

Flutter Shopping App for Shoes

COMP-5450 Mobile Programming

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This is a simple shopping application built by flutter. The app simulates a Nike-style e-commerce platform, allowing users to browse and purchase various shoe products. It includes many features such as product list, product detail pages, a shopping cart, a favorites page, and an item searching function. The app is cross-platform. It supports Android, iOS and Web platforms. However, since the project was developed and tested primarily on an Android 11 emulator, I highly recommend you run it on an Android device or emulator.

This project was built using Flutter 3.29.3 and Dart 3.7.2. It is written in the Dart programming language and the development environment is IntelliJ IDEA Community Edition 2025.1. The Flutter and Dart plugins for IntelliJ are installed. The app was tested using Android emulator in Android Studio. The emulator device is Pixel 4 and the Android version is 11.0 (API 30). It is a virtual x86 device.

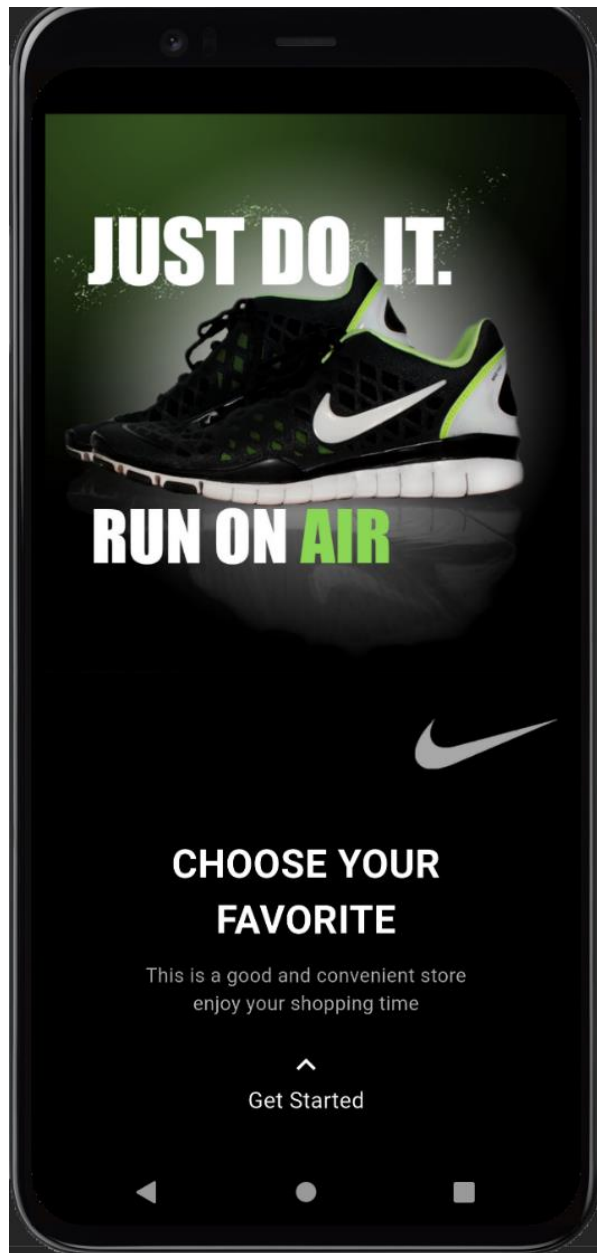
File Structure:

```
flutter_shopping/
├── assets/                # Save the shoe images
├── lib/
│   ├── main.dart         # Entry point and routing
│   ├── home_page.dart    # The homepage shows items
│   ├── cart_page.dart    # Shopping cart page
│   ├── product_detail.dart # The detail page of shoes
│   ├── favorites_page.dart # Show the favorite shoes
│   ├── search_result_page.dart # Show the search result
│   ├── all_products_page.dart # Lists all products
│   ├── start_page.dart   # Splash screen ads
│   └── data.dart         # Store the data for shoes, favorites and cart.
└── pubspec.yaml          # Project configuration and declared dependencies
```

Graph 1: The file structure of the App

The project has an assets folder for images, it stores all the images that used in this APP. The lib folder contains all the dart file and the pubspec.yaml file declares the dependencies and assets that used in this App, all assets are in the “assets” file folder.

