Software Requirements Specification

For

E-commerce Application

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Revision History

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Chapter 1

Introduction

This E-Commerce Web Application is a cutting-edge online platform designed to facilitate seamless buying and selling experiences. This web-based solution boasts a user-friendly interface, offering a comprehensive product catalog with detailed descriptions, images, and pricing. Customers can effortlessly add products to their shopping carts, review items, and complete transactions with multiple payment options. Vendors can efficiently manage their product listings, fulfill orders, and access analytics. Admins have centralized control, ensuring smooth operations and content management. With a focus on security, privacy, and scalability, this platform aims to revolutionize online shopping by providing a secure, feature-rich, and user-friendly experience for all stakeholders.

1.1 Purpose

The purpose of this E-Commerce Web Application is to create a dynamic and user-centric online marketplace that simplifies and enhances the e-commerce experience for both customers and vendors. This platform aims to provide a secure and convenient environment for users to explore and purchase products, while also offering vendors a powerful tool to showcase their offerings and efficiently manage their business. By offering robust features, responsive design, and a focus on security and scalability, the purpose of this application is to foster trust, boost sales, and revolutionize the way people engage in online shopping, ultimately promoting growth and success for both buyers and sellers in the digital marketplace.

1.2 Intended Audience

- Developers
- Project Testers
- Marketing Department

1.3 Intended Use

- **Developers**

With the help of this SRS, developers can quickly comprehend the project's goals, identify areas for improvement, and determine whether there is room to include new features or functions as part of an upgrade.

- **Project Testers**

This SRS can be used by testers to test the software according to specifications. As a result, the testing will be better organized because testers using SRS will know exactly where to look and what kind of issue or bug to look for.

- **Marketing Department**

This SRS can be used by the marketing department to obtain a better sense of what to advertise, what the project's features are, and how those features will benefit the clients or users.

1.4 Product scope

1 **User Registration and Authentication:**
- Allow customers and vendors to create and manage accounts securely.

2 **Product Catalog**
- Provide a comprehensive catalog of products with detailed descriptions, images, and pricing.
- Enable product search and filter options for easy navigation.

3 **Shopping Cart and Checkout**
- Allow users to add products to their shopping cart, view cart contents, and proceed to checkout.
- Support multiple payment options, including credit cards, Bkash, Nogod, and more.

4 **Order Management**
- Offer order history and tracking for customers.
- Provide vendors with tools for order fulfillment and inventory management.

5 **Reviews and Ratings**
- Enable customers to leave reviews and ratings for products.

6 **Vendor Management**
- Allow vendors to list, update, and manage their product listings.
- Provide vendors access to sales reports and analytics.

7 **Admin Panel**
- Offer administrators centralized control over users, products, and orders.

8 **Security and Privacy**
- Ensure secure data storage and encryption to protect user information.
- Comply with relevant data protection regulations**.**

9 **Responsive Design**
- Ensure the application is accessible and user-friendly across various devices and screen sizes.

10 **Scalability and Performance**
- Design the application to handle high traffic loads and ensure fast loading times.

Our main goal is to provide a premium service to the people who prefer to shop online. We are trying to make a comfortable & trustable place for shopping. With a very easy interface it will help anyone in shopping.

1.5 Risk Definition

- There can be risk of unauthorized access to customer and vendor data, potentially leading to data leaks, identity theft, or financial losses.
- There is risk with the security of payment transactions, including the potential for fraud or payment processing vulnerabilities.
- There are risks of malicious cyberattacks, malware infections for sensitive information.
- There is risk of slow page loading, which can lead to user frustration, cart abandonment, and decreased sales.
- There is risk of losing critical data due to system failures, human errors, or inadequate backup and recovery processes.
- There is risk of critical technology components, such as servers, databases, or payment gateways, experiencing failures or outages.

There are many other risks which this webpage application can face but for now this is all we can see.

Chapter 2

Overall Description

We are going to build a web based application that will provide very useful services to the users who basically does online shopping. This will be a common platform for all the buyers and sellers to be together. This is not a completely new product but we are going to make it much user- friendly and more attractive.

