Software Requirements Specification (SRS) Report Format

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1. Introduction

1.1 Project Overview :

The E-Commerce Web Application is a dynamic online platform that allows users to browse, purchase, and manage products effortlessly. With the increasing trend of online shopping, this project aims to create a user-friendly, secure, and scalable marketplace where customers can find a wide range of products, compare prices, and make purchases with no bother. This web application will cater to both customers and sellers, ensuring smooth order processing, payment transactions, and product management. Unlike traditional shopping methods, this platform provides 24/7 accessibility, secure payment gateways, and real-time order tracking.

1.2 Purpose and Scope

The primary purpose of this project is to simplify and enhance the online shopping experience by offering a well-structured e-commerce platform. The platform will allow users to register, browse categories, add items to the cart, complete secure transactions, and track their orders smoothly.

Key Features of the E-Commerce Web Application:

For Customers:
- Easy product browsing and filtering options
- Secure payment integration (COD, MOMO, Credit/Debit Cards)
- Order tracking and status updates
- User reviews and ratings for better decision-making

For Sellers:
- Product management dashboard to add, edit, or remove products
- Sales tracking and analytics for business insights
- Order fulfillment notifications

For Admins:
- User and product management to ensure platform security
- Review the product quality and quantity
- Managing promotions and discount offers

Scope of the Project:
- The platform will be web-based, optimized for desktop and mobile users.
- The system will focus on B2C (Business-to-Consumer) e-commerce functionality.
- Data security and scalability will be prioritized to handle high user traffic.

1.3 Stakeholders

Every software project involves different stakeholders who have a vested interest in its success. For this E-Commerce Web Application, the key stakeholders include:

Customers: People who browse, purchase, and interact with the platform. Their satisfaction is crucial for business growth.

Sellers (Vendors): Businesses or individuals who list their products on the platform. They need a simple and effective way to manage inventory and sales.

Administrators: The platform owners and managers who ensure everything runs smoothly, including user management, product approvals, and fraud prevention.

Payment Providers: Banks, payment gateways (COD, Bikash, etc.), and financial institutions that handle transactions securely.

Delivery Partners: Logistics companies responsible for shipping and handling orders, ensuring timely delivery.

Developers & System Administrators: The technical team that maintains, updates, and secures the platform.

2. Requirements Engineering Process

2.1 Stakeholder Needs & Analysis

Identifying Primary & Secondary Stakeholders:
Primary Stakeholders: Customers, Sellers, Administrators.
Secondary Stakeholders: Payment Providers, Delivery Partners.

Methods Used for Requirement Elicitation:
Surveys & Questionnaires: To gather user preferences regarding shopping behavior.
Interviews: Conducted with business owners and potential customers to understand requirements.
Observations: Reviewing competitor websites to identify industry best practices.
Focus Groups: Engaging users for feedback on UI/UX design.

2.2 List of Requirements

Functional Requirements (FRs):
User Registration & Authentication: Users can sign up, log in, with passwords.
Product Catalog Management: Sellers can add, update, and delete product listings.
Shopping Cart & Wishlist: Users can add items to cart or save them for later.
Order Placement & Tracking: Users can place orders and track their delivery status.
Payment Processing: Secure checkout process with multiple payment options.
Review & Ratings System: Customers can rate and review products.

Non-Functional Requirements (NFRs):
Security: Secure login, and safe payment processing.
Performance: The website should load within 3 seconds for optimal user experience.
Scalability: Should support up to minimum 1,000 concurrent users.
Availability: The system should have 95% uptime.
Usability: The interface should be easy to navigate for all age groups.

Extra-Ordinary Requirements (Wow Factors):
Augmented Reality (AR) Product Preview: Allows customers to visualize how a product (e.g., furniture, clothing, eyewear) will look in real life before purchasing.
Smart Order Tracking with Live Updates: Real-time shipment tracking with push notifications on order status changes.

2.3 House of Quality (QFD Integration)

Customer Requirements (CRs) List:
- Easy navigation and product search
- Secure and fast payment processing
- High-quality images and product descriptions
- Reliable customer support

Engineering Requirements (TRs) List:
- Implementation of responsive UI for all devices
- Integration of SSL security certificates
- Development of scalable database architecture
- Optimization for fast page loading

QFD Matrix (House of Quality):
- Rows: Customer Requirements (CRs)
- Columns: Technical Requirements (TRs)
- Relationship Mapping: Strong, Medium, Weak connections between CRs and TRs

Customer Requirements (CRs)	Technical Requirements (TRs)	Relationship (Strong/Medium/Weak)
CR1: Users need a fast login process	TR1: Implement OAuth-based login	Strong
CR2: System should handle high traffic	TR2: Use a scalable cloud database	Strong
CR3: Users want a mobile-friendly UI	TR3: Implement responsive web design	Medium
CR4: Ensure data security	TR4: Encrypt user data	Strong
CR5: Easy and quick checkout process	TR5: Implement one-click checkout	Strong
CR6: Website should load fast	TR6: Optimize images and cache system	Strong

Attachment:

1. Use case diagrams for the project

2. Activity diagrams for the project

3. Prototyping using wireframes or UI sketches for the project

4. Survey Questions Response for the project