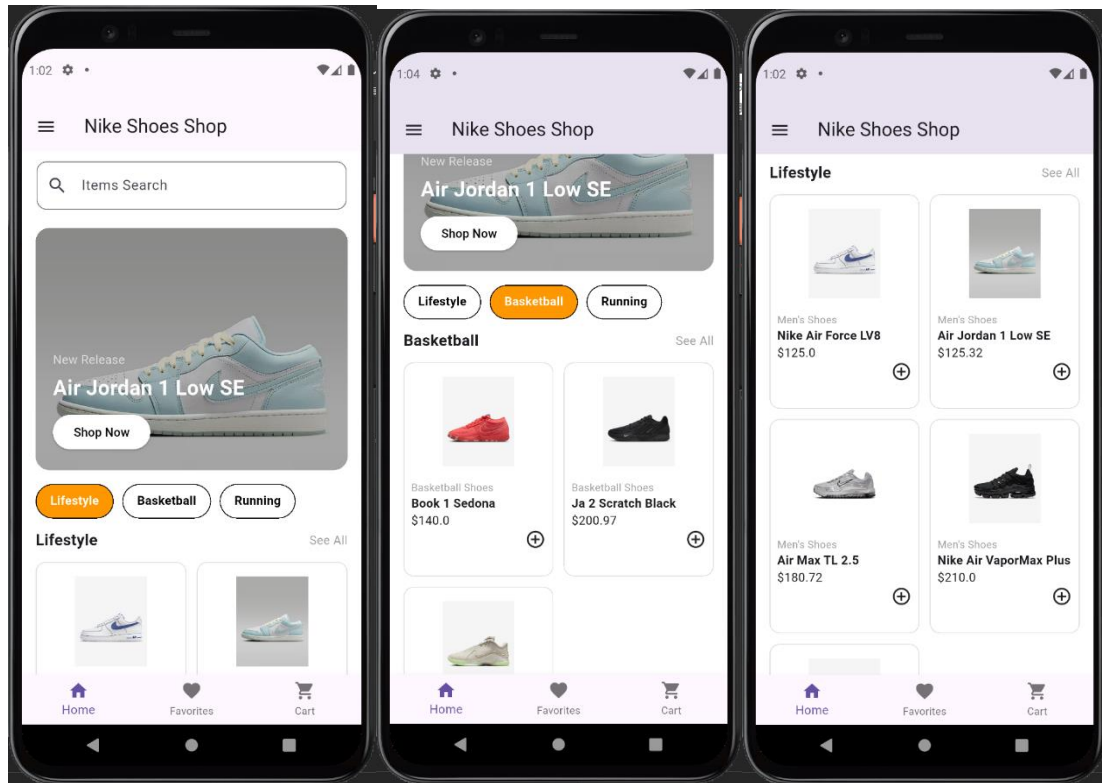
Starting Page:



Graph 2: Starting Page

This is the initial screen shown when launching the app. It is a splash screen to introduce the user to the shoe shop. When you swipe up, the app will unlock and go to the home page.

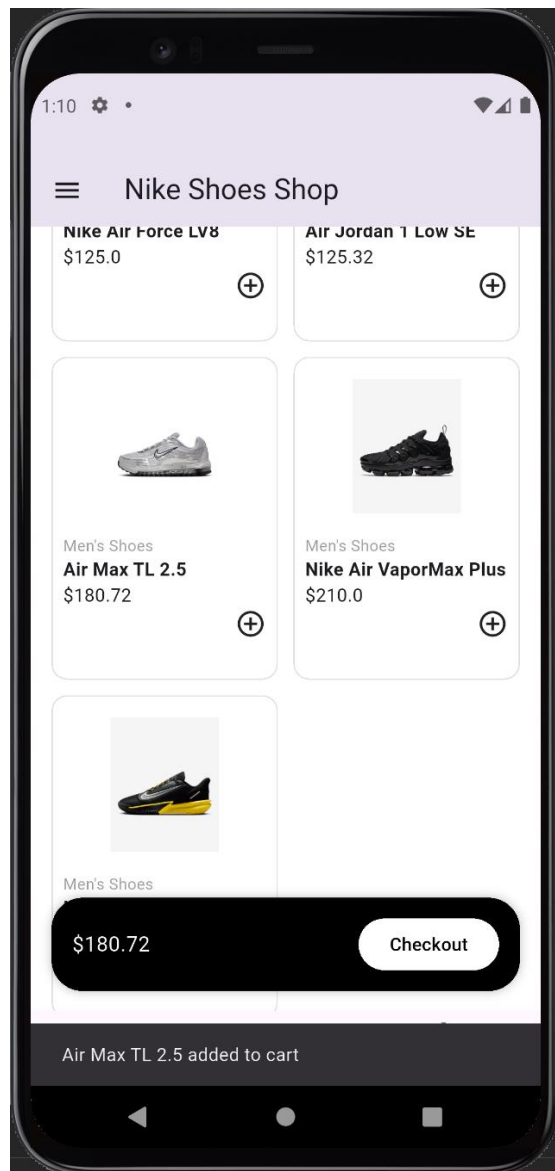
Home Page:



