Project Design Phase-I
Proposed Solution Template

Date	15 October 2022
Team ID	IBM-Project-PNT2022MID21348
Project Name	Smart Waste Management System 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)	The problem of unorganized and non-systematic waste collection is solved by designing an embedded IoT system that will monitor each dumpster individually for the amount of waste deposited. Here an automated system is provided for segregating wet and dry waste. It has been tested and verified properly to make sure all the different parts work together for a smooth function of the whole system. This system allows the authorized person to know the fill level of each garbage bin in a locality or city at all times, to give a cost-effective and time-saving route to the truck drivers.
2.	Idea / Solution description	The key research objectives are as follows: • In the proposed system, the received signal indicates the waste bin status at the monitoring and controlling system. • The proposed system would be able to automate the solid waste monitoring process and management of the overall collection process using IOT (Internet of Things). • In the proposed system, the received signal indicates the waste bin status at the monitoring and controlling system. • The solution to avoid and transform the traditional collection services is implementing waste management software solutions with IoT technology. The sensor that IoT smart trash cans use, measures the level of the bin from a distance based on the technology. Currently, there are many cities implementing the IoT system for a cleaner and hygienic environment • The proposed system would be able to automate the solid waste monitoring process and management of the overall collection process using IOT (Internet of Things).

3.	Novelty / Uniqueness	The data gathered from the dumpsters will help reduce the timely pickup of the waste before they overload. Once the trash bin is ready to overflow, the collection centers are immediately alerted to send the pickup trucks emptying the filled bins. The route optimization helps to schedule the truck near the filled dumpster. This is the most effective way to prevent missing out on any pickup.
4.	Social Impact / Customer Satisfaction	Excellent Web world is an experienced IoT software and application company, where we have helped our customers develop many IoT based systems, like smart switches, smart parking, smart helmet, etc. If you are willing to live in a smart city, we would be more than happy to create an IoT based waste management for smart city.
5.	Business Model (Revenue Model)	Smart waste management technology improves the management of the city services by using in-built sensors where data analytics and technology together notifies the waste collectors, reduces the odor, and enhances the appearance of the bins in public areas. In addition, it helps improve the quality of life of the people. Solid Waste, comprising the Company's waste collection, transfer, recycling and resource recovery, and disposal services, which are operated and managed locally by the Company's various subsidiaries, which focus on distinct geographic areas and Corporate and Other, comprising the Company's other activities, including its development and operation of landfill gas-to- energy facilities in the INDIA, and its recycling brokerage services, as well as various corporate functions.

6.	Scalability of the Solution	In this regard, smart city design is being increasingly researched and discussed around the world to solve this problem. Following this approach, this paper focused on the citizen's perspective and presented an efficient IoT-based real-time waste management model for improving urban living conditions. The proposed system uses sensors and communication technology, where real-time waste data is collected by smart bins, and 4,444 citizens can access compartments scattered around the city to check availability online. sent to the platform.