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## Auto Billing Cart

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**Abstract :** A Shopping mall is widely uses in city. Customers likely to prefer to widley range of products in shopping mall. Nowdays Covid-19 pandemic situation customers avoid to go crowded places so the best solution foe shopping mall is auto billing basket cart. They purchase the all things as they need and there number of requirements. So basically they purchase product in there cart but for the payment they gone to suffer very long queues. When we go to the shopping mall for shopping, we have to work for selecting the right product. Also, after that, it is hectic to stand in line for the billing all the goods. Hence, we are proposing to develop a smart shopping cart system that will scan the RFID product and after that send all data to mobile app so we see the list of products and final amount for billing purposes. The all activity controlled by microcontroller Arduino and bluetooth. When we want to remove the product we can remove the by the re-scanning. Sometimes customers in rush if they forget to scan products then it will buzzer will out for that time.

### I. INTRODUCTION

A modern, futuristic application is the one that is customer oriented and aims at pro- viding comfort, convenience and efficiency at each level. Idea is to make shopping experience easy and relaxing beyond customer experience and relieve him of stress and anxiety of waiting in long queues. The main goal is to provide a technology oriented, easily possible and useful system for efficient shopping for a customer.

This application will be based on the RFID Technology. Application will read the RFID tag on the product and generate the bill automatically. The customer can add or delete the product from the trolley as per the requirement and the bill will be generated accordingly. Customer can make payment through debit/credit Card. in which the user will add a certain amount of money and shop accordingly and after the shopping is done with the products it will automatically deduct the amount from the users account.

The main technologies that play the vigorous role in this proposed systemare:

- (i). Arduinio is controlled all commands.
- (ii) Mobile application displaying total to be paid and supervision the inventories factor and payment link
- (iii) RFID tags for item identification details.

### II. LITERATURE REVIEW

IoT-Based Smart go-cart Using frequency Identification

Internet of Things based Smart cart is proposed which is consists of the RFID sensors, Arduino micro-controller, Bluetooth module, and Mobile application. RFID sensors rely on wireless communication and One part is that the RFID tag attached to each product details and therefore the other is that the RFID reader that reads the merchandise information efficiently. After this, each product information shows in Mobile application .The customer easily man- ages the shopping list in Mobile application per preferences. Then shopping information sends to the server wireless and automatically generates billing and makes the payments. this is often designed to eliminate time consum- ing shopping process and quality of services issues which is faces in malls. The system can easily be implemented and tested at a billboard scale un- der the 000 scenario within the future.The overcome with the issues for data transfer to counter to come up with the bills and makes to the mobile app option having payment gateway for the payment.

### III. PROPOSED SYSTEM

Introducing Auto Billing System it involves an investment of time and money. Here are some of the key benefits of adopting IOT in Auto Billing System as it will automatically generate the bill and will reduce the time of the customers for the queue.

#### IV. PROBLEM STATEMENT

To overcome the problem of after the shopping payment method on counter and products billing using automatic billing cart system by RFID.

#### V. METHODOLOGY

In the development and discussion of the proposed shopping trolley, all the product information is stored during a database at a main server. RFID tags are used to uniquely identify products. Because the products are selected and added into the cart, the RFID reader will identify the merchandise and therefore the price are displayed on the LCD display. If the customer chooses to drop a specific product, another RFID reader which is at the outlet side of the trolley identifies the merchandise and its price are going to be deducted from the entire price and therefore the value are going to be displayed on the LCD display. After the completion of the shopping the customer should press the entire button. This permits the overall bill being generated after confirmed purchase of all the chosen products within the shopping trolley. At the identical time, this information is distributed to the database server through the wireless unit. The server database is then updated to reflect the present stock available after deducting the quantity of products purchased. This ensures a smooth inventory management. In that the system we use the go-cart and therefore we send all data to mobile app through bluetooth therein Arduino. In mobile app customers will see the bills and price of product and total price in there app. After that they got payment link and makes payment within the app. in order that they don't go the long hectic queues.