Graph 3: Home page layout

This page is the homepage of the app. You can see that at the top is the search bar, where you can search for the shoes you want. There is a large advertisement at the top, which shows the new products in the store. The products are displayed in a grid. There are three different categories to choose from. After selecting, the corresponding products will be displayed below.

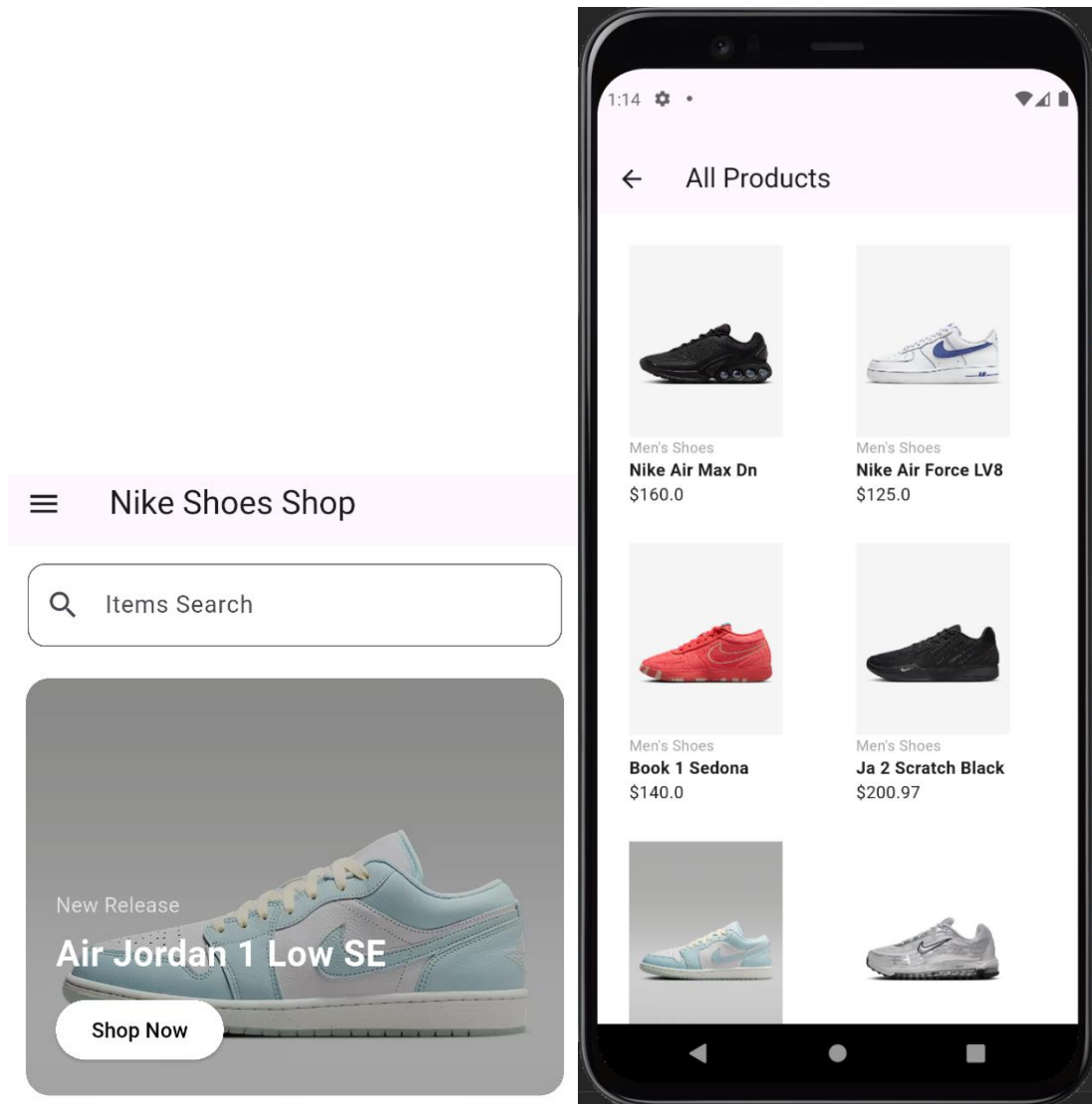
Add to The Cart:



