ANNAI VEILANKANNI'S COLLEGE OF ENGINEERING

Batch no - B1-1M3E

Project Design Phase-I

Proposed Solution Template

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Proposed Solution Template:

S.No.	Parameter	Description
1.	Problem Statement	Increasing waste generation has become a significant challenge in developing countries due to unprecedented population growth and urbanization. Many issues have been investigated that signify direct connection with the increase in waste material generation and related difficulties to handle it in a smart city. These issues are the resultants of an improper collection and disposal mechanism used for waste material, the increase in moving trends of peoples toward big cities and lack of intelligent technology used to support the municipal solid waste management system.

2.	Solution description	The key research objectives are as follows: • The proposed system would be able to automate the solid waste monitoring process and management of the overall collection process using IOT (Internet of Things). • The Proposed system consists of main subsystems namely Smart Trash System(STS) . • In the proposed system, whenever the waste bin gets filled this is acknowledged by placing the circuit at the waste bin, which transmits it to the receiver at the desired place in the area or spot. • In the proposed system, the received signal indicates the waste bin status at the monitoring and controlling system.
3.	Novelty / Uniqueness	SmartBin live dashboard which displays the real time fill level of garbage bins. Easy to install to any type of container.

		Using a route algorithm it will smartly find the shortest route for collection of waste
4.	Social Impact	Creates a clean as well as green environment ● Less amount of fuel consumed by vehicles can save a large amount of money ● It will stop overflowing of dustbins along roadsides and localities ● The filling and cleaning time of smart bin will be reduced thus making empty and clean dustbins available to common people ● Employment of health workers remains while more employment opportunities for technical personnel increases

5.	Business Model	Waste Management organises its operations into two reportable business segments: Solid Waste, comprising the Company's waste collection, transfer, recycling and resource recovery, and disposal services, which are operated and managed locally by the Company's various subsidiaries, which focus on distinct geographic areas; and Corporate and Other, comprising the Company's other activities, including its development and operation of landfill gas-to energy facilities in the INDIA, and its recycling brokerage services, as well as various corporate functions.
6.	Scalability of the Solution	The components used for the building up the dustbin is cheap and the solution is effective as the components are easily available. The sensors in the dustbin collects the data and sends it to the cloud. Node Red makes the runtime environment scalable and supports a bunch of users to access at the same time and IBM Cloud supports thousands of users to access the cloud simultaneously. The system is capable handling multiple requests and handles data without any flaw. Thus sensors can be handled and viewed remotely there is a vast growth in our product that will be scalable and useful.