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Provisions Ordering Smartphone Application Using Android

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Abstract: Android platform is very popular and holds the maximum users while compared to other platforms. It has millions of users who use it for its simplicity and other features. The customers at retail stores have to spend their time in locating, choosing products as per their wish list and proceed for the billing process by standing in queues. This whole process consumes customer's inestimable time and energy. The Provisions Ordering application saves our estimable time by making complete procedure online. This paper is composed of a new mobile application developed for Android Smart phones. Database technology plays a vital role in business applications and it has evolved from paper work to query processing. Here data are stored in SQLite database which is an embedded database available in Android. The time consumed for purchasing products is minimized.

Keywords: Android, SQLite database, Provisions Ordering, Smartphone, Business Application

I. INTRODUCTION

The Internet plays an important role in each individual's life and everything in this world is evolving as per the technology development. In the beginning of modern era, Computers played a major role in computing and as the technology expands everything has changed and the computers became workstation computers, super computers and so on. Later emerged the mobile technology and now mobility became everything. Everything made easy using mobility. Since the customers' Internet activities have shifted from using browsers to mobiles, there arises the new opportunities to interact with products from mobile. Provisions ordering application is a retail application which is targeted for Android device (i.e. a mobile operating system which works on Linux kernel and also used in televisions and wear watches [9]) which helps customers to view the items available at the store and details of the product. This paper describes how the customer can buy the products without wasting their time visiting stores and standing in queues for completing the billing process [1]. The application developed here is designed for KitKat version which runs faster [10]. And also the embedded SQLite database is used to store the customer id and password. Only registered users can perform login and continue for the ordering and purchase of the products available in the store. Android allows users to customize the home screen with the shortcuts of the application. The Android applications have an extension .apk (i.e. Android Application package which is a package file format used to install application onto the android phones. The Android programs are built using programming languages like C,C++ or Java[9]. Android is a collection of software components such as Android Runtime, Libraries, Linux kernel, Application Framework and Applications layer where the user can interact with applications like Contacts, Phone, Browser and so on[9].

II. RELATED WORK

The first approach on how to support query operations on encrypted data with bucketization, after the data is encrypted, the In 2014,SubhashreeSamal et al.[1], focuses on the issue of waiting time in billing queue and the application developed was used by the sales person to perform barcode scanning as well as payment process which reduces waiting time. The customer can collect the products of their wish list and the barcode of these products will be scanned by sales person and further payment process is done.

The idea of location based mobile application for placing order and parcel services in the available restaurants nearby the current location of the customer was presented by Aniket Sahaniet al.[2] in 2014. The payment also made online and this minimises the search for restaurants nearby. This application works by obtaining the location information of the user and utilizing this information to provide the ordering and parcel service. The placed order is sent to kitchen and cashier.

In 2014,SQLite database was made more secured and efficient by providing user authentication by KiranDhokaleet al. [3].

In 2012, BhavanaMalhotra et al.[4], focuses on the study of transmutation of paper-pen based methodto the mobile application and gives the description about the existing applications like "Out of milk" and "Shopping lists". These applications have the features like voice recognition and barcode reading and scanning.

The aim to enhance the sales of Regional products using the mobile application was put forth by JaegeolYim [5] in 2014. This application has the feature of using the Internet TV and this is integrated with the application. The payment can also be done by the credit or debit card. This app will contribute in the increased income of farmers and fishermen.

The issues in buying new mobile phones based on the user reviews and secured payment was described in2012 byPhilip Smith et al.[6]. The mobile phones can be bought using the application and search results can be based on the customer reviews. After selecting the phone the user can pay via PayPal, Google Wallet and so on. The authentication can be done by scanning the finger print (i.e. Biometric mechanism which has the increased security and authentication for mobile payments).

Julian Seifert et al.[7], focuses on the new approach of shopping and planning furniture and interior items. In 2013,this application allowed users to scan the labels of the product and arrange as per their wish. This can be implemented using NFC environments or Barcode scanning.

In 2013, P. VijayaPrasad et al.[8], presents an application which is developed to guide the customers who enter the mall. The application provides the shop details by search functions and directions to visit the shop. The Wi-Fi based app provides the Store details, Search by name, Floor plans, Directions and current location.

