# SMART RFID WASTE BIN TRACKING SYSTEM(IDT - B1)

Problem Statement

The main problem is that the Nagar Nigam cannot accurately determine whether garbage is being collected from individual households or from roadside waste piles, resulting in poor hygiene conditions in localities. This lack of clarity makes it difficult to track worker performance and ensure timely waste collection. As a result, many areas experience frequent garbage buildup, leading to health risks and citizen dissatisfaction.

Project Team
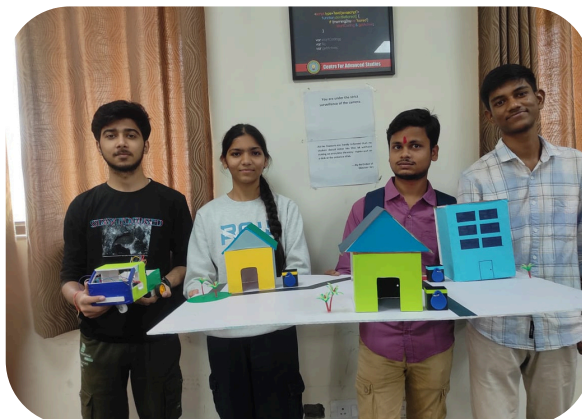
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Team Members

Revannat Dikshit	Aniket Chaturvedi
Priyanshu Bharti	Abhishek Gupta
Aryan Singh	Jitenshi Gautam

Solution

Our solution is an RFID-based smart waste collection and tracking system that monitors and verifies garbage collection by using RFID tags on dustbins and RFID readers installed on waste collection vehicles. Each dustbin is assigned a unique RFID tag linked to a database containing the bin ID, location address, and the worker responsible for collecting waste from that area. When the vehicle passes by and scans the tag, the system automatically records the collection activity, ensuring accurate tracking and eliminating manual errors. All data is displayed through a mobile software application that shows pending addresses, completed collections, skipped lanes, and real-time updates. The dashboard also provides an optimized map route for workers, helping them cover the area efficiently. This smart system improves transparency, ensures timely waste collection, and helps Nagar Nigam authorities monitor field operations effectively.