

Team members

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Mobile E-Commerce Flutter Application

2. Project Overview

This mobile application is developed using **Flutter** and integrated with **Firebase** for backend services.

The app implements:

1. Firebase Authentication (Login/Signup)
2. Product browsing
3. Shopping cart
4. Favorites list
5. Firestore database integration
6. State management with Providers
7. Firebase options configured via `firebase_options.dart` [GitHub](#)

The project supports **Android** and **iOS** mobile platforms.

3. Tech Stack & Tools

Layer	Technologies
Frontend	Flutter
Backend	Firebase
Database	Firestore
State Management	Provider
Version Control	GitHub

4. Repository Structure

```
Mobile-project/
├── android/
├── ios/
└── lib/
    ├── cart.dart
    ├── cart_provider.dart
    ├── favorites_provider.dart
    ├── home_screen.dart
    ├── login_screen.dart
    ├── signup_screen.dart
    ├── splash_screen.dart
    └── main.dart
├── firebase.json
├── firebase_options.dart
├── pubspec.yaml
└── screenshots/
└── README.md
```

- ◆ This structure ensures MVC-like separation between UI, services, and providers. [GitHub](#)
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5. How to Install Dependencies

Make sure Flutter is installed:

1. `flutter doctor`

Get all packages:

2. `flutter pub get`

6. Firebase Setup (Short Guide)

1. Go to **Firebase Console** → Create new project
2. Add Android & iOS apps

3. Download
 - o `google-services.json` → `android/app/`
 - o `GoogleService-Info.plist` → `ios/Runner/`
4. Enable **Firebase & Authentication** (Email/Password)
5. Replace the config values in your Flutter app

(Detailed steps can be added from your existing `firebase_setup.md` file.)

7. Firestore Rules (Example)

```
rules_version = '2';

service cloud.firestore {
  match /databases/{database}/documents {

    match /users/{userId} {
      allow read, write: if request.auth != null
                      && request.auth.uid == userId;
    }

    match /carts/{cartId} {
      allow read, write: if request.auth != null;
    }

    match /favorites/{favoriteId} {
      allow read, write: if request.auth != null;
    }
  }
}
```

This ensures authenticated users can only access their own data.

