**SMART WASTE MANAGEMENT SYSTEM:**

**LITERATURE SURVEY:**

Solid waste management (SWM) is the process of collecting, handling, and disposing of no longer in use solid objects that are discarded[1]. In today’s world, typical solid waste management includes large outdoor waste bins, waste pickup trucks, and scheduled pickup routine by the related party. [2] explain that solid waste is categorized into three categories, each is handled by different authorities. the smart waste bins are integrated with several sensors (e.g., proximity sensor, weight sensor, temperature sensor, etc.). Example of working smart waste bin is produced by ZAN Compute Inc. called Smart Garbage Bin, as patented by Shahabdeen[3].Mohammad Aazam, Marc St-Hilaire, Chung-Horng Lung, Ioannis Lambadaris (2016) [4] provides the idea of sensors-based waste bins, capable of notifying waste level status. An automatic waste bin and make use of cloudcomputing paradigm to evolve a more robust and effective smart waste management mechanism. proposed a Smart Recycle Bin that caters for recycling glass, paper, aluminum can and plastic products. It automatically evaluates the value of the wastes thrown accordingly and provide 3R card. The recycle system enables collection of points for performing a disposal activity into designated recycle bins. Such system encourages recycling activities by allowing the points to be redeemable for products or services.

The system records the data related to the disposeactivities,disposedmaterial,identification of the user and points collected by the user.Prajakta et al. [5] proposed a garbage storing up framework that is adjusted having data gathering structure subject to the arranging of pictures taken and GSM module.Survey on waste management and monitoring system based on IoT and study on previous papers related to IoT. Abdullah et al. [6] built up a sharp reject watching framework that is utilized in the estimation of deny level ceaselessly and cautions the fitting expert through SMS writings.Ruhin Mary Saji et al. [7] This paper proposed a method as follows. The level of garbage in the bin is detected by using the ultrasonic sensor and communicates to the control room using the GSM system. GSM and ARM7 controller is used to monitor the garbage bin level. When the garbage bin is full, this message of garbage level is sent to the ARM7 controller. Then ARM7 will send the SMS through GSM to authority as to which bin is overflowing and requires cleaning up.[8] In the paper the system is designed in such a way that it avoids overflow of the bin by sending an alert. It uses Arduino Uno R3 as a microcontroller for reading data from sensors.This technology mainly uses RFID reader which is interfaced with a microcontroller for the verification process.When RFID tag interrupts the RFID reader, the sensor will check the status of the bin and send it to the web server.[9] The paper proposed method as. Ultrasonic sensors are used to sense the level of bin and load cell are used as a secondary sensor.If the level sensors are failing then load cell can be used as a reference. When the bin is full GSM send the message to the server room. This message contains the coordinate of the bin which is provided by GPS module. The microcontroller receives the input from GSM and performs signal processing. Microcontroller communicates to GSM by using UART.The idea of smart garbage bins and systems have been in discussion for quite a long time. The technologies used atdisposal to develop this smart system have also evolved, Internet of Things (IoT). [10]Each idea seems to be similar but is slightly different at its core and our proposed work is no exception from the same. After the IoT field, finding its hold in our lives, this is our original plan for designing a smart garbage collection system which has provision for citizen participation and analysis of data for better decision making. At hardware level, the smart system is a garbage bin with ultrasonic sensor, a micro-controller and Wi-Fi module for transmission of data.The population increases day by day and generates million tons of wastes per year. City administrations, municipalities and waste management organizations in different countries faces the challenge to provide efficient and effective system to collect, dispose-off properly, and recycle the waste, keeping health standards and environment friendliness. The smart waste management system collects the wastes in proper time, disposes and recycles in the proper way.

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