INSOLENT SMART TROLLEY USING HYBRID INTERFACING

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Abstract*:** ***Today people usually finds the easiest way to do their work. Technology has made many innovations so that people could do their work easily without any irritation, time loss. In malls, people usually has to rush to product they want to purchase, also they have to search for the product and move trolley accordingly. Keeping this in mind, we introduced the software "Insolent smart trolley using hybrid interfacing". We introduced a trolley wherein there is a display screen, RFID READER. Whenever customer buy a product, he has to scan the product by the RFID READER accordingly the product will be displayed on the LCD display. Like this the process goes on. We had used the Bluetooth module which will used for transferring the data to main computer. Customer will also be navigated to the dedicated product. Finally the total bill will be displayed to the customer, accordingly the customer can choose the way he want to do payment. Thus these rugged system "Insolent smart trolley using hybrid interfacing" helps the people to do shopping effectively.

Keywords*:-** ***RFID READER, Arduino LCD Display,RFID tags

1. INTRODUCTION

Growing the technology and also increasing the need of the people the human lifestyle is being changing day by day. Today in 21st century the people's life is becoming to Hectic and busy. People do not a have lot time to do shopping in their day to day life. So they mostly refer to do shopping in malls, D-mart. Because people get their daily necessary things such as clothes, food, sanitary items, vegetables, and so many different things in same mall or the D-mart. This minimizes the time required by the people to buy limited thing from one place to then move to another place according to their need. Even though availability of the malls people are only available on holidays due to their working time. This also causes a problem, that on holidays each and every one goes to shopping this leads to cause rush in the mall and shopping becomes a terrible. People enters into the mall, they buy the product, carry the big trolley with them over the crowded mall, after that they have to wait in the queue for billing. For billing, the sell person takes each product from the trolley and scan the barcode of each product. This is very time consuming. This causes a trouble to every person doing shopping in the mall. To avoid this kind of problem. We have introduced the rugged system called "Insolent smart trolley using hybrid interfacing “using various technologies. This system makes is to make the

shopping reliable, easy to people. This reduce the time spent in searching the product as these system also guides the people to the product they want to purchase. These system reduces the manpower and time consumed in standing ina queue for billing.

11.Hardware Overview:

A. Microcontroller unit:

Microcontroller is a small computer on a single metal-oxide semiconductor integrated circuit chip. Microcontroller unit is used to read the information about various products. For our system we are using AVR microcontroller. For our system we are using AVR microcontroller ATmega328p.This unit is a low-power CMOS 8 bit microcontroller based on AVR

1. Memory:

Three types of memory system:

SRAM: SRAM stands for static random access memory. In this sketch creates & implement when it runs

B. Bluetooth Module:

By default the factory setting is SLAVE. The role of this module is to be configured only at commands. SLAVE module cannot initiate a connection to another Bluetooth device but can accept connection.

C. RFID Reader :

RFID stands for Radio Frequency Identification. It is rapidly technology. This is a low frequency reader with serial output with at range of 8-12cm. It is a compact units with built in antenna and can be directly connected to the pc using RS232 protocol

D. RFID Tags:

RFID is a simple concept. There are 2 types of RFID Tags such as active and passive tags

Passive Tags: They have no power source of their own, generally operated at maximum distance of 3 meters or less. The simplest of this tags is capable of holding something in the range of 64 bits

Active Tags: Active tags have their own power source, can actively and intensively transmit the data. Active tags can communicate with readers. Active tags need much less signal from the RFID Reader. Active tags are better.

E. LCD Display:

LCD is used to display the data. It acts as an output to microcontroller. It uses ASCII values to display the characters

III.LITERATURE SURVEY

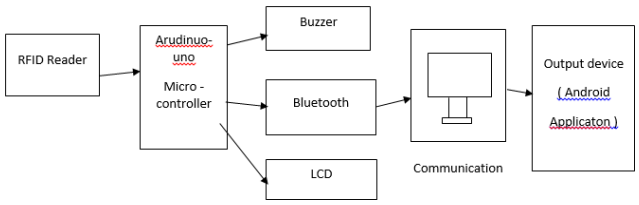
In ,a shopping chart with centralized and a automated billing system using RFID and ZIGBEEis introduced by Mr. P. Chandrasekar and Mrs. T. Sangeetha states that each product is labelled[3]with the RFID tag and each shopping chart has a Product Identification Device which involves modules or the hardware such as microcontroller, LCD,RFID and ZIGBEE.[5] The process works in this way that a product labelled with the RFID tag Will be read by the RFID READER and the product so named will be displayed by the LCD display.[5] The information about the scanned product will be transferred by the ZIGBEE module to the billing counter. [2] The total bill is calculated from the Product database and so displayed. This system tries to reduce the queue in the malls for Billing.

In [4],a smart chart trolley using RFID is innovated which creates a automaticbilling system for the wellbeing of people. The product identification device reduces the time consumed in standing in queue near cash counter for billing.[2] The customer only need to scan the product and the cost amount of the product will be transferred to central billing.[2]The customer can choose the way he want to pay for e.g. Credit/debit. This reduces the manpower and also the number of employees in mall. This system is independent and reliable for the people which makes shopping easy.[5].

IV.PRODUCT PRESPECTIVE

The major functionalities of the system are: In this system we are using RFID tags instead of barcodes. This RFID tags will be on the every product in the shop. Each trolley have RFID Reader implemented on it. Used to scan the product. Each trolley have Bluetooth module implemented on it, there will be a computer system.AVR controller will be used to store the dataLCD is used to display the details about the products.

V. SYSTEM ARCHITECTURE



The system works:

1.The customer firstly login into his/her account and then he scans the product by RFID Reader and thus the product adds into cart.

2.The customer can navigate to the dedicated product and can proceed for the payment.

3.He will be updated with the barcode in the email.he can check the hardcoded bill.

- **MODULES DEVELOPED:**

a) Registration module:

Here the customer will register for the first time and then login into application.

Some of the fields are as follows:

b) Login Module:

Customer after registration can login into the application and is updated with the menu.

c) Connectivity Module:

Here the connection of the trolley and application is established.

d) Payment Module:

Customer can do payments by debit/credit card. Customer receives OTP for proceeding payment.

VI.FUTURE SCOPE

The future scope for the project is to add the combo offers for increasing the sale.Inserting the oject sensing module in the trolley for detecting the numbers of the objects in the trolley.Implementing barcode for time consuming.

VII.CONCLUSION

This project "Insolent smart trolley using hybrid interfacing" it is something different from regular billing technique, easier, faster and more accurate. It is more reliable and easiest way for shopping. So here we conclude that the proposed that system is time saving, accurate, and reliable i.e. faster. Also it reduces man power. This is such rugged system that it navigates the customer to their dedicated product. Thus it reduces the problems faced by the people in malls due to rush.

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