

E-Commerce Clothing Application

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Abstract- This research based on the presenting the development and implementation of android based E-commerce Clothing application that allow the user to purchase the clothes and also design custom garments using their own creativity or artwork, This app include secure login and registration with Firebase Authentication, real-time data storage, profile management, order history and admin panel functionality. A main feature is the custom clothing design feature. Allow user to customize T-shirt and outfit. The admin dashboard supports product management and order tracking. The app was built using java, XML and Firebase, offering scalability, reliability and user-friendly navigation. This paper outline the complete architecture, functionality and testing outcomes.

Keywords- E-commerce, Android App, Firebase, Custom Clothing, Mobile Shopping

I. INTRODUCTION

The E-Commerce Clothing App is an Android mobile app built using Java, XML, and Firebase that provides an end-to-end online shopping experience. It provides both ready-to-buy clothing purchases and bespoke fashion through a custom design option. The app is built to address increasing mobile shopping trends by providing a fundamental platform through which customers can browse through different categories of clothing, add products to their wishlist or cart, manage profiles, and make standard or bespoke purchases.

The app has two primary user roles, which are Customers and Admins. Customers can create an account, confirm their email, and login to view lists of products, upload ideas of design, and view their order history. Admins log in through the same login system to manage products, view orders, and monitor their statuses. Everything and data are managed with Firebase integration for real-time updates and data security.

Through the combination of fundamental e-commerce features and unique customization features, this software offers a new, extensible platform for both consumers and clothing retailers in today's fashion environment.

II. LITERATURE SURVEY

Fashion online shopping apps have become the norm in the new retail landscape. The young customers to shop and purchase clothing from anywhere, save time, and offer wide range of products like tops, bottoms, dresses, and accessories. The majority of apps complement the shopping experience with amenities such as size charts, virtual try-ons, and product recommendations. Laudon & Traver's (2021) study underscores the significance of convenience, variety of products, and online assets in online shopping websites that lead to greater customer engagement and satisfaction [1].

One idea that we borrow is the notion of applications that already have fashion and clothing services. Online portals like Myntra, Zara, and the mobile apps of H&M have shown how easy-to-use UI and Easy navigation can drive sales of fashion goods online. However, our strategy goes beyond the basic functionality with the integration of a distinctive feature that allows people to make their own attire. According to Kim & Kim (2020), through the incorporation of innovative functionality such as user-customization can differentiate an application within a competitive business and improve customer retention via personalization [2].

"E-commerce Clothing Application." The value is added by providing users with creative control. Customers are able to upload designs, select from templates, and add text, thus enabling them to personalize clothing for such as birthdays, reunions, or promotion activities. As the study conducted by Park, Jeon, & Sullivan (2016), consumers are ever more drawn to platforms that allow emotional and aesthetic form, particularly in fashion, where personalization and identity are paramount motivators to buy [3].

Our site emphasizes an easy-to-use design and ordering process. The design tools will allow users to see their artwork on T-shirts or any other apparel before finalizing the order. The back-end service will manage secure transactions and quality printing. According to a Kumar & Rath (2021) research, interface interaction simplicity and usability are the vital factors of effective mobile commerce applications. They have a significant influence on purchasing decisions and user trust [4].

III. EXISTING SYSTEM

Amazon Mobile App

Amazon is a gigantic online shopping website in the world. The Amazon mobile app offers a seamless interface for product searching, advanced filtering, and secure checkout. It has orders' real-time monitoring, customer reviews, AI-based suggestions, customer support integration. While Amazon has set the bar higher, its technology stack and infrastructure are light years ahead the scope of a small business or startup. Our app embodies the essence of a user-friendly interface but simplifies it for smaller business models.

Limitations:

- Too complex for small sellers
- Over competition for exposure does not accommodate personalized or custom-designed product services

Customized Clothing Apps

Services such as Bewakoof and Printful provide consumers with the amenity of customizing items such as t-shirts, mugs, etc. This is parallel to one of our key features - clothing orders. These systems, while robust, are generally founded on mass production and pre-designed design software.

Limitations:

- Limited to certain products ^
- Third-party or seller limited integration vendors
- Overutilization of resources and design patterns

Flipkart

Flipkart provides a platform solely to the sellers for selling their items, seeing insights, and handle customer orders. Flipkart Seller Hub is highly optimized but limited to onboarded sellers by Flipkart. Slow onboarding is normal, and control over product customization is maintained limited.

Limitations:

- Not open-source or customizable ^
- Limited personalization of product offerings
- Centralized control over seller policies

IV. PROPOSED SYSTEM

To bridge the above gaps, we propose the development of a hybrid Android-based E-Commerce

Application with:

- Separate modules for customers, administrators.
- Secure user authentication and login.
- Product browsing, cart, and checkout system.
- Custom clothing order functionality.
- Real-time data sync using Firebase.
- Offline support for certain features.

V. PROBLEM STATEMENT

Objective:

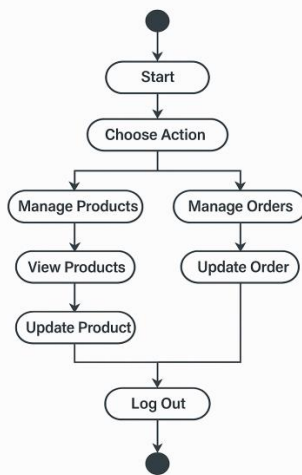
1. To develop a secure login and registration system with email verification using Firebase.
2. To integrate Firebase for real-time data storage and user authentication.
3. To design a user-friendly product catalog with categorized clothing items.
4. To implement cart, checkout, and order history features for easy purchasing.
5. To enable profile management with image upload functionality.
6. To provide a custom clothing design feature for personalized orders.
7. To build an admin dashboard for managing orders and product listings.
8. To ensure a smooth and responsive user interface for better user experience.

Scope

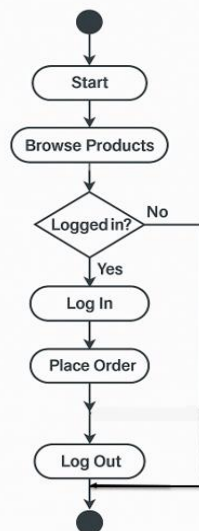
1. Enables secure customer and admin login with email verification.
2. Allows users to browse, purchase, and manage clothing items.
3. Supports cart, order history, and profile management features.
4. Provides a custom design upload feature for personalized clothing.
5. Uses Firebase for real-time data storage and user management.
6. Admin can manage products, view orders, and update order status.
7. Designed for easy navigation with a user-friendly interface

V. DIAGRAM

Activity Diagram for Admin



Activity Diagram for User



VI. ACKNOWLEDGEMENT

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