

# Survey on Development of Android Based Mobile App for Prestashop eCommerce Shopping Cart (ALC)

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**Abstract**— There are many online shopping cart websites and their android applications available on the internet. These online shopping websites and their android app run on the single server and share the database, i.e.- the android application is integrated with the web server to share the resources and the database. There are different types of web servers available for the different purposes in the market, according to your need you need to choose the server and customize its services. The android app that is going to be developed have its website built in PrestaShop eCommerce Shopping Cart software using PHP PL and is used with the MySQL DB to store the data. The objective of this project is to develop the online shopping android app and integrate the App with the PrestaShop eCommerce Shopping Cart software running on XAMPP Server and connect it to the MySQL database and design the GUI of the App for different devices like phones and tablets, so that the customers can easily use the App for online shopping on their android devices. The theme of the app should be attractive and easy to modify by the user so that the customers get attracted to use this app for online shopping. However, we are going to improve performance and scalability of web applications, we will do the analysis. We will decide the guidelines for guiding the design of web application. We will try to put and implement and maintain application level caching which supports to the developers.

**Keywords**-Android Studio, Android SDK, XAMPP server, MySQL, PHP, PrestaShop eCommerce Shopping Cart.

## I. INTRODUCTION

The Electronic Commerce or eCommerce is a term for a business or business exchange that includes the change of data over the internet. Online business permits clients to electronically trade products and ventures with no boundary of time or distance. The Mobile Commerce or mCommerce is the purchasing and selling of goods and services through wireless handheld gadgets, for example, mobiles and tablets. It is known as next generation eCommerce. Online shopping is a type of eCommerce which permits clients to directly purchase goods or services from a merchant over the internet using a web browser.

Online shopping has two types of process,

1. Business-to-Consumer (B2C)
2. Business-to-Business (B2B)

The online shopping system has the shopping cart which permits the customers to create a list of items to be purchased. At the time of checkout, the total is calculated for the items list in the shopping cart, including shipping and handling charges and the associated taxes as applicable. This project is of type one process i.e.- Business-to-Consumer because the products are sold directly to the customers.

Traditional shopping is a tedious and time-consuming job. Although the growing trend of online shopping has reduced some load, there is still some difference in actually going to shops and hand-picking products to get the feel of their quality

and features that cannot be experienced online. Customers also feel worried to carry out online purchases due to fear of less secure transaction process that may lead to hacking of user's sensitive data, insecurity of credit/debit cards, unreliability or breach of privacy. The project aims at removing flaws of both kinds of shopping and bridge the gap between physical and a virtual world.

“Android platform was built from the ground up with the explicit goal to be the first free platform, open and complete platform created specifically for mobile devices.”

Android platform is an open framework and is allowed to use by anybody. A mobile handset manufacturer can utilize android in the event that they take after the assertion expressed in the Software Development Kit (SDK). There is no limitations or prerequisite for the handset manufacturer to impart their expansions to any other person as they are in another open source programming in the event that they leave the Linux kernel as it seems to be. The Linux kernel is under an alternate and more confined permit than Android.

Android platform is a product situation and not an equipment stage, which incorporates an Operating System, based on Linux portion based OS facilitating the Dalvik virtual machine. The Dalvik virtual machine runs Android applications as occasions of the virtual machine. Android contains a rich user interface (UI), application structure, java class libraries and sight and sound support. Android additionally accompanies worked in

applications containing elements, for example, short message benefit (SMS) usefulness (informing), telephone abilities (calling) and an address book (contacts).

## II. REVIEW OF LITERATURE

### A. *A Qualitative Study of Application-level Caching [1]*

The web applications that we use every day on our smartphones or on computers requires the internet connection to communicate with the web services hosted on the web servers, this process contains some communication latency and it also cost for internet-based services. To reduce this latency the developers can use the cache in their applications. This paper deals with the study of how developers can deal with the handling of caching logic in their web applications, to improve performance and scalability of their web applications.

