Smart Shopping Cart

Abstract: Shopping in malls often involves long queues at billing counters, making the process slow and inconvenient. Traditional barcode scanning requires each item to be manually scanned, leading to delays and frustration for customers. To solve this, we propose a Smart Shopping Cart that uses RFID technology to automate the billing process. Instead of barcodes, products are tagged with RFID labels, which are detected by an RFID reader mounted on the cart. An ESP32 microcontroller processes this data and updates the total cost on an LCD screen in real-time, allowing customers to track their expenses easily.

This system eliminates the need for manual scanning, reducing waiting times and making shopping more efficient. Customers can complete their purchases quickly and proceed with instant billing. Additionally, RFID technology enhances security by preventing unauthorized product removal and helps store owners manage inventory more effectively. By integrating automation into the shopping experience, this Smart Shopping Cart improves convenience for both customers and retailers, making shopping faster, smoother, and hassle-free.

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