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

Date	13 October 2022
Team ID	PNT2022TMID42279
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	**User Guidance**	Guides user to know complete information about the **workflows performed** by the smart bins, defines the **functionality** of the web apps, product feature**, Focus on user requirement**.
FR-2	**User Registration**	The registration contains three steps 1. 1.Identify user as a driver/citizen 2. 2.Initially **sign in** (first time registration) 3. 3.**login.**
FR-3	**User confirmation**	If they type in their **username** and **password** and click submit the user's credentials are **validated** using mobile **OTP** through message and if it is correct, they are logged in and can **access the web** in case of **forgetting password** the can recover the account through their provided login credentials.
FR-4	**User Subscription**	The user can access the **smart bins** and **app** by subscribing our web services with any means.
FR-5	**Product Review**	❖ **User doubts** can be clarified. ❖ With the help of product review any **malfunctioning** in smart bin sensors can be **solved by user themselves.** ❖ So that you can track the location of your waste truck fleet or the location of your smart bins anytime you want.
FR-6	**Product installation to the user**	❖ This phase involves **integration of smart bins in metropolitan cities** which mostly involves uninterrupted service between **cloud** and **smart bins.** ❖ **GPS** updation in maps is required for navigation purpose for driver's usage. ❖ Before installation involves **API, testing** and product testing involves.

FR-7	**Product updation**	❖ Periodic updation is involved in the web application. ❖ **GPS** updation in maps is required for navigation purpose for driver's usage. ❖ N**otifications** and **alerts** are provided.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	❖ The user should go through the provided user manual. ❖ **web apps** should be used more efficiently to monitor and manage waste.
NFR-2	**Security**	**Mobile number verification** will be provided for better security if the user feels insecure about the web UI.
NFR-3	**Reliability**	Minimum 2 to 3 years **to** which the system consistently performs the **specified functions without failure.**
NFR-4	**Performance**	❖ The performance should be more **Accurate** on GPS mapping and navigation. ❖ **Performance of sensors** in smart bins are more reliable.
NFR-5	**Availability**	This product designed **24 hrs availability,** that the user **can access anywhere** and all time during the travel.
NFR-6	**Scalability**	Changes can be made with more features like alarm, and more sensors can be added to sense the unwanted situations such **as fire and flooding** in smart bins