DESIGN OF A SMART SHOPPING BASKET USING RFID TECHNOLOGY IoT BASED SYSTEM

ABSTRACT

An automated smart shopping basket is formed by introducing the concept of IoT to connect all the items in the grocery shop to the local server. In this system, an expensive RFID tag is embedded in each product, when a client drop a product into a smart basket, the product detail is automatically read by the basket equipped with an RFID reader. Hence, billing is made from the shopping basket itself preventing customers from waiting in a long queue at the teller chekout. Besides, expiring date of the product is displayed and the damaged products can be identified with respect to its weight. Thus, expired and damaged products will not be considered for bill calculation. All the items purchased by the custumer is automatically updated to the teller for billing wirelessly and the teller can validate easily all the items purchased by the customer.

Key words: IoT, RFID reader, RFID tag, local serverand smart basket.

PROBLEM STATEMENT

The existing technlology in most of the shopping ventures use bar codes for scanning the product details purchased by the customer where he tends to wait in the long queue for generating the bill followed by payment at the teller checkout point. At times, the bar codes would have damaged and that particular product cannot be scanned causing loss to the venture's owner and each of theses actions have to be done manually. In order to solve this problem and to solve customers time of waiting in the queue, money and to help the retailers to win loyal clients, each product will have a passive radio frequency identification tag which bears a unique electronic product code.

PROJECT DELIVERABLES

The inputs and outputs of the proposed system is listed below

INPUTS

- ESP 8266 – 12 microcontroller

- RFID tag

- RFID reader

- Yw Robot

- 9 volts battery

- Infrared sensor

- Pressure sensor

OUPUT

- **Liquid crystal display**

CLIENT - SERVER

- **Local server xamp**
- **Web application built using Electrons**

CONCLUSION

In this proposed system, a secure smart shopping basket system using RFID technology is employed to enhance shopping experiences and security issues. The smart basket is able to read and to retrieve of the items in the basket and send these data to the teller at the checkout point through their server without human intervention to validate and print the bill of the purchased item.