	Real time monitoring	1.The garbage bins are monitored by smart sensors. 2.In addition to the percentage of fill-level, based on the historical data, the sensor predicts when the bin will become full, one of the functionalities that are not included even in the best waste management software. 3.With real-time data and predictions, you can eliminate the overflowing bins and stop collecting half- empty ones
FR-3	Processing	1.Through sensor, the percentage of garbage levels will be detected. 2.When 1the garbage level moves to critical (i.e.,80%), it gives alert notification to the security system. 3.After receiving the notification, the garbage collector collects the garbage
FR-4	User Confirmation	1.Until the notification is received from the authorised person, the garbage collector will wait for the alert message. 2.We can view the location of every bin through web app by sending GPS location from the device.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	A Smart city waste management technology allows crews to empty bins before they become overflowing with trash or recycling, and before infestation becomes an issue
NFR-2	**Security**	Innovations in waste reduction technologies allow us to better monitor, prevent, and manage our waste. This includes appliances that deal with waste sustainably, smartphone apps to track waste and help us develop eco-friendly habits, and sensors to accurately measure what we have and what we are tossing.
NFR-3	**Reliability**	Smart Bins help to create a cleaner, safer, more hygienic environment and enhanced operational efficiency while reducing management costs, resources, and road-side emissions
NFR-4	**Performance**	Smart waste management is also about creating better working conditions for waste collectors and drivers. Instead of driving the same collection routes and servicing empty bins, waste collectors will spend their time more efficiently, taking care of bins that need servicing.
NFR-5	**Availability**	The system should be available all the time when required.
NFR-6	**Scalability**	Using smart bin reduces the number of bins inside cities because we able to monitor the garbage 24/7 more efficient and scalability when we move smarter