

This document outlines the requirements for a **Clothing E-commerce Platform** that provides features like browsing, purchasing, and managing clothing items. It includes functional and non-functional requirements to ensure a secure, user-friendly, and efficient system. Use case scenarios illustrate key interactions for users and administrators. The document serves as a blueprint for development and alignment with business objectives.

Functional Requirements

ID	Requirement	Category
REQ_001	The system must allow users to register and log in using email, phone number, or social media accounts.	Must Have
REQ_002	The system must allow users to browse clothing items by category (e.g., Men, Women, Kids).	Must Have
REQ_003	The system must allow users to search for products using keywords, filters (e.g., size, color, price), and sorting options.	Must Have
REQ_004	The system must display product details, including images, sizes, colors, materials, price, and reviews.	Must Have
REQ_005	The system must allow users to add products to a shopping cart and review/edit the cart before checkout.	Must Have
REQ_006	The system must support secure payment options, including credit/debit cards, e-wallets, and Cash on Delivery (COD).	Must Have
REQ_007	The system must allow users to create and manage wishlists.	Must Have
REQ_008	The system should allow users to apply discounts, promo codes, and loyalty points at checkout.	Should Have
REQ_009	The system should support real-time inventory updates to prevent overselling.	Should Have
REQ_010	The system must allow users to track the status of their orders (e.g., Processing, Shipped, Delivered).	Must Have
REQ_011	The system must send order confirmation, shipping, and delivery notifications via email and SMS.	Must Have
REQ_012	The system should allow users to review and rate purchased products.	Should Have
REQ_013	The system should provide personalized recommendations based on user preferences and browsing history.	Should Have
REQ_014	The system could support a live chat feature for customer support.	Could Have
REQ_015	The system should allow users to filter products based on location-specific availability.	Should Have
REQ_016	The system must allow admins to add, update, or remove products, prices, and discounts.	Must Have
REQ_017	The system should provide sales analytics and inventory reports for admins.	Should Have
REQ_018	The system won't allow purchases to proceed without user authentication.	Won't Have

Non-Functional Requirements

ID	Requirement	Category
REQ_019	The system must handle at least 50,000 concurrent users during peak traffic.	Performance
REQ_020	The system must secure user data with encryption and follow PCI-DSS standards for payment transactions.	Security
REQ_021	The system must comply with GDPR or relevant local data privacy regulations.	Security
REQ_022	The system must load product pages within 2 seconds under normal conditions.	Performance
REQ_023	The system should have 99.9% uptime annually.	Reliability
REQ_024	The system must support both web and mobile platforms (responsive design and mobile app).	Usability
REQ_025	The system should recover from critical failures within 5 minutes.	Reliability
REQ_026	The system could scale horizontally to handle increased product and user loads.	Scalability
REQ_027	The system must include an intuitive user interface with easy navigation and clear visuals.	Usability
REQ_028	The system should log all key user actions (e.g., login, purchases, reviews) for auditing.	Security

Use Case Scenarios for Functional Requirements

Use Case 1: User Registration and Login

Use Case ID: UC-001

Actors: User, System

Preconditions:

- The user is on the platform's registration or login page.

Postconditions:

- The user is successfully registered or logged in.

Main Flow:

1. The user accesses the platform and clicks "Sign Up" or "Log In."
2. The system prompts the user for email, phone number, or social media credentials.
3. The user enters the credentials.
4. The system validates the input and authenticates the user.
5. The user is logged in successfully.

Alternative Flow:

- If the user opts for "Forgot Password," the system sends a password reset email.

Exception Flow:

- If the entered credentials are invalid, the system displays an error message and prompts the user to try again.

Triggers:

- The user initiates the process by clicking on "Sign Up" or "Log In."

Assumptions:

- The system has access to authentication services for email, phone, or social media accounts.

Related Requirements: REQ_001

Use Case 2: Browsing and Filtering Products

Use Case ID: UC-002

Actors: User, System

Preconditions:

- The user is logged in or browsing as a guest.

