IOT-BASED STOCK MANAGEMENT SYSTEM USING ESP32 MICROCONTROLLER AND RFID (Case Study: Salad Gurt)

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ABSTRACT

The development of digital technology has encouraged businesses to manage inventory in real time. Inventory management significantly impacts sales operations. This research aims to design and build a web-based inventory system integrated with barcode and RFID scanners to simplify the recording of incoming and outgoing goods at the Salad Gurt partnership. The system was developed using the PHP programming language, the PhpMyAdmin database, and hardware components such as ESP32, RFID sensors, and barcode scanners. Scanned data is automatically sent to the server via the HTTP protocol, then stored in the database and displayed via a web interface. Key system features include automatic recording, dashboard stock display, and low stock notifications. Test results show that the system performs well in reading UIDs, processing data, and presenting information in real time. With this system, the stock management process at the Salad Gurt partnership becomes more responsive and well-integrated. This inventory system is expected to be a digital solution that can help smooth operations for small to medium-sized businesses in managing inventory professionally.

Keywords*: Barcode, Inventory, RFID, Web, PhpMyAdmin*