Graph 4: Tap add button to add shoes to the cart

Tap the add button the lower-right corner of the shoe image can add it to the shopping cart. When there are products in the shopping cart, the homepage will display a floating window with price at the bottom. Clicking check out here can enter the shopping cart and pay.

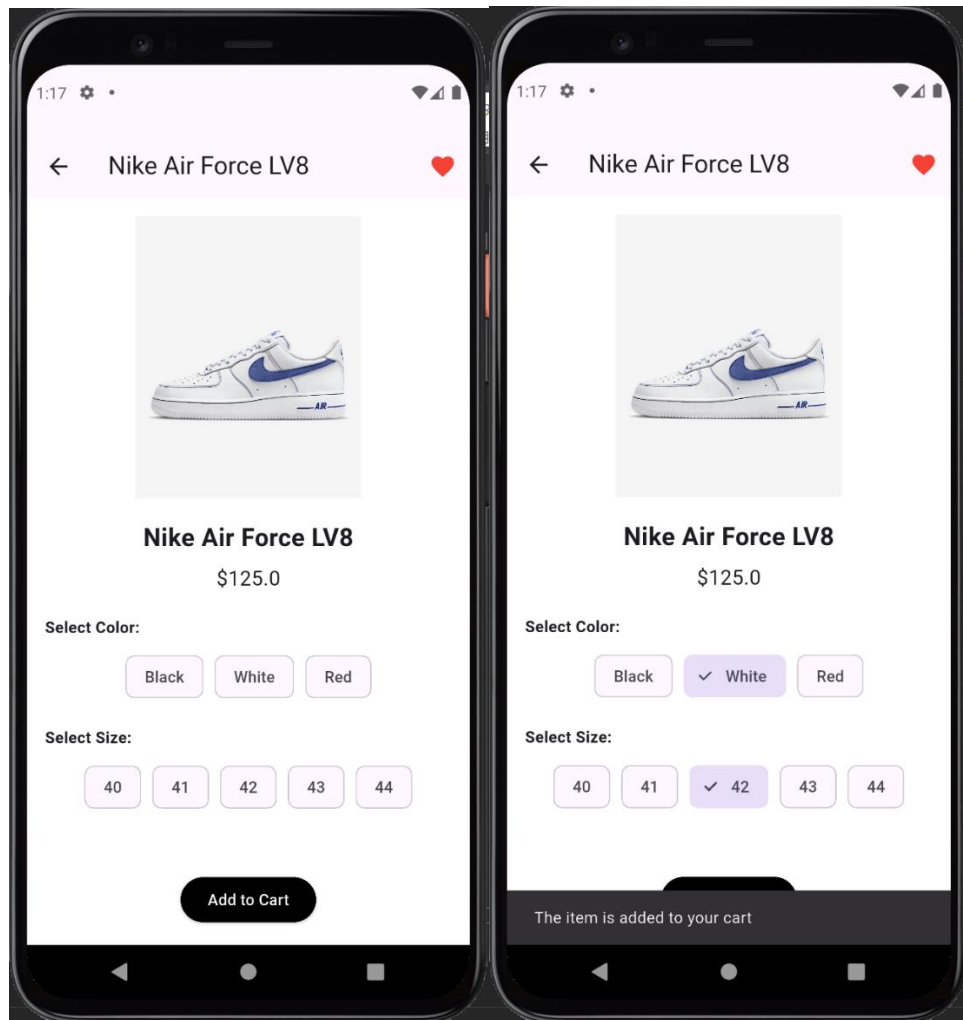
Shop Now Button and All Products Page:



Graph 5: shop now button and all products page

Clicking the shop now button on the ad will take you to the all products page, where you can see all the products in the store. Click on the shoe image can enter the shoe details page.

