## **Ecommerce website**

## **1. Introduction**

### **1.1 Purpose**

Our client wants a shopping website. The purpose of this document is to outline the requirements for the development of an online shopping website to provide users with a seamless shopping experience and streamline administrative tasks.

### **1.2 Scope**

The shopping website will allow registered users to browse, search for, select, and purchase products. It will also provide an administrative interface for managing products, orders, and user accounts. The website will not include social networking features or user-generated content.

## **2. Functional Requirements**

### **2.1 User Registration and Authentication**

* Users can register an account with a unique username and password.
* Users can log in with their credentials.
* Passwords must be securely hashed and stored.

### **2.2 Product Browsing and Searching**

* Users can browse products by categories.
* Users can search for products by keywords.
* Users can filter and sort search results.

### **2.3 Product Details**

* Product listings will include images, descriptions, prices, and availability status.
* Users can view detailed product information and customer reviews.

### **2.4 Shopping Cart Management**

* Users can add products to the shopping cart.
* Users can view the contents of their shopping cart.
* Users can update quantities or remove items from the cart.

### **2.5 Checkout Process**

* Users can proceed to checkout from the shopping cart.
* Users must provide shipping and billing information.
* Users can choose shipping options and payment methods.

### **2.6 Payment Gateway Integration**

* The website will integrate with a third-party payment gateway for secure online payments.
* Users' payment information will be securely processed and stored by the payment gateway.

### **2.7 Order History and Tracking**

* Registered users can view their order history and track the status of their orders.
* Order status updates will be sent via email.

### **2.8 Admin Dashboard**

* Admin users can log in to an administrative dashboard.
* Admins can manage product listings, including adding, updating, and deleting products.
* Admins can view and process orders.

### **2.9 Inventory Management**

* Admins can track product inventory and receive low-stock notifications.
* Out-of-stock products will be marked as unavailable for purchase.

### **2.10 Shipping and Delivery Management**

* Admins can set shipping rates and options.
* Users can choose from available shipping methods during checkout.

### **2.11 Returns and Refunds**

* Users can initiate returns and request refunds through their accounts.
* Admins can process returns and issue refunds.

## **3. Non-Functional Requirements**

### **3.1 Performance**

* The website must handle a minimum of 500 concurrent users.
* Page load times should be under 3 seconds.

### **3.2 Security**

* User passwords and sensitive data will be securely stored and transmitted (e.g., HTTPS).
* Admin accounts will have elevated permissions and two-factor authentication.

### **3.3 User Experience**

* The website will have a responsive design for desktop and mobile devices.
* Accessibility standards (WCAG) will be followed.

## **4. Technical Requirements**

### **4.1 Technology Stack**

* Frontend: HTML, CSS, JavaScript, React
* Backend: Node.js, Express
* Database: MongoDB
* Payment Gateway Integration: Stripe

### **4.2 Hosting and Deployment**

* The website will be hosted on AWS with automatic scaling.
* Deployment will use a CI/CD pipeline (e.g., GitHub Actions).

### **4.3 APIs and Integrations**

* Integration with Stripe for payment processing.
* Integration with a shipping service for order fulfillment.

## **5. Project Timeline**

* Milestone 1: Project Setup and Design - 8 weeks
* Milestone 2: Frontend and Backend Development - 16 weeks
* Milestone 3: Testing and Quality Assurance - 8 weeks
* Milestone 4: Deployment and Launch - 8 weeks

## **6. Budget and Resources**

* Development Team: 2 frontend developer, 2 backend developer, 1 UI/UX designer
* Estimated Development Cost: $300k

## **7. Assumptions and Constraints**

* The website will be developed for modern browsers (Chrome, Firefox, Safari).
* The project will adhere to the allocated budget and timeline.