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

Date	13 October 2022
Team ID	PNT2022TMID48397
Project Name	Project - Smart Waste Management System
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	Expensive bins	As we are making up bins with sensors and other costly devices , this is somewhat expensive architecture to built. And so this requires more security settings as it requires more cost if we need to rebuilt it.
FR-2	Implementing proper monitoring system	All bins can be seen on the map, and you can visit them at any time via the Street View feature from Google. Bins are visible on the map as green, orange or red circles. You can see bin details in the Dashboard capacity, waste type, last measurement, GPS location and collection schedule or pick recognition.
FR-3	**Planning waste collection routes**	As well as planning is important where we need to set locations to particularize routes where bins are collected once it got filled. So, clear mapping of routes where the bin collecting truck need to travel. If we allset with clear plan, there is no need of wasting time and fuel by searching locations.
FR-4	**Separation of different kind of wastes**	Separation of different kind of wastes involves people responsibility too and so, proper education need to be provided. And bins should be implemented accordingly in each locations. And especially medical wastes should be disposed in a proper manner.

Non-functional Requirements:

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

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	To the demolition of waste conducted by recycling and landfilling.To sort digestible and indigestible waste using a convolutional neural network.By exploiting this data, trash collection can be planned as well as truck routes can be optimized.
NFR-2	**Security**	Security ensures the level of assurance in data collection, processing and conveying. As this is totally depend upon cloud service we need to make security more particular without channel crash.A waste can be managed efficiently as it avoids unnecessary lumping of wastes on roadside.
NFR-3	**Reliability**	Smart waste management is also about creating better working conditions for waste collectors.Breeding of insects and mosquitoes can create nuisance around promoting unclean environment. This may even cause dreadful diseases.This system is more reliable at any cost by taking care of garbage bins and monitoring bin activity.
NFR-4	**Performance**	The system consist of sensors to measure the weight of waste and the level of waste inside the bin.Customers are provided with required data-driven and decision making prototypes which would help uses to monitor its performance and encounter their quires.
NFR-5	**Availability**	Availability refers to already available solutions and the new renovative technology that we include in the system which we are building new now.This system have much available solutions for users and this made users to operate easily where we have used sensors, GPS detectors, and so on.
NFR-6	**Scalability**	We have to customize the number of bins in the town/city which we are going to monitor 24/7 a week and collect data.Smart waste management aims to optimize resource allocation, reduce running costs, and increase the sustainability of waste service.Analytics data to manage collection routes and the placement of bins more effectively.