Smart Trolley with Automated Billing System

Ishika[1], Himanshu Raj[2], Sanskruti Nalawade[3], Dr. Omprakash Rajankar[4], Dr. Bhausaheb Shinde[5]

Students, Department of Electronics & Telecommunication Engineering[1,2,3]

Project Guide, Department of Electronics & Telecommunication Engineering[4]

Project Coordinator, Department of Electronics & Telecommunication Engineering[5]

Dhole Patil College of Engineering, Pune, India

Abstract: *This paper talks about an innovative approach in enhancing the shopping experience through the introduction of smart technology in traditional shopping carts. The project highlights the development of a Smart Trolley with an Automated Billing System that utilizes ESP32 microcontroller and PN532 NFC/RFID scanner. Both NFC and RFID technologies are incorporated in the project to streamline the shopping process by allowing automatic item detection and initiating the billing process as items are placed in the cart. For the bill to be accessed by the user, the bill not only gets displayed on the LCD screen attached to the trolley but is also sent to the user's Telegram account since a Telegram bot is created for sending the bill to the user directly on their phones. The main objective here is to reduce checkout times and enhance the overall efficiency in retail environments. The addition of Telegram bot to the project makes it even more user friendly and innovative in the market*

Keywords: Smart Trolley System, RFID/NFC Tag Scanning, Seamless Shopping Experience, Retail Innovation, Telegram Bot.