

# E-Commerce Application for Small Retail Store

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*Abstract— This system or application points to address the one of a kind challenges confronted by rural communities in accessing essential good services through the development of a user-friendly E-commerce application to rural needs. By leveraging mobile innovation, the application looks for to enable inhabitants of farther areas, providing them with a helpful stage to purchase and offer locally produced goods, fostering economic growth and connectivity in rural regions. The application's design prioritizes simplicity, accessibility, and offline functionality, guaranteeing that it caters to clients with constrained web connectivity. Through this initiative, we aspire to create a more inclusive digital market place, enhancing the socio-economic landscape of rural communities. The objective of this proposal extend was to create an e-commerce Java with android application for a little retail store where the store proprietor offers his/her items online. The application permits the proprietor to oversee items, clients, and orders. In later times, it has gotten to be essential for any commerce to have an online nearness in arrange to stay pertinent and competitive. As a result of this need numerous businesses, counting little endeavors, presently work an e-commerce web store so as to increment deals and draw in unused clients. Too, commerce proprietors do not have to stress around finding a put to erect their stores and clients can have unhindered get to a wide extend of items at anytime and anyplace in the world In expansion, the e-commerce virtual store offers clients and guests to the location an opportunity to subscribe to an mail list in arrange to get news almost unused items and uncommon offers. Finally, the application sends an programmed e-mail affirmation after completing an arrange or subscribing to an mail list. The advancement of this application was carried out utilizing the Java programming dialect. The survey of online shopping writing is utilized to draw suggestion for choice making and moreover to get it the inquiry about issues for online shopping in rustic markets.*

*Index Terms- Online Shopping, Factors Influencing, Rural Consumer Behavior, Consumer & Consumer Satisfaction, Java with Android Application.*

## I. INTRODUCTION

Before the advent of e-commerce and the internet, consumers had to visit the traditional brick and mortar stores to purchase goods or services, and the sellers had to find a space where they could sell their products, but due to the arrival of e-commerce and the internet some decades ago shoppers do not have to visit these stores to make a purchase, neither do the sellers have to find a place to locate their stores [1]. In fact, purchasing and selling without any form of e-commerce is unthinkable, complicated and cumbersome to many these days. E-commerce, which is now an integral part of many businesses, is used primarily to boost sales revenue, to attract new customers and to survive in today's competitive business environment [2]. Also, it has benefitted the customers as they now have simple access to a wide range of goods and services at anytime and anywhere in the world. Well-known examples of e-commerce companies are Amazon, eBay, and Zalando.

Background E-commerce:

Also known as electronic commerce or e-business, is simply the buying and selling of goods and services via an electronic medium, mainly the internet. The usage of electronic commerce has been increasing rapidly in the last decades since its inception, prompting the majority of businesses to have an online platform. It is now essential for companies to do their business online, as virtually any kind of goods and services can be sold or purchased through the internet [3].

Brief History of E-commerce Electronic commerce begun in the 1960s when Electronic Information Compatibility (EDI) was utilized by companies to carry out their day-by-day commerce exchanges electronically. In 1979, Michael Aldrich designed

online shopping from which the term teleshopping was coined. In 1990, Tim Berners-Lee designed the World Wide Web, and from there on he was able to build up communication between a Hypertext Exchange Convention (HTTP) client and a server through the web, driving to the coming of Amazon and eBay in the 1990s [4].

Types of E-commerce basically, there are four sorts of electronic commerce.

They are:

1. Commerce to Commerce (B2B) – A circumstance where exchanges take put between companies. For illustration, a computer fabricating company offering computers to another company.
2. Commerce to Shopper (B2C) – This takes put when a trade offers straightforwardly to shoppers. An case is when a client buys a item from Amazon web store.
3. Customer to Trade (C2B) – This happens when a person or conclusion client offers merchandise or administrations to companies. This is turn around B2C. An illustration is when a paid Amazon advert is facilitated on a consumer's website.
4. Shopper to Customer (C2C) – Includes commerce exchanges between buyers. An illustration is when a buyer needs to offer utilized item to another customer on eBay.

## II. LITERATURE REVIEW

Factors influencing online shopping in rural India

Sanal Kumar Velayudhan (2019)., Online shopping is picking up considerable acknowledgment in India. The cost preferences, comfort and choice it offers to buyers have empowered ecommerce companies to develop quickly. The preferences that online shopping holds for shoppers in country zones are numerous as provincial shoppers lean toward esteem for cash look for comfort and variety.

