**Project Design Phase-I**

**Proposed Solution Template**

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| Date | 19 September 2022 |
| Team ID | PNT2022TMID48082 |
| 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.

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| **S.No.** | **Parameter** | **Description** |
|  | Problem Statement (Problem to be solved) | A big challenge in the urban cities is solid waste management. The garbage collecting authority in traditional waste management system doesn’t know about the level of garbage in dustbin, if the dust bins gets full by garbage then it gets overflowed as well as spelled out from the dustbin leading to unhygienic condition in cities. People throw garbage on that dustbin which is already overflowed. Sometimes due to unclean garbage bins bad smell arises also toxic and unhygienic gases are produced which is way to support to the air pollution and to some harmful diseases which are easily spreadable. It is very bad look of the city. Use of traditional system result in inefficient and time and money spending system. |
|  | Idea / Solution description | The solution of this problem is to maintain and monitor the solid waste of the town by the help of website dash board and also help to track the waste level of the city and also provide the activeness of Waste management workers. |
|  | Novelty / Uniqueness | • The novelty of this project is to develop an intelligent alerting system for proper management of garbage.  • This idea can also be implemented in various Cities which also helps in keeping the college or cities clean.  • This idea of smart bin can be a major change in the domain of waste management. |
|  | Social Impact / Customer Satisfaction | A growing number of cities around the globe are testing smart waste management solutions to create higher efficiency in terms of resources and costs associated with keeping their cities clean. |
|  | Business Model (Revenue Model) | Waste Management generates revenue through the provision of various waste management and disposal services and recycling solutions to residential, commercial, industrial, and municipal clients. The Company derives its revenue in the form of various fees associated with its service offerings. |
|  | Scalability of the Solution | The scalability of waste-bin size and shape is made possible based on the following design choices:   Each sensor has its own independent area of responsibility. The way the system was designed, each sensor is responsible for a specific area of the waste-bin and there is no overlap between areas of various sensors.   The chosen ultrasonic sensor comes in multiple versions of beam range and width. The type of sensor that was chosen is very versatile because a wide range of models exist with different characteristics concerning their beam width, detection range and resolution. All these models provide the same basic functionalities and logic of measurement |