

Software Requirements Specification

for

Elektra - An e-commerce website for a clothing
brand

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1. Introduction

1.1 Purpose

Elektra aims to provide fashion-conscious consumers with an accessible, trendy, and convenient shopping platform. It serves both customers looking for stylish clothing and business owners who want to expand their brand reach online.

1.2 Intended Audience

1.2.1 Administrators

They will use the SRS to understand system requirements, deployment considerations, and potential administrative tasks associated with the Online shopping System.

1.2.2 Business Analysts (BAs)

The SRS provides detailed information about the business logic, user interactions, and functional specifications, aiding BAs in their analysis and documentation.

1.2.3 Project Managers (PMs)

Project managers use the SRS to understand the scope of the project, user needs, and constraints. They ensure that the project aligns with user expectations and oversee that the development process meets the specified requirements.

1.2.4 Developers

Developers refer to the SRS to understand required functionalities, user interactions, and constraints to guide the development process.

1.2.5 QA/QC Engineers

The SRS provides a basis for developing test cases and validating that the implemented system meets the specified quality standards.

1.2.6 Users (Buyers And Sellers)

For users (Buyers And Sellers), their interaction with the system primarily occurs through functional requirements that they will give to achieve better visualization of the system.

1.2.7 Testers

Testers utilize the SRS to create test scenarios and validate expected system behaviors. They ensure that the system meets the specified functional and non-functional requirements.

By tailoring information to each group's specific needs, the SRS aims to foster a shared understanding among the diverse stakeholders involved in the development and utilization of the selling and buying system.

1.3 Intended Use

1.3.1 Customers

- Browse product listings and filter items by category, price, size, and brand. -View high-resolution images, videos, and product descriptions.
- Add items to a cart and proceed to checkout.
- Make secure payments using multiple payment options.
- Leave product reviews and ratings.

1.3.2 Administrators

- Manage product inventory, pricing, and stock levels.
- Track customer orders and process refunds.
- Handle customer queries and complaints.

1.3.3 Guest Users

- Browse products without logging in.
- View product details and pricing.
- Sign up or log in for a personalized experience.

1.4 Product Scope

- Develop a scalable and user-friendly e-commerce platform for Elektra.
- Provide a seamless online shopping experience with secure payment and order tracking.
- Ensure high performance, security, and mobile responsiveness.
- Fully functional e-commerce website.
- User account management system.
- Secure payment gateway integration.
- Admin panel for inventory and order management.

1.5 Risk Analysis

- Budget limitations for development and marketing.
- Strict timeline for website launch.
- Compliance with industry regulations (data security, payment processing, etc.).
- Dependence on third-party services for payment and shipping.

2. Overall Description

2.1 User Classes and Characteristics

The Elektra Clothing E-commerce Website will have different types of users based on their roles and how they interact with the system.

2.1.1 Customers

Characteristics:

- Customers visit the website to browse different clothing items.
- They use the search and filter options to find specific products.
- Customers place orders, make payments, and track their deliveries.
- They can create accounts to manage their personal details and order history.
- Customers can leave reviews and ratings based on their shopping experience.

2.1.2 Vendors

Characteristics:

- Vendors list their clothing products on the platform with descriptions, images, and prices.
- They update product availability and manage inventory.
- Vendors handle customer orders and ensure timely delivery.
- They respond to customer inquiries and communicate order updates.

2.1.3 Administrators

Characteristics:

- Administrators manage the overall platform and ensure smooth operation.
- They approve vendor registrations and verify their business details.
- Admins monitor customer feedback and maintain service quality.
- They handle complaints, returns, and refunds.

- Admins ensure security by monitoring transactions and preventing fraud.

2.2 User Needs

This section outlines what customers, vendors, and administrators need from the Elektra platform for a better experience.

2.2.1 Customers

- **Easy Browsing:** Customers need a simple way to explore different categories and filter products.
- **Smooth Ordering Process:** The checkout process should be simple, with order tracking options.
- **Secure Payments:** Multiple payment methods like mobile banking, card payments, and cash on delivery should be available.
- **Personalized Experience:** Customers should get recommendations based on their interests and past purchases.
- **Customer Support:** A help center or chat support should be available for quick assistance.

2.2.2 Vendors

- **Product Management:** Vendors need an easy-to-use dashboard to add and update product listings.
- **Sales Tracking:** They should have access to reports on their sales and earnings.
- **Order Processing:** Vendors need notifications for new orders, cancellations, and return requests.
- **Direct Communication:** A messaging system should allow vendors to interact with customers and administrators.
- **Performance Insights:** Vendors should be able to see how their products are performing in terms of sales and customer interest.