Grocery Apps: Rural vs. Urban Customers Perception of Intention towards Offers and Attitude in India Dr. Kapil Khatter, Dr. Bhawna Sharma (2023)., The Web streamlines each zone of human lives, from booking to shopping, with the offer assistance of versatile apps and websites. In arrange to keep up day by day living, foodstuffs are a must. Over the a long time, the

commerce of online basic need shopping in India 2022 has developed quickly

Study the Consumer Behavior of rural area consumer while purchasing online Dr. Suyog A. Amrutrao (2019)., Online acquiring is booming commerce. Shopper behavior towards online acquiring is imperative. In this ponder country buyer are centered to know the point of see of them. It is imperative to dealer to reach all parts of markets. Metro individuals can purchase the things through all implies. There are conceivable outcomes that rustic may have a few distinctive see compare to metro consumer.

Implementing online shopping Application & Data analysis V. Lavanya and A. Krishnamurthy's (2021)., the taking after are a few fundamental issues that prevent provincial clients from getting to advanced markets: Individuals are hindered from utilizing web acquiring since of security breaches. Customers in rustic showcasing are concerned around the product's quality. Numerous customers in farther zones claim they gotten a diverse item than what they had seen in photo. This undermines certainty in the advanced advertise. Some of the time there are so numerous choices for items that country shoppers discover it very challenging to select one.

Influencing consumers desire for ordering meals

Tanishka G., Varun M., Vreha S., Yash K., Vineet S., and Srishti B. (2020)., inspected the numerous angles affecting consumers' want for requesting suppers online as well as the troubles they experience. The consideration too looked at how consumers' eating propensities have modified as a result of the presentation of such nourishment conveyance administrations. The study too emphasized the components that impact consumers' choices with respect to which nourishment conveyance apps to utilize. It endeavored to decide the relative esteem that buyers grant to certain characteristics of a few online dinner deliveries.

## III. EXISTING SYSTEM AND PROPOSED APPROACH

The proposed system emphasizes on how we can benefited small or rural retailer in order to increase their business. If we see existing system it provides

facilities to the big retailer in metro cities. It can't help to increase their business in rural area. So our aim is to establish a system which reaches to local house holders and they can order whatever they want to purchase. The System requires registration for both retailers and users. Retailer can upload images and description of product so that users can buy it. Also there will be payment methods like online or cash on delivery, refund and exchange policy etc. the most use of this application if customer want to visit the store they can because this application for localize people.

#### IV. SYSTEM ARCHITECTURE

##### Technology Selection

- Choose Android Studio as the primary development tool.
- Decide of the programming language: Java or Kotlin.
- Select appropriate libraries and frameworks for features like networking, database access, and UI components.
- Consider using Firebase for backend services such as user authentication, real-time database, and cloud storage. Alternatively, you can set up a custom backend using technologies like Node.js, Django, or Spring Boot.

##### Development

- Arrange the project in Android Studio and organize the directory structure.
- Implement user authentication using Firebase Authentication or custom login/signup screens.
- Develop the product catalog functionality to display a list of products with details like name, price, and images.
- Implement features for searching, filtering, and sorting products based on categories or attributes.

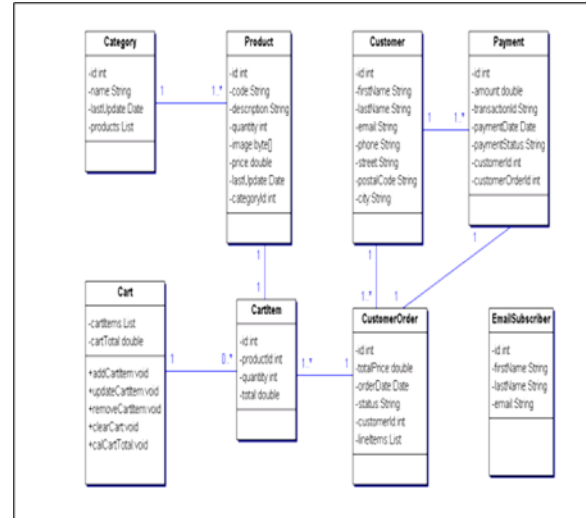


Fig. Class Diagram

A class diagram depicts the classes in a software system and how they interact with each other. The class attributes and functions are represented in a class diagram. Figure show the class diagram for this application. It shows the relationships among classes in the application and constraints applied to these relationships. A class diagram expresses the classes that are most explicitly used and specified in the system and the most class attributes and functions are specified in the class diagram.

#### V. RESULT AND DISCUSSION

Designing a user interface for E-Commerce Application using Android Development is very effective and signifies application and user ability of available user. Below, some signified key elements are mentioned which will helps user to login and admin to sign-up in Application.

##### For User

Step 1:- User has to sign-up in the application, if done then have to login.

Step 2:- User will Search for the product.

Step 3:- Search goods will be add in cart and further buying procedure will be performed.

Step 4:- Then the payment procedure will be followed.

