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Smart Shopping With Indoor Navigation

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Abstract: This paper presents a novel method of collaborating ease in online shopping and for security purpose as well as money wise for customer satisfaction. This is implemented using an Android application. Earlier the customer needs to physically pick up his purchase, carry cash, credit/debit cards along with them and wait in the long queue to make payments. In this application using smart phone we would read the barcode(s) of the product(s) & add it to the shopping cart (bag).We feel that this can be changed, and our idea is introduce a method that automate the checkout process by enabling automatic payment system, striving towards a new-age digital shopping experience. We propose to do this by using a smart phone application that allows the user to scan the products he or she wishes to purchase and can generate the bill by himself, make the payment as quickly as possible and can leave the store early. This application will helps us to avoid long queues and provide a hassle free checkout and not only reduce the amount of waiting time but it will also reduce or eliminate the need for a cashier.

Index Terms - *Indoor and Outdoor Detection, Smart Shopping, QR Code.*

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I.   INTRODUCTION

In this examination, we are going to actualize intrusion detection system (IDS) utilizing anomaly interruption detection method for abuse also anomaly detection. The proposed structure is utilized a classifier, whose data base is exhibited as a direct, for instance, "if-then" and improved by an innate estimation. The framework is attempted on the benchmark KDD'99, NSL KDD and ISCX interruption dataset and differentiated and other existing techniques available in the composition. The results are enabling and demonstrate the benefits of the proposed methodology. GA based rule creation framework as indicated by their component selection method that worked. For the Classification reason we utilize fuzzy logic it creates rules. Pattern phase coordinate each new perception with set up typical profile to detect anomaly. This bill can be sent to the client's versatile through web based managing an account administration accordingly the client can make fast installment and leave the shop early. The Barcode of the item is checked by the client and move to the list of things to get on the off chance that they are keen on decision of thing by utilizing the proposed versatile application. So as to build up an Android Application that utilizes a standardized tag scanner for the buying and route of things for store that will act naturally checking and automatic payment transaction. Here comes the term indoor navigation and barcode scanning. Indoor situating is as yet a testing issue since satellite-based methodology don't work appropriately inside structures. Route is utilized to locate the ideal item that makes practical for client to buy the item rapidly and can leave the shop as ahead of schedule as would be prudent.

II.   PROPOSED SYSTEM

Prior, in manual shopping we use to visit shopping centers and buy our items alongside us, it is peaceful tedious and we have to hang tight in long lines for paying bills. Presently, the client himself can check the standardized tag utilizing his portable while influencing buy, to recover fundamental subtleties of all items from shop database and create charge himself. This bill can be sent to the client's versatile by utilizing shop database. By utilizing E-wallet, client can rapidly pay and leave the shop early. The Barcode of the product is scanned by the customer and move to the wish list if they are interested in choice of item by using the proposed mobile application.

ADVANTAGES OF PROPOSED SYSTEM:
• Propose system reduce the user shopping time
• Provide the navigation to user for better experience of shopping
• Barcode help to identify product uniquely.
• Users can explore more products.

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III.   SYSTEM ARCHITECTURE:

Fig.: System Architecture

User registers and then login into application. System provide the list of most selling products. User search the required product while using categories with the help of Wi-Fi provided by shops. System sends the location of product it will show the path of that product. Users can the QR-Code using his mobile while making purchase, retrieve essential details of all products from shops database and generate bill. This bill can be sent to the customer's mobile through system and can pay using E-wallets thus the user can make quick payment and leave the shop early. User can provide rating to product.

IV.   METHODOLOGY:

K-MEANS ALGORITHM:

By using this algorithm, user is able to find the exact position of the product, thus it reduces the time of customer and it is feasible for them. The Location of the product is divided into clusters then assigning the starting point to the cluster center whose distance from the cluster center is minimum that path is been selected to reach up to the product.

