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

Date	15 October 2022
Team ID	PNT2022TMID06149
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	Location of Bins	The particular authority must contain the location details of all the garbage cans in that particular location for easy accessing of the location.
FR-2	Bin Monitoring	Once the garbage can is installed the next step is to monitor the level of the waste generated by using an ultrasonic sensor and also a servo motor is installed to close the garbage can once the waste is dumped so that the waste does not spread in the surroundings.
FR-3	Message Alerting System	A threshold level must be set, and once that waste level is reached then the sensor must sense the level and provide an alert message to the particular authority.
FR-4	Truck Arranging System	When the authority receives an alerting message then it must identify the location of the bin and it must send the message along with the GPS location of the bin to the truck that is available to collect the garbage can using the GSM module.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	Usability	The IOT based project is easily usable by all kinds of people, because it is user-friendly and a basic knowledge on internet is sufficient to use this product.
NFR-2	Security	There is no security problems with this product .It is highly secured.
NFR-3	Reliability	The Product is highly reliable that it can withstand any kind of situations. The garbage cans can be installed in any kind of environment and can withstand all kinds of weather conditions and moreover the network facility is possible even in rural areas.

NFR-4	**Performance**	In terms of performance , it is highly efficient .
NFR-5	**Availability**	By developing the required hardware and software we empower cities ,businesses and countries to manage waste smarter
NFR-6	**Scalability**	Since the project is IOT based it is much cost effective and it has high scalability.