Project Design Phase-I
Proposed Solution Template

Date	10 October 2022
Team ID	PNT2022TMID04297
Project Name	Smart Waste Management for Metropolitan Cities
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in proposed solution template.

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Today big cities around the world are facing a common problem, managing the city waste effectively without making city unclean. Today's waste management systems involve a large number of employees being appointed to attend a certain number of dumpsters. This leads to a very inefficient and unclean system in which some dumpsters are overflowing. Here a smart waste management system is introduced in which each dumpster is embedded in a monitoring system that will notify if the dumpster is full. This system provides an effective solution to the waste management problem.
2.	Idea / Solution description	The key objectives of the project are - • The proposed system would be able to automate the solid waste monitoring process and management with the help of IOT (Internet of Things). • The proposed system consists of sensor that is attached to the dumpster and a threshold value is set. • When the amount of garbage reaches the threshold value, corresponding message is sent to the concerned official. • The official then sends the location of the particular dumpster to the nearby truck drivers. • The proposed system not only ensures a clean environment, but also provides time efficiency by choosing an optimal path for the truck drivers to reach the location of the dumpster.
3.	Novelty / Uniqueness	• The system immediately acknowledges the officials once the dumpster reaches the threshold value rather than waiting for the dumpster to be filled completely. • It is also periodically monitored. • It also reduces the workload of the workers and is comparatively cost-efficient.

4.	Social Impact / Customer Satisfaction	• Ensures a healthy environment • Improves the cleanliness of the streets • Prevents contamination and also prevents animals from consuming the garbage • Reduces pollution
5.	Business Model (Revenue Model)	• Time consumption and cost efficiency is achieved and the garbage collection is performed in an organized way. • It also offers software as a service model to the concerned officials thereby creating revenue from it.
6.	Scalability of the Solution	• An efficient IoT- based system is developed for ensuring a clean and healthy environment. • This system can be used to manage the solid waste from small area to big metropolitan cities. • The amount of garbage in any dumpster can be identified quickly with the help of sensor. • It is acknowledged by the officials and the truck drivers are sent there immediately. It also chooses an optimal path for the drivers to reach the dumpster quickly, thereby providing time efficiency.