Functional Requirements Use Cases

1. User views the homepage

   * Actors: User
   * Precondition: The user opens the homepage URL.
   * Postcondition: The homepage is displayed with navigation, banner, and sections for top-selling products and discounted products.

   Flow:

   * User opens the homepage URL.
   * The system displays the navbar with links to the homepage, shop page, and cart.
   * The system displays the business banner.
   * The system fetches and displays the top 5 selling products.
   * The system fetches and displays discounted products.
   * The user can navigate to the shop page or view a product's details.

2. User views a product's details

   * Actors: User
   * Precondition: The user clicks on a product on the shop or homepage.
   * Postcondition: The system displays detailed product information.

   Flow:

   * User clicks on a product image or name.
   * The system retrieves product details from the backend.
   * The system displays product details (name, price, category, description, and stock).
   * If the product is in stock, the system displays an "Add to Cart" button and a quantity input field.

3. User adds a product to the cart
   Actors: User
   Precondition: The product must be in stock, and the user must specify a quantity greater than 0.
   Postcondition: The product is added to the user's cart, and the cart item count is updated.
   Flow:
   The user selects a product and a quantity.
   The user clicks the "Add to Cart" button.
   The system checks the product stock.
   The system adds the product to the cart and updates the total quantity.
   The cart item count is updated in the navbar.

4. User views the cart

   * Actors: User
   * Precondition: The user has added at least one product to the cart.
   * Postcondition: The system displays the cart items with product details.

   Flow:

   * The user clicks the cart icon in the navbar.
   * The system retrieves the cart items and associated product details.
   * The system displays the cart items, including name, price, quantity, and total for each item.
   * The user can update quantities or remove items from the cart.

5. User updates product quantity in the cart

   * Actors: User
   * Precondition: The user must have a product in the cart.
   * Postcondition: The product quantity is updated in the cart.

   Flow:

   * The user increases or decreases the quantity of a product in the cart.
   * The system updates the product quantity in the backend.
   * The system updates the total quantity and total price of the cart.

6. User removes a product from the cart

   * Actors: User
   * Precondition: The user must have at least one product in the cart.
   * Postcondition: The product is removed from the cart.

   Flow:

   * The user clicks the "Remove" button for a product in the cart.
   * The system deletes the product from the cart in the backend.
   * The cart is updated, and the cart item count is decrease

7. User browses the shop page with pagination

   * Actors: User
   * Precondition: The user opens the shop page.
   * Postcondition: The system displays a list of products with pagination controls

   Flow:

   * The user opens the shop page.
   * The system retrieves the list of products, displaying 10 products per page.
   * The user navigates between pages using pagination controls.
   * The system updates the product list for each page.

Non-Functional Requirements Use Cases

1. Cross-device compatibility
   * Actors: User
   * Precondition: The user accesses the website from various devices (desktop, mobile, tablet).
   * Postcondition: The website displays correctly across different devices.

   Flow:

   * The user accesses the site from any device.
   * The system adapts the layout using responsive design (CSS and media queries).
   * The system provides an optimal user experience regardless of screen size.

2. Cross-browser compatibility

* Actors: User
* Precondition: The user accesses the website using different browsers (Chrome, Firefox, Safari, etc.).
* Postcondition: The website functions correctly across all supported browsers.

Flow:

* The user opens the website using any supported browser.
* The system displays the website and all functionality correctly across different browsers.
* The website adheres to web standards and uses browser-compatible features.

3. Performance and scalability

* Actors: User, Admin
* Precondition: The website is accessed by a large number of users concurrently.
* Postcondition: The system maintains acceptable performance and page load speed.

Flow:

* Multiple users access the site concurrently.
* The system handles concurrent requests without significant degradation in performance.
* The system optimizes images, caching, and API responses to maintain quick page loads.

4. Error handling

* Actors: User, Admin
* Precondition: The user encounters errors (e.g., out of stock, network failure).
* Postcondition: The system displays appropriate error messages and handles issues gracefully.

Flow:

* The system checks for common issues such as out-of-stock products or unavailable services.
* If an error occurs, the system displays a user-friendly error message.
* The system logs errors for further investigation.
* The user is guided to retry the action or perform a different one.