Step 5:- At last, the feedback and report section will be followed using star-ratings.

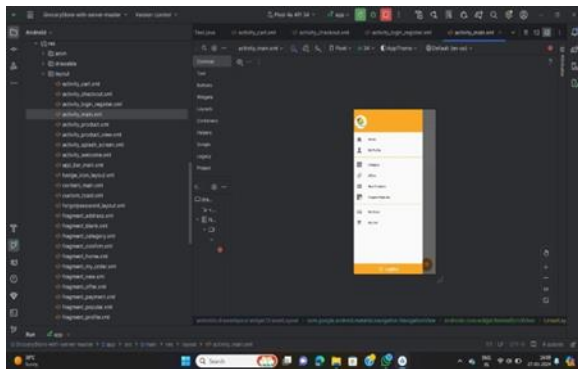
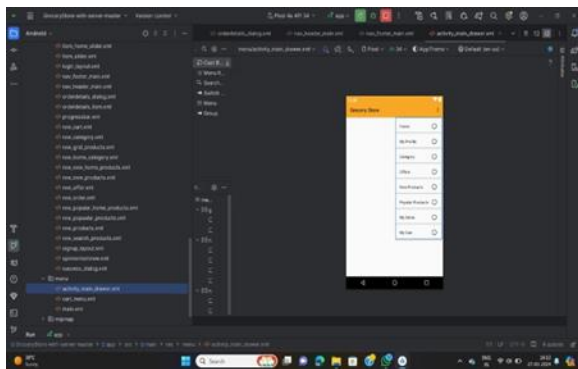
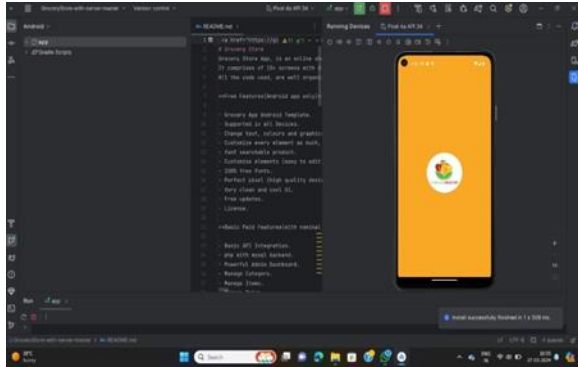
##### For Admin

Step 1:- Admin have to login to access the application.

Step 2:- Admin will add product as requirement within their respective category.

Step 3:- Admin will also manage the payment section.  
Step 4:- At last, the feedback and report section will be managed, too.

The below image shows front page of E-Commerce Application:



## CONCLUSION

The main objective of this thesis work was to develop an e-commerce Java desktop application for a small retail store where the store owner manages products, customers and orders, while the customers make orders and pay for products. The application was

developed with the above-mentioned features. One of the biggest challenges faced during the development of this software mini-project was how to implement Java Programming for the application.

A lot of time and effort were invested in learning and implementing Java Programming Application for this e-commerce application. Another challenge faced was how to integrate PayPal Express Checkout NVP API operations for the project. PayPal has a poor API integration documentation, especially API integration for the Java programming language. This in reality affected the flow of the application development process as much time was used to learn and understand the NVP API integration for Java. With these challenges and others not mentioned here, a lot of new experience has been gained during the development process of this application. Although all the requirements set out for the e-commerce web application have been met, there are still areas to improve on. A mobile version can be created for the application so that users can have a better access to the application. Also, other online payment methods like credit/debit card and bank payment methods can be implemented for the application.

The longer term also entails a scenario which shall witness an increase in niche businesses, as well as mergers and acquisitions to enable firms to grow inorganically. Companies must commit themselves to the provision of services and application of internet marketing, to get and retain larger audience. Through mobile penetration, opportunities are emerging within the rural markets which are mobile app infrastructure, content development in local languages and walk connectivity. Also, in the post era of demonetization. The share of digital payments is anticipated to rise, to sustain which, firms must develop safer payments infrastructure.

## Future Scope

The Project “E-Commerce Application for Small Retailer Store” has a very vast scope in future. The Project can be implemented on intranet in future. “Project can be updated in the future as and when necessity for the same arises, as it is very flexible in terms of expansion. With the proposed application of database Space Manager ready and fully functional the

client is now able to manage and hence run the all work in a much better, accurate and bug free manner”.

The following things can be done in future:

The current system can be extended to allow the users to create accounts and save products in to the wish list.

The users could subscribe for price alerts which would enable them to receive messages when cost for products fall below a specific level.

Multiple shipping and billing addresses can be saved by user. They can utilize the frictional pressure feature to select shipping and billing details while settle up process.

And many features can be added this mini-project to make it more robust.

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