

PROVISION MULTI-VENDOR APPLICATION SYSTEM

¹Dr. L. Nalini Joseph,²P. AlphinNirmal, ³A. Mohamed Aashiq, ⁴K. Vignesh Raja¹Professor, CSE Department, Loyola Institute of Technology, Chennai^{2,3,4}Student, Department of CSE, Loyola Institute of Technology, Chennai

Abstract: The objective of this paper is to use the Android mobile application to purchase grocery items. This would help the consumers to purchase the grocery items through their mobile application and get the grocery items delivered to their home, office or anywhere else directly. The users can also select the nearby provision store or any other supermarket which is present in their location and then select their items. The application is thoroughly built only in the Android platform and is supported only for Android mobiles. Thus, the application guarantee about user-friendly in use, provides help desk, security services etc. This would save the time of the purchaser instead of going to the grocery store to snap up the items and standing on a big queue for debiting the products and would also help the shop proprietor to develop their business which will not depreciate their business revenue for adapting this system by the consumers. It also helps retailers to create brand awareness so that the consumers feel self-assured to themselves about the products procure through online. This would lead the consumers to increase their familiarity in purchasing grocery products through an online application using the internet. The shopkeepers should also ensure timely delivery of ordered grocery products without any imperfection in the products and also ensuring the damage to the products at the time of deliverance.

Keywords: Multi-Vendor, Supermarket, Provision, Grocery item, Groceries, Pantry Box.

1. INTRODUCTION

For the past two years, people of India changed the shopping pattern from traditional shopping to online shopping because of the increase in the use of internet in our daily life. Today, everybody is familiar with the use of mobile phones. So the android based smartphone is booming up each day which tend the people to finish their works through their mobile phones. Now-a-days when

everything is possible to do with our smartphone like paying the electricity bills, purchasing the electronic items through online, booking tickets through the mobile app, booking taxis, auto-rickshaws, etc. Based on this fact why not people use their mobile phones to purchase their grocery items so that it would help people to save their time instead of spending 2-3 hours for purchasing and then standing in the long queue in the supermarket for debiting the items. There may be some existing systems for this situation but it is not going to help the shopkeeper at any cast. There are many applications like BigBasket, Grofers, etc (single-vendor concept) for purchasing the grocery items but as mentioned before it does not help shopkeepers, it benefits only the intermediaries acting between the consumer and the retailer. The system must be built in such a way that both the consumers and the retailer must be satisfied in using the technology where this system provides it. This system benefits both the consumer for easy online shopping and the retailer in such a way to increase their business growth. Since now-a-days people have adopted the culture to purchase through online application using the internet this system also paves a way for the consumers and the retailers to get the benefit of it. The merits of using this system are that the people can save time so that they relax themselves or spend their time with their children, family or friends. Thus the following sections discuss about the previous study related to the system and its main advantages of adopting this system. And also discuss about the testing method followed for improvising this application system to perform efficiently and user friendly to the end user.

2.LITERATURE REVIEW

As mentioned in the introduction, the main intention of this paper is to bring all provisioning store to one place for buying groceries by checking the price, product quality, availability. Displaying all the nearby supermarket into one single application to

the users to achieve Multi-Vendor concept in the application system. This literature helps in identifying the research gap in the area of this current research.

1. Thus before implementing this multi vendor feature, some studies have been conducted to determine the customer needs for online shopping. However, this online shopping for pantry items is still in the nascent stage.
2. Further, buying groceries from online store/web stores is rather a new concept in developing countries like India in comparison to developed counterparts, so it would be interesting to study various factors affecting consumers' buying behavior towards online grocery.
3. The Literature review also indicates that existing consumer research has also investigated the consumers' different choice of behavior when shopping online versus in-store.
4. The Literature review shows the conflicting and inconsistent results about the direct effect of consumers' attitudes towards online grocery shopping on buying behavior since every individual has a different choice of behavior.
5. There has been no comprehensive investigation of the wide range of factors including flexible transactions, security, trust, convenience, personal attention, service support, and price promotions and their influence on buying behavior towards online grocery.

