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SECURE SMART SHOPPING SYSTEM USING ANDROID APPLICATION

Sayali Bhagat[1], Shamshoddin Mujawar[2], Pranati Salunke[3], Sayali Kokane[4]

[1,2,3]Student, Department of Information Technology, APCOER Engineering College, Pune, India
[4]Asst Professor, Department of Information Technology, APCOER Engineering College, Pune, India

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Abstract - In today's Life, traditional shopping is a very time consuming job. In traditional shopping, the customer has to wait in long queues at the cash counter. This consumes lot of time and energy of both the shopper as well as cashier. To overcome this process, we are developing the smart shopping system using android application. In this system, User has to download and install the application on is android phone. After that, he scans the products QR Code and adds the quantity for the product. Then the product is added into the cart. In this way user purchase the products and add it into the carts. User can add or remove the products from the cart. The recommended products and the nearest path for that product will displayed to the user. After purchasing the products, the bill is generated. This bill can be sent to the customer's mobile through online banking service thus the user can make quick payment and leave the shop early.

Key Words: Android Application, Wi-Fi Module, QRCode, Smartphone, Product recommendation.

1. INTRODUCTION

It's very difficult to find expected product in to mall. In traditional way product is arrange by its category like toys, cloth, etc. still this method not that much effective. To solve this problem, propose system provide the navigation to product. Traditional purchasing system is very time consuming. Customers wait into line/queue for bill payment. Propose system reduce the bill payment time. QR-Code is emerging technology which is capable to effectively store information of product. QR-Code helps to make system automate. Propose system effectively used in mall 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. Propose system could be used in canteen for selecting food and bill payment. Mall getting popular now days in cities. New malls are getting bigger and bigger every day. It's difficult to find the exact expected stuff in mall. Indoor positioning is still a challenging problem because satellite-based approach does not work properly inside buildings. GPS is not usable in indoor, so for indoor positioning, we need to use other technics to navigate in side mall. At the time of billing customer need to wait for long time in billing line. We need new system to solve all mention problem Propose system help to solve all problems. Users have to download and install the application on is android phone. After that, he scans the products QR Code and adds the quantity for the product. Then the product is added into the cart. In this way user purchase the products and add it into the carts. User can add or remove the products from the cart. The recommended products and the nearest path for that product will displayed to the user. After purchasing the products, the bill is generated. The billing amount is deducted from his account after purchasing the products.

1.1 Aim of Project

The Aim is to simplify the whole shopping process for customer by using the android application.

1.2 Scope of Project

Propose system effectively used in mall 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. Propose system could be used for product recommendation and rating

1.3 Motivation

1. Customer has to wait in long queues at the cash counter, it is very time consuming process.

2. .To reduce time and manpower, we will design a Smart Shopping System Android Application.

1.4 Objective

- To reduce time required for purchasing product
- Notify the product location
- Minimize the affords require for billing system.

2. Literature Survey

1. Suk-Hoon Jung; Gunwoo Lee; Dongsoo Han "**Methods and Tools to Construct a Global Indoor Positioning System"**

This paper introduces methods and tools to construct a GIPS by using WLAN fingerprinting. An unsupervised learning-based method is adopted to construct radio maps using fingerprints collected via crowd sourcing, and a probabilistic indoor positioning algorithm is developed for the radio maps constructed with the crowd sourced fingerprints. Along with these techniques, collecting indoor and radio maps of buildings in villages and cities is essential for a GIPS. This paper aims to collect indoor and radio maps from volunteers

who are interested in deploying indoor positioning systems for their buildings.

2. Gennady Berkovich; "**Accurate and reliable real-time indoor positioning on commercial smart phones"**

This paper outlines the software navigation engine that was developed by SPIRIT Navigation for indoor positioning on commercial smart phones. A distinctive feature of our approach is concurrent use of multiple technologies for indoor positioning. Measurements from such smart phone sensors as IMU (3D accelerometer, gyroscope), a magnetic field sensor (magnetometer), Wi-Fi and BLE modules, together with the floor premises plan are used for hybrid indoor positioning in the navigation engine.

3. Mr. p Chandrasekhar and Ms. T. Sangeeta **"Smart Shopping cart with automated Billing System",**

Ever since the debut of wireless technology, electronic commerce has developed to such an extent to provide convenience, comfort, and efficiency in day-to-day life. The main purpose of this paper is to provide centralized and automated billing system using RFID and ZigBee communication. Each product of shopping mall, super markets will be supplied with an RFID tag, to identify its type. Every cart contains PID (Product Identification Device).

4. Alfred. P. F1 **"Improvised Smart Shopping Based on Android Application"**

This paper is all about providing a human-centered approach for de-signing a ubiquitous computing system which aims at providing a better experience for shoppers at a supermarket and a comfortable way for a hassle-free shopping experience, which eliminates the drawbacks involved in a traditional way of shopping for both customer and a retailer. This idea has been implemented with an android application using smartphones with android application. This application has two modes of operation-online (inside the shop) and offline (outside the shop). Facilities such as offers, payment (both wallet service & cash), invoice generation and history of purchase are provided.

5. Javad Rezazadeh, Kumbesan Sandrasegaran and Xiaoying Kong "**A Location-Based Smart Shopping System with IoT Technology"**

In these paper design a location-based real time shopping system to provide an efficient IoT based advanced recommendation service for customers and managers by using four components, including location of everything component, data collection component, data analyse component and data mining component.

3. Existing System

The existing system requires more computational time, more manual calculation and the complexity involved in selection of feature is high.

4. Proposed System

In these system different module are used hence it is save time. User can be handle easily it can display accurate navigation and location.

4.1. System Architecture

User Login into system. System provides the list of most selling products. User search required product in system with the help of Wi-Fi. System sends the location of product. User can view information along with rating of product. System provides the product recommendation to user. User scan 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 online banking service thus the user can make quick payment and leave the shop early. User can provide rating to product.

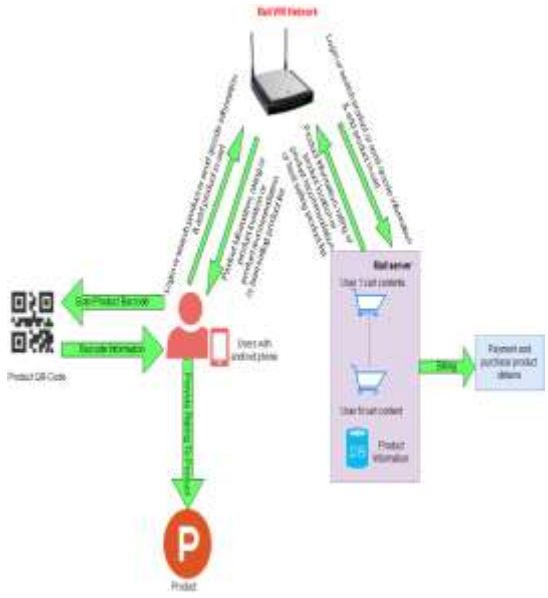

Fig No.4.1 System Architecture

4.2. Algorithm

1. Disaster Algorithm

We propose a disaster algorithm which repairs the network. It provides the list of locations where to put new nodes in order to patch the coverage holes and mend the disconnected components.

2. Apriori Algorithm

Apriori is an algorithm for frequent item set mining and association rule learning over transactional databases. It proceeds by identifying the frequent individual items in the database and extending them to larger and larger item sets as long as those item sets appear sufficiently often in the database. The frequent item sets determined by Apriori can be used to determine association rules which highlight general trends in the database: this has applications in domains such as market basket analysis.

5. Advantages of Proposed System

- To point out exact place of expected product to customer.
- To pay bills easily on cash counter
- View and provide rating to product
- View popular product
- Provide recommendation to user

6. CONCLUSION

In a step aimed at promoting shopping methods and make people life easier; we are going to build this mobile application that could play an important role in Indian society as a whole. The usage of Pocket PC mall navigator as a shopping mall navigator, in addition to helping the users to find shops efficiently and effectively, were able to create awareness in using smart mobile devices for flexibility in almost every task among the shopping.

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