There are many Smart phone applications which works on the concept of Shopping and the previous works done were to visit the shop using directions[8], buying mobile phones[6], simple shopping list[4], online food ordering in the nearby restaurants[2] and finally comes the barcode scanning app for billing process[1].

III. PROPOSED WORK

The Scope of the project is to minimize the shopping time at stores so that the android application allows the customers to order and pay from mobile itself. In practice, the application can be used widely to enhance the quick ordering of products.

a) *Android*

Android is an operating system developed for mobile devices like Smart Phones and tablet computers. Android is well placed to satisfy the market needs through mobile technology. Android is an open source platform which allows the developers to work on it. Every Android application uses the available libraries. It has an embedded lightweight database named SQLite [8].

b) SQLite

SQLite is a relational database contained in the C programming library. It is the popular choice for storing the user information within the application and it is stored in the client side. It is the most widely used database. Database[3] created can be accessed by name to any class in the application and it cannot be done outside the application or any other application. It helps the developers in handling data in a simple way with the use of database features.

c) Development Tools

Eclipse and Android SDK Tools are integrated development environment (IDE) [8] for designing and developing the Java based applications.

d) Eclipse

Eclipse is a multi-language Integrated development environment(IDE) which comprise a base workspace with extensible plug-in systems. The applications are mostly developed using Java and other languages can be used by adding plug-ins[11].

e) Android SDK Tools

Android Software Development Kit (SDK) which is a set of development tools. They include the tools like debugger, libraries, emulator, tutorials, documentation and sample codes. Eclipse and Netbeans supports Android development via plug-in.[11]The older tools and platforms are downloadable content which can be downloaded at any point of requirement. Android applications are packaged file system with .apk file extension which holds the .dex and resource files etc.,

As the saying "TIME IS GOLD" goes this paper focuses on the development of mobile application which can be exploited for the shopping purpose[1].In order to proceed with the shopping process, the previously available applications allows the users to select the shop of their interest. But the provisions ordering application mainly focuses on the specific shop (i.e. an individual shop) This allows the customer to use the application of a popular provision store with a user friendly and sophisticated interface for ordering and paying for their orders.

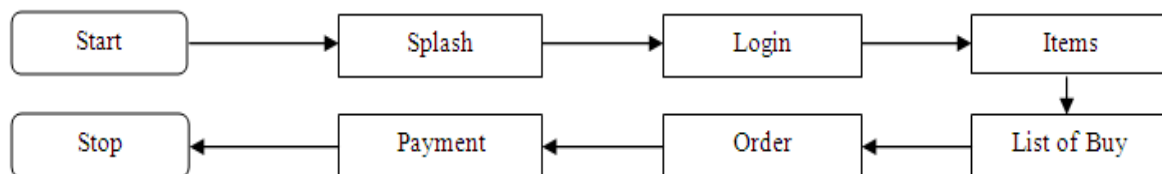


Fig. 1 A Sample flow chart for the provisions ordering application

The implementation steps includes.,

Step 1: Create Package.

Step 2: Import required classes.

Step 3: Create Database named DB.

Step 4: Create table (Create_UserInfo Table)

Step 5: Add values to the table.

Step 6: Declare Cursor for fetching values from table.

Step 7: Display Item details.

Initially the application will be added in Google Playstore since it is an application for the particular store. The Customers can follow up by downloading and installing in their android mobile phones and tablets.

Post installation all they need to do is to furnish the login credentials. This is done for the authentication purpose. The data is stored in a table named userinfo using SQLite database which is an embedded Database available in android. Through this application there will be an effective interaction between customer and store in charge. As soon the user logs in there appears the item list which are all available in the store. And the search option is also enabled to look for the desired item. The item displayed with name, cost and other details. Customer can enter the quantity and choose the product. The proceedings can be done on selecting items and click on buy option. This allows the customer to buy the selected products.

