IDEATION PHASE
LITERATURE SURVEY

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TEAM ID	PNT2022TMOD25739
PROJECT NAME	SMART WASTE MANAGEMENT SYSTEM

LITERATURE SURVEY:

1. A Smart IoT System for Waste Management: This project proposed smart waste bin not only detects the amount of waste but also detects the unpleasant smell. Since the waste in the containers is non-smooth, in this system infrared instead of ultrasonic is suggested to adopt for waste detection. Base on the sensing data, the waste collection company can efficiently obtain the waste status and automatically schedule the waste collection. In this way, the daily waste collection becomes an active service

2. Smart Waste Management using Internet-of-Things (IoT): This project proposes a smart waste collection system on the basis of level of wastes present in the wastebins. The data obtained through sensors is transmitted over the Internet to a server for storage and processing mechanisms. It is used for monitoring the daily selection of wastebins, based on which the routes to pick several of the wastebins from different locations are decided. Every day, the workers receive the updated optimized routes in their navigational devices. The significant feature of this system is that it is designed to update from the previous experience and decide not only on the daily waste level status but also the predict future state with respect to factors like traffic congestion in an area where the wastebins are placed, cost-efficiency balance, and other factors that is difficult for humans to observe and analyze.

3. Survey on IOT in Waste Management System : This paper proposed that a waste bin authority can observe a bin only at specific time a day but bin can fill at any moment of time, continuous monitoring of garbage level is important and it is necessary. As IOT enabled bins can easily be accessed with the help of Internet by other machines, hence the fill level of a bin can be supervised continuously, allowing filled bins to be detected immediately so that applicable actions can be taken. Also, IOT can help in collecting records thus, generating statistical information corelated to waste bin, by machines. It is faster and voluminous and error free assortment of data that conceivable manual methods could never achieve. Generating statistics, surveillance, risk drawing of diseases can be completed using waste bin data.
4. Smart Waste Collection Monitoring and Alert System via IoT: In this paper, they have proposed a new solution to enhance waste collection efficiently using the Arduino Uno with Arduino Ethernet Shield technology and ultrasonic sensor systems. In this proposed system, the garbage overflow

of garbage can be avoided and managed efficiently. This will intimate or send SMS or email to the authorized person through Ubidots platform. The garbage managing system and the facility of collecting the garbage presently doesn't fit to the current requirement. Hence better facility of collecting garbage and transportation should be provided. Since, this system provides the information when the bin gets completely filled with garbage, it reduces the number of times the arrival of vehicle which collects the garbage.

5. IoT based solid waste management system for smart city: They have implemented solid waste management system which is described previous sections. For the lab experiment, we have not considered the detailed manufacturing problems. Dust bin used for experiment is having cross section 12 X 12 X 25cm, weight 380 gm and capacity of 3 litres. To avoid inaccurate and misleading level measurements we have installed two ultrasonic sensors (HC-SR04) at the top of dust bin. Ultrasonic ranging module HC - SR04 provides 2cm - 400cm non-contact measurement function, the ranging accuracy can reach to 3mm. The modules includes ultrasonic transmitters, receiver and control circuit. Using input trigger for at least 10us high level signal, the module automatically sends eight 40 kHz and detect whether there is a pulse signal back. If the signal back, through high level , time of high output duration is the time from sending ultrasonic to returning. On the other side load cell (TAL220) is installed at bottom of dustbin. TAL220 is straight bar load cell made up from an aluminum-alloy and has four strain gauges that are hooked up in a Wheatstone bridge formation. It is capable of reading a capacity of 10kg

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