

<https://gitrepo.valuelabs.com/santhoshtr/ecommercecodebase.git>

## **1. Product Search & Advanced Filtering**

### **Problem Statement:**

Implement a robust product search system with advanced filtering options. Currently, users can only browse products without any search or filtering capabilities.

### **## Requirements:**

Add a search bar in the header that allows real-time product searching

Create a filter sidebar with:

Price range slider (min/max)

- \*Category checkboxes (dynamic from products)

- \*Rating filters (4+ stars, 3+ stars, etc.)

- \*In-stock toggle

Implement URL persistence for filters (e.g., ?search=watch&minPrice=50&category=electronics)

Ensure filters work together (AND logic between different filter types, OR logic within same type)

Optimize performance (debounce search input, avoid unnecessary re-renders)

### **## Tech Impact:**

Modify Home.jsx to handle filters

Create new SearchBar and ProductFilters components

Update API service to handle filter parameters

## **2. User Wishlist System**

### **## Problem Statement:**

Implement a wishlist feature allowing users to save products for later, even without being logged in (using localStorage) with persistence after login.

### **## Requirements:**

Add heart icon to ProductCard that toggles wishlist status

Create a new WishlistContext to manage state

Build a /wishlist page showing saved products

Sync wishlist between localStorage and backend after authentication

Show wishlist item count in header (next to cart icon)

Implement "Move to Cart" functionality for wishlist items

### **## Tech Impact:**

New context API for wishlist management

New wishlist service methods

Updates to Header, ProductCard, and new WishlistPage

## **3. Product Reviews & Ratings**

### **## Problem Statement:**

Enhance the product detail page with a review system where authenticated users can leave and view ratings.

### **## Requirements:**

Display average rating and individual reviews on ProductDetail page

Create review submission form (star rating + text review)

Implement upvoting for helpful reviews

Add sorting options (newest, highest rating, most helpful)

Show "Verified Purchase" badge for users who bought the item

Prevent duplicate reviews from same user

### **## Tech Impact:**

New ProductReviews component

Backend API extensions (mock data)

Updates to ProductDetail page layout

## **4. Enhanced Cart Management**

### **## Problem Statement:**

Improve the cart functionality with additional features and better UX.

### **## Requirements:**

Add quantity adjustment directly in cart items (+/- buttons)

Implement "Save for Later" option that moves items to wishlist

Display estimated shipping costs based on cart total

Add cross-sell product recommendations ("Frequently Bought Together")

Persist cart between sessions (sync to backend after login)

Create cart summary sidebar that's accessible from any page

### **## Tech Impact:**

Enhance CartContext with new methods

New CartSidebar component

Updates to Checkout and ProductCard components