**SOFTWARE REQUIREMENTS SPECIFICATIONS (SRS)**

**Project Title:** eCommerce Website

**Document Version:** 1.0

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**1. Introduction**

**(i) Purpose**

* This SRS document provides a detailed description of the functionality, features, and behavior of the eCommerce website. The primary objective is to create a platform where users can browse, search, and purchase products online, while providing an intuitive user experience.

**(ii)** **Scope**

This project will develop an eCommerce website that allows users to;

* Register and create personal accounts.
* Browse and search products.
* Add products to a shopping cart and make purchases.
* Process payments securely.
* Review and track orders.

**(iii) Audience**

The intended audience of this document includes developers, project managers, designers, and stakeholders who are involved in the project.

**(iv) Definitions**

**Admin** The administrator of the system responsible for managing products, users, and orders.

**User** A customer who uses the eCommerce platform to browse and purchase products.

**Shopping Cart** A virtual cart used to store items the user intends to purchase.

**2. Overall Description**

**(i) Product Features**

* **User Registration & Authentication;** Users can create accounts, log in, and manage profiles.
* **Product Catalog;** Users can browse a wide range of product categories.
* **Search Functionality;** A search bar allows users to find products based on keywords.
* **Shopping Cart**; Users can add, remove, or modify items in the cart.
* **Payment Gateway Integration**; The system will support multiple payment methods, including credit/debit cards and digital wallets.
* **Order Tracking;** Users can track their order status after placing an order.
* **Admin Panel;** Admins can add, edit, or remove products and manage users and orders.

**(ii) Operating Environment**

* **Web Browser;** The system will be accessible via all modern web browsers (e.g., Chrome, Firefox, Edge).
* **Operating System**; The website will be hosted on Linux-based servers.
* **Database;** The system will use MySQL or PostgreSQL as the database.
* **Payment Gateway;** Integration with third-party payment processors such as PayPal and Mpesa.

**(iii) Constraints**

* **Security;** Secure login mechanisms and SSL encryption are mandatory.
* **Scalability;** The system should handle high traffic, especially during sales and promotional periods.

**3. System Features**

**(i) User Authentication**

* **Description and Priority**

This feature allows users to register, log in, and manage their profiles. It is a high-priority feature as it forms the foundation for personalized experiences.

* **Functional Requirements**

Users can register with their email and password.

The system must validate that email addresses are unique.

Users must be able to reset their passwords through email verification.

(ii) **Product Catalog**

* **Description and Priority**

The product catalog is the main interface for users to browse and filter products. It is essential for the platform and must be implemented early.

* **Functional Requirements**

Users can browse products by category or perform keyword searches.

Each product listing includes an image, name, price, and description.

Users can sort products by price, rating, or popularity.

**(iii) Shopping Cart**

* **Description and Priority**

The shopping cart allows users to add products and proceed to checkout. It is a critical feature for the eCommerce experience.

* **Functional Requirements**

Users can add or remove products from the cart.

The cart automatically updates the total price based on the quantity of products.

Users can view the cart before checking out.

**(iv)** **Checkout and Payment Processing**

* **Description and Priority**

This feature allows users to review their order, enter shipping details, and complete the purchase via the integrated payment gateway. It is a high-priority feature.

* **Functional Requirements**

Users can select payment options (credit card, PayPal, etc.).

Payment details are securely processed via SSL.

Users receive confirmation emails after payment.

**(v)** **Order Tracking**

* **Description and Priority**

Users should be able to track the status of their orders (processing, shipped, delivered). It enhances user satisfaction and transparency.

* **Functional Requirements**

Users can view current and past orders.

Admins can update the order status, which triggers email notifications to users.

**4. External Interface Requirements**

**(i) User Interfaces**

**Registration Form** For users to create accounts.

**Product Listing Page** Displays products by category and allows sorting/filtering.

**Shopping Cart** Provides a summary of selected items and total cost.

**(ii) Hardware Interfaces**

The eCommerce platform will run on a cloud server or dedicated hosting environment.

**(iii)** **Software Interfaces**

**Database** MySQL or PostgreSQL to store user, product, and order data.

**Payment Gateway** APIs from Stripe, PayPal, etc., for payment processing.

**Web Server** Apache or Nginx to host the website.

## \*\***5. Non-Functional Requirements**

**(i)Performance**

The website should load within 2 seconds for standard users.

The system should be able to handle up to 10,000 concurrent users during peak times.

**(ii)** **Security**

All user data, including passwords, must be encrypted.

Payment processing must be done via SSL to ensure security.

Implement role-based access control to prevent unauthorized admin access.

**(iii)** **Usability**

The platform must be intuitive for all types of users.

Provide a responsive design for mobile and tablet devices.

**(iv) Scalability**

The system should be able to scale horizontally to accommodate more users.

**6. Other Requirement**

**(i) Legal and Compliance**

The website must comply with General Data Protection Regulation to protect user privacy.

**(ii) Backup and Recovery**

Data must be backed up daily, and the system should be capable of recovering from failures with minimal downtime.

**7. Appendix**

**(i) Database Schema**

**(ii) Example User Stories**

As a user, I want to search for products by keyword so that I can quickly find what I need.

As an admin, I want to add new products to the catalog so that users can purchase them.