Location of the Nearest E-Waste collection and Recycling Facility

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Abstract*: The main purpose of online e-waste location system is to provide nearby e-waste locations to the user. The project integrates GPS mapping with real-time data to create a user-friendly. The project not only promotes environmental sustainability by diverting e-waste from landfills but also raises awareness about the importance recycling and environmental conservation.*

This abstract encapsulates a user-focused approach to solving the problem of e-waste disposal by combining geospatial technology and applications, thereby contributing to a cleaner environment and a more sustainable future.

Keywords: Location, Map, Nearby location, E-Waste Recycling

I. INTRODUCTION

Nearby E-waste Collection System is used for the collection of the waste material from the customer, local collector, so on. The customer can define the details about which type of waste is having.

The waste collection system is offline which is done by the government. User not find not able to find out exact location so, we provide best solution for e-waste for society or new person.

In this system, we maintain the database in which all information about E-waste system with exact address and location.

II. PURPOSE

Our main goal is to collect e-waste and send it for recycling in an efficient and automated manner. We are using the combination of the IoT and machine learning for gathering e-waste for recycling purposes. We will be placing the processing part of our system in a dumpster with the help of a Field-Programmable Gate Array (FPGA) using the GAN algorithm to distinguish the e-waste from other wastes. Our proposed solution entails the deployment of a smart bin to collect waste, which utilizes cloud-based technology to monitor and update the garbage level automatically. If the bin reaches its maximum capacity, the SIM900A module generates a message alerting the collectors. Upon collection, we implement a process to separate the metallic and plastic components of the waste. The plastic components undergo a pyrolysis process to yield bio-fuel, while the metallic components are repurposed for solar panel and battery production.

III. OBJECTIVE OF SYSTEM

This website helps customers to quickly find for an e-waste Details and their locations.
- To provide anytime anyplace service for the customer.
- To reuse electronic waste material by recycling or deploy.
- To decrease the electronic waste material from household.
- To obtain statistic information about the problems effect by the e-waste material.

IV. PROPOSED SYSTEM

The android application on this system serves to find out the location of electronic waste collection point and as an educational application that contains knowledge about electronic waste. The purpose of a system like an e-waste locator on an Android-based application is to help users locate nearby facilities or services where they can responsibly dispose

of electronic waste (e-waste). It aims to promote proper e-waste management and recycling by providing users with convenient access to information about collection points, recycling centers, or programs in their area.

V. SYSTEM ARCHITECTURE
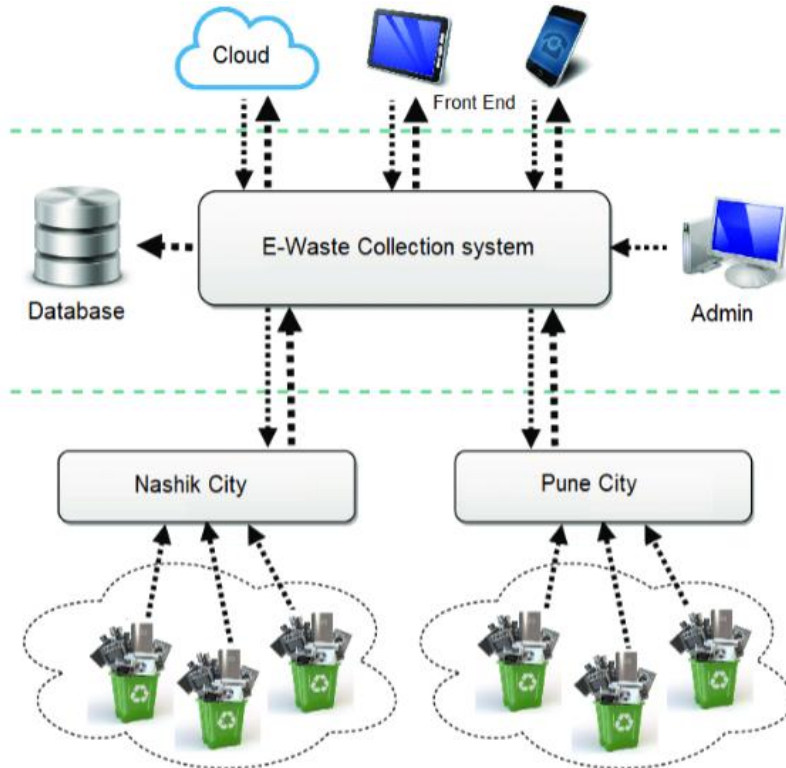
Admin Panel:
- Create an admin panel to manage facility listings, user accounts, and monitor user-generated content.
- Create E-waste center with location (Longitude/Latitude)

