

Business Requirement Document (BRD)

Application Name: Online Shopping Portal

Purpose: Allow users to browse, search, and purchase products (Clothing, Toys, Household items) through a secure and user-friendly web application.

1. Application Overview

The Online Shopping Portal is a web-based e-commerce system. It enables registered users to:

- Login securely using credentials.
- Browse categories such as Clothing, Toys, and Household items.
- View product details, select variants (size, color), and add them to the shopping cart.
- Manage cart, update quantity, and proceed to checkout.
- Complete purchase using payment methods (UPI, Cards, COD).

The system should provide a smooth, intuitive UI with robust validation, accessibility compliance, and responsive design across devices.

2. High-Level Flow

1. User accesses the application → Login/Register.
 2. Successful login → Homepage (categories + promotions).
 3. User navigates to a category → Browses products → Filters/sorts.
 4. User clicks on product → Product Detail Page.
 5. User selects size/variant → Adds to cart.
 6. User reviews cart → Proceeds to checkout.
 7. User adds address + selects payment → Confirms order.
 8. Order success page displayed.
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3. Functional Requirements

FR-001 Login & Authentication (UI-Based)

- **Fields**
 - Username/Email (Text, 5–50 chars, must match regex for valid email).
 - Password (Password masked, 8–20 chars, must include Uppercase, Lowercase, Digit, Special).
- **Buttons/Links**
 - Login (disabled until inputs valid).
 - Forgot Password (redirects to reset flow).
 - Register (redirects to Registration page).

- **Validations**
 - Empty fields → “Field cannot be empty.”
 - Invalid password pattern → “Password must contain upper, lower, digit, special char.”
 - Invalid login → “Invalid username or password.”
 - **Flow**
 - Success → Redirect to Homepage.
 - Failure → Show error message without clearing fields.
 - **Acceptance Criteria**
 - AC-Login-01: Login only works with correct credentials.
 - AC-Login-02: Fields enforce length and format rules.
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FR-002 Homepage

- **Layout**
 - Header: Logo, Search bar, Cart icon, User Profile.
 - Banner carousel (auto-scroll, manual navigation).
 - Category tiles (Clothing, Toys, Household).
 - Recommended products carousel.
 - **Validations/Rules**
 - Search: Minimum 3 characters.
 - Categories displayed in defined order.
 - **Flow**
 - Click category → Category Page.
 - Click product → Product Detail Page.
 - **Acceptance Criteria**
 - AC-Home-01: Homepage loads in $\leq 2s$ after login.
 - AC-Home-02: At least 3 recommended items displayed if available.
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FR-003 Category Page (e.g., Clothing)

- **Layout**
 - Left: Filters (Size, Price, Brand).
 - Top: Sorting dropdown.
 - Center: Product grid (title, image, price, Add to Cart).
- **Validations/Rules**

- Filters support multi-select.
 - Sorting must update results in $\leq 1s$.
 - **Flow**
 - User selects filters → Products update dynamically.
 - Add to Cart → If multiple sizes, prompt for size selection.
 - **Acceptance Criteria**
 - AC-Cat-01: Applying multiple filters returns matching products.
 - AC-Cat-02: Out of Stock items display “Out of Stock” and disable cart button.
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FR-004 Product Detail Page (PDP)

- **Layout**
 - Image gallery (zoom).
 - Title, brand, description.
 - Price + discount (if applicable).
 - Size selector (mandatory).
 - Quantity selector (1–10).
 - Add to Cart button.
 - **Validations/Rules**
 - Cannot add to cart without size.
 - Quantity capped by available stock.
 - **Acceptance Criteria**
 - AC-PDP-01: User cannot add without size.
 - AC-PDP-02: Stock availability shown correctly.
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FR-005 Cart Page

- **Layout**
 - List of items (Thumbnail, Title, Price, Qty, Remove).
 - Subtotal, Discounts, Grand Total.
 - Checkout button.
- **Validations/Rules**
 - Quantity updates recalc totals dynamically.
 - Removing last item disables Checkout.
- **Acceptance Criteria**

- AC-Cart-01: Totals always accurate after updates.
- AC-Cart-02: Empty cart shows “Your cart is empty.”

FR-006 Checkout

- **Steps**
 1. Address (mandatory fields: Name, Mobile, Address, City, Pincode [6 digits], State).
 2. Payment (UPI, Card, COD).
 3. Review Order → Place Order.
- **Validations/Rules**
 - Invalid card # → “Enter valid card number.”
 - Pincode must be numeric, 6 digits.
- **Acceptance Criteria**
 - AC-Checkout-01: Order only placed with valid address + payment.
 - AC-Checkout-02: Success page shows Order ID.

4. Non-Functional Requirements (NFRs)

- **Performance:** Page load $\leq 2s$ under normal load.
- **Usability:** Mobile-first responsive design.
- **Accessibility:** WCAG 2.1 AA compliant (keyboard nav, alt text, contrast).
- **Security:** Passwords never shown; session auto-logout after 30 mins idle.

5. Assumptions

- Users must register before purchasing.
- Payment integration handled by secure 3rd-party gateway.
- Application supports latest Chrome, Firefox, Safari, Edge.

This format is professional, covers **UI fields, validations, flows, acceptance criteria**, and is detailed enough for both developers and testers.