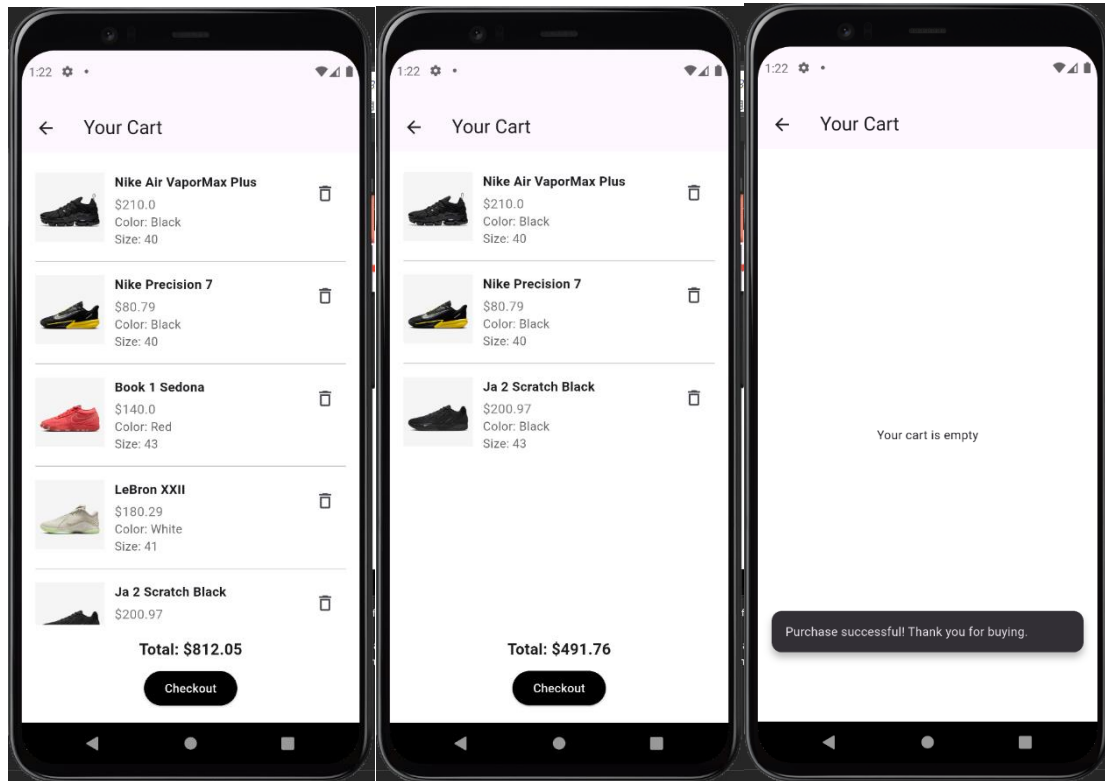
Shoe details page:



Graph 6: Shoe details page

On the Shoe details page, you can select the size and color of the shoe and then add the selected item to the shopping cart. You can also click the heart icon here to add the shoe to favorites.

