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Smart Invoice Generator Using Smart Phone

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Abstract: **- This application can be very useful in reducing time at the billing section. In this project, we will strive to create a mobile app using which you can create invoice of the purchasing product without wasting time. User will select the product and scan the product's barcode using mobile application and add it to the cart here user don't have to type details & user will be able to directly see that item in the cart. It will manage the inventory as well as invoice will be generated automatically without any efforts. User will then just need to checkout at counter and pay the bill through online payment. This project will basically reduce manual work that happens at checkout counters for bill payment in shopping malls.**

***Index Terms*— Scanner, Barcode, Camera Sensor, Supermarket.**

I. INTRODUCTION

In the modern world, every supermarket and hypermarkets employ shopping baskets and shopping trolleys in order to aid customers to select and store the products which they intend to purchase. The customers have to drop every product which they wish to purchase into the shopping cart and then proceed to checkout at the billing counter. The billing process is quite tedious and highly time consuming and has created the need for shops to employ more and more human resource in the billing section, and yet waiting time remains considerably high. In this paper, we seem it fit to propose the "Intelligent Shopping Application" which aims to reduce ,and possibly eliminate the total waiting time of customers, lower the total manpower requirement and expenses for markets and increase efficiency overall. In a world where technology is replacing the ways we pursue everyday activity, the future of the retail industry also lies in more and more automated devices.

II. LITERATURE SURVEY

Over the past few years imaging technology has advanced significantly to enable high performance, imaging-based barcode scanners. The improved performance and decreased cost of imaging technology has enabled the wide deployment of 2D barcodes for many applications across many vertical industries. Imaging-based barcode scanner products are now the most rapidly growing segment of the industry. The imaging technology requirements unique to barcode scanning are presented. The camera designs are broken down into their significant components, such as the lens system, image sensor electronics, flash illumination and target aiming. The camera design is contrasted with the design of a common mobile phone camera. Reduces manpower required in billing section. This can reduce the expenses incurred by the management. Users can be aware of the total bill amount during the time of purchase. Reduces time spent at billing counter and Increases customer satisfactionUser should have a smart phones for easy access. Mobile should have proper and faster internet access. Barcode is a visual representation of information in the form of bars and spaces on a surface. The bars and spaces are designed with different widths and consist of numbers, characters and symbols such as dot, colon and others. Different combinations of these alphanumeric characters are used to represent information. There are various types of barcodes in use today e.g. Code 128, Code 39, EAN etc. (Brain, 2000) [3]. Using RFID technology you can implement same concept. The RFID reader scans all the items as and when they are put in the trolley. The record of the items bought is stored in the micro controller memory along with their individual costs as well as the total expenditure. This information will be displayed on a LCD screen which will also be placed on the trolley for the customer to verify the item bought and to keep a track on the amount spent on each item. At the billing side, the employee can get an itemized bill from each and every trolley just by giving the trolley number as the input to a software which would then print the itemized bill[4][5][8].For implementing this project we require RFID reader(hardware) that increase cost of project The smart shopping concept can be implemented using QR code also. The proposed system uses QR code to assist in shopping. The system is supposed to be used in super markets where many people need to wait in long line for billing. The proposed system will help to reduce the time spent in billing along with the need to physically carry trolley. In the system, there will be a QR (Quick Response) code associated with every product placed in supermarket.[9]

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III. PROJECT METHODOLOGY

It facilitates the user to self-scan the barcode of the purchased products which he intends to purchase. Wrongful entries can be corrected by making use of cancel option in cart .A wireless smart-device makes note of all the scanned commodities of the particular trolley and is linked with the Supermarket's backend database which contains details of the products such as Cost Price, Available Stock. The scanned products are automatically billed in the wireless smart device for their purchases, thereby significantly reducing turnaround time and reducing and transmitted to the Shop's central Billing program. By this mechanism, the time consuming work of scanning and billing every single product at the cash counter can be avoided. Users can then make use of the counter to pack and pay labor time which has become a real problem in the modern era. Using Android SKD, a GUI based android application is coded. The barcode values are preloaded into a central database and the coded Application access these values using a wireless network. Software used is MYSQL, Barcode Generator, Android Studio Hardware requirements are laptop with basic specification, Full functioning Smartphone

