

Smart Dustbin

Group 31

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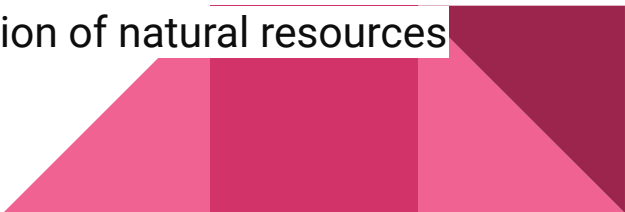
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Demonstrate Need

- **Environmental Impact:** Encourages proper waste sorting and recycling to reduce environmental harm.
- **Resource Efficiency:** Preserves valuable resources by diverting materials from landfills for recycling.
- **Public Health and Hygiene:** Promotes hygiene and mitigates health risks associated with inadequate waste disposal.
- **Efficiency and Convenience:** Simplifies waste disposal, enhancing user compliance with best practices.
- **User Experience:** Improves the overall waste disposal experience for users



Our Solution


- By automatically identifying and sorting waste, it reduces contamination and promotes efficient recycling.
 - IoT connectivity enables real-time monitoring, optimizing waste collection routes and resources.
 - Image recognition technology ensures accurate sorting, minimizing errors in waste disposal.
 - Proper recycling and waste disposal practices are encouraged, leading to a cleaner environment.
 - It streamlines waste management processes, saving time and resources for municipalities and waste management companies.
 - Through promoting recycling, it contributes to the conservation of natural resources and reduction of landfill waste.
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Future Scope of Work

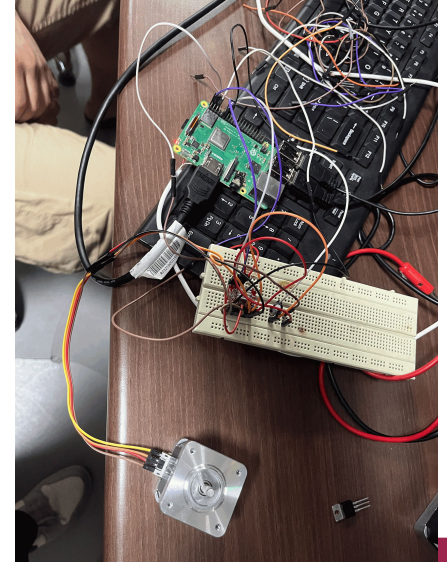
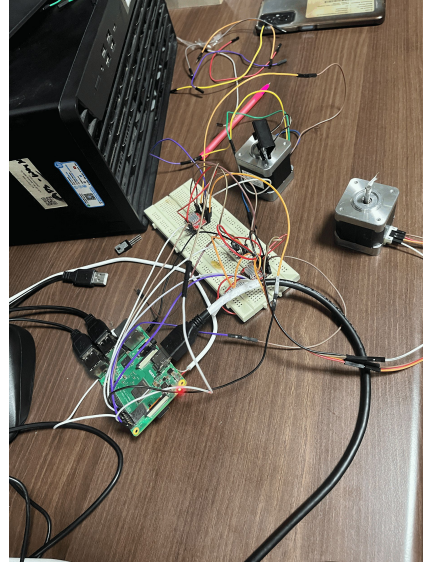
- **Implementing Edge Computing:** Introduce edge computing capabilities to process image recognition algorithms locally on the Smart Dustbin, reducing latency by minimizing data transfer to external servers.
- **Optimization of Image Recognition Models:** Continuously refine and optimize image recognition algorithms to improve accuracy and speed, ensuring rapid and precise waste sorting within the Smart Dustbin.
- **Integration of Parallel Processing:** Utilize parallel processing techniques to distribute the computational load across multiple cores or processors within the Smart Dustbin, enhancing sorting speed without compromising accuracy.



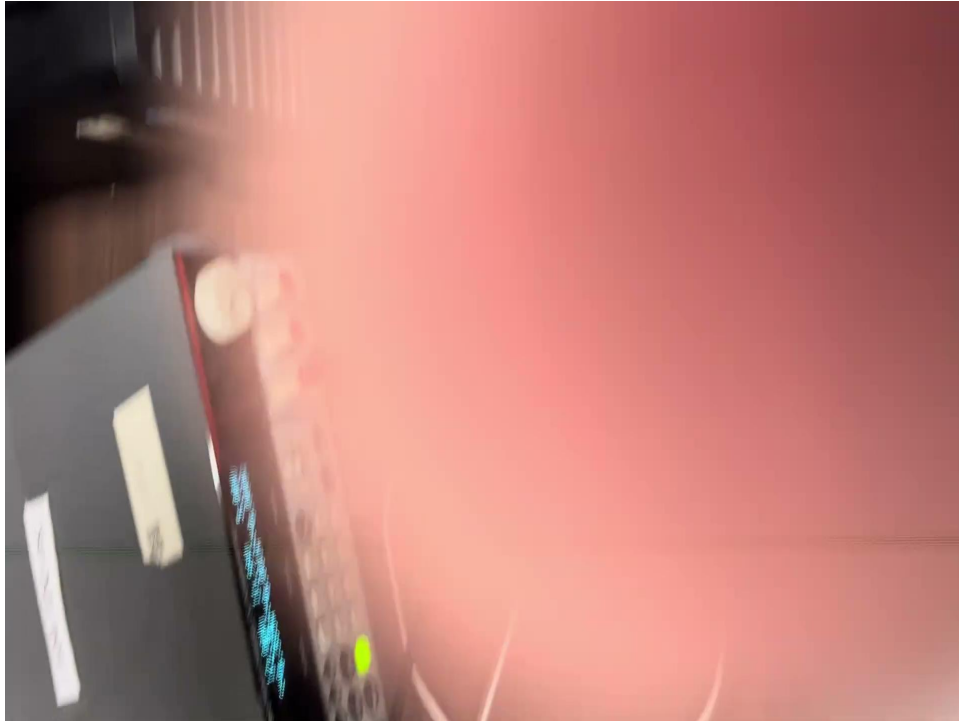
Future Scope of Work

- **Modular Design for Scalability:** Design the Smart Dustbin with a modular architecture, allowing for easy scalability to accommodate increased waste loads in urban environments without sacrificing performance or efficiency.
 - **Enhanced Data Analytics Capabilities:** Integrate advanced data monitoring and analytics features into the Smart Dustbin, enabling real-time insights into waste composition, fill levels, and collection patterns for better resource allocation and decision-making.
 - **Implementation in Waste Collection Vehicles:** Extend the Smart Dustbin technology to waste collection vehicles by integrating compact and efficient sorting mechanisms directly into collection bins, enabling on-the-go segregation of waste during collection rounds.
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Demonstration Photos



Demonstration Video



Thank You