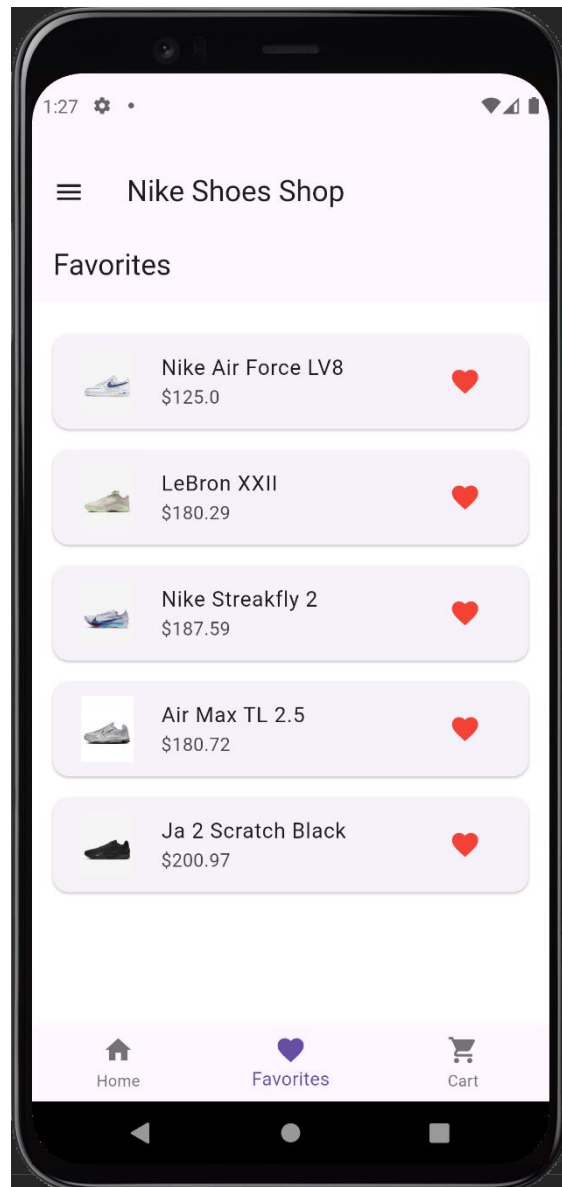
Cart Page:



Graph 7: Cart page

The cart page shows all the shoes added to the shopping cart. It not only displays the basic information of the shoes, but also shows the color and size selected by the user. If they are not selected, the default color will be black and size will be 40. Click the trash can icon can delete items in the shopping cart. Click check out button to purchase, and the shopping cart will be emptied after the purchase is completed.

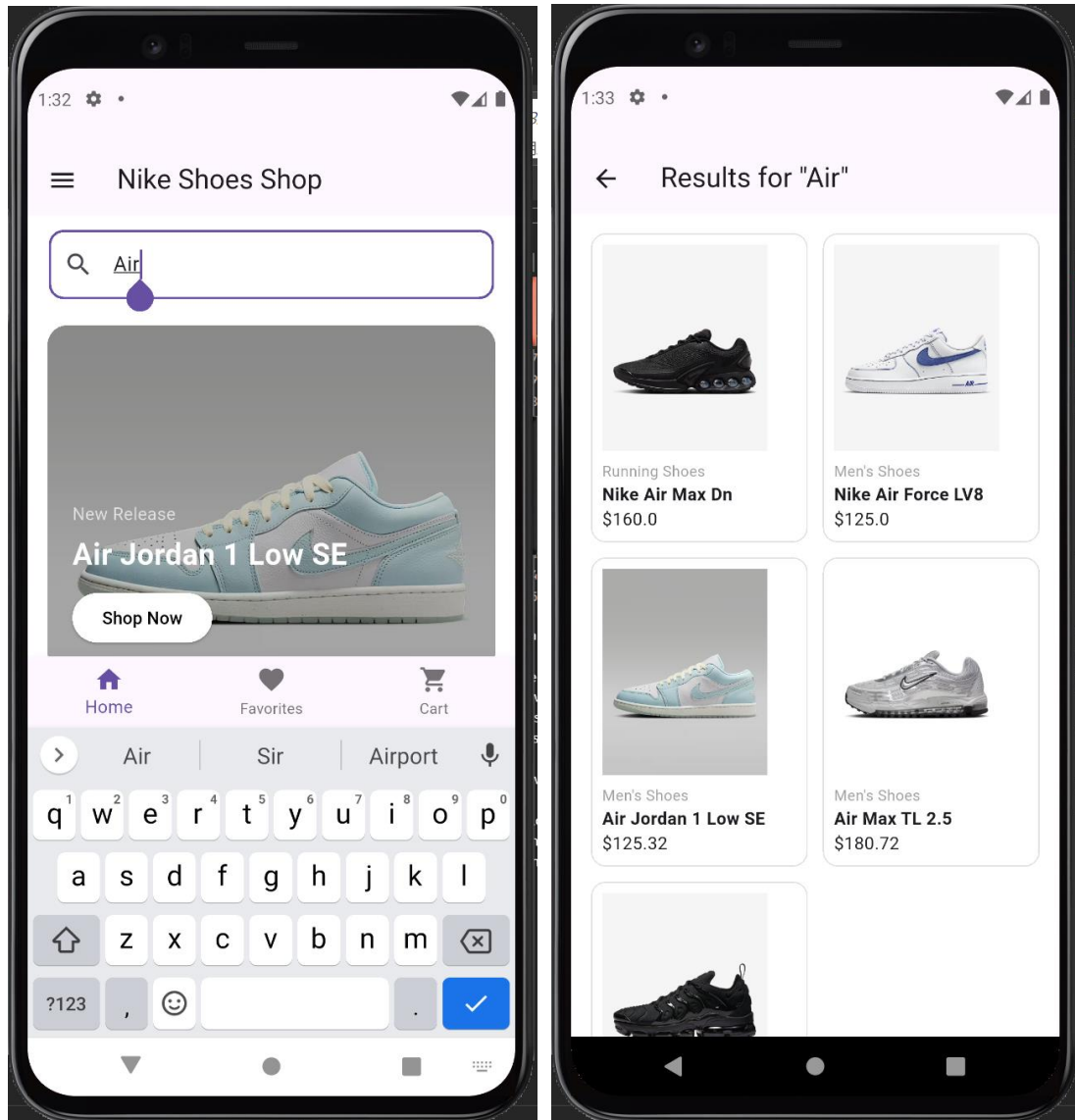
Favorites Page:



Graph 8: Favorites page

This is the favorites page, all the shoes you liked before will be displayed here. Clicking the heart icon again will remove the item from favorites.

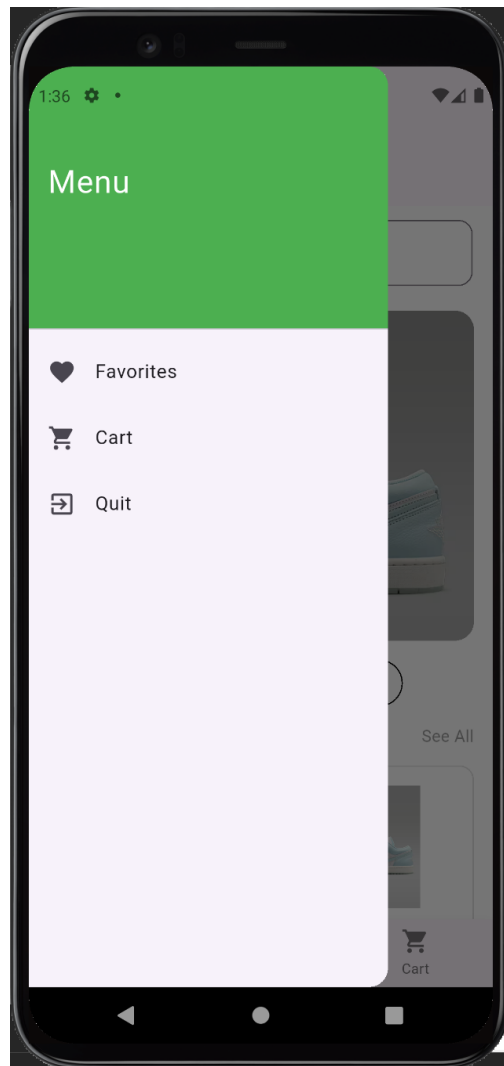
Search Bar:



Graph 9: Search Bar

At the top of the homepage is the search bar. Users can enter keywords to search for shoes. The app will display matching results based on the input.

Drawer:



Graph 10: Drawer in the left

In the upper left of the homepage is the Drawer. It opens when tapped. Here you can jump to the cart page, favorites page, or exit the App.

Conclusion

This project shows a functional shopping app built with Flutter. It includes key features such as product browsing, detail view, cart management, favorites, and search. The app is modular in design and runs well on the Android platform.

GitHub link: https://github.com/HanyanY2/ball_catching_game