

Ideation Phase

Define the Problem Statements

Date	06 May 2023
Team ID	NM2023TMID15707
Project Name	Smart City waste Management System with connected trashcans
Maximum Marks	2 Marks

Customer Problem Statement Template:

The current waste management system in cities faces numerous challenges and inefficiencies, leading to detrimental environmental and public health impacts. Traditional trash cans are limited in their capabilities to handle the increasing volume of waste generated in urban areas. Therefore, there is a pressing need for a smart city waste management system that incorporates intelligent trash cans to address the following problems:

1. Inefficient waste collection
2. Inaccurate waste monitoring
3. Ineffective recycling practices
4. Environmental and health hazards
5. Lack of public engagement

Example:

1. Inefficient waste collection: The existing waste collection process lacks optimization, often resulting in irregular and inadequate pickups. This leads to overflowing trash cans, littering, and unsanitary conditions, negatively impacting the aesthetics and cleanliness of the city.

2. Inaccurate waste monitoring: The absence of real-time monitoring mechanisms makes it difficult to gather accurate data on waste generation patterns and fill levels of trash cans. This results in inefficient resource allocation and planning, leading to wasted time and resources.

3. Ineffective recycling practices: Limited awareness and lack of infrastructure for recycling lead to a significant portion of recyclable materials ending up in landfills. The absence of an integrated system for waste segregation and recycling discourages sustainable practices and hampers efforts towards a circular economy.

4. Environmental and health hazards: Poor waste management practices contribute to pollution, greenhouse gas emissions, and the spread of diseases. The absence of smart

technology and advanced waste disposal techniques aggravates these hazards, posing risks to both the environment and public health.

5. Lack of public engagement: There is a disconnect between citizens and waste management authorities, resulting in a lack of awareness, apathy, and non-compliance with waste management regulations. The absence of interactive systems and citizen involvement prevents the realization of a comprehensive and sustainable waste management strategy.