



# SMART TROLLEY

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# Introduction

## The Shopping Revolution

- The Smart Trolley revolutionizes the shopping experience, eliminating the need for traditional checkout lines.
- It streamlines the entire process, from item selection to payment, making shopping quicker and more convenient.
- Say goodbye to tedious scanning, manual billing, and waiting – the future of retail is here.



# The Revolutionised Shopping Experience

- Through cutting-edge technology, the Smart Trolley automates product scanning as items are placed in the cart.
- Real-time billing means customers can check their running total at any time, reducing billing errors and surprises.
- Retailers benefit from efficient inventory tracking, optimizing stock management and reducing waste.



# Problem Statement

## 1. Long Checkout Lines

- Statistics reveal that on average, shoppers spend nearly 10-15 minutes waiting in checkout lines during each trip to the store.
- This frustrating and time-consuming process has become a significant pain point for customers, leading to a decrease in overall satisfaction.

# Problems

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## Shopping Inefficiencies

- Many shoppers struggle with keeping track of their items, frequently forgetting to purchase essential products or buying duplicates.
- This inefficiency not only leads to extra trips to the store but also contributes to food waste and additional environmental concerns, necessitating a smarter way to manage shopping lists.

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## Contactless Shopping Demand

- The global shift towards contactless shopping has accelerated due to health and safety concerns, with an increase of 67% in online and self-checkout purchases.
- Traditional in-person shopping experiences often lack the flexibility and safety features that modern consumers are seeking, highlighting the urgency for a more streamlined and contactless alternative.



# Solution:

## Smart Trolley Concept

- The Smart Trolley is a cutting-edge innovation powered by the ESP32 microcontroller, a high-performance and versatile platform.
- It combines a sophisticated R-FID scanner and an intuitive display interface to create a seamless shopping experience that's both efficient and user-friendly.



# Automating the Billing Process

- Our **ESP32**-based Smart Trolley automates the billing process by instantly scanning and recording product R-FID as items are added to the cart.
- As each product is scanned, the display provides real-time updates on the total cost, eliminating the need for traditional checkout queues and manual calculations.

# Future Roadmap:

- **Barcode scanners** provide a quick and accurate method of identifying products.
- Faster scanning speeds compared to manual entry, leading to quicker checkout times.



# Future Roadmap:

## **Enhanced User Interface:**

- The larger LCD screen provides a more spacious and visually appealing user interface.
- Improves the overall user experience by making information and interactions more accessible

# Future Roadmap:

## **Convenient Checkout Process:**

- Customers can view the total price of their selected items on the larger LCD screen.
- Streamlines the checkout process by providing a clear summary of the purchase.

## Conclusion:

- In conclusion, the Smart Trolley project marks a significant leap forward in redefining the retail experience. Combining cutting-edge technologies such as RFID, AI, a larger LCD screen powered by Raspberry Pi, and a seamless payment method,
- This innovative solution promises to enhance both customer satisfaction and operational efficiency for retailers.



Do you have  
any questions?