

Goal

Design and build a mobile app using Flutter that displays a list of products in a grid layout with the following capabilities: infinite scroll, product detail navigation, add/remove functionality and favorite toggling - all managed using the BLoC pattern with in-memory state only.

UI Features

1. Product Grid View
 - a. Display products in a 2-column grid
 - b. Each grid item shows the title, a snippet of the description, and an icon/button to toggle favorite status
2. Infinite Scrolling
 - a. Dynamically load more products as the user scrolls
3. Add Product Option
 - a. Accessible via a three-dot menu (AppBar action) on the main screen
 - b. Opens a form or dialog to input product title and description
 - c. Adds the new product to the in-memory list and refreshes the UI
4. Remove Product Option
 - a. Long press or swipe to remove a product
5. Favorite Toggle
 - a. Tap a heart icon to mark/unmark a product as a favorite
 - b. Favorite state should update in real time
6. Product Details Page
 - a. Tapping on a product navigates to a new details screen
 - b. Displays full product title, description, and favorite status
 - c. Allow toggling favorite from this screen

Behavior Expectations

- Efficiently append new products on scroll
- UI updates reactively via state changes
- Prevent UI from rebuilding unnecessarily (use Equatable or similar)
- Navigating back from the details page reflects any favorite status changes

Testing Recommendations

- Unit test BLoC logic (adding, removing, favoriting)