#### VI. SYSTEM ARCHITECTURE

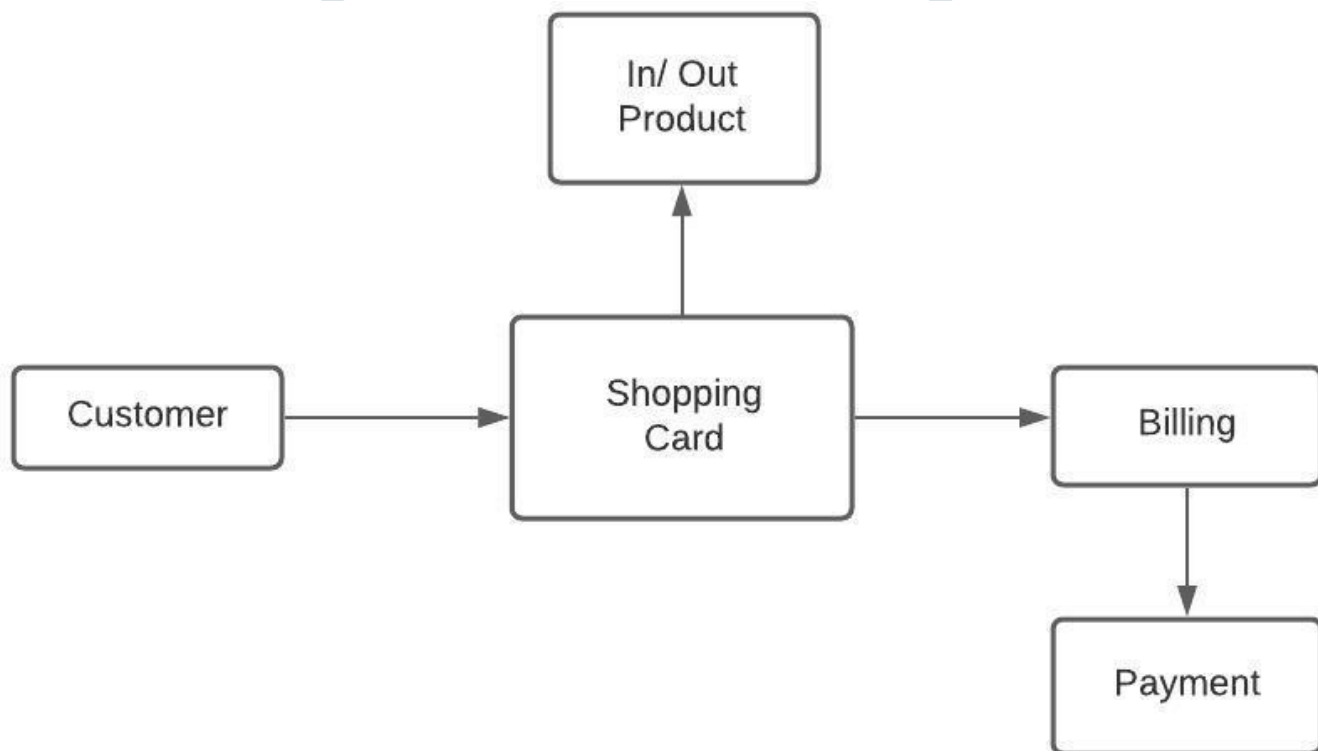


Fig 1 : Block Diagram

VII. CIRCUIT DIAGRAM

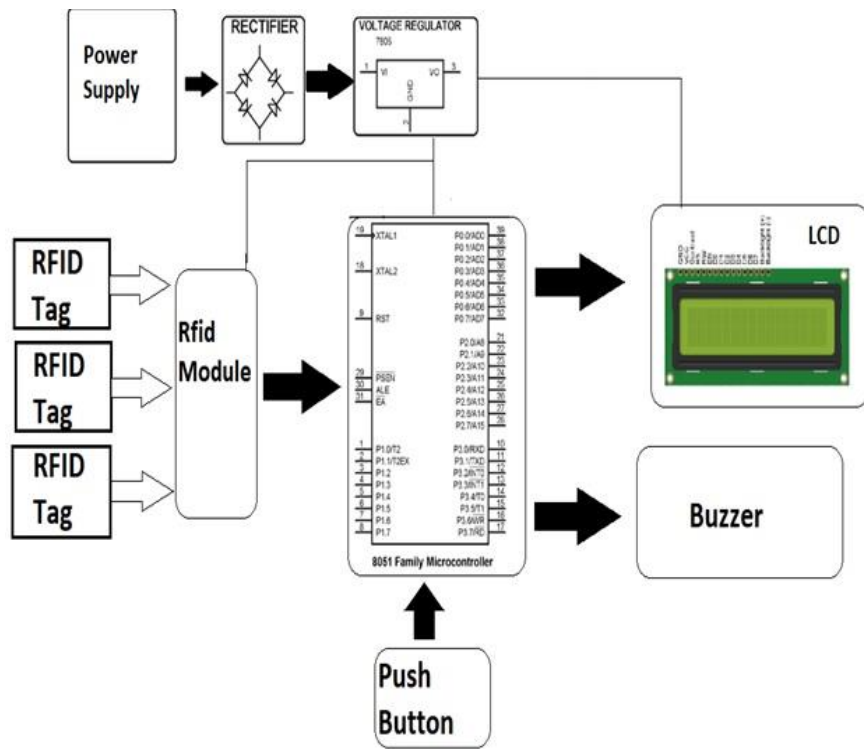


