# 1. Introduction



## 1.1 Purpose

This document outlines the requirements for an online store system that provides a platform for users to browse, search, and purchase products online. The system will support both customer and administrative functionalities.

## 1.2 Scope

The online store system includes customer functionalities such as registration, login, product browsing, cart management, and order placement. Admin functionalities include product management, order tracking, and user management.

## 1.3 Definitions, Acronyms, and Abbreviations

CRUD: Create, Read, Update, Delete  
UI: User Interface  
DBMS: Database Management System

HTTPS: Hyper Text Transfer Protocol Secure

API: Application Programming Interface

MTBF: Mean Time Between Failures

MTTR: Mean Time to Repair

## 1.4 References

*(1) W3school*

*(2) Stack Overflow*

*(3) Chat GPT*

*(4) Gemini*

## 1.5 Overview

## ***This SRS is organized into several sections: system description, specific requirements, and additional requirements.***

The system is designed to operate in a web-based environment and supports multiple user roles (customer, admin, guest). It also integrates with a payment gateway.

# 2. General Description

## 2.1 Product Perspective

The online store is an Interactive transaction-based application with front-end and back-end systems. It interacts with an external payment gateway for transactions.

## 2.2 Product Functