

ShopEZ: One-Stop Shop for Online Purchases

Introduction

ShopEZ is your one-stop destination for effortless online shopping. With a user-friendly interface and a comprehensive product catalog, it allows users to explore, filter, and purchase products efficiently. ShopEZ also provides a powerful seller dashboard for product management and sales analytics.

Key Features

- Seamless Checkout Process
- Effortless Product Discovery
- Personalized Shopping Experience
- Efficient Order Management for Sellers
- Insightful Analytics for Business Growth

Scenario: Sarah's Birthday Gift

Sarah, a busy professional, uses ShopEZ to find a perfect gift for her friend Emily. She easily finds a gold bangle using filtering and personalized recommendations, completes a secure checkout, and receives instant order confirmation. The seller is also promptly notified and ships the product efficiently.

Technical Architecture

Frontend: User Authentication, Cart, Products, Profile, Admin Dashboard

Backend: API Endpoints for Users, Orders, Products, Admin Authentication

Database: Collections for Users, Admin, Cart, Orders, Products

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ER Diagram Entities

- Users: Registered individuals on the platform
- Admin: Handles categories, banners, etc.
- Products: All items listed for sale
- Cart: Items added by users, tracked via user ID
- Orders: Purchases made by users

Application Flow

User Flow:

1. Register/Login
2. Browse Products
3. Add to Cart/Buy
4. Checkout with Address/Payment
5. View Orders in Profile

Admin Flow:

1. Login
2. Manage Products, Users, Orders via Admin Dashboard

Project Structure

- React Frontend with modular design
- Express Backend with structured APIs
- MongoDB Database

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Folders:

- src/components: UI components
- src/pages: Page-level files

Backend Development

1. Setup Express Server
2. Create API Routes for Users, Products, Orders
3. Implement Mongoose Schemas
4. Connect MongoDB via Atlas or Compass
5. Secure User Authentication
6. Admin Routes with Role Checks
7. Error Handling Middleware

Schemas

User Schema: username, email, password

Product Schema: product details

Orders Schema: userId, productId, date, quantity

Cart Schema: userId, productId, etc.

Admin Schema: banner, categories

Frontend Development

1. Setup React App

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2. Design UI Components
3. Implement Routing
4. Integrate APIs
5. Add Authentication UI
6. Create User and Admin Dashboards
7. Cart and Product Pages

Project Implementation

- Authentication (Login/Register)
- Product Display with Filters
- Cart Management
- Secure Ordering
- Admin Product Management
- Order History and Admin Views

Demo Screens

- Landing Page
- Product Listings
- Login/Register Pages
- User Profile
- Cart Page
- Admin Dashboard
- New Product Form

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- All Orders and Products Page