8. How to Run the App

Android

```
flutter run
```

iOS

```
cd ios  
pod install  
cd ..  
flutter run
```

9. Screenshots (Visuals)

Create Account

 Full Name

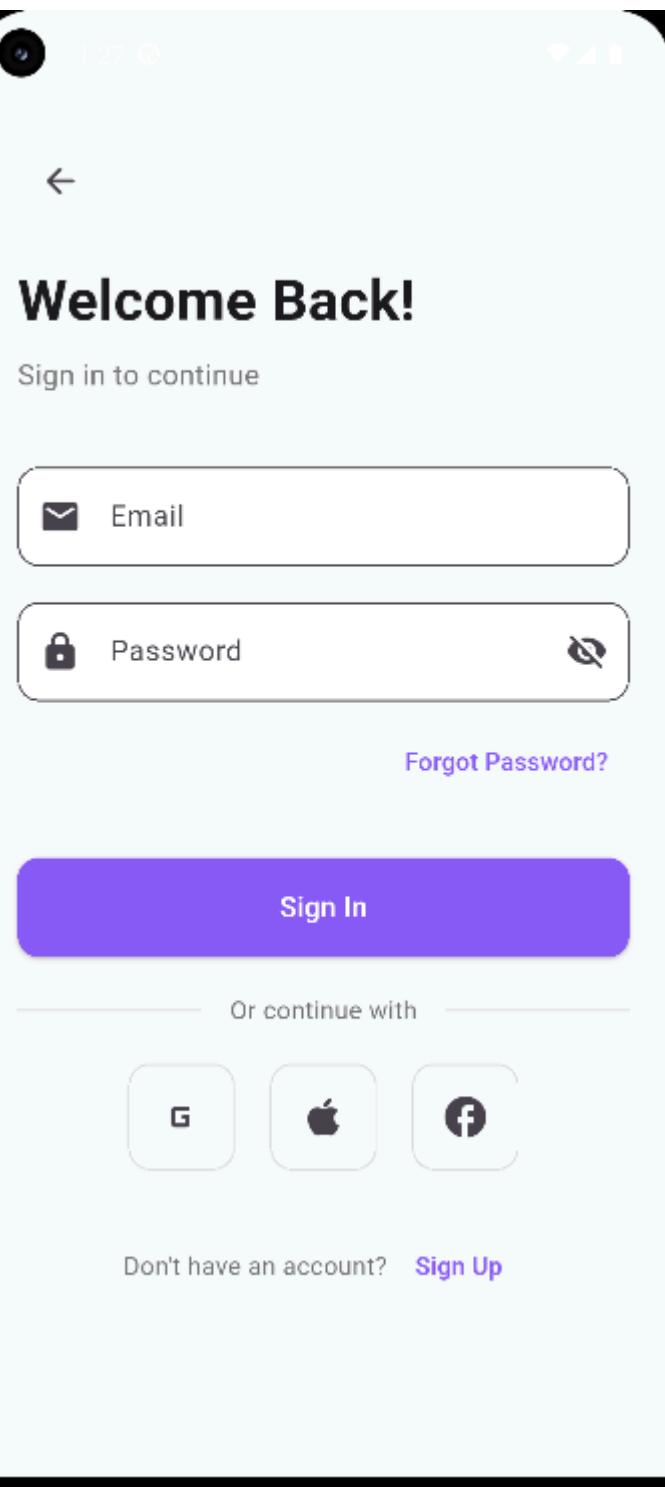
 Email

 Password 

 Confirm Password 

Sign Up

Already have an account? [Login](#)



A screenshot of a mobile application interface for a shopping platform. The top navigation bar includes a camera icon, the time '1:30', signal strength, battery level, and a profile icon. Below the bar, the word 'Locally' is displayed next to heart and cart icons. The main content area features a 2x2 grid of products:

- Classic Black T-Shirt**: \$35.00. Image shows a black t-shirt. An 'Add to Cart' button is present.
- Sleek Comfort-Fit Over-Ear Headphones**: \$28.00. Image shows a pair of headphones. An 'Add to Cart' button is present.
- Sleek Wireless Computer Mouse upd...**: \$10.00. Image shows a blue and silver computer mouse. An 'Add to Cart' button is present.
- Sleek Modern Laptop with Ambient Lighting...**: \$43.00. Image shows a laptop with colorful ambient lighting. An 'Add to Cart' button is present.

The bottom row of the grid is partially visible, showing a laptop and a pair of red headphones. A small shopping cart icon is located near the headphones image.

← My Favorites

 Classic Black Baseball Cap 
\$58.00

 Classic Black T-Shirt 
\$35.00

 Sleek Comfort-Fit Over-Ear Headphones 
\$28.00

 Sleek Wireless Computer Mouse upda... 
\$10.00



My Favorites

You have no favorite items yet ❤️

Cart

Classic White Tee - Timeless Style and Comfort

- 1 + ⚡

Delivery Address

📍 Chhatak, Sunamgoni 12/8AB Sylhet

Payment Method

VISA Visa
Visa Classic • **** 7680

Order Info

Subtotal	\$136.00
Shipping cost	\$10.00
Total	\$146.00

Checkout

Order Summary

Order Total \$146.00

Shipping Address

Street Address
Smouha

City
Alexandria

ZIP Code
124512

Place Order

1 2 3 -
4 5 6 []
7 8 9 [✖]
, 0 . [✓]



My Orders

Order #ditZFD...

