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NAAC Accredited Autonomous Institution
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Thalavapalayam, Karur, Tamilnadu.

SMART WASTE MANAGEMENT SYSTEM FOR METROPOLITAN CITIES

TEAM ID:

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ABSTRACT:

Extensive disposal of waste is a major issue in metropolitan cities of most developing countries and it causes severe threat to people. Access to reliable data on the state of waste at different locations within the metropolitan cities will help both the local authorities and the citizens to effectively manage the wastes. In this paper, an intelligent Smart Waste Management system is developed using IBM Watson IoT platform and cloud computing technologies. The fill level of waste in each of the garbage bins, which are monitored through a web App.The weight of the garbage has been measured.It alerts an authorized person to emplty the bin when they are filled.GPS is used to transmit the sensor data to an IoT cloud platform. The system performance shows that the proposed solution may be found useful for efficient waste management in smart and connected communities.

LITERATURE REVIEW:

Researches have shown that smart waste management adoption has been an open area for identifying major barriers that hinder its adoption. The below section comprises list of studies that highlight the benefits of adopting smart city concept including smart waste management around the world.

AUTHOR: Nadia Puspita Adriyanti

DESCRIPTION: Waste has always been a serious problem, not only to the environment but also to the economic and social aspect. Solid waste management models are created to solve waste problems in different aspects and areas. Many models were made to tackle waste problems in cities or metropolitan areas. Yet, there are no specific solid waste management models that are made specifically for villages that undergo a transition to a city and it is affecting both natural and social environment in the area. A literature study was done to see which existing model could be applied to Indonesia's transitioning villages through the lenses of sustainable urban planning by reviewing ten existing models.

AUTHOR: Chaware

DESCRIPTION: He proposed a waste get-together structure considered imaginative to help with keeping urban domains clean. The structure works by watching rubbish stores and tell the experts and the waste collection vehicles about the part of garbage set away or contained in the reject holder through a web application. Regardless, the framework utilizes ultrasonic sensors in which theirdistinctive precision can be affected by changes in temperature. Besides, it utilizes Wi-Fi which is inherently ashort-range alliance instrument. From this time forward, these disadvantages sway the ideal execution of the structure.

AUTHOR: Kumar

DESCRIPTION: In their work proposed an IOT based unbelievable waste clean association structure where sensor frameworks are utilized to steadily checking the waste component of the garbage canisters. In this methodology, when the waste estimation over the dustbins is recognized, the framework along these lines cautions the embraced individual by strategies for GSM/GPRS. The structure works by utilizing a microcontroller which gives interface between the sensor and the GSM/GPRS framework.

Also, an Android application is utilized to screen and join the important data identifying with the unmistakable component of waste found in various zones. With this framework, another client can choose the structure and not simply the manager. Regardless, anybody can make a record and the framework likewise surrender access to clients not expected for. This framework can be improved by setting two holders to self-rulingly collect dry and wet squanders. For this situation, the wet waste can be moreover masterminded and be utilized for the period of biogas, made intense by making it insignificant and fiscally astute

AUTHOR: **Ruhin Mary Saji**

DESCRIPTION: The level of garbage in the bin is detected by using the ultrasonic sensor and communicates to the control room using the GSM system. Four IR sensors are used to detect the level of the garbage bin. When the bin is full the output of the fourth IR is active low and this output is given to the microcontroller to send a message to the control room through GSM In this paper ZigBee, 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.

AUTHOR: **Talyan**

DESCRIPTION: Talking about the municipal solid waste management in Delhi, how it is implemented in Delhi, its current practices, by the local government. Then how in the solid waste management NGO‟s and community people are involved in Delhi that is mentioned in this article?

Also mentioned the policy legislative framework of SWM in India. Then over the year how the composition and generation of SWM happened in India that is mentioned in this article, then it is mentioned the composition, recycling,

transportation how and which was happening in the Delhi and at last it explains the initiatives towards managing the best practices of MSWM (Municipal Solid waste management) by Delhi municipal corporation. In conclusion, they are explaining that the Municipal Corporation of Delhi has taken big steps to the improvement of SWM in Delhi also frame the guideline (2015-2021) as a masterplan.