

# **E-Commerce Application**



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## Introduction

This document provides comprehensive details about the E-commerce app project. This mobile application enables users to buy, sell, and manage products with ease. The app features secure user authentication, a user-friendly interface, and real-time data storage with Firebase integration. While the app is currently functional, there are planned enhancements to extend its capabilities.

## Project Scope

The E-commerce app is designed for both buyers and sellers. Users can sign up, log in, browse products, add items to their cart, and even list products for sale. The app's interface is intuitive, allowing easy navigation through a curved shape bottom navigation bar. The scope includes:

- **User Authentication:** Secure login and registration.
- **Product Browsing:** Display and filtering of products.
- **Cart Management:** Adding and managing cart items.
- **Order Overview:** Reviewing orders (future enhancement for order tracking).
- **Selling Functionality:** Listing products for sale.

## Features Breakdown

The features of the App are following below:

- **User Authentication**

### Registration (SignUp)

- New users can register by providing their Email, Username, and Password.
- Form validation ensures that all required fields are correctly filled before submission.
- User data is securely stored in Firebase Realtime Database.
- After successful registration, users are automatically logged in and redirected to the Main Page.

### Login (SignIn)

- Users can log in using their registered Email and Password.
- The app checks the credentials against the data stored in Firebase.
- On successful login, users are directed to the Main Page.
- Forgot Password option (future enhancement).

- **Main Page**

**Product Display**

- The main page displays a grid/list of available products.
- Each product listing includes an image, name, price, and brief description.
- The products are fetched from Firebase, ensuring real-time updates.
- Users can click on a product to view detailed information (Product Detail Page).

- **Bottom Navigation**

**Curved Shape Navigation Bar**

- The app features a uniquely designed curved shape bottom navigation bar.
- Icons include Home, Cart, and Sell.
- The navigation bar is accessible from any page within the app, allowing users to switch between sections seamlessly.

- **Product Browsing**

**Search and Filters (Future Enhancement)**

- Users can search for specific products using a search bar.
- Filter options to narrow down product listings based on categories, price range, etc. (future enhancement).

**Product Detail Page**

- Clicking on a product opens a detailed view, showcasing a larger image, full description, price, and seller information.
- Users can add the product to their cart or return to the main product listing.

- **Cart Management**

**Adding Products to Cart**

- Users can add products to their cart directly from the product detail page.
- The cart displays all selected items, including quantities and total price.
- Users can modify quantities or remove items from the cart.

### **Placing Orders (Future Enhancement)**

- A 'Place Order' button will trigger the purchase process.
- Currently, this feature is limited to a review without actual payment processing.

## **• Selling Functionality**

### **Listing Products for Sale**

- Users can access the 'Sell' page via the bottom navigation.
- The page provides a form where users can input product details: Image, Name, Price, Description.
- Product images can be uploaded directly from the device.
- Upon submission, the product is added to Firebase and displayed on the main page for other users to view.

### **Managing Listings (Future Enhancement)**

- Users will be able to view, edit, and remove their listings.
- Advanced features such as promotions, discount management, and inventory tracking are planned for future updates.

## **Firestore Integration**

### **• User Data Management**

- Firestore Realtime Database is used to store user credentials (Email, Username, Password).
- Data is stored in a secure, structured format, ensuring quick access and easy management.
- Firestore Authentication could be integrated in the future to enhance security and provide additional authentication methods like Google Sign-In.


### **• Product Data Management**

- Product details (including images, names, prices, and descriptions) are stored in Firestore.
- The data structure supports real-time updates, ensuring that any changes made by sellers are instantly reflected across the app.
- Firestore Storage could be used in future versions to handle media files more efficiently.

### **• Security Measures**

- Data is encrypted and securely transmitted between the app and Firestore.
- Authentication rules in Firestore are configured to ensure that only authorized users can access or modify data.

## Wireframes of APP Pages



### Sign Up

Please enter the details below to continue.


**Name**

**Email**

**Password**

SIGN UP

Already have an account? [Sign In](#)



### Sign In

Please enter the details below to continue.

**Email**

**Password**


LOGIN

Don't have an account? [Sign Up](#)

[Forget Password](#)


Hey, Zubair


Good Morning





**Categories**

All

→


→

→

→

[See all](#)


**All Products**



Headphone

\$100


+



Apple Watch

\$300


+





Dell La

\$800

[See all](#)








← Add Product

Upload the Product Image



Product Name

Product Price

Product Detail

Select Category

Add Product

## Future Enhancements

### Payment Integration

- A major planned update is the integration of a secure payment gateway (e.g., Stripe, PayPal). This will allow users to purchase items directly through the app.

### Order Tracking

- Enhancements to the order management system will include tracking numbers, delivery status, and notifications to keep users informed about their orders.

### User Reviews and Ratings

- Future updates will include a review and rating system where users can leave feedback on products and sellers.

### Enhanced Selling Options

- Additional selling features such as promotions, discount codes, and inventory management will be added to give sellers more control over their listings.

### Advanced Product Search and Filters

- Improved search functionality, including advanced filtering options based on categories, price range, and other criteria, will be introduced.

## GitHub Repository Link:

[https://github.com/Zubair1021/E-commerce\\_Flutter\\_App](https://github.com/Zubair1021/E-commerce_Flutter_App)

## Project Working Video:

<https://drive.google.com/file/d/12jBBBM5Y1LWQxGrbD4kx1DQUZEy-VR6p/view>

## Conclusion:

This E-commerce app is a robust platform designed to facilitate both buying and selling activities. With a strong foundation built on Firebase and a user-centric design, it provides essential functionalities while leaving room for significant future enhancements. The app's limitations are acknowledged, and plans are in place to address these through continuous updates and feature expansions.