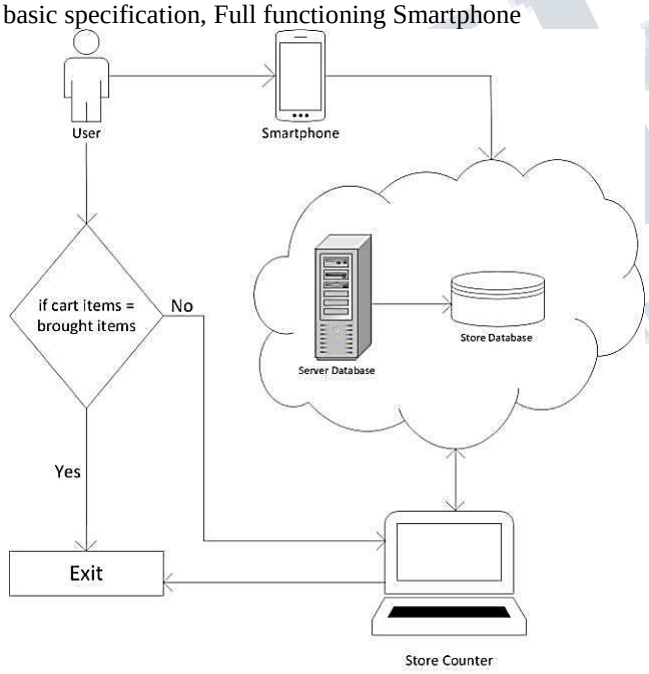

Fig no. 1 Visual abstract of our project

In above fig it shows, Using mobile device‟s camera user scans the barcode of the item user wants to buy which will identify that item that is stored in the database. The database will be stored on the cloud the information about the item will be retrieved using internet and then the item will be added in user‟s cart. User will be able to directly see that item in your cart. If user want to delete the product s/he can delete the product using cancel option in cart. This project will basically reduce manual work that happens at checkout counters in shopping malls.

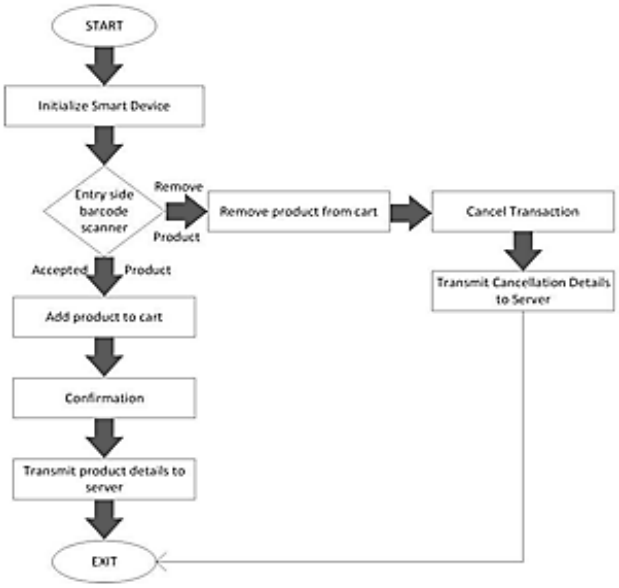

Fig no.2 Flowchart

This flowchart shows how user can add to the cart or remove product from the cart. User first initializes the application in smart devices that is mobile phone running on an Android operating system. Users can scan the barcode and add the product to the cart. Users can directly remove the product from the cart using cancel option. Transactions can be done online or offline at the counter.

IV. CONCLUSION

Taking into account the changing trend in retail shopping, we come to a conclusion that the Smart Invoice Generator is most certainly a definite necessity for the Retail marketing industry to step up their portfolios , cope up with the advancement in technology and save time and manpower.

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