STEPS:

Let $X = \{x_1, x_2, x_3, \ldots, x_n\}$ be the set of data points and $V = \{v_1, v_2, \ldots, v_c\}$ be the set of centers.

1) Randomly select 'c' cluster centers.
2) Calculate the distance between each data point and cluster centers.
3) Assign the data point to the cluster center whose distance from the cluster center is minimum of all the cluster centers..
4) Recalculate the new cluster center using:

Where, 'c_i' represents the number of data points in ith cluster.

5) Recalculate the distance between each data point and new obtained cluster centers.
6) If no data point was reassigned then stop, otherwise repeat from step 3).

V.   MODULES:

1. User :

User registers and then login into application. Search the required product location while using categories. Then scans the Q R Code to add the product into cart. Then user will pay the bill using E-wallets.

2. QR Code Scanners :

QR Code holds the all information about product like name, amount, etc. user will scan the product's QR Code to add into cart.

3. Payment :

As per the product cost, bill will generate by system. User can pay the bill by online payment using E-wallets.

4. Most Selling Product :

System will find out which product are selling most. System will provide most selling product list to user.

5. Product Recommendation :

System will provide the recommendation to user.
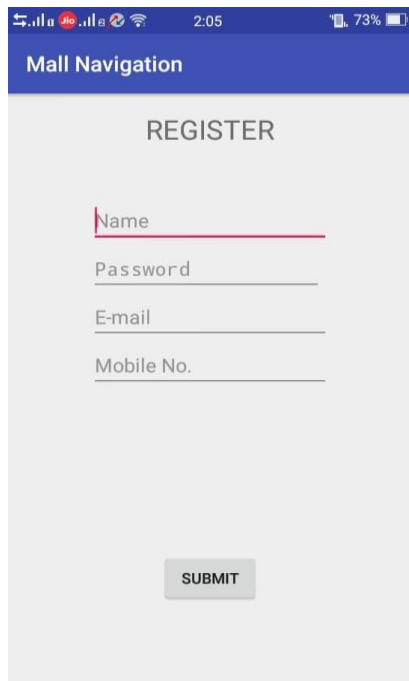
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6. Rating :

User can view product rating provided by other users. User can provide the rating to any product.

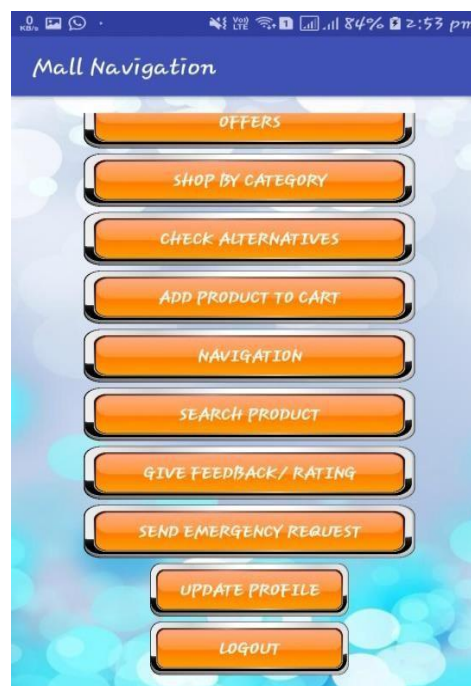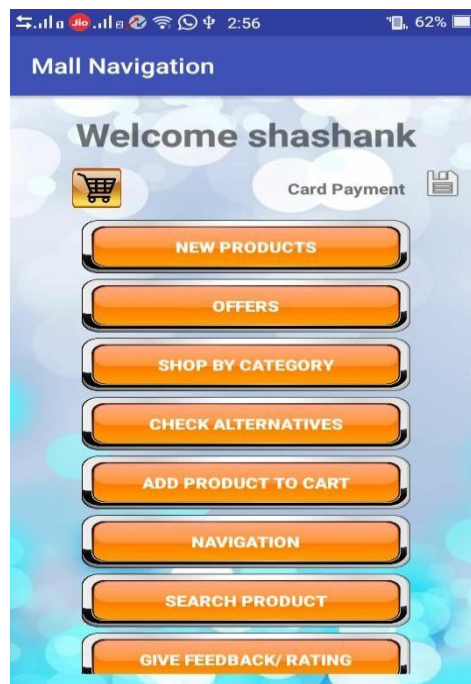VI.   SCREENSHOTS OF MODULES:

1. Register :

User registers his details.