### B. *W3C Working Group Tackles New Models for Internet Payment [2]*

The online shopping is becoming more and more popular now a day due to large amount of offers and discounts been offered on the items available for purchase online. The additional discount is also applied on the purchase of items by making the online payment through net-banking, debit/credit card or digital wallet. So, to give the payment providers and merchants lower costs of payment management, improve consumer choice and transparency, and create new opportunities to introduce value-added services, the Web Payments Working Group (WPWG) is formed. It works with the study of development in the security of online transactions and net-banking. This is the step further for the cashless payment methods been promoted by all the merchants of online shopping.

### C. *Mobile Web Service Provisioning and Performance Evaluation of Mobile Host [3]*

Giving web administrations from smartphones is the current trend, this happened because of smartphones are utilized practically every region, where today's client utilizes versatile smartphones for mobile banking, messaging, emailing, looking area and searching information. smartphones are progressed as far as processing power, memory and with an embedded camera, different sensors and same time parallel headway in the remote system and web advancements. Because of these progressions empowers the versatile smartphones to fill in as a web provider rather than web benefit consumer. Hosting web services on the portable host is not new but rather in most recent one decade scientists chipping away at versatile web benefit provisioning. This paper deals with the exploration work in the cellular domain to the present era mobile platform advances and guidelines, for example, Android OS and REST.

This paper manages mobile host adaptability and exploratory outcome examination for what number of simultaneous client's access to the mobile host.

### D. *Design of a Mobile Shopping App for Regional Products [4]*

As the sale of mobile devices grow exponentially, the usage of mobile apps for purchasing purposes has also grown exponentially over the past few years. This paper introduces the design of smart mobile shopping app for regional products. One of the main features of this app is that it makes use of local Internet TV as much as it can. The Internet TV service provided by the local government is integrated into the app. Then the shopping and the Internet TV co-operate with each other. For example, if the Internet TV telecasts a regional emergency, it is automatically fed into the shopping app so that the notifications are sent to the users immediately.

### E. *A Privacy-aware Shopping Scenario [5]*

Giving private information is a very questionable and generally faced off topic. The data about people as well as about organizations, data should to be kept private. With a specific end goal to fulfill the necessities of both people and organizations, relating security insurance mechanisms must be executed. For instance, frameworks which help clients during their shopping procedure in a physical retail location require client related data, for example, the shopping list, sensitivity or financial bank data and also information from the retailer, similar to the item range and costs. This paper presents an idea for decoupling both data sources from people and organizations implemented in a shopping situation, which among others permits Mobile Payment without the transmission of private information. The executed model has been exhibited at a huge reasonable for potential clients keeping in mind the end goal to get important feedback.

### F. *Performance Analysis of Web Services for Android based Devices [6]*

Smart android devices and Web services are turning out to be extremely mainstream. As smart android devices and remote advances keep on rapidly growing over a limited ability to focus period, the web administration's innovation perceives smart mobile computing as a range to which it ought to extend. Web service can significantly build the usefulness of smart android devices to collaborate with its surroundings. In this paper, the execution is examined for two of the most vital methodologies utilized for building and actualizing Web services for an android based smartphone (i.e. SOAP-based Web

services and RESTful Web services). REST services are recognized by unique Uniform Resource Identifier (URI) and got to and controlled utilizing an arrangement of predefined techniques: GET, POST, PUT, DELETE on the opposite side, SOAP is the XML-based protocol for the decentralized, distributed environment, that utilizes the power of the Internet. The trial comes about demonstrate that RESTful web services outperform SOAP web services.

### G. *Smart Shopping: An Android Based Shopping Application [7]*

This paper introduces a unique method of combining ease in online shopping and the sense of security, money wise as well as for customer satisfaction while doing shopping offline. This is implemented using an Android application. In Offline mode, 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. The application mentioned in this paper would read the barcode of the product and add it to the shopping cart in the application. It provides the mechanism to change the quantity of product's purchased and update the shopping list. Along with this, the customer would be informed about the on-going offers in the store. Payment can be done according to customer convenience.