User Registration and Authentication:
- Allow users to create accounts and log in securely to access the service.
- Location Services:
- Implement geolocation to detect the user's current location or allow them to enter their address.

Search and Map Integration:
- Integrate mapping services like Google Maps to display nearby e-waste collection and recycling facilities.
- Implement a search feature to find facilities based on location or other criteria.

Database for Facility Information:
- Set up a database to store information about e-waste facilities, including their addresses, contact details, operating hours, and accepted items.

Admin Dashboard (Optional):
- Create an admin panel to manage facility listings, user accounts, and monitor user-generated content.

VI. CONCLUSION

In this system, we maintain the database in which all information about E-waste system with exact address and location. Our endeavor to develop a system that facilitates easy access to e-waste recycling centers marks a significant stride toward responsible waste management and sustainable living. The impact of our project reverberates on multiple fronts. Firstly, it fosters environmental conservation by diverting e-waste from landfills and incinerators, thereby reducing harmful emissions and soil contamination.

VII. ACKNOWLEDGMENT

REFERENCES

[1]. Jafari, O.H.; Yang, M.Y. Real-time RGB-D based template matching pedestrian detection. In Proceedings of the 2016 IEEE International Conference on Robotics and Automation (ICRA), Stockholm, Sweden, 16–21 May 2016. [Google Scholar]

[2]. Mahipal, S.S.; Mayuri, K.; Manisha, N.; Shriyash, M.; Gaurav, S.; Bhaskar, C.; Rajeev, K. Effect of Electronic waste on Environmental & Human health-A Review. IOSR J. Environ. Sci. Toxicol. Food Technol. (IOSR-JESTFT) 2016, 10, 98–104. [Google Scholar]

[3]. Tanvir, A.; Rabeeh, G.; Fariborz, F.; Shahabuddin, M. E-Waste Recycling Technologies: An Overview, Challenges and Future Perspectives. In Paradigm Shift in E-Waste Management; CRC Press: Boca Raton, FL, USA, 2022; pp. 143–176. [Google Scholar] [CrossRef]

[4]. Wayne, V.; Joseph, F. Time Series Analysis. In Handbook of Psychology; Research Methods in Psychology; John Wiley & Sons: New York, NY, USA, 2003; Volume 2, pp. 581–606. ISBN 9780471264385. [Google Scholar] [CrossRef]

[5]. Dubey, A.; Kumar, A.; García Díaz, V.; Sharma, A.; Kanhaiya, K. Study and analysis of SARIMA and LSTM in forecasting time series data. Sustain. Energy Technol. Assess. 2021, 47, 101474. [Google Scholar]

[6]. Tanskanen, P. Management and recycling of electronic waste. Acta Mater. 2013, 61, 1001–1011. [Google Scholar] [CrossRef]

[7]. Bazargan, A.; Lam, K.F.; Mckay, G. Challenges and Opportunities in E-Waste Management. In E-Waste: Management, Types, and Challenges; Li, Y.C., Wang, B.L., Eds.; Nova Science Publishers: Hauppauge, NY, USA, 2012; Chapter 2; ISBN 978-1-61942-217-9. [Google Scholar]

[8]. Zhao, P.; Xie, J.; Gu, F.; Sharmin, N.; Hall, P.; Fu, J. Separation of mixed waste plastics via magnetic levitation. Waste Manag. 2018, 76, 46–54. [Google Scholar] [CrossRef] [PubMed]