

CMPS 312 Mobile App Development

QuickMart App

Lab Assignment 3

Deadline – Sunday, November 17, 2024 11:59PM

Objective

The objective of this assignment is for you to practice accessing and managing data from a web API using the Dio library in Flutter. You will be given the complete [API documentation](#).

Preparation

1. Sync the Lab GitHub repo and copy the **Assignments/Assignment3** folder into your repository.
2. Open the project **QuickMart App** in VS Code. The project has the baseline code implementation of the previous assignment using JSON files for reading the data. Your task is to replace the JSON file data handling with web API access using Dio.

Note : Feel free to reuse your own code from your previous assignments incase you do not want to use the given baseline code.

Overview

For this assignment, you will replace the previous JSON data implementation with web API calls to perform CRUD operations. The app should allow users to:

- View, filter, and search for products.
- Add products to and update the shopping cart.
- Manage a list of favorite products.
- Retain data by fetching it from the API on app launch.

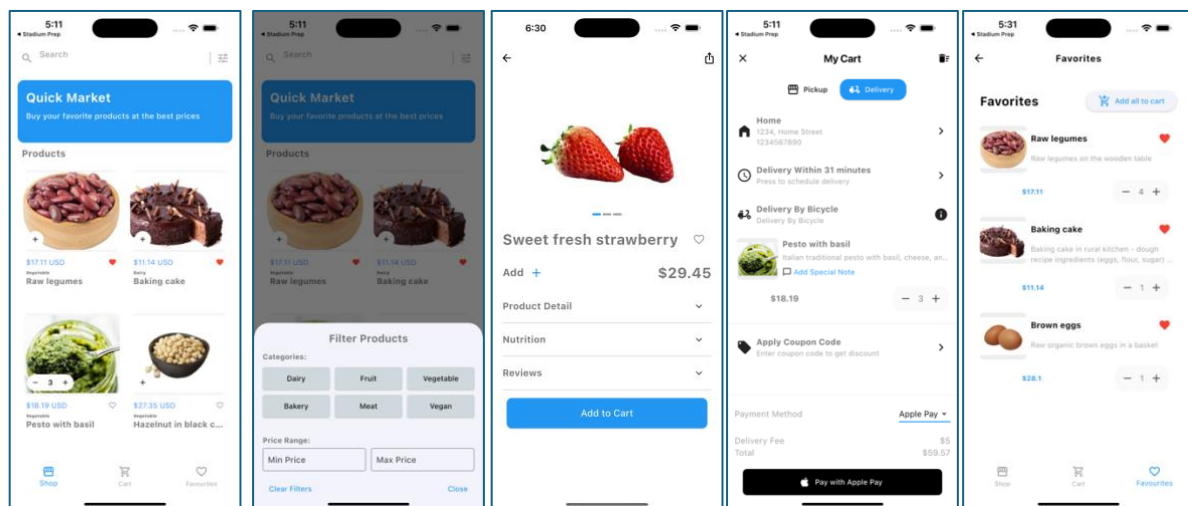


Figure 1 QuickMart App

Implementation Instructions

1. Dio Setup and Configuration:

- Add the Dio library to your project.
- Configure Dio with the **base URL** [<https://quickmart.codedbyyou.com/api>] and any necessary headers.
- Implement methods for each endpoint (e.g., fetching all products, adding an item to the cart) in a repository class.

2. Modify QuickMart Repositories:

- Modify the repositories classes to use the Dio Library to handle API requests for products, cart, and favorites.
- Ensure each method handles network errors gracefully and provides user feedback.

3. Provider for State Management:

- Ensure that state updates reflect on the UI by implementing proper state management logic within each Provider.

4. Test the Filtering and Searching:

- Use the API's search and filtering endpoints for products.

5. Test the Screens:

- **Product Screen:** Display a list of products, allowing users to add items to the cart or mark them as favorites. Implement a search bar and dropdown filter for product name and category.
- **Product Details Screen:** Show detailed information about the product, and allow the user to add it to the cart or favorites.
- **Cart Screen:** Display items in the cart, with options to update quantity or remove items.
- **Favorites Screen:** Show products marked as favorites, allowing navigation to the product details.

Deliverables

- Fill out the **Lab-Testing-Grading-Sheet.docx** and save it in the **`Assignments/Assignment3`** folder of your repository.
 - Your submission should include: The Quickmart Flutter project code.
 - Testing sheet that has all the screens.
- Sync your repository to push your work to GitHub.

Note Ensure your code adheres to best practices, is well-commented, and handles exceptions gracefully.
Good luck!