

# Book Exchange Django Application — Development Documentation

## Overview

This Book Exchange web application is designed to facilitate a community-driven platform where users can share, discover, and manage books. The app targets students and general users interested in exchanging books in an organized, interactive environment.

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## App Purpose and Features

### Core Functions

- **Book Listings and Details:** Users can browse posted books, view detailed information including price, images, posting user, and website links.
- **User Registration & Authentication:** New users can register accounts; existing users can log in to interact with features.
- **Book Management:** Users can post books they want to share and manage their posted list.
- **Search Functionality:** Users can search for books by name, streamlining discovery.
- **User-centric Lists:** Users have personal views showing their posted books, purchased books, and favorites.

### Advanced Interactive Features

- **Ratings:** Users can rate each book from 1 to 5 stars. Ratings display anonymously except for the current user.
- **Favorites:** Users can add and remove books to a favorites list, enabling easy access to preferred books.
- **Comments:** Users can add comments on book details, and delete only their own comments, fostering community discussion.

- Shopping Cart & Checkout: Users can add books to a cart and check out, marking items as purchased.
  - Access Control: Certain views like "My Books" and "Checkout" require login; unauthorized access shows a custom "You need to login" message instead of redirect.
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## Student Required Features

1. About Us Page:  
A dedicated informative page describing the app's purpose and development context.
  2. Book Search:  
The search bar allows users to query books by name with immediate results.
  3. Navigation Reformat:  
Responsive, user-friendly navigation bar styled with Bootstrap and CSS for fluid interaction.
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## Chosen Additional Features

### (4) Message Box (Comment System):

Users can add comments to books and manage their own comments, improving user interaction and feedback.

### (5) Shopping Cart:

Shopping cart functionality for adding multiple books and managing purchases easily.

### (6) Ratings:

Star-rating system on books to provide qualitative user feedback integrated directly on book detail pages.

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## Key Challenges and Solutions

- Login Redirection 404 Issue:  
Problem: Users accessing login-protected pages were redirected to a non-existent `/accounts/login/` causing 404 errors.  
Solution: Removed Django's default `@login_required` redirect behavior. Added

manual `request.user.is_authenticated` checks in views, rendering a custom login-required message template to inform users without redirects.

- Anonymous Ratings Display:  
Needed to show ratings for transparency but maintain privacy.  
Solution: In templates, display "You" for current user's rating and "Anonymous" for others.
  - Favorites Toggle:  
Allowing seamless add/remove without confusion.  
Solution: Implemented toggle button with conditional template rendering to switch between "Add to Favorites" and "Remove from Favorites."
  - Comment Ownership & Delete Control:  
Ensuring users can only delete their own comments.  
Solution: Server-side checks in delete view with `HttpResponseForbidden` response if authorization fails.
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## Summary of Implemented Requirements

Requirement	Status	Notes
AboutUs	Completed	Informational page with CSULA logo image
Search a book	Completed	Case-insensitive search by name
Reformat Nav	Completed	Bootstrap/CSS responsive navigation bar
Message Box (Comments)	Completed	Add/delete comment on books with ownership control

Shopping Cart	Completed	Add to cart, view cart, check out
Ratings	Completed	Star rating system with anonymous display
Favorite List	Completed	User-specific favorites with toggle button

## Usage Flow for Users

- Visit the homepage to browse or search books.
- Register or log in to access full features.
- Post books to share with others.
- Add books to the shopping cart and checkout.
- Rate and comment on books.
- Favorite/unfavorite books for quick access.
- Manage personal book lists (posted, purchased, favorites).
- Access control ensures only logged-in users perform certain actions, otherwise, they see friendly login reminder pages.