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One Stop Quick Shop

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Abstract - *People shop on both weekdays and weekends, but most people find free time during the weekends to get groceries, household items. The difficult part of the shopping after spending a lot of time in buying things is waiting in a long queue for billing the items. With attractive deals, coupons and discount offers, people tend to go shopping very often and that is increasing day by day, especially on weekends. Though people do online shopping, the need for traditional shopping has not been reduced. This is an Application which avoids standing in queue and get their items billed, but still there are some apps which describes the wait time for people. In this project, the" ONE STOP QUICK SHOP" Android application helps people avoid having to stand in a long queue by allowing them to scan (the barcode) on the items they want as they are willing putting them into their (physical) shopping cart then confirm which scanned items they wish to purchase, confirm the purchase and pay their bill using any online payment method then lastly generate a receipt for the purchased items. Once the payment is made, an e-bill will be generated and this e-bill will be saved in the database for future reference and can be retrieved later. As it is quite easy to misplace paper bills, organizing them in this way has advantages.*

1. INTRODUCTION

One of the worst nightmares a customer can have is to see huge lines at the cash counters once he/she enters a store. This can cause a great deal of displeasure and irritation to the customer as the customer just wants to buy the items quickly and get out. There are always cases where in a customer needs to purchase just a single item but has to wait in the line while the people in front buy a whole cartload of products. Another problem that occurs during festive seasons as well as during this pandemic is that people don't really want to go in crowded places and wait in lines as it is unsafe. All this can actually be avoided if the customer doesn't have to wait in a queue at the cash counter but can scan and purchase the items and leave the store without ever having a single bother of waiting in queues.

2. LITERATURE SURVEY

In [1] Break-Beam sensors: Break-Beam sensors use two sensors for counting people, one being the transmitter and the other one being the receiver. The IR wave is continuously emitted by the Transmitter unit in a straight line to the receiver unit .Human passing event is considered if someone passes through the line since receiver detects the break in the signal. Break-Beam sensors are the cheapest people counting solution available in the market.

In [2] For detecting the direction of movement, 4 sensors are required in two modules. The complete solution is said to fail if the either module doesn't work. Since the sensors are suggested to be mounted exactly facing each other there are high chances of such a failure. In addition, they should be placed between 125 cm to 140 cm height from the ground and people may hit the sensors at that level inadvertently.

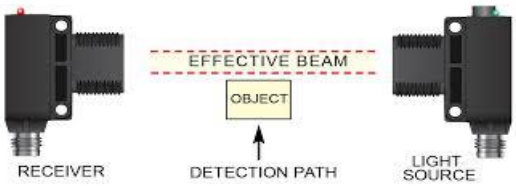

Figure 1

In [3] If the sensors are mounted at a higher level, then they don't see shorter people. Sensors should not be placed at a lower layer since then the sensors may count just the legs and may get incorrect information. Also, they cannot count accurately when multiple people move simultaneously and hence is not very useful for wider doors with traffic. Such type of sensors are only used for narrow doors which have single entrance and single exits and even there are high chances of accidental hits on narrow doors.

In [3] Barcode is a visual representation of information in the form of bars and spaces on a surface. The barcode consist of numbers, characters, symbols with bars and spaces designed with different widhts. This Symbols consist of dots, colons and others. The information is represented using different combinations of these alphanumeric characters.

3. APPLICATION

3.1 Existing System

All the supermarket stores today the customer has to choose items that he/she want to buy and go and wait in lines at the cash counter, the customer may have to wait for long time even though many times they have just one item but the customers in front have cartload.

Many superstores also are often short staffed and struggle to help the customers when they need them often causing the customers unnecessary delays and inconveniences standing in queues Certain superstores have more than required cash counters and hence hire more employees to tend to them.

This is unnecessary and usually a waste of the company money. Customers also avoid crowded superstores especially during festive seasons and thus it's a loss for those superstores.

3.2 Proposed System

In order to overcome the above problem, we have proposed to develop a system which includes an android app that enables users(customers) to view details of products and purchase them easily without having to go to the cash counter to do the same and thus eliminate the need to stand in queues and eliminate the need of multiple cash counters itself.

3.3 Scope of the Project

The purpose of one stop quick shop is to ease the shopping experience and to create a convenient and easy-to-use application for customers trying to do the payment.

The system is based on a relational database with its report generation function. We will have a database that will store the details of the items that are going to be sold by that particular shop, so when the user scans the particular item, he will get all the related details that were stored in the database. Above all, we hope to provide a comfortable user experience.

3.4 Purpose

The purpose of this document is to develop an android application for generating the bills of the purchased products in the store. This application will also give the actual count of the number of people present in that particular store

3.5 Working of the Project

- Break-beam sensors work by detecting motion. These sensors send a beam of light that's invisible to the human eye, and the sensor counts every time the beam of light is crossed.
- Break-beam sensors count people by understanding that a person will cross the beam of light twice (once as they enter and once when they leave)
- The ESP8266, Espressif systems design and manufacture this chip, which have the crucial elements of computer: CPU, RAM, networking (WiFi), and even a modern operating system and SDK.
- The Firebase Realtime Database is a cloud-hosted database.
- Cloud Firebase enables you to store, sync, and query app data on a global scale.
- An android app consists of a Barcode Scanner which will scan the barcode and generate a bill followed by a payment where all the details of product.
- The Details stored in database will be used to generate the reports which will be accessed by the Administrator.

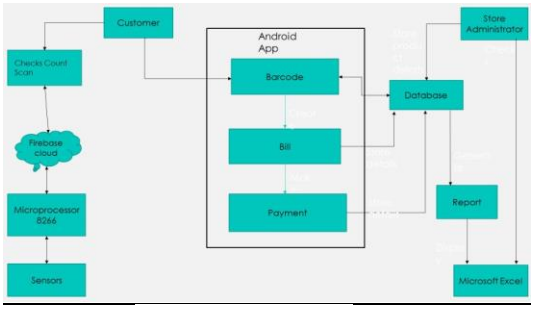

Figure 3

4. CONCLUSION

With the online superstore users will get the following benefits: Integration of multiple features under one application. Designed especially during this pandemic time, users, will be able to live track the exact number of people in the store from wherever they may be, the store employees will also be able to set a limit of the number of people in the store to abide by the government's restrictions. The users(customers) will be able to view details of products and purchase them easily without having to go to the cash counter to do the same and avoid wasting time in queues. Saves a lot of time of all the customers. Customer satisfaction as there is no hassle of long lines. Recommendation and popularity of stores to other people that uses this online shopping system. Extremely helpful during this pandemic where avoiding crowds is very important.

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