Postconditions:

- The system displays products matching the search and filter criteria.

Main Flow:

1. The user navigates to the "Clothing" section.
2. The user applies filters such as size, color, price range, or sorting preferences.
3. The system retrieves and displays products that match the criteria.
4. The user selects a product to view detailed information.

Alternative Flow:

- If no products match the criteria, the system displays a "No results found" message.

Exception Flow:

- If there's a database connectivity issue, the system displays an error message and prompts the user to retry.

Triggers:

- The user selects the "Clothing" section or applies filters.

Assumptions:

- The system has a preloaded catalog of products.

Related Requirements: REQ_002, REQ_003, REQ_004

Use Case 3: Adding Items to Cart and Checkout

Use Case ID: UC-003

Actors: User, System

Preconditions:

- The user is browsing product details.

Postconditions:

- The item is successfully added to the cart, and the order is confirmed after checkout.

Main Flow:

1. The user selects a product and clicks "Add to Cart."
2. The system adds the product to the cart and displays the updated cart.
3. The user reviews the cart and proceeds to checkout.
4. The user applies promo codes or discounts, if available.
5. The system calculates the total cost and prompts for payment details.
6. The user completes the payment process.
7. The system confirms the payment and sends an order confirmation.

Alternative Flow:

- If the user saves the cart for later, the system saves it as a draft.

Exception Flow:

- If the payment fails, the system displays an error message and prompts the user to retry.

Triggers:

- The user clicks "Add to Cart" or "Checkout."

Assumptions:

- The system has real-time inventory updates.

Related Requirements: REQ_005, REQ_006, REQ_008, REQ_011

Use Case 4: Order Tracking

Use Case ID: UC-004

Actors: User, System

Preconditions:

- The user is logged in.
- The user has placed at least one order.

Postconditions:

- The user can view the current status of their orders.

Main Flow:

1. The user logs in and navigates to the "My Orders" section.
2. The system retrieves the user's order history.
3. The system displays the status of each order (e.g., Processing, Shipped, Delivered).
4. The user views the order details and status.

Alternative Flow:

- If the user has no orders, the system displays a message such as "No orders found."

Exception Flow:

- If there is a server issue retrieving order details, the system displays an error message and prompts the user to retry later.

Triggers:

- The user clicks on the "My Orders" section.

Assumptions:

- The system updates order status in real time.

Related Requirements: REQ_010

Use Case 5: Managing Products (Admin)

Use Case ID: UC-005

Actors: Admin, System

Preconditions:

- The admin has access credentials for the system.

Postconditions:

- The system reflects the updated product catalog.

Main Flow:

1. The admin logs into the system.
2. The admin navigates to the product management section.
3. The admin adds, edits, or removes product listings, prices, or discounts.
4. The system validates the changes.
5. The system updates the product catalog to reflect the changes.

Alternative Flow:

- If the admin saves the changes for later, the system stores them as drafts.

Exception Flow:

- If the changes conflict with inventory or pricing rules, the system displays an error message and suggests corrections.

Triggers:

- The admin logs in and navigates to product management.

Assumptions:

- The admin has the necessary permissions to make changes.

Related Requirements: REQ_016

Use Case 6: Leaving Product Reviews

Use Case ID: UC-006

Actors: User, System

Preconditions:

- The user is logged in.
- The user has purchased the product.

Postconditions:

- The review and rating are published on the product page.

Main Flow:

1. The user logs in and navigates to the "My Orders" section.
2. The user selects a completed order.
3. The user writes a review and provides a rating for the product.
4. The system validates and publishes the review on the product page.

Alternative Flow:

- If the user opts to save the review as a draft, the system stores it for later submission.

Exception Flow:

- If the review exceeds character limits or contains prohibited content, the system displays an error message and prompts for correction.

Triggers:

- The user clicks on "Leave a Review" or similar.

Assumptions:

- The system monitors reviews for prohibited content.

Related Requirements: REQ_012