2. Login :

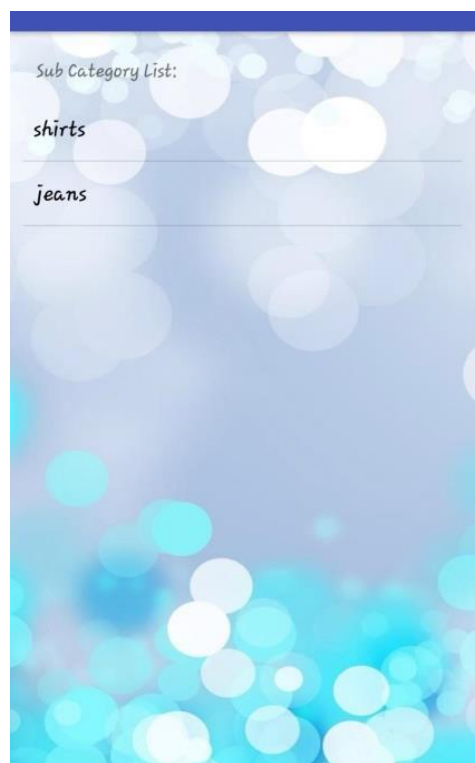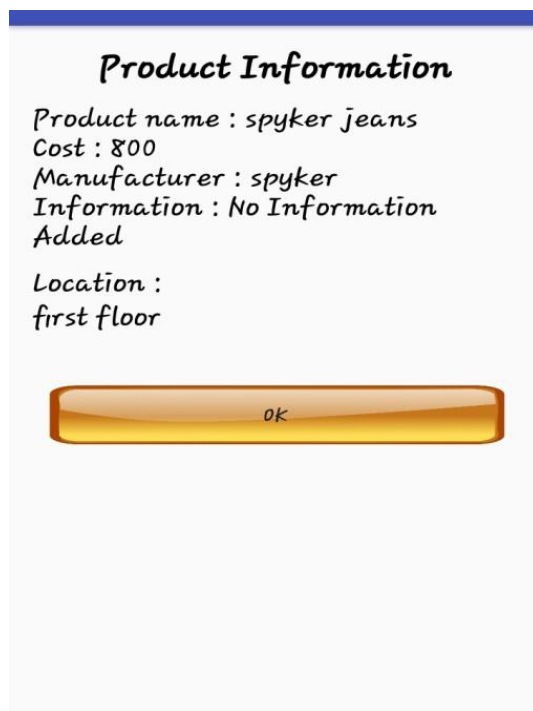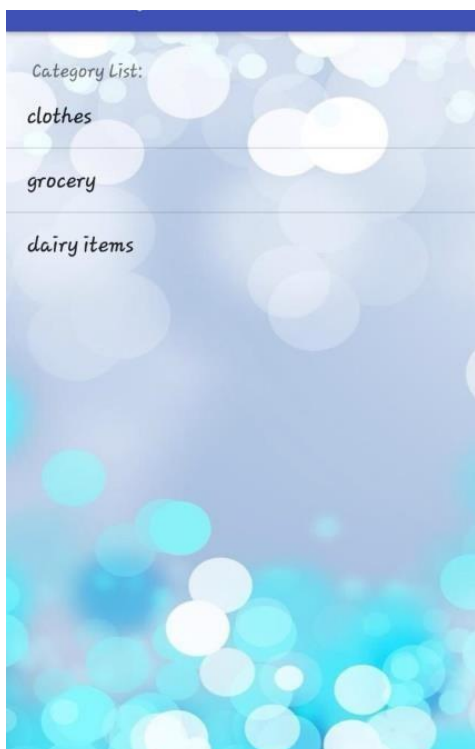After registration login is necessary.


