

AUTOMATED MEDICAL WASTE SEGRIGATOR MACHINE

A Arunadevi

R Dharanipriya

S Mohanapriya

K Nagapriyadharshini

Prof. R S Ramya

AVS Engineering College,
Salem, Tamilnadu, India
arunaanna02
@gmail.com

AVS Engineering College,
Salem, Tamilnadu, India
kiruthikamadhavanece7
@gmail.com

AVS Engineering College,
Salem, Tamilnadu, India
madhumitha30502
@gmail.com

AVS Engineering College,
Salem, Tamilnadu, India
nagapriyadharshinik
@gmail.com

AVS Engineering College,
Salem, Tamilnadu, India
smpriya10
@gmail.com

Abstract— *In India collection of medical waste is getting an issue. Unwanted dumping of waste on outskirts of municipalities and metropolises creates cerebral and these overflowing tips are insolved to reclaim. In the being system, the homemade trouble has been demanded so it may beget habitual complaint to the person involved. To overcome those problems, an automated waste segregator at the sanitarium and medical clinic is used. For we are using proximity sensor, level detector, gas sensor and Radar are used to detect and segregator the types of waste. This information can also be indicated to the head or the in charge through a communication by using cloud through pic controller. For this system pic controller has been used to implement the program. This proposed system will save the lives of many people from poisonous wastes.*

Keywords—*proximity sensor, level detector, gas sensor, Radar.*

I. INTRODUCTION:

“Cleanliness is next to godliness” is said and believed from the centuries. In this era of environmental concern individuals are outwardly interested in the healthy state of their surroundings. Whether it may a small home of four members or locality cleanliness is of equal importance.

India being a huge and highly populated nation, effective waste management is the major concern in maintaining the health and hygiene of the people.

Convectional waste management systems which are currently employed in India have static routes and schedules where garbage from containers are collected on fixed schedules, regardless if they are full or not.

This type of situation is often seen where dustbin is not addressed even if it is filled and garbage is spread on open streets. This severely affects the health and hygiene of the people. To promote health and hygiene, The “Govt. Of India” under the leadership of “Prime Minister, Narendra Modi” initiated “swachh Baharat campaign” and introduced the concept of “smart cities”. “In the approach of the smart cities mission, the objective is to promote cities that provide core infrastructure and give a decent quality of life to its citizens, a clean and sustainable environment with the application of smart solutions”.

Smart cities don’t only mean smart buildings and smart parking areas but “smarter waste management system” is also a major issue to be addressed in developing a smart city The SMART WASTE MANAGEMENT SYSTEM which is proposed herein uses smart sensors to gather fill-level data from containers and garbage bins, and send it to an authorized number in real time.

The authorized phone number which is situated in Waste Management Centre gather fill-level information sent from multiple containers which are situated throughout the cities.

II. LITERATURE SURVEY

In the current time, the immense growth in population creates unhygienic environment for the citizen of a society with respect to waste generation. This rapid generation of waste leads to various infectious diseases in the environment. As followed by the traditional municipal system, in our surroundings, we can see over flooding of solid waste in the garbage bins.[1] Solid waste management is a pivotal aspect in traditional systems and it is becoming dangerous in most populated areas.[2] Arduous labor works and costs are required to manage and monitor garbage bins in real time. To maintain the cleanliness of a city and for real-time monitoring of trash bins, a smart bin mechanism (SBM) for smart cities is proposed in this paper, which is based on Artificial Intelligent of Things (IoT).[3] The SBM works on the 3R concept, that is, Reduce, Recycle, and Reuse. The SBM has the access to get real-time information about each bin and avoid overloading of these bins. The proposed framework reduces the labor cost and saves time and energy of the system.[4] It also reduces the rate of disease infections by keeping the cities clean. Fuzzy logic is used for decision-making in selecting appropriate locations in the cities to install trash bins[5]. The framework is implemented in the multiagent modeling environment, that is, Net Logo.

III. EXISTING SYSTEM

In the existing System is to implement a smarter way of conventional waste management using smart sensors to gather fill-level data, presence of garbage around the dustbin and stinking condition from containers and garbage bins, and send it to servers in real time. An authorized phone number which are present in Waste Management Centers gather fill-level and other information sent from multiple containers which are situated throughout a city/locality. The data acquired as above, can be used to systematically plan route-map to collect garbage.

BLOCK DIAGRAM

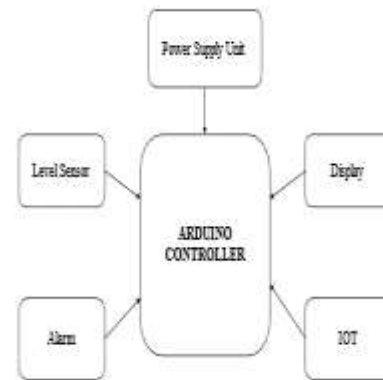
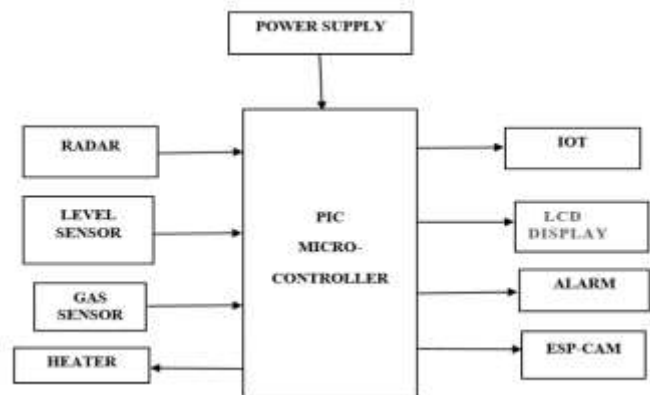


Fig. Block diagram of Existing System.

