



CURAT

Solid Waste Management

ITS Planners and Engineers Private Limited



Curat

Introducing Curat, the IoT-powered waste management system propelling the “Swachh Bharat Mission” into the future. Curat automates everything from real-time monitoring of bins, vehicles, and weighbridges to optimising waste collection routes and predicting operational needs. Its modular design offers customisable, scalable solutions tailored to your city’s specific requirements. With Curat, experience seamless, efficient waste management and embrace a cleaner, smarter future!



FEATURES



GPS: All the vehicles involved with solid waste collection process are fitted with high-accuracy GPS devices that communicate via GPRS. These vehicles are then assigned specific routes which they are supposed to serve. GPS data can be used to monitor and ensure that vehicles follow the assigned route.



Bin & Household Tagging: The waste collection bins can be fitted with RFID tags. The RFID tag information along with their geo-location can be accessed from the control room system via a mobile device. Households can be provided with either QR codes or NFC based RFID tags for their mapping and waste collection tracking.



Tag Readers: The waste collecting vehicles will be fitted with RFID readers to capture the data of the bins emptied during the trip. The household collection carts can also have a reader for capturing individual household collection events.



Bin Level Sensors: The sensors will measure the fill levels of the waste bins. It would also generate alerts once the bin level reaches beyond a certain threshold.



Weighbridge: The weighbridge will have a weighing machine to measure the weight of the garbage collected and brought for dumping. In addition, a GPS device can be fixed on the collection vehicle along with a reader at the weighbridge. CCTV cameras can also be added for providing surveillance and evidence.



Attendance Management: Aadhaar enabled biometric attendance system for all the employees associated with the solid waste collection.



Route Optimisation: Generation of optimised routes based on location, capacity and priority.

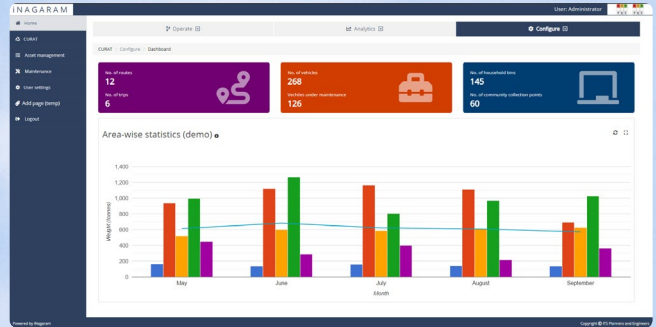
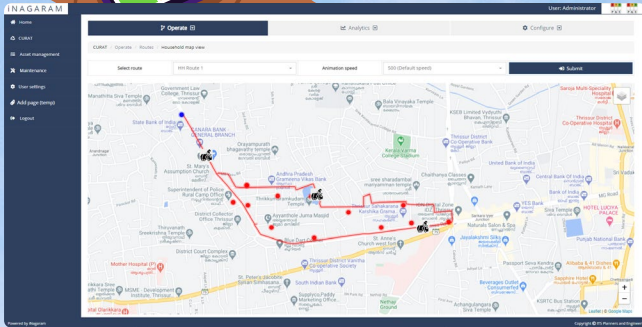


Real-Time tracking: To monitor waste collection progress and ensure timely pickups.



Sensor Integration: Integrates with various sensors like RFID and Weighbridge to track bin status, monitor fill levels, and ensure efficient waste collection and disposal.





Vehicle Tracking: This module would provide an overview of all the collection vehicles along with their location and route. It would also be able to show the current status of the collection from the bins as per the route assigned to them. The vehicle can also be geo-fenced according to their defined routes. The vehicle icons can be customised as per the offline, on collection route, emptied status, etc.



Trip & Route Allocation: This module will enable defining different trips for collecting all the bins and assigning a vehicle to them. It will also suggest an optimised path for the vehicle to reduce fuel consumption.



Bin Collection Status: This would enable tracking the collection status of the bins using RFID readers mounted on the collection bins. The data will be updated in real-time on the dashboard and a custom alert can be generated if any bin has been missed out in the route.



Citizen Interface For Complaints: In order to empower citizens in the management of solid waste, an interface would be provided. They can register their complaints along with their grievances for quick redressal by city authorities.



Reporting: The system is capable of generating different reports to provide an overview of the performance and efficiency of solid waste management. Custom reports can also be incorporated to enhance the utility of the system.



Alerts: This module will generate different alerts as per the city requirements along with the proper level of escalation:

- Bin levels beyond the assigned limit
- Vehicles going out of geo-fencing
- Excess delays
- Staff reporting - Delays or Absence
- Citizen complaints.



Citizen Complaint Management: Facilitates citizen engagement through a mobile application for reporting grievances related to waste management, with a built-in complaint tracking system for efficient resolution.



Dashboard and Analytical Reports: Offers a user-friendly dashboard and analytical reports for monitoring operational performance, analysing trends, and identifying areas for improvement.





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