

# **ECOMMERCE WEBSITE**

## **Software Requirements Specification**

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## **PROJECT REPORT**

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## 1. Introduction

This Ecommerce website is a curated online shopping experience that connects customers with high-quality products that add value and convenience to their daily lives.

Unlike conventional online marketplaces, this website emphasizes community, trust, and accessibility, bringing together sellers who are passionate about their products and customers who seek quality, affordability, and reliability.

In today's fast-paced world, this website stands out by focusing on curated selections, ensuring that every product meets our high standards of quality and customer satisfaction. From essentials to unique finds, our platform empowers customers to make informed choices while supporting trusted sellers in reaching a broader audience. With a mission to create a dependable, user-friendly online shopping environment, this website fosters a culture of collaboration, discovery, and satisfaction for everyone involved.

### 1.1 Purpose

The purpose of my website is to transform the online shopping experience by providing a curated platform that prioritizes quality, trust, and customer satisfaction. It is designed to connect customers with carefully selected products that enhance daily life while supporting a community of passionate and reliable sellers.

My website aims to create an accessible, user-friendly marketplace where customers can discover unique and essential items, make informed choices, and engage in transactions that bring value and convenience. Ultimately, the platform seeks to simplify online shopping, offering a dependable environment for customers and enabling sellers to reach a wider, engaged audience. By emphasizing curated selections and high standards, my website promotes a culture of trust and quality, fostering long-lasting relationships between sellers and customers.

### 1.2 Scope

**Connection Facilitation:** This website serves as a bridge between customers and a diverse community of sellers, offering a curated

marketplace where users can easily discover quality products that meet their needs. The platform provides a user-friendly space for customers and sellers to connect, fostering a sense of community and trust.

**Collaboration between Sellers and Buyers:** This website enables seamless collaboration between sellers and buyers by offering a streamlined shopping experience. It empowers sellers to showcase their products while allowing customers to explore various categories with ease, ensuring a vibrant and interactive marketplace.

**Resource Sharing:** The platform facilitates resource sharing by providing sections for product information, usage guides, and care tips, especially for specialized items. This centralized hub enriches the overall customer experience, giving users access to valuable content that enhances the utility of their purchases.

**Knowledge Exchange:** This Ecommerce website encourages knowledge exchange between customers and sellers through interactive features like reviews, Q&A sections, and discussions. Users can share feedback, ask questions, and engage in meaningful exchanges, which help foster a knowledgeable and supportive shopping environment.

**Support for Sellers and Small Businesses:** The platform acts as a bridge, connecting sellers—particularly local and independent businesses—with customers seeking quality and unique products. My website provides sellers with tools to effectively showcase their products, giving customers the opportunity to support smaller businesses.

**Curated Shopping Ecosystem:** Through its curated selection process, this website cultivates a trustworthy shopping ecosystem where quality and customer satisfaction are top priorities. This approach

allows customers to confidently make purchases while supporting a marketplace that values community and product integrity.

## 1.3 Definitions, Acronyms, and Abbreviations

### **Product Management System (PMS)**

**Definition:** A system within this website for managing inventory, product details, and seller interactions, including cataloging and tracking available products.

### **Customer Relationship Management (CRM)**

**Definition:** A system used by my website to manage customer interactions, track customer data, process orders, and maintain communication regarding purchases, support, and promotions.

### **Product Catalog System (PCS)**

**Definition:** A system that organizes and displays available products, allowing users to browse by category, such as essentials, seasonal items, or specialty products.

### **Order and Payment System (OPS)**

**Definition:** The component of my website that handles the order lifecycle, including processing payments, verifying transactions, and confirming purchases.

### **Gift and Personalization System (GPS)**

**Definition:** A feature that enables customers to purchase products as gifts, with options for personalized messages and direct shipping to the recipient.

### **Shipping and Delivery System (SDS)**

**Definition:** The logistics module in my website responsible for handling shipping requests, tracking deliveries, and ensuring timely arrival of products to custom

## Acronyms & Abbreviations

### Acronyms:

**PMS:** Product Management System

**CRM:** Customer Relationship Management

**PCS:** Product Catalog System

**OPS:** Order and Payment System

**LMS:** Loyalty Management System

**SDS:** Shipping and Delivery System

**RFS:** Review and Feedback System

### Abbreviations:

**SRS:** Software Requirements Specification

**API:** Application Programming Interface

**UI:** User Interface

**UX:** User Experience

### References:

**E-commerce Essentials Guide:** This website, Industry Guide; Available online for e-commerce industry standards.

**Customer Service in E-commerce:** Green Thumb Publications (2023). Available from local bookstores or the Green Thumb website.

## Overview:

The Software Requirements Specification (SRS) for this website outlines the detailed requirements for each core system, designed to provide a seamless online marketplace experience for users looking to shop, browse, and manage purchases of products.

### 1.4 Structure of the SRS

#### (1) What the SRS Contains:

This SRS provides a detailed breakdown of each system's requirements, features, constraints, and dependencies, including descriptions of user requirements, system functionalities, performance metrics, security measures, and integration points. It outlines how the system interacts with external interfaces, data flows, and error-handling procedures. Additionally, non-functional requirements such as performance, reliability, security, maintainability, and portability are specified to ensure a seamless user experience.

#### (2) Organization of the SRS:

**The SRS is organized into sections for each core component of this website:**

**Product Management System (PMS):** Manages product listings, availability, and inventory.

**Customer Relationship Management (CRM):** Manages user accounts, loyalty rewards, order history, and personalized communication.



