International Journal of Innovative Technology and Exploring Engineering (IJITEE)
ISSN: 2278-3075 (Online), Volume-9, Issue-7, May 2020

Automated Super Trolley Billing System for Super/Hyper Market

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Abstract*: Electronic commerce has grown to such an extent since the advent of wireless technology to provide flexibility, comfort and productivity in daily life. Within this article, we discuss a pioneering RFID-based shopping trolley design in the super/hyper market. The long checkout lines also block our entire shopping experience. In order to overcome this issue, we replace the UPC barcode with the RFID tags on the products. The main aim of the project is to provide the customer with a positive shopping experience by reducing the limitations of the traditional shopping methodologies in all aspects..The targeted goal was to have an improved shopping experience with a technology-advanced, minimum cost, less time consuming, rush-free, commercially focused program.

Keywords: RFID tags (Radio Frequency Identification), Universal Product Code (UPC), ZigBee.

I. INTRODUCTION

With rapid rising economy, with urbanization and with industrial development in recent times, the global market has experienced a major difference with what it had before. This has become one of the most convenient and competitive industries worldwide with the retail industry playing a significant role in world economy. The advent of RFID made the conventional retail industry to work faster, simpler as well as more effective. Immediately after the proposed system, replaces the UPC codes with RFID tags, which will communicate with an electronic reader (through an infrared sensor) that would scan each object into the shopping trolley and link this reader to a wide network that would transmit product details to retailers and shop owners. The bank would be informed, and the bill balance will be deducted from the account.no lines of one. No wait. This smart shopping trolley ensures customer versatility and speeds up their purchase, thus enhancing their shopping experience as well as promoting stock management control.

Revised Manuscript Received on May 30, 2020.
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II. EXISTING SYSTEM

With the current market approach the individual has to read the barcode on each and every product that the customers have attached to the cart. The Barcode must be clear on the product surface during this process without getting any smudges or difficulties reading the barcode on each and every product that the consumer chooses to purchase. The barcode readability may be compromised by contours of soil, dust, abrasion, or packaging. The goods which the customers wanted to purchase would be scanned with a shorter distance, which is an benefit when the product is billed. As a consequence, there is no read and write capability for every commodity in the Barcode.

III. DISADVANTAGES

- Becomes a repetitive procedure by reading each and every product's barcodes by biller for each customer.
- The Barcode should be free of any impairments, such as dirt, dust, abrasion or contours of packaging.
- In case if the barcode is not checked the biller will enter the description of the product manually.

IV. PROPOSED METHOD

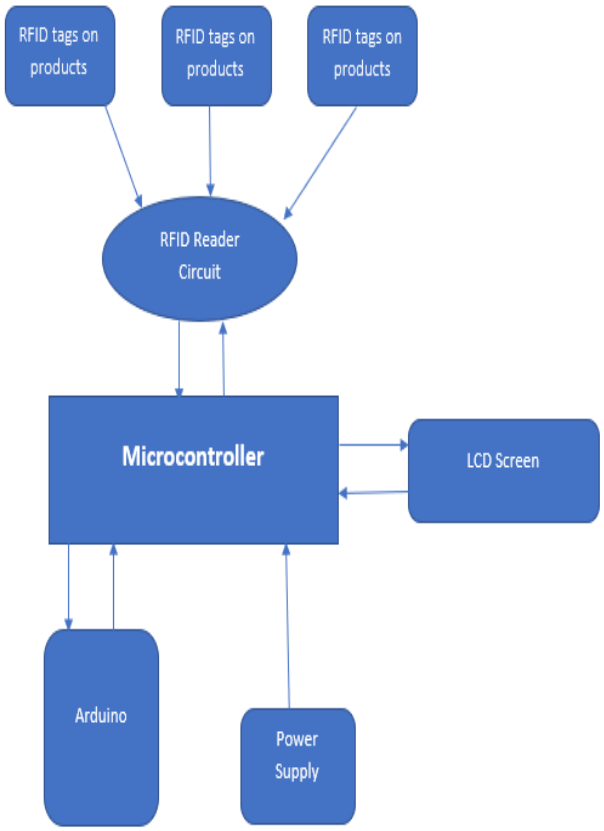
There is no need for the customer to wait in a long line for the suggested system to have the product paid by the biller in the store. The customer himself will add a product and bill himself without the need for any other human resources from the shopkeeper side. A User Card is given to the customer, which must be checked first with the trolle inorder to ensure that he has enough money to buy the items. If the amount in the user card is below the threshold value, the consumer can not go on with shopping. By reading the RFID tag on each product, the product will be bill.When the RFID is scanned, the correct details of the specific product are inserted into the trolley-attached billing system. The debilling of a particular product is often achieved by scanning the added product back into the cart.Once all the items have been bought the consumer can get the bill from the trolley by clicking the bill button itself. The bill is created, and the balance is deducted from that particular customer's user card. It is packed and checked by the individual after the items are sold, and can leave the shop

V. ADVANTAGES

- The customer will be spared from the frustration of having to wait in long queues to get their goods billed.

• Billing and crippling a given commodity will become an easy process.
• The consumer should be aware of all potential product discounts which he bills including all potential deductions.
•This process is fully automatic self-payment.

VI. BLOCK DIAGRAM



VII. RESULT AND DISCUSSION

- The proposed model is achieved with providing the comfort easy and ready to go shopping experience.
- This system helps not only the customers but also the shop owners to increase their profit when the customers are in more numbers as they experience the taste of comfort zone.
- The performance of the system needs attention towards the billing of product, proper initialization of RFID tags on each products, proper deduction of money from the user card of the customer.

FUTURE WORK

The ultimate aim of the project was to attain the targets. The invented prototype is economical within the budget, reduce the shopping time of a customer along with providing easy accessibility to the end user and also to improve the user with a better shopping experience with what has been developed in the project. There were a set of challenges with the developed project that needed to be resolved in order to make the project to function efficiently.

VIII. CONCLUSION

A The ultimate aim of the project was to attain the targets. The invented prototype is economical within the budget, reduce the shopping time of a customer along with providing easy accessibility to the end user and also to improve the user with a better shopping experience with what has been developed in the project. There were a set of challenges with the developed project that needed to be resolved in order to make the project to function efficiently.

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