Fig 2. Circuit Diagram

VIII. RESULT AND IMAGES

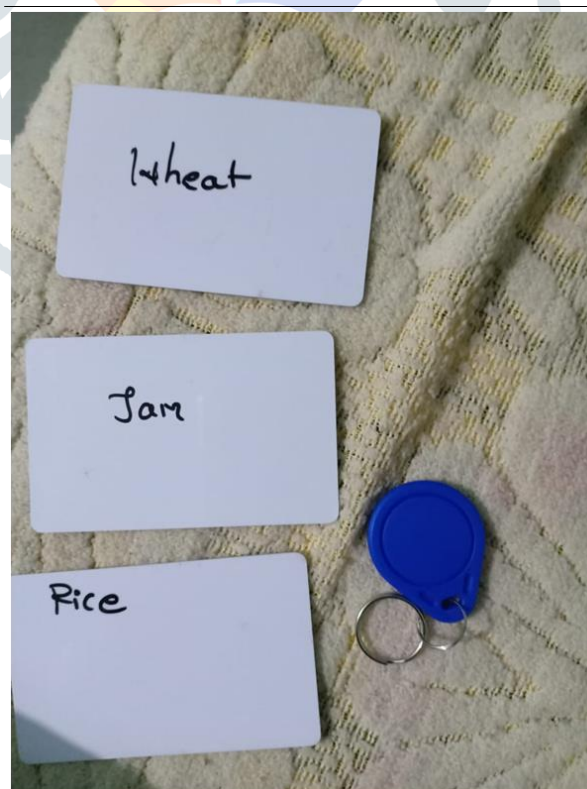
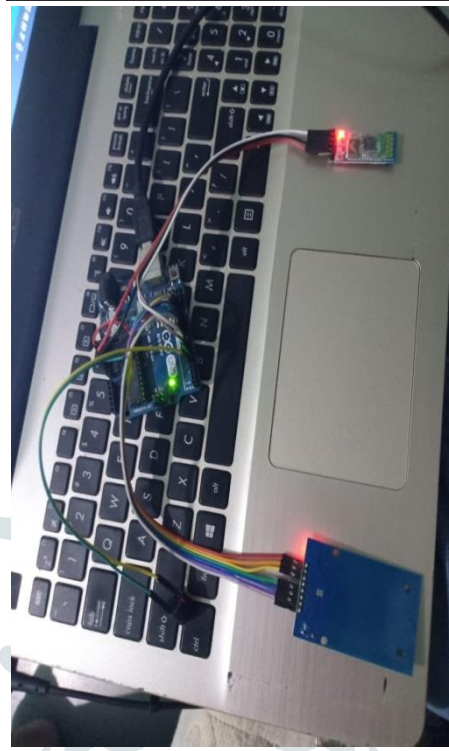
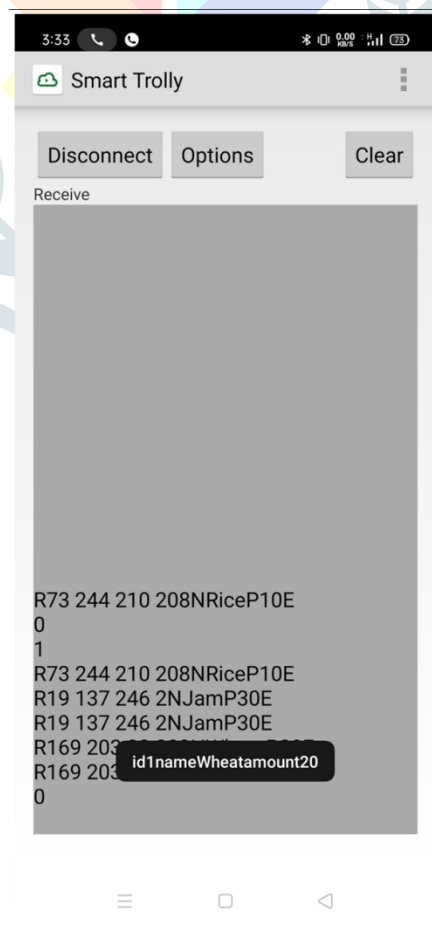