2. Home Screen:

1. Shop by Category:

Customers search the required product location while using category. Customer will get all essential details about the product from shop database.

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2. Search Product, Navigation, Payment :

Customers search the required product after that system will show the path of that product. Customer will get all essential details about the product from shop database. As per the product cost, bill will generate by system. User can pay the bill by online payment using E-wallets.

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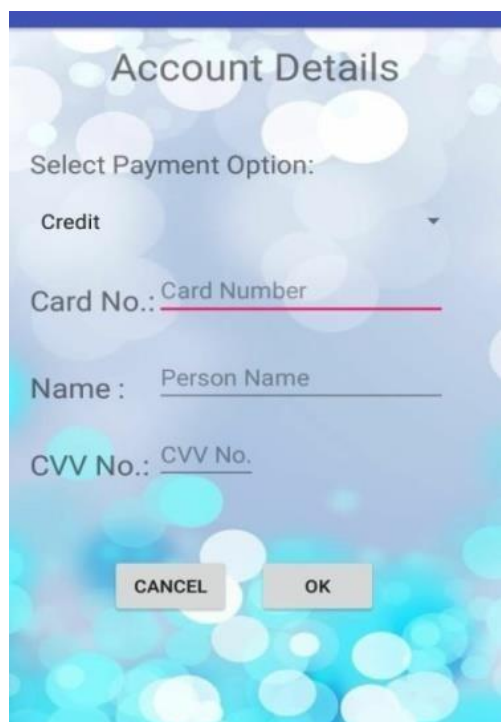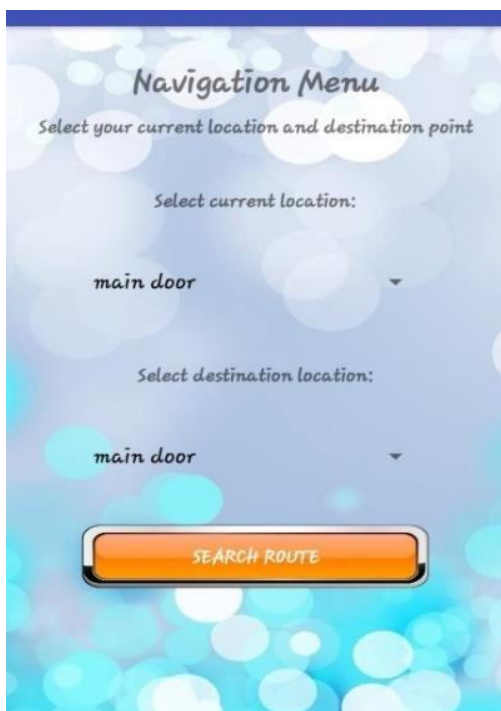
VII.   FUTURE SCOPE:

- Propose system could be used in canteen for selecting food and bill payment.
- Propose system effectively used in Shopper for notify towards expected product.
- It also reduce affords of customer and shopper at the time of bill payment.
- Propose system could be used in shops for billing purpose.

- Also provide a online feedback system to the all mall in short time.

VIII.   CONCLUSION:

In a stage went for advancing shopping techniques and make individuals life less demanding, we are going to assemble this versatile application that could assume an essential job in Indian culture in general. The utilization of Pocket PC shopping center guide as a shopping center pilot, notwithstanding helping the clients to discover shops productively and successfully, could make mindfulness in utilizing savvy cell phones for adaptability in pretty much every assignment among the shopping.

IX.   REFERENCES:

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