PROPOSED SOLUTIONS

Date	11.10.2022
Team ID	PNT2022TMID04232
Project Name	Smart Waste Management Systems For Metropolitan Cities
Maximum marks	2 Marks
Team Members	KARTHIK B PRITHIKALAKSHMI B POOJA D RAGHUBHARATHI S P

S.NO	Parameter	Description
1.	Problem statement	Indiscriminate disposal of solid waste is a major issue in urban centers of most developing countries and it poses a serious threat to healthy living of the citizens. Access to reliable data on the state of solid waste at different locations within the city will help both the local authorities and the citizens to effectively manage the menace. An intelligent solid waste monitoring system is developed using Internet of Things (IOT) and cloud computing technologies. The fill level of solid waste in each of the containers, which are strategically situated across the communities, is detected using ultrasonic sensors. A Wireless Fidelity (Wi-Fi) communication link is used to transmit the sensor data to an IOT cloud platform

		known as Thing Speak. Depending on the fill level, the system sends appropriate notification message (in form of tweet) to alert relevant authorities and concerned citizen(s) for necessary action
2.	Idea description	The main idea is detecting by using garbage levels in bins and getting the weight of the garbage in the bin. Alerts are produced when the weight is at estimated value and alerts the authorized person to empty the bin whenever the bins are full. Garbage level of the bins can be monitored through a web App. We can view the location of every bin in the web application by sending GPS location from the device. This helps the authorized person come and collect the garbage.
3.	Novelty/ uniqueness	Estimate the weights using a Load sensor. Load sensor predicts the accurate value and the values are passed to the sensor called Node MCU. It helps to store the data in Firebase or cloud and helps to send a message to the authorized person.
4.	Social impact/ customer satisfaction	The Ultimate use of Smart Waste Management for Metropolitan Cities is to prevent diseases caused from wastage. We can assure good health of the people. Cleanliness is maintained all over the cities. Due to fast disposal the work is done faster and easier.
5.	Business model (financial benefit)	City administration needs an understanding of the big picture, generating reports, control over pricing etc. • District administrations are interested in controlling the process of waste collection, checking the quality of service (all waste collected, all in time, waste collected cleanly, waste transported to special places), quick and legal ways for

		solving disputes and problems. • Municipalities can also deploy and maintain smart city infrastructure like capacity sensors in waste bins and wireless networks for data transferring.
6.	Scalability of solution	In this project we used Load sensor to estimate weight. Load sensor predicts the accurate value and the values are passed to the sensor called Node MCU. It helps to store the data in Firebase or cloud and helps to send a message to the authorized person. Instead of using Raspberry-pie we use Node MCU which is cost efficient and easy to maintain. The data's and signals from the sensor to the authorized person are well monitored.