2.2.3 Administrators

- **User Management:** Admins should have full control over customer and vendor accounts.
- **Monitoring System Performance:** Real-time reports on website performance should be available.
- **Transaction Oversight:** Admins need access to payment transactions, refunds, and disputes.

- **Review Control:** The ability to approve or remove inappropriate product listings and reviews.
- **Customer Support Coordination:** Admins should efficiently manage complaints and resolve user issues.

2.3 Operating Environment

Elektra will run on different devices and systems, ensuring smooth performance and accessibility for all users.

2.3.1 Hardware Requirements

- **Desktops/Laptops:** Minimum Intel Core i3, 4GB RAM, 128GB storage.
- **Mobile Devices:** Compatible with iOS (version 12 and above) and Android (version 9 and above).

2.3.2 Supported Operating Systems

- **Windows:** Windows 10 and later.
- **macOS:** Catalina 10.15 and later.
- **Linux:** Ubuntu 20.04 LTS and later.
- **Mobile:** iOS 12 and above, Android 9.0 and above.

2.3.3 Software and Applications

- **Web Browsers:** Google Chrome, Mozilla Firefox, Microsoft Edge, Safari (latest versions).
- **Backend Technologies:** Node.js/Python (Django/Flask).
- **Frontend Frameworks:** React.js, Vue.js, or Angular.
- **Database:** PostgreSQL, MySQL, or MongoDB.
- **Payment Integration:** Bkash, Nagad, Rocket, Upay, etc.

2.3.4 Network Requirements

- **Minimum Speed:** 5 Mbps for smooth browsing and ordering.
- **Connectivity:** Works on both Wi-Fi and mobile data.
- **Hosting:** Cloud-based hosting (AWS, Google Cloud, or Azure) to handle traffic smoothly.

2.3.5 Security Features

- Data Protection: SSL/TLS encryption for safe transactions.
- User Authentication: Multi-step login for better security.
- Fraud Prevention: AI-based tracking to detect suspicious activities.
- Privacy Compliance: Following GDPR and local data protection laws.

2.4 Constraints

2.4.1 Technical Constraints

- Selection of appropriate technologies and frameworks for handling payment transactions and user authentication.
- Ensuring scalability to support growing user traffic and expanding product catalog.
- Development of a responsive user interface compatible with different devices (desktop, tablet, mobile).
- Smooth integration for payment processing (BKash, Nagad, Rocket and local Bank transfers) and logistic tracking.
- Optimization for efficient performance, including first loading times and a well-structured database.

2.4.2 Time Constraints

- Define the project timeline with milestones for feature rollout, testing, and deployment.
- Scheduled release based on market trends and competition analysis.
- Regular maintenance and feature updates to enhance user experience and security.

2.4.3 Budget Constraints

- Allocation of funds for development, server hosting and domain registration.
- Marketing and promotional expenses to boost platform visibility.
- Future investment planning for scaling infrastructure and improving functionalities.

2.4.4 Regulatory and Compliance Constraints

- Adherence to global and local data protection regulations.
- Secure processing and encryption of sensitive customer details.
- Compliance with tax laws, invoicing regulations, and refund or exchange policies.
- Ensuring business licensing and legal documentation align with e-commerce guidelines.

2.4.5 Resource Constraints

- Availability of skilled developers, designers, and IT specialists for timely execution.
- Access to a reliable hosting solution for smooth operations.
- Dedicated customer support team to handle inquiries and complaints.

- Dependence on suppliers and delivery partners for efficient product distribution.

2.5 Assumptions

The software requirement specification (SRS) assumes that users, including both customers and administrators, will actively engage with the platform by browsing products, making purchases, and managing their products. Customers are expected to create accounts, track orders, and secure payment methods, while administrators will manage inventory, sales, and customer inquiries with controlled access. Security measures including encryption and authentication, are assumed to protect user data. These expectations serve as the foundation for a smooth and efficient shopping experience on the website.

2.5.1 User Activity

- Users will engage actively with the platform by browsing, adding items to carts, and making purchases.
- Admins will consistently update the product catalog.

2.5.2 User Proficiency

- Customers have basic familiarity with online shopping functionalities.
- Admins are knowledgeable about inventory, sales, and order management.

2.5.3 Administrative responsibilities

- Admins possess the required authority to manage website operations and enforce policies.

2.5.4 Documentation Accessibility

- The SRS document is available to all relevant parties for reference and project alignment.