The overall objective of this study is mentioned as follows:

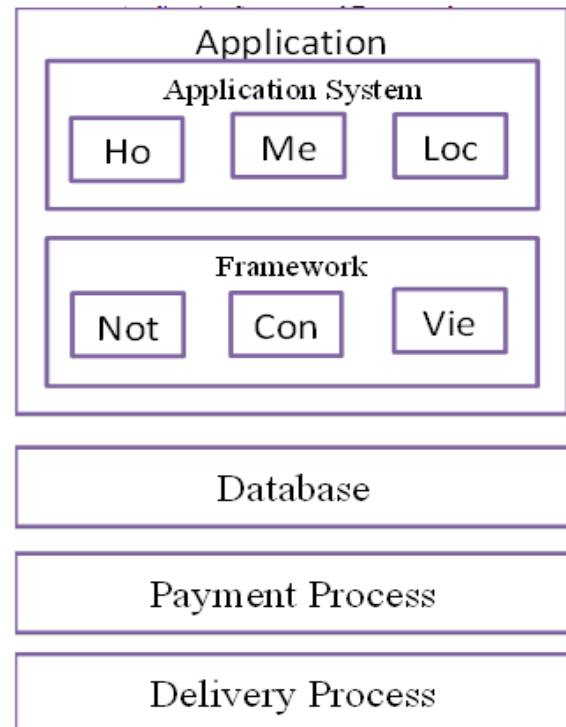
- To provide customers with great value at competitive prices, product quality and meet the needs of its customers.
- To study and develop a conceptual model on online grocery buying behavior.
- Efficient and economical receiving, handling and issuing the items from the stores.
- To ensure adequate and timely supply of store under proper requisition and authorization.
- To derive marketing implications from the information gathered.

In the above-mentioned research gaps, it endeavors to address these notified gaps by developing and examining a conceptual model in the context of online grocery shopping. Thus this should also be undertaken in the development of this user-friendly application system. A search of literature survey has revealed that no prior studies in the context of Multi-vendor application system in the Indian online grocery field. It is also important to realize the buyer characteristics that impact the online grocery shopping behavior.

3. PROPOSED WORKS

The main aim of this paper is to achieve the multi-vendor concept by displaying all the nearby grocery stores which is fetched through the location where the user is present. This concept is developed as the android application which acts as the benefit of both consumer and the retailer. The architecture of this application system is shown below.

4. ARCHITECTURE



The architecture of the application consists of four layers. They are Application layer, Database layer, Payment process, Delivery process.

Application Layer

They are Android applications which are either custom built that are provided with Android. The application layer consists of two parts. They are Application System and Framework.

a. Application System

The Application System describes the user interface of the application. This shows the UI of the application and the options available in the menu and displays the stores based on the location.

b. Framework

The Framework describes about the package of different components each tasked for a specific aim. These are some pre-defined set of packages that must be present in default in the android application.

Some of the frameworks in the application like notification, contents of the application, view objects such as button, checkbox etc.

Database Layer

The Database handles all the data and the information which consists of the data like grocery stores, products available and also the authentication details of the user which is highly confidential. Thus the database is used for manipulation process in the application system.