12/27/2025 1:32 AM

Classic White Tee -



Timeless Style and
Comfort \$73.00

Quantity: 1



Classic Black T-Shirt

\$35.00

Quantity: 1

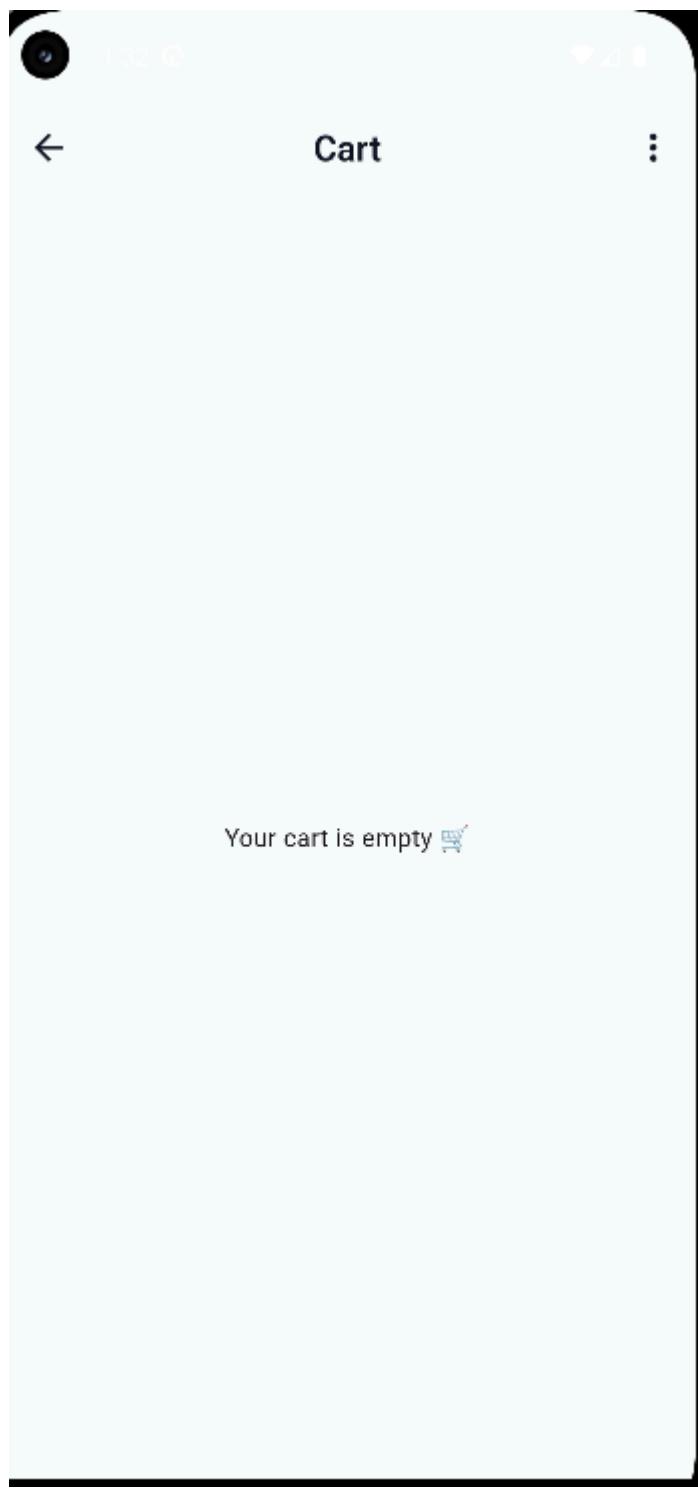


Sleek Comfort-Fit

Over-Ear Headphones \$28.00

Quantity: 1

Total: **\$146.00**



10. Features & Implementation

Authentication

Email/Password login & signup

User session persistence

Cart

Add / Remove items
Real time display with Provider

Favorites

Add to favorites
List favorites per user

Firestore

Collections: users, carts, favorites

11. Design Decisions

Use **Provider** for state management
Separation of UI & Logic (services & providers)
Firebase config auto generated using FlutterFire
Focus on simple scalable architecture

12. Conclusion

This project demonstrates a complete integration of a Flutter frontend with Firebase backend services, including realtime database features and state management, making it suitable as a **portfolio project, academic submission, or starter template for future apps.**

13. References

Flutter — UI toolkit for building natively compiled applications.
<https://github.com/omar14112004/Moblie-project.git>

FlutterFire — Firebase plugins for Flutter.
<https://github.com/omar14112004/Moblie-project.git>