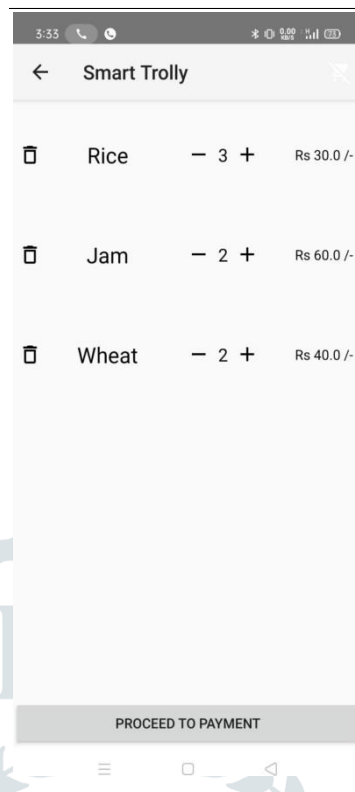
Fig 3. RFID Tags



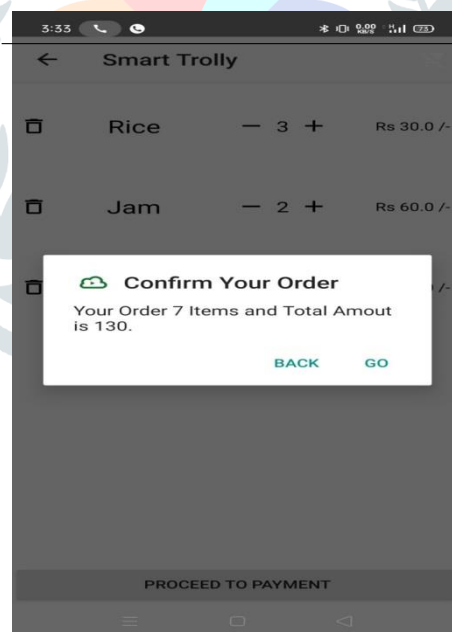
**Fig 4. Microcontroller**



**Fig. 5 Products Scanned**



**Fig. 6 Products in Cart**



**Fig. 7 Payment Gateway**

## IX. CONCLUSIONS AND FUTURE SCOPE

### CONCLUSION

The project successfully demonstrated the likelihood of using new technology for developing a wise Shopping System which automates the complete billing procedure. The cart which is developed is extremely beneficial for users and buyers. It's reliable and fair due to the effectiveness of Bluetooth and Android app combined with a highly reliable Processing technique. The system is additionally energy constraint because it uses IR sensors to avoid non-scanned product and billing purpose. Applications formed with simple accepting and therefore the design is formed and custom-made to the shopping process to create it more active and user friendly. Thus making it easier appropriate for the utilizations to try to the full shopping process with the use of this application, as compared to the prevailing systems. By result our RFID system is healthier. Thanks to this we are able to maintain social distance publicly place and it's safe to all or any malls.

### FUTURE SCOPE

In the bigger picture, it reduces the man-power requirements and crowded in shopping markets. The proposed smart shopping trolley system intends to help shopping in-person which is able to minimize the considerable amount of your time spent in shopping yet on time required in locating the required product with ease. The customer just has to type the mobile number for payment and that they got the payment link Via Messages on the android device.

### ACKNOWLEDGEMENT

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