Payment Process

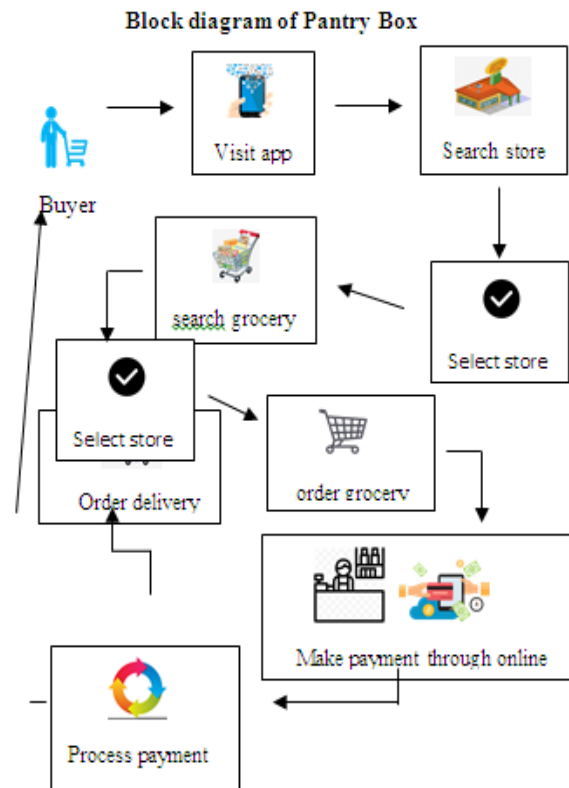
The Payment process is used to manage the electronic payment transaction which is also called as online payment using the internet. The payment process through online must be safe and secure with the trust credentials.

Delivery Process

The Delivery process is dependent on the individual grocery store which should be following the timely delivery of the ordered grocery products to the respective consumers.

4. WORKING OF THE APP

The name of the application is given as the “PantryBox” which will be available soon in the Google PlayStore where the user can install the application through it. The working of the application system is described as follows.



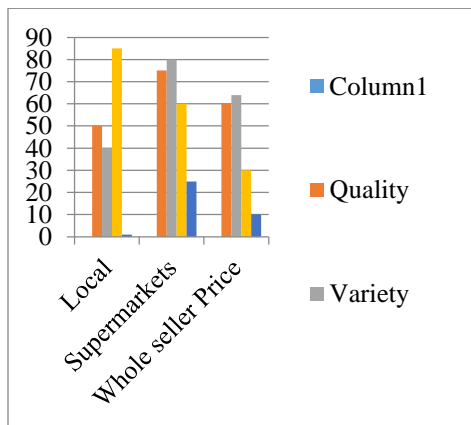
I.

I. Merits of this Application

The goal of this system is to achieve multi-vendor concept in the Indian grocery system and so far there is no such idea is being existing for the online grocery shopping. The pros of using this application are listed below:

1. The main advantage of adopting this system is less time consuming for the purchase of the products.
2. Reduce of the unwanted luxury purchase which helps the consumers to select what actually they need.
3. Instead of travelling from one store to another, it is easy for us to find what items available in the nearby grocery stores.

4. Also easier for the consumer to compare the price of the products from two or more nearby provision store in a pressure free environment.
5. The provision store also sends best quality items and freshness to minimize the complaints.
6. Avoids crowd, parking queues and also not standing in a long queue for debiting the products.
7. Easy delivery of the items by the concern pantry store itself by scheduling a time-slot where the consumer need.
8. Analyzing the customer preference for the products that consumer need and also the store that the consumer prefer.
9. Easy transfer of money through online payment service.
10. To meet all the requirements as like as similar to the view of purchasing the groceries directly.



II. Testing Methods Implemented

This following system has undergone three categories of testing which helped in identifying the bugs so that it helps the application to improvise its features and functionalities. The three categories of testing are as follows: Unit Testing, Integration Testing and UI Testing. The different characteristics of each test category should include each layer of the testing percent such as 70 percent of Unit Test, 20 percent of Integration Test and 10 percent of UI Test.

i. Unit Testing

Unit tests run in isolation from production system typically it mocks every major component and should run quickly on the android smartphones.

ii. Integration Testing

Integration tests are the tests that integrate several components and testing is performed when each and every components is integrated.

iii. UI Testing

UI tests are the tests that run by completing a UI workflow. They also ensure that end user tasks works as expected on the emulators or android mobiles.

III. Conclusion & Future Work

Online grocery shopping can create a great impact towards the future generation. And also to display about the quality sense of the perishable products to the user through their application. The future work of this system is that analyzing the selection of the user and makes the application to learn what the user prefers and suggest according to their preferences as every gadget made in the near future is going to have some form of artificial intelligence baked in.

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