2.5.5 Document Relevance

- The document is structured to address key concerns of technical terms, business owners, and testers.

2.5.6 Alignment with goals

• The outline requirements and constraints align with the website's intended objectives.

2.5.7 Collaboration among stakeholders

• Smooth coordination is expected between developers, business teams, and marketing professionals.

2.5.8 Internet stability.

• Users are assumed to have stable connectivity for an uninterrupted shopping experience.

3. Requirements

3.1 Functional Requirements

3.1.1 User Login

As a user, I want to log into my account using my credentials to access my profile and check my order history.

Confirmation:

- User can log in by using their Email & password.

Failure Conditions:

- If the email/password is incorrect.

3.1.2 Register New User

As a user, I want to create my account using my email & password so that I can make purchases and track my order and order history.

Confirmation:

- The user can register using a valid email.
- The password must be secure/strong.
- The user will receive a verification mail before activation.

Failure Conditions:

- Register fails if the email has been registered into another account.
- Register fails if the password is weak.

3.1.3 Shop item management

As an admin, I want to add, update, and delete items so that I can maintain the store's inventory.

Confirmation:

- Admin can create new product listings with images and descriptions.
- The admin can update existing items' prices, quantities, images, or descriptions.

Failure Conditions:

- Update fails if mandatory fields are missing.

3.1.4 Search Items

As a user, I want to search items using keywords so that I can find my products on the fly.

Confirmation:

- Display search results based on the keyword.
- Users can filter results by category, popularity, and price.

Failure Conditions:

- No Results are shown if there are no matching products.

3.1.5 Browse items

As a shopper, I want to browse the website without logging in so that I can see what the website has to offer.

Confirmation:

- The user can view products, prices & descriptions.
- Infinite scrolling is available for long pages.

Failure Conditions:

- Browsing fails if the server is down.

3.1.6 Add to cart

As a user, I want to add items to the cart so that I can purchase multiple items at once.

Confirmation:

- Users can add multiple items to the cart.

Failure Conditions:

- Items can't be added to the cart if they are out of stock.

3.1.7 Cart Management

As a user(shopper), I want to be able to edit or remove items in my shopping cart, so that I can update the cart if I change my mind.

Acceptance Criteria

- Scenario: Remove item
Since I have decided I no longer want to order a specific item, then I will click the remove item button in the cart.
- Scenario: Add more of the same item
When I want to order more than one of the same item, then I will click the plus icon on the item. The quantity of the item will increase.

3.1.8 Add Item Reviews

As a user(shopper), I want to leave reviews for products that I have purchased, so that others can see what I thought of it.

Confirmation:

- Customers can leave a text review along with a rating on products they ordered.

Failure

- Review can not be posted if the item was not ordered by the user.

3.1.9 Checkout and Payment Processing

As a user(shopper), I want to checkout all the products in my cart securely, so that I can be assured that I will receive my order.

Confirmation:

- The payment has been confirmed and the order has been placed to the correct address.

Failure:

- The user's payment could not be completed and the order could not be placed.

3.1.9 Order Tracking

As a user(shopper and admin), I want to track the current location and progress of an order, so that I know when it will reach.

Acceptance Criteria:

- Scenario: Customer checking order progress
I want to see where my parcel is now, also I would like to know how long it will take to arrive at my address.
- Scenario: Admin wants to track orders
I want to monitor the progress of all the active orders.

3.1.10 Order Cancellation

As a user(shopper), I want to have the choice of canceling my order before it is shipped, so that I can get a refund if needed.

Confirmation:

- The order has been successfully cancelled and a refund is issued in the amount of the order.

Failure:

- The order could not be canceled as it has already been shipped and is on the way or has already arrived.

3.1.11 Customer Support

As a user(shopper), I want customer support from a representative, so that I can get help with any issues I face with purchases.

Acceptance Criteria:

- Scenario: I am facing some issues while trying to order an item, so I want assistance from someone either via live chat or through a call

3.2 NON Functional Requirements

3.2.1 Performance Requirements

- The website must load in under 3 seconds.
- System must support at least 300 Users without any performance issues.

3.2.2 Safety Requirements

- The system must backup data every 24 hours.
- User financial data must not be saved in the website's database.

3.2.3 Security Requirements

- Website must use password protection and multi-factor authentication for all user accounts
- Sensitive user data such as personal information and payment details must be encrypted for storage.

3.2.4 Website Quality Requirements

- The user interface should be easy to use and understand for all users
- The website should be responsive so it can function on all platforms
- The codebase for the site should be modular and standardized for easy maintenance during future updates