**Product Catalog System (PCS):** Organizes products with categories, prices, descriptions, and visuals.

**Order and Payment System (OPS):** Handles order processing, payment verification, and confirmations.

**Loyalty Management System (LMS):** Tracks and redeems loyalty points for users.

**Shipping and Delivery System (SDS):** Manages delivery tracking, shipping costs, and confirmations.

**Review and Feedback System (RFS):** Allows users to leave reviews, and feedback for products.

**Each section starts with a system definition, followed by detailed requirements, ensuring clarity and efficient navigation.**

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## **2. General Description**

**This section gives an overview of my website and its main systems without diving into specific detailed requirements.**

### **2.1 Product Perspective**

My website is an e-commerce platform designed for product shopping and user engagement. It integrates with systems such as payment gateways, inventory management tools, and CRM, ensuring a

seamless user experience from product discovery to checkout and delivery.

## 2.2 Product Functions

**The primary functions of this website are to support browsing, purchasing, and loyalty-based shopping experiences. Key features include:**

**Product Browsing:** Organized browsing by categories (e.g., electronics, fashion, household).

**Product Management:** Merchants can manage inventories and product information.

**Shopping Cart & Checkout:** Customers add items to a cart and securely process payments.

**Loyalty Management:** Customers earn and redeem loyalty points on eligible purchases.

**Order and Payment System:** Manages order processing, payment verification, and shipping information.

**Shipping Tracking:** Provides delivery tracking information for users.

## 2.3 User Characteristics:

**The users of this website include:**

**Customers:** Individuals purchasing products, with varied tech proficiency.

**Merchants:** Sellers managing product listings, who may have varying familiarity with e-commerce platforms.

## 2.4 General Constraints

**Constraints affecting development include:**

**Budgetary Limitations:** Available funds for development, marketing, and operational costs.

**Technological Infrastructure:** The platform should integrate with existing web hosting, payment gateways, and shipping APIs.

**System Compatibility:** Seamless integration with third-party payment, CRM, and shipping tools.

## 2.5 Assumptions and Dependencies

**Assumptions and dependencies include:**

**Reliable Infrastructure:** Web hosting, payment processing, and secure shipping services.

**Stakeholder Participation:** Involvement from merchants, administrators, and customers for smooth operation.

**Technological Requirements:** Users need internet access and modern web browsers.

## 3. Specific Requirements

**This section provides the requirements for my website, serving as a foundation for design, implementation, and testing.**

### 3.1 External Interface Requirements

#### 3.1.1 User Interfaces

### **Login Interface:**

- Secure login for customers, merchants, and admins with fields for username and password.
- Password recovery and account registration features.

### **Product Browsing Interface:**

- Browse products by category with details like price, description, and availability.
- Search and filter options for easy product discovery.

### **Shopping Cart Interface:**

- Add products to the cart, view total prices, and edit quantities.
- Clear checkout button for proceeding to payment.

### **Checkout Interface:**

- Secure, user-friendly checkout with payment and shipping information fields.

### **Admin Dashboard Interface:**

- Manage accounts, products, orders, and inventory with modification tools.

## **3.1.2 Hardware Interfaces**

### **Server Hardware:**

- Specify requirements for server hardware to handle expected traffic.
- Scalability considerations to manage growth.

### **User Devices:**

- Support major browsers and devices (desktop, mobile, tablet) with responsive design.

### 3.1.3 Software Interfaces

#### **Database Management System (DBMS):**

- Use MongoDB and Mongoose to store and manage user, product, and order data.

#### **Payment Gateway Integration:**

- Integrate with Stripe or PayPal, with API endpoints for secure transactions.

#### **Shipping API Integration:**

- Connect with carriers like UPS or FedEx for real-time shipping updates.

### 3.1.4 Communication Interfaces

#### **Internal Communication:**

- Secure protocols for communication between database, front-end, and back-end.

#### **External Communication:**

- Use email or SMS for notifications, order confirmations, and promotions.

## 3.2 Functional Requirements

### 3.2.1 User Authentication

- Secure user login using bcrypt and JWT for token management.
- Role-based access for customers, merchants, and admins.

### 3.2.2 Data Storage

- Use MongoDB for structured data storage of products, users, and orders.
- Mongoose for data modeling and queries.

### 3.2.3 Product Management

- Sellers can add, update, and delete products.
- Listings include product name, category, description, images, and availability.

### 3.2.4 Order and Payment System

- Process orders, secure payment handling, and order status tracking.
- Confirmation emails for successful transactions.

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## 3.5 Non-Functional Requirements

### 3.5.1 Performance

**Response Time:** 95% of interactions complete within 2 seconds.

**Scalability:** Platform to support up to 1,000 concurrent users during peak times.

### 3.5.2 Availability

**Uptime:** Minimum 99.9% uptime.

**Downtime Limit:** No more than 5 minutes of unplanned downtime per week.

### 3.5.3 Security

**Encryption:** Encrypt sensitive data with bcrypt and SSL/TLS.

**Access Control:** Role-based permissions.

**Compliance:** GDPR and PCI-DSS compliant.

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## 3.7 Design Constraints

**Tech Stack:** Node.js for back-end, MongoDB for the database.

**Security:** JWT for authentication and secure data management.

**APIs:**

This SRS outline can guide the development of my website, ensuring that all functionalities and constraints are carefully considered for a high-quality user experience. Comply with security standards of third-party services

**7. Website Image:**



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