

ABSTRACT

Inventory management is a crucial activity for recording and monitoring the availability of goods. By recording the entry and exit dates of items, inventory provides information about the quantity and condition of goods. Inventory systems require direct monitoring through physical inspections or indirectly through written reports. The advantage of having a monitoring inventory system is obtaining quick information for decision-making. However, some inventory systems still rely on human processes, leading to suboptimal efficiency. For instance, hospitals in India still use manual data entry, facing challenges in efficiency and inventory management. STIKes Abdi Nusantara in Jakarta, despite using a web-based inventory system, experiences weaknesses in manual input, resulting in errors and lack of accuracy in goods management.

To address the issue of manual input at STIKes Abdi Nusantara, Radio Frequency Identification (RFID) technology will be implemented. RFID utilizes electromagnetic waves to communicate between terminals and objects with RFID tags. The system consists of a reader and tags, enabling effective reading at close range and automatic scanning. RFID tags will be attached to each item, and RFID readers will be placed at room entrances to detect item exits, triggering notifications when necessary. This way, the quantity of items on-site can match the inventory data, preventing theft, and the data will be sent to the website via the internet.

Testing RFID in the inventory system at STIKes Abdi Nusantara Jakarta involves reading the unique codes of tags, detecting reading distances without obstacles, reading distances with obstacles, website functionality, UI/UX testing, performance, API performance, and database functionality. Test results demonstrate successful tag code readings, effective detection without obstacles up to 300 cm, and challenges in detecting obstacles made of iron. Website functionality, UI/UX testing, performance, API performance, and database functionality meet the expected standards, providing an optimal user experience. In conclusion, the implementation of RFID and the inventory system at STIKes Abdi Nusantara Jakarta has been successful, enhancing efficiency and accuracy in inventory management.

Keywords: Inventory Management, Monitoring Inventory System, RFID (R, Inventory System Testing, Goods Management Efficiency