

# E-Commerce App Requirement Document

## 1. Introduction

### 1.1 Purpose

The purpose of this document is to outline the functional and non-functional requirements for an e-commerce application. The application will allow users to browse, search, and purchase products online while providing merchants with tools to manage their inventory and sales.

### 1.2 Scope

The e-commerce app will include user authentication, product catalog, shopping cart, order management, and payment processing. The app will support both web and mobile platforms.

## 2. Functional Requirements

### 2.1 User Management

- Users can sign up, log in, and manage their profiles.
- Authentication via email/password and social media login.
- User roles: Customers, Admins, and Merchants.

### 2.2 Product Catalog

- Products will have details such as name, price, description, images, and stock availability.
- Users can browse categories and search for products.
- Merchants can add, edit, and delete products.

### 2.3 Shopping Cart and Checkout

- Users can add, update, and remove products from the cart.

- Order summary with total cost, taxes, and shipping fees.
- Users can apply discount codes and gift cards.
- Checkout process with shipping and payment selection.

## **2.4 Order Management**

- Users can view order history and track orders.
- Merchants can process and update order statuses.
- Automatic email notifications for order confirmations and status updates.

## **2.5 Payment Integration**

- Support for credit/debit cards, digital wallets, and bank transfers.
- Secure payment processing via third-party payment gateways.
- Refund and return processing.

## **2.6 Reviews and Ratings**

- Users can leave reviews and ratings for products.
- Moderation tools to prevent inappropriate content.

## **2.7 Admin Panel**

- Manage users, merchants, and products.
- View sales reports and analytics.
- Handle customer support tickets.

# **3. Non-Functional Requirements**

### **3.1 Performance**

- The application should load pages within 2 seconds.
- Support for high traffic with scalable architecture.

### **3.2 Security**

- Secure user authentication and data encryption.
- Protection against SQL injection, CSRF, and XSS attacks.

### **3.3 Usability**

- Intuitive UI/UX design for seamless navigation.
- Mobile responsiveness and accessibility compliance.

### **3.4 Compatibility**

- Support for major web browsers and mobile devices (iOS, Android).

### **3.5 Availability**

- Ensure 99.9% uptime with cloud-based hosting.
- Regular backups to prevent data loss.

## **4. Technical Requirements**

### **4.1 Platform**

- Web application using React.js/Next.js.
- Mobile application using React Native or Flutter.

### **4.2 Backend**

- RESTful API with FastAPI or Node.js.
- Database: PostgreSQL or MongoDB.
- Authentication: JWT-based authentication.

### **4.3 Deployment**

- Cloud hosting on AWS, Azure, or Google Cloud.
- CI/CD pipeline for automated deployments.

## **5. Conclusion**

This document outlines the key requirements for the e-commerce application. The next steps include UI/UX design, database schema design, and API development.