

E-Commerce Website Planning Ballpark Document

1. Core Modules

A. User Module

- User registration/login (Email, OTP, Social login)
- Profile management
- Order history and tracking
- Address book

B. Product Module

- Product listing by category/brand
- Search with filters and sorting
- Product detail page (images, description, reviews, price)
- Related/recommended products

C. Cart & Checkout Module

- Cart management (add/remove/update)
- Apply coupons and promo codes
- Shipping details form
- Multiple payment methods (Card, UPI, Wallet, COD)
- Invoice generation

D. Order Module

- Place order
- Track order status
- Cancel/return orders
- Shipment tracking

E. Admin Panel

- Product management (CRUD, inventory)
- Order management (view, update status)
- User management
- Coupon and offer management
- Dashboard with analytics

F. Support Module

- Contact form/FAQ
- Live chat/chatbot
- Notification system (email/SMS)

G. AI-Powered Review System (Optional Advanced Feature)

- AI-based review summarization (e.g., key themes: "durable," "poor fit")
- Automated sentiment tagging
- Fake/spam review detection with NLP
- Intelligent Q&A suggestions
- Dashboard for review moderation and flagged content

2. Key Queries for Stakeholders

Area	Questions
Users	Are there different user roles (admin, seller, buyer)?
Payments	Which payment gateways to integrate?
Shipping	Logistics API integration (e.g., Ship rocket, Delhivery etc.)?
Reviews	Should reviews be moderated?
Technology	CMS or custom development stack?
Products	Multi-vendor support needed?
Languages	Require multilingual support?
Devices	Mobile-first or desktop-first design?
Budget	What is the expected budget?

3. Assumptions

- Users shop via desktop and mobile
- Payment gateways support multiple currencies
- Admins approve seller listings manually (if multi-vendor)

- High-traffic hosting and backup solutions are in place
- Product entries have images, descriptions, stock count

4. Time and Cost Estimates (Custom Build)

Module	Time Estimate	Cost Estimate (INR)
User System	2 weeks	₹1,500
Product Catalog	3 weeks	₹2,500
Cart & Checkout	2 weeks	₹2,000
Payments	1 week	₹800
Admin Panel	3 weeks	₹2,500
Orders & Notifications	1 week	₹1,000
Reviews	1 week	₹700
UI Design	2 weeks	₹1,800
Testing/QA	1 week	₹1,000
Total	~16 weeks	~₹13,800

5. Technology Stack

The **tech stack** includes all the tools, frameworks, and platforms needed to develop and run the e-commerce website efficiently. Below is a suggested tech stack for building the platform.

Frontend:

- **HTML/CSS/JavaScript:** Standard technologies for creating the structure, styling, and interactivity of the website.
- **React.js :** JavaScript frameworks for building dynamic user interfaces, ensuring a fast and responsive user experience.
- **Tailwind CSS:** For responsive and mobile-first design, ensuring the website looks good on all devices.
- **Redux:** For state management (if React.js is used).

Backend:

- **Node.js:** JavaScript runtime environment for building the server-side of the application.
- **Express.js:** Web application framework for Node.js, useful for handling routing, middleware, and API requests.

Database:

- **MongoDB:** NoSQL database for handling large datasets and offering flexibility in data storage (ideal for product listings and user profiles).
- **PostgreSQL:** Relational databases for handling structured data like orders, users, and transactions.

Payment Integration:

- **PayPal:** Payment gateways for processing card payments, UPI, wallet payments, and other options.
- **Razorpay:** Another popular payment gateway supporting multiple currencies and payment methods in India.

Shipping Integration:

- **Shippo/Delhivery API:** For managing logistics, shipment tracking, and integrating with courier services.

Hosting and Deployment:

- **AWS (Amazon Web Services):** For cloud hosting, storage, and scalable infrastructure.
- **Heroku:** For easy deployment of web applications, ideal for smaller projects.
- **Docker:** For containerizing the application for easy deployment across various environments.

Admin Panel:

- **AdminBro:** A library for building admin panels on top of Node.js applications (for quick integration).
- **React Admin:** A React-based framework for building admin panels if a custom solution is preferred.

AI & NLP Features:

- **TensorFlow or PyTorch:** For building AI models, especially for review summarization, sentiment analysis, and fake review detection.
- **SpaCy:** For NLP tasks such as text processing, entity recognition, and sentiment analysis.
- **Google Cloud AI/IBM Watson:** For using pre-built AI models or API integrations for more advanced features.

DevOps and CI/CD:

- **GitHub/GitLab:** For version control and collaboration.
- **Jenkins/Travis CI:** For continuous integration and delivery to streamline the development process.

Testing:

- **Jest:** For unit and integration testing (especially if using React.js).

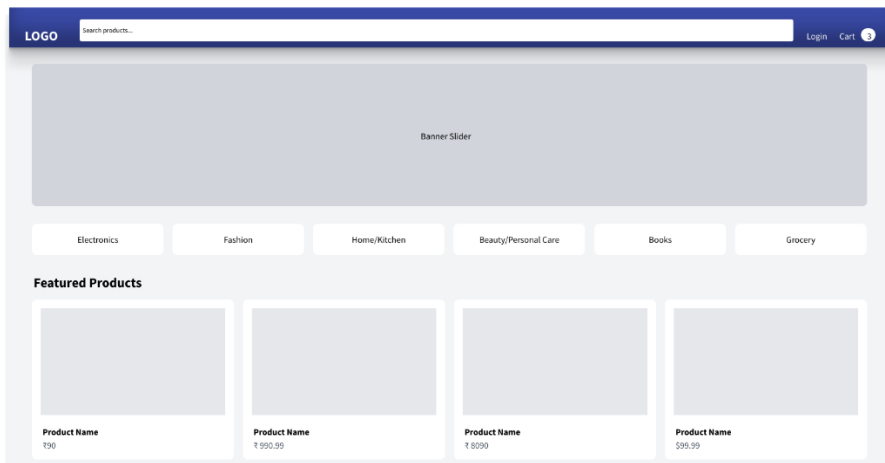
- **Mocha/Chai:** JavaScript testing frameworks for backend and API testing.

Security:

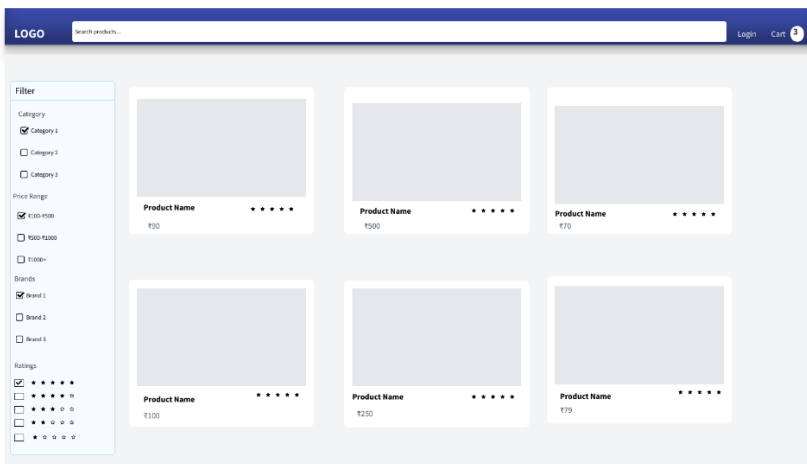
- **OAuth 2.0:** For user authentication (especially for social login integrations).
- **JWT (JSON Web Tokens):** For secure, stateless user sessions.

6. Wireframes:

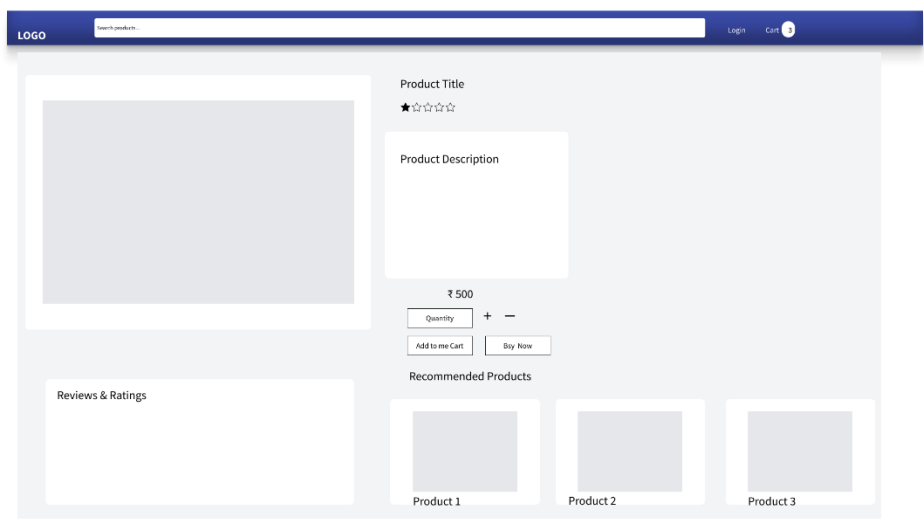
Homepage:



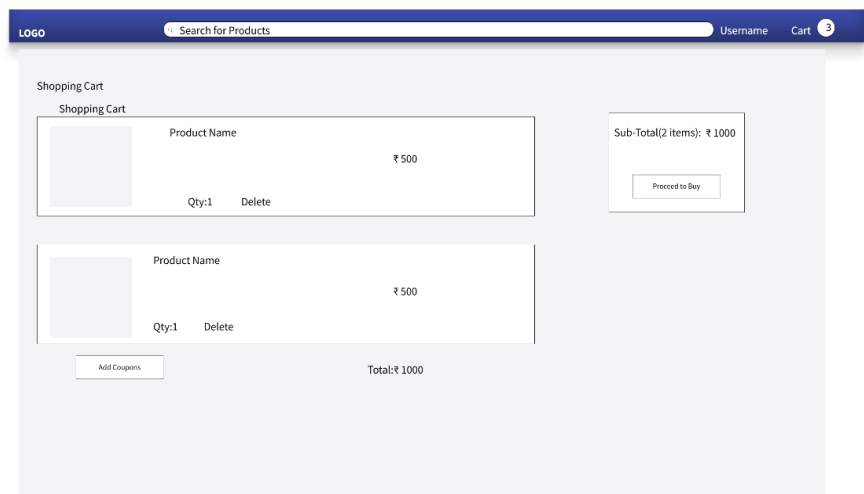
Product Listing Page:



Product Detail Page:



Cart Page:



Checkout Page:

LOGO

Checkout

+ Add New Delivery Address

- Address 1
- Address2

Order Summary

Product Name

₹ 500

Payment Options

- UPI
- Credit/Debit card
- Netbanking
- COD(Cash on Delivery)

Place Order

Admin Dashboard:

LOGO

Admin Panel

Products

Orders

Users

Coupons

Reports

Total Orders

1,254

+12.5% from last month

Total Users

5,423

+8.2% from last month

Total Sales

₹45,678

+15.8% from last month

Product Management

PRODUCT NAME	STOCK	STATUS	ACTIONS
Product 1	145	Active	Edit
Product 2	89	Active	Edit
Product 3	0	Out of Stock	Edit

Sales Overview

User Growth