IV. PROPOSED SYSTEM:

In this proposed system, we are implement In addition, gas sensor detect the smell from wastage when the sensor reach threshold value (high). During this process the buzzer was alerting to the attention of authority person or public through Message. Which is done by IOT Technology. Additionally, the bins are monitored by level sensor for detects the bins full or empty and the Heater used for burnt the burning things of the bin. Finally, ESP32-CAM are used to capture the image of person who disposed the wastage into the garbage. Which is sent to the telegram.



V. CONCLUSION:

In this paper, we have designed, developed, and evaluated a block chain-based solution to automate forward supply chain processes and establish data provenance about the medical equipment and their waste disposal. We integrated the block chain with decentralized storage of IPFS to provide a secure, transparent, auditable, reliable, traceable, and trustworthy solution for the forwards. We presented a detailed cost analysis to show the affordability of the proposed approach. We also evaluated the proposed approach against known vulnerabilities using the Smart Check software. The proposed approach is generic and applicable to various use case scenarios with minimal modifications.

VI. REFERENCES:

- [1] M. L. Ranney, V. Griffith, and A. K. Jha, "Critical supply shortages—the need for ventilators and personal protective equipment during the COVID-19 pandemic," *New England J. Med.*, vol. 382, no. 18, p. e41, Apr. 2020.
- [2] Laura Wood. (Aug. 2020). Global Medical Waste Management Market (2020 to 2030)—COVID-19 Implications and Growth. Accessed: Dec. 24, 2020. [Online]. Available: <https://www.globenewswire.com/news-release/2020/08/12/2077096/0/en/Global-Medical-WasteManagement-Market-2020-to-2030-COVID-19-Implications-andGrowth.html>
- [3] J. Peter. (Oct. 2019). Blockchain Powered Environmental Hazardous Waste Management Systems for a More Sustainable Better Earth and Future. Accessed: Nov. 15, 2020. [Online]. Available: <https://pagarba.io/block-chain-powered-environmental-hazardous-waste-management-systems-for-a-more-sustainable-better-earth-and-future/>
- [4] S. Saberi, M. Kouhizadeh, J. Serkis, and L. Shen, "Blockchain technology and its relationships to sustainable supply chain management," *Int. J. Prod. Res.*, vol. 57, no. 7, pp. 2117–2135, Apr. 2019.
- [5] R. W. Ahmad, K. Salah, R. Jayaraman, I. Yaqoob, S. Ellahham, and M. Omar, "Blockchain and COVID-19 pandemic: Applications and challenges," *Tech. Rep.*, 2020, doi: 10.36227/techrxiv.12936572.v1.
- [6] I. Yaqoob, K. Salah, R. Jayaraman, and Y. Al-Hammadi, "Blockchain for healthcare data management: Opportunities, challenges, and future recommendations," *Neural Comput. Appl.*, pp. 1–16, Jan. 2021, doi: 10.1007/s00521-020-05519-w.
- [7] S. Sahoo and R. Halder, "Blockchain-based forward and reverse supply chains for E-waste management," in *Proc. Int. Conf. Future Data Secure. Eng. Cham, Switzerland: Springer*, 2020, pp. 201–220.
- [8] S. A. Abeyratne and R. P. Monfared, "Blockchain ready manufacturing supply chain using distributed ledger," *Int. J. Res. Eng. Technol.*, vol. 5, no. 9, pp. 1–10, Sep. 2016.
- [9] M. D. LaGrega, P. L. Buckingham, and J. C. Evans, *Hazardous Waste Management*. Long Grove, IL, USA: Waveland Press, 2010.
- [10] G. K. Shyam, S. S. Manvi, and P. Bharti, "Smart waste management using Internet-of-Things (IoT)," in *Proc. 2nd Int. Conf. Comput. Commun. Technol. (ICCCT)*, Chennai, India, Feb. 2017, pp. 199–203.
- [11] D. Misra, G. Das, T. Chakraborty, and D. Das, "An IoT-based waste management system monitored by cloud," *J. Mater. Cycles Waste Manage.* vol. 20, no. 3, pp. 1574–1582, Jul. 2018.
- [12] R. B. D. Silva and C. A. D. Mattos, "Critical success factors of a drug traceability system for creating value in a pharmaceutical supply chain (PSC)," *Int. J. Environ. Res. Public Health*, vol. 16, no. 11, p. 1972, Jun. 2019.

[13] J.-H. Tseng, Y.-C. Liao, B. Chong, and S.-W. Liao, "Governance on the drug supply chain via goin block chain," *Int. J. Environ. Res. Public Health*, vol. 15, no. 6, p. 1055, May 2018.

