Team ID	PNT2022TMID28979
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Smart waste management is characterized by the usage of technology in order to be more efficient when it comes to managing waste. This makes it possible to plan more efficient way for the trash collectors who empty the bins.

A big challenge in urban cities is waste management as there is a rapid growth in urbanization and there is a need for innovative plans for the development . smart cities cannot be complete without smart waste management system. There needs to be system that gives prior information of the filling of the bin that alerts the municipality so that they can clean the bin on time and safeguard the environment.

The first research paper deals with idea of smart garbage bins and systems have been in discussion for a long time. The technologies used at disposal to develop this smart system have also evolved, Internet of Things (IoT). Each idea seems to be similar but is slightly different.one such idea is 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 worldwide implementation of Internet of Things is possible with a Cloud centric vision. This work exploits the future possibilities, key technologies and application that are likely to drive IoT research. But a strong foundation to our work is provided, where the basics and applications of Arduino board is explained . It is quite interesting as it implements a GAYT (Get As You Throw) system concept as a way to encourage recycling among citizens.

Garbage Monitoring is a vital phase of garbage management process and also pre-requisite for maintaining a safe and green environment.

The second research paper discusses about a literature survey and initial phase of con-textual inquiry conducted for design of an intelligent Garbage Moni-monitoring system. The major stakeholders for such system include Public, Solid and Waste (S&W) Management Department, Sweepers, Hospital, Non-Governmental Organization (NGO) and Retired Workers. There are several is-

sues observed during Garbage Monitoring process such as a difficulty in locating garbage container, lack of information about overflowing garbage, locating collection vehicles and / or identification of biomedical / hazardous waste.

The work models the flow, sequence and Artifact models, are proposed during contextual inquiry. In future, an integrated, efficient and intelligent Internet of Thing (IoT) -based Garbage Monitoring system will be designed with due considerations observed during this study.

During this literature survey, some research papers related with Garbage Monitoring are studied. These papers are published during last two years - 2016 and 2017. Most of these papers focus only on functionality of Garbage Monitoring and these papers are discussed in the first section of literature survey.

In third research paper, the garbage containers are interfaced with a microcontroller -Advanced RISC Machines (ARM) 7 having Infra Red (IR)sensors along with central system showing filled up-level of garbage, on mobile web browser with html page through Wifi module .Hence, the level status is updated on to the html page, but it doesn't inform about real-time location of containers. In the second paper, the garbage containers are again interfaced with a microcontroller - ARM7 having ultrasonic sensors along with the system sending an alert text message through Short Message Service (SMS) on Global System for Mobile Communications (GSM) technology. This message is directed to the truck drivers about availability of filled containers for garbage collection. similar system interfaced with Link It ONE Arduino board is used to send an alert text message about filled up-level of garbage . In the next paper, related system interfaced with Peripheral Interface Controller (PIC) microcontroller is used to send an alert text message about filled up-level of garbage through technology Zigbee.

The fourth research paper is similar system is interfaced with Arduino UNO board to send the alert text message about filled up-level of garbage through GSM technology. This system also indicates filled up-levels through color Light Emitting Diodes (LED)

In this section of second research paper the, a central system is used for Garbage Monitoring about filled up-levels of containers using General Packet Radio Service(GPRS) technology. It also provides compression mechanism to handle overflowing garbage . In the last paper, garbage level is supervised through an Android app and a location of nearest container is traced with Global

Positioning System (GPS) and the authorized person gets to the place easily on time.

Most of the research related with Garbage Monitoring has been conducted in last couple of years.

Garbage compression and location tracking garbage the only additional functions implemented along with Garbage Monitoring .variety of microcontrollers / boards such as ARM7, PIC and Arduino board, are used in implementations of Garbage Monitoring systems.

Mostly Wi-Fi or GSM technologies are used as a one way communication medium. widely ultrasonic level sensor is used to detect level of garbage in the containers.

Last but not least , Internet of Things has provided a promising opportunity to build powerful industrial applications which have been deployed in recent years. Using IoT a smart and organized system is designed for measuring garbage level in the bin and dc motors powered platforms are used to segregate dry and wet waste.in order to reduce the time consumption an alert message is sent to the employees and cloud when the dustbin is full .