2.1 User Classes and Characteristics

Anyone can use this web based application from anywhere. They just need proper internet connection and a device where he can use any browser to connect with the web. This application is user friendly so anyone can use this application for their daily shopping.

2.2 User Needs

A key user need for an e-commerce application is seamless and secure payment processing which the users will get in this software. Users expect a hassle-free checkout experience with multiple payment options, including credit cards, digital wallets, and alternative methods. These options will also be added. They require reassurance that their financial information is protected, fostering trust in the platform. The security system will be pretty tough. So it will be a reliable platform for all kind of people.

2.3 Operating Environment

Operating environment for the E-commerce Application is as listed below.

• Operating system: Any kind of OS which supports browsing.

• Database: SQLite.

• Platform: PHP, HTML, CSS, JS

2.4 Constraints

• The developed system must work in the client's operating environment, which is Windows.

• We have to finish the project within 3/4 months.

2.5 Assumptions

• Users can read and write English.

• Users have devices that support internet service.

• Users have internet connection.

• Users are familiar with web browsing and can interact with website.

Chapter 3

Requirements

3.1 Functional Requirements

1. **User Registration and Authentication:**
   - Users must be able to create and manage accounts with unique usernames and passwords.
   - Authentication should include email verification and password reset options.
2. **Product Catalog:**
   - The application must display a catalog of products with details such as name, description, price, and availability status.
   - Users should be able to browse and search for products.
3. **Product Search and Filters:**
   - Users should have the ability to search for products by keywords and apply filters like category, price range, and brand.
4. **Product Details:**
   - Users should be able to view detailed product information, including multiple images, specifications, and customer reviews.
5. **Shopping Cart:**
   - Users should be able to add products to their shopping cart, update quantities, and remove items.
   - The shopping cart must display a subtotal and allow users to proceed to checkout.
6. **Checkout Process:**
   - The application must guide users through a secure and user-friendly checkout process.
   - Users should provide shipping information, select a payment method, and review their order before confirmation.

7. **Payment Processing:**
   - Support various payment methods, including credit/debit cards, digital wallets (e.g., Bkash), and other regional options.
   - Ensure secure handling of payment information through encryption.
8. **Order Management:**
   - Users should have access to order history, order tracking, and order status updates.
   - Vendors should be able to view and manage incoming orders.
9. **Reviews and Ratings:**
   - Users should be able to leave product reviews and ratings.
   - Display average ratings and sort products by rating.
10. **User Profiles:**
    - Users should have profiles where they can manage personal information, view past orders, and save shipping addresses.
11. **Vendor Management:**
    - Vendors should be able to create and manage product listings, including images, descriptions, and inventory levels.
    - Access to sales reports and analytics should be provided**.**
12. **Admin Panel:**
    - Administrators must have a backend panel to manage users, products, and orders.
13. **Security Features:**
    - Implement security measures to protect user data.
14. **Customer Support:**
    - Provide users with contact options like direct call help center.
15. **Scalability and Performance:**
    - Design the application to handle high traffic loads, with load balancing and caching mechanisms for optimal performance.
16. **Reporting and Analytics:**
    - Provide reporting tools to track user behavior, sales performance, and website traffic.

These functional requirements serve as a foundation for the development of the e-commerce webpage application, ensuring that it meets user expectations and business goals while providing a secure and user-friendly shopping experience.

3.2 Non Functional Requirements

Performance Requirements:

• The system must not accumulate high numbers of users without any fault.

• Response to any kind of interaction must take no longer than 3 seconds to appear on the screen.

Security Requirements:

• System will use secure database.

• Normal users can just read or write information but they can't edit or modify existing information.

Error Handling:

• OS must handle expected or non-expected errors in ways that prevent loss in information and long down time period.

Safety Requirements:

• System use must not cause any harm to human users.

Appendices

Glossary

SRS: A software requirements specification (SRS) is a description of a software system to be developed. The software requirements specification lays out functional and non-functional requirements, and it may include a set of use cases that describe user interactions that the software must provide to the user for perfect interaction.

Cyberattacks: Cyberattacks are malicious actions targeting digital systems. Examples include malware, phishing, DoS and MitM attacks. They aim to compromise security, steal data, or disrupt operations. Cybersecurity measures are vital to protect against these threats.