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Software Requirements Specification

E-Commerce Website

Name	Id
1. Md Mominul Islam Raju	1813544042
2. Kazi Lutfullah Hil Mazid	2014083642
3. Md Mashikur Rahaman	2011033642
4. Sifat Arifen	2012621642

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Software Requirements Specification (SRS) for E-commerce Website

1. Introduction:

Nowadays, e-commerce platforms have transformed how people sell and buy products online in the modern world. This type of website provides greater accessibility, convenience, and an overall better shopping experience for individuals.

This project aims to design and develop a fully functional e-commerce site that incorporates a user-friendly interface, secure payment methods along with effective order management. The system is going to utilize modern web development technologies to ensure high performance, scalability, and responsiveness of the site.

Creating a website to sell products online means you must develop an easy to use user interface and secure transactions, as well as ensure order processing Works quickly and efficiently. Meaning, modern-day e-commerce web development tools will be used for this purpose to make sure the website performs high, is scalable and responsive.

1.1 Purpose:

The main purpose of creating an e-commerce website is to make an online marketplace where various business merchant can do business with the customers efficiently. This website will be created using advanced software engineering and various technologies.

1.2 Intendent Audience:

A wide range of stakeholders, each with specific needs and desires, are catered to by the e-commerce website. The intended audience includes:

- **End Users:**

  Online Customers who purchase goods or services online is targeted.

  Their searching for a quick, safe, and effective way to shop is solved.

  Various payment choices, simple navigation, and suggestions is considered.

- **Entrepreneurs and Suppliers:**

  Entrepreneurs, merchants, or businesses looking to offer goods online in the website. Vendors will get a platform that is simple to use for managing orders, inventory and product listings. Vendors will analyze sales data and follow consumer behavior to gain knowledge.

- **Gateway Providers for Payments:**

  The platform integrates with businesses like Bkash, Nagad, and SSLCOMMERZ for transactions to be completed smoothly and security standards must be followed according to providers demand.

- **Investors and interested parties**:

  The people or companies that finance the online store. Interested in generating income, user engagement, and the platform's potential for expansion.

1.3 Intended Use:

An e-commerce project aims to improve customer experience, promote growth, and facilitate transactions. Key objectives include expanding market reach by removing physical boundaries, offering 24/7 sales opportunities, and effectively showcasing products with images, descriptions, and reviews. It enhances convenience by enabling online shopping from anywhere, allows easy communication through live chat and support, and helps establish brand awareness through a digital presence. The project scope defines deliverables, boundaries, and objectives, ensuring a clear execution plan. It includes customer conversion strategies like content marketing, social media, and email campaigns to foster brand loyalty and engagement.

1.4 Product Definitions:

The project scope for an e-commerce platform includes core functional requirements such as a product catalog with detailed listings, real-time stock control, and secure checkout, and multi-currency, multi-language support for international markets. It should also include an admin dashboard for managing users, products, orders, and promotions, along with sales and customer behavior reports.

The technical infrastructure involves selecting a suitable e-commerce platform and ensuring mobile and desktop responsiveness. Integration with payment gateways and shipping APIs is also essential.

Design & UX focus on custom branding, user-friendly navigation, and tailored website experiences. Marketing tools should include SEO, content management, social media integration, and email marketing for promotions and abandoned cart recovery.

Localization and compliance considerations cover geographic targeting for prices and currencies, along with meeting legal requirements for

privacy, terms of service, and return/refund policies to comply with local regulations.

1.5 Risk Definitions:

E-commerce projects face various risks that can affect their objectives and outcomes.

- **Technical risks:** involve system failures, payment gateway errors, and cybersecurity threats, which can be mitigated by using secure hosting, regular audits, and strong security protocols.

- **Market risks:** arise from shifts in customer demand or new competition, which can be addressed by conducting market research and diversifying product offerings.

- **Operational risks:** include issues like inventory mismanagement and shipping delays, which can be managed through effective systems and reliable logistics partners.

- **Financial risks:** such as overspending or fraud can be minimized by setting budget caps, optimizing marketing, and implementing fraud prevention measures.

- **Legal and compliance risks:** involve violations of privacy laws or tax miscalculations, which can be avoided by consulting legal experts and ensuring compliance with local regulations.

2. Overall Description:

2.1 User Classes and Characteristics:

Customers: Primary users who will browse products, make purchases, and interact with the website.

Administrators: Users who will manage the website, including product listings, user accounts, and order processing.

Suppliers: Users who may upload products, manage inventory, and view sales reports.

2.2 User Needs:

Customers: Need an intuitive interface, secure payment options, and reliable customer support.

Administrators: Require tools to manage content, monitor sales, and handle customer inquiries.

Suppliers: Ned access to upload products, track inventory, and view sales performance.

2.3 Operating Environment:

Frontend: HTML5, CSS3, JavaScript (React.js)

Backend: Node.js, PHP (Laravel)

Database: MySQL

Hosting: Cloud-based hosting (Google Cloud)

Payment Gateway: Integration Bkash, Nagad, and SSLCOMMERZ for transaction processes.

2.4 Constraints:

Budget: Limited financial resources for development and maintenance.
Time: The project must be completed within a specific timeframe.
Technology: The website must be compatible with major browsers and mobile devices.

2.5 Assumptions:

Users have access to a stable internet connection. Payment gateways will be available and functional. Third-party APIs (e.g., shipping, inventory) will be accessible and reliable.

3. Requirements:

3.1 Functional Requirements:

- User Registration and Authentication:
- Users can create an account, log in, and reset their password.
- Social media login options (e.g., Google, Facebook).

Product Management:

- Admins can add, update, and delete products.
- Products should have categories, descriptions, images, and pricing.

Shopping Cart:

Users can add/remove products, update quantities, and view the total cost.

Checkout Process:

Users can enter shipping details, choose payment methods, and confirm orders.

Integration with payment gateways for secure transactions.

Order Tracking:

Users can view the status of their orders (e.g., processing, shipped, delivered).

Search and Filter:

Users can search for products and filter by category, price, or ratings.

Product Reviews and Ratings:

Users can leave reviews and ratings for purchased products.

Admin Dashboard:

Admins can manage users, products, orders, and view sales reports.

3.2 Non-Functional Requirements:

Performance:

- The website should load within 3 seconds on a 4G connection.
- The system should handle up to 10,000 concurrent users.

Security:

- All user data must be encrypted (SSL/TLS).
- Payment information must comply with PCI DSS standards.

Scalability:

The website should be able to scale horizontally to accommodate future growth.

Usability:

The website should be intuitive and easy to navigate, with a mobile-friendly design.

Availability:

The website should have 99.9% uptime, with a disaster recovery plan in place.

Compatibility:

The website should be compatible with major browsers (Chrome, Firefox, Safari, Edge) and mobile devices (iOS, Android).