**Project Design Phase-I**

**Proposed Solution**

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| Date | 05 May 2023 |
| Team ID | NM2023TMID01588 |
| Project Name | Iot based smart City waste management connected with trash can |

**Proposed Solution Template:**

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

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | Inefficient waste management in cities leading to unhygienic conditions and environmental degradation. |
|  | Idea / Solution description | * IoT-based smart city waste management system connected with trash cans. * Smart trash cans equipped with sensors to detect the fill level of garbage. * Real-time data analytics used to optimize garbage collection schedules. * Machine learning algorithms used to predict fill levels and generate optimized collection routes. * Mobile application for citizens to access real-time information and rewards for responsible waste disposal. |
|  | Novelty / Uniqueness | * Use of IoT and real-time data analytics for waste management optimization. * Rewards system incentivizes responsible waste disposal. * Reduces fuel consumption and greenhouse gas emissions by optimizing garbage collection routes. |
|  | Social Impact / Customer Satisfaction | * Cleaner and healthier city. * Reduced overflowing bins and littering. * Real-time information on nearest trash cans for citizens. * Incentivizes responsible waste disposal. |
|  | Business Model (Revenue Model) | * Subscription-based service model. * Monthly fee charged to city government. * Revenue generated through partnerships with local businesses for rewards. |
|  | Scalability of the Solution | * Highly scalable and adaptable to different cities. * Smart trash cans can be installed in different locations. * Machine learning algorithms can be adapted to different waste management needs. |