### H. *Implementation of Location based Services in Android using GPS and Web Services [8]*

Area based Services offer many points of interest to the mobile clients get a chance to recover the data about their present area and process that information to get more helpful data close to their area. With the assistance of a GPS in telephones and through Web Services utilizing GPRS. Area construct Services can be actualized with respect to android based smartphones to give these value-added services: helping them find nearby hotels, ATMs, hospitals, petrol pumps, etc. providing routing information, notifications of current traffic conditions. This paper proposes the execution of area based administrations through Google Web Services and Walk Score Transit APIs on Android Phones to give various services to the client in view of their Location.

### I. *Improvised Smart Shopping Based on Android Application [9]*

This paper is about giving the human-focused way to deal with planning an omnipresent registering framework which goes for giving a superior shopping knowledge at a market and a comfortable way for a hassle-free shopping experience, which eliminates the drawbacks involved in a traditional way of shopping for both retailers and the customers. This idea has

been implemented with an android app using smartphones. This application has two modes of operation - online and offline. Facilities such as payment, offers, invoice generation and history of purchase are provided. This usage is additionally portrayed with the client situation in every stage which effectively adds to the framework configuration by giving a reasonable picture of client experiences.

## III. SYSTEM OVERVIEW

### A. *About PrestaShop*

Most of the open source shopping cart software are available only for the web platform, they are not available for the mobile platform. PrestaShop is one of the software available from dozens of such software. PrestaShop is a free, open source eCommerce software. It is composed in the PHP PL with support for the MySQL DB administration framework.

PrestaShop is currently utilized by 250,000 shops worldwide and is accessible with the support of 60 different regional languages. PrestaShop has more than 3000 modules to help you to customize your online store, increase traffic, improve conversion rate and build customer loyalty.

So, the user has to add the modules to his web store according to his requirements and then the user can customize that module as per his needs to be implemented in the web store.

When we log-in into the PrestaShop administrator page, the dashboard is displayed, which shows statistical information about the website. The tools menu contains the following options:

- Catalog - it is used to manage the products list
- Orders - it is used to manage the orders list
- Customers - It is used to manage the customer accounts
- Basket rules - it is used to manage the shopping cart
- Modules - it is used to manage the modules which are installed
- Delivery - it is used to manage and control the delivery status of the orders
- Localization - it is used to manage the language settings
- Statistics - it gives the access to all the statistical data of the site
- Settings and Advanced Settings

### B. *Pros & Cons of Prestashop*

1. Pros
  - It can be easily installed & customized
  - It offers an intuitive & user-friendly dashboard

- It is available in 65 languages, supporting English & Hindi
- It takes few minutes to install the software
- It creates the database tables automatically

## 2. Cons

- It lacks graphic customization as there is not much you can do with it
- It has limitations with its templates, themes & modules
- It has compatibility issues with some systems
- It creates many tables in the DB which makes it complicated to understand the structure of the data
- It does not have official support team

## IV. CONCLUSION

In this survey paper "Survey on Development of Android based Mobile App for PrestaShop eCommerce Shopping Cart," an Android App is introduced for online shopping. This Android App will be integrated with the PrestaShop eCommerce Shopping Cart software. As the PrestaShop software is the open source shopping cart software available only for web platform, this survey is made trying to integrate the Android App with the software to make it available for the mobile platform by exposing the web services of the software using the XAMPP Server and making the connection of the App with the MySQL database management system. As per the study of the previous work, it is the challenging task to integrate the android app with the PrestaShop software without violating the standard rules of the software and the internet protocols for web services, so that the whole system does not create any vulnerabilities in the security of the PrestaShop software.

## ACKNOWLEDGMENT

This paper would not have been written without the valuable advice and encouragement of Dr. D. B. Hanchate, guide of ME Dissertation work. Authors special thanks go to Prof. S. A. Shinde and Prof. S. S. Nandgaonkar, Head of Computer Department and Honorable Principal Dr. M. G. Devamane, for their support and for giving me an opportunity to work on this project and survey of the development of android based mobile app for PrestaShop eCommerce shopping cart.

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