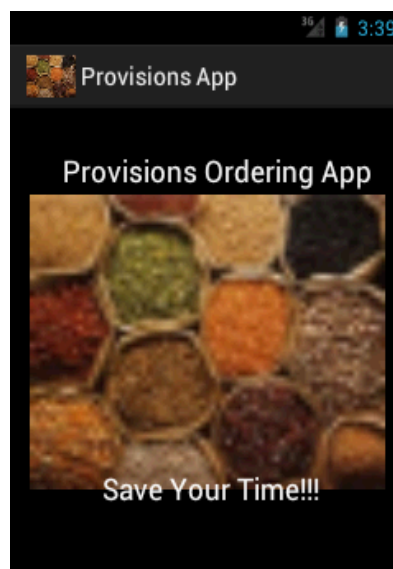
The payment options like Cash on delivery, e payment and shop pickup are available. Here in this application, the new way of order and payment is introduced. The customer can order from application and on his/her return from office he/she can pay and pickup the packed products from store. This reduces the shopping time and it incurs only the time of goods pickup. The payment can be done by credit/debit card directly or through well-known gateways like PayPal, PayU.

IV. RESULT AND OUTCOME

The Application consists of sequence of activities as mentioned below:

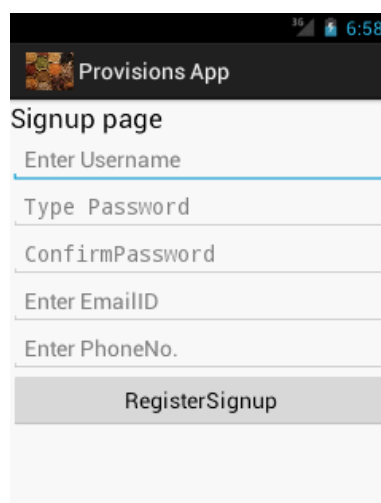
A. *Splash Activity:*

The Activity displays the name of the shop and logo.



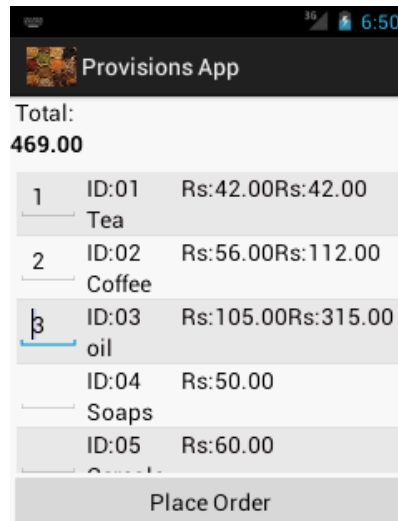
B. *Signup Activity:*

User needs to enter their credentials to login.

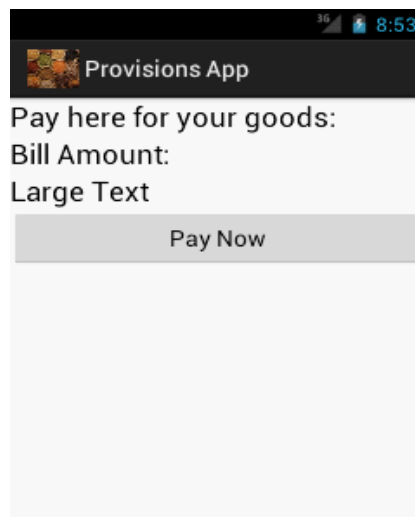


D. Custom Selection Activity:

Displays items and search option can be used to quick search of product.

**F. Payment Activity:**

It will redirect to payment and billing process. User provides details for payment.

**V. ADVANTAGES**

1. Billing based on mobile payment and this allows user to save more time when compared to queue based payment at stores.
2. Application provides complete list of products and customer cannot miss any.
3. Minimizes the customers' load.
4. Minimizes the error in making payment.

VI. LIMITATION

1. The Application does not provide the Look and Feel for the customers.
2. Expiry date of the products cannot be viewed.

VII. CONCLUSION

In this paper we have presented a mobile provision store application, developed for Android using SQLite database, mainly designed for the customers to save their shopping time at the store. The customer can install the application and continue the ordering of products. Finally payment can also be done from the application. This will help the customers to save their waiting time at billing counters. The problem of data storage is solved by storing them in popular open source SQLite database.

VIII. FUTURE WORK

To improve the efficiency of data processing, cloud messaging can be used. Using this technology, faster and extensible data is delivered to the user regarding transaction and delivery details.

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