Project Design Phase-I Proposed Solution Template

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| Date | 27 October 2022 |
| Team ID | PNT2022TMID19657 |
| 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.

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| **S.No.** | **Parameter** | **Description** |
| 1. | Problem Statement (Problem to be solved) | A typical issue today in large cities is how to properly manage garbage without making the city dirty. In today's trash management systems, numerous people are designated to watch over a specific number of dumpsters. This results in an extremely unclean and inefficient system where some dumpsters are overflowing. This article introduces a smart trash management system in which every dumpster has a monitoring system built in that will send an alert when the dumpster is full. The waste management issue is effectively resolved by this system. |
| 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 aid of IOT, which is one of the project's main goals (Internet of Things). * A threshold value is set and a sensor is attached to the dumpster as part of the proposed system. * A message is delivered to the relevant official when the rubbish amount reaches the threshold value. * The authority then informs the adjacent truck drivers where the specific dumpster is located. * The suggested approach not only makes sure the environment is clean, but it also saves time by determining the best route for truck drivers to take to go to the dumpster. |
| 3. | Novelty / Uniqueness | * It also saves the workload of the workers and is very cost-effective. The technology also quickly acknowledges the officials whenever the dumpster reaches the threshold value rather than waiting for the dumpster to be totally filled. |

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| 4. | Social Impact / Customer Satisfaction | * Promotes a healthy environment and Boosts street cleanliness * Prevents contamination and stops wildlife from eating trash; reduces pollution |
| 5. | Business Model (Revenue Model) | * It delivers software as a service model to the involved officials, generating revenue from it * It delivers software as a service model to the involved officials, generating revenue from it |
| 6. | Scalability of the Solution | * A productive Internet of Things-based system is created to guarantee a clean and healthy environment. * From tiny towns to major urban areas, this method can be used to manage solid waste. * With the use of a sensor, the amount of trash in any dumpster may be rapidly determined. * The authorities recognise it, and truck drivers are sent there right away. Additionally, it selects the quickest route for the drivers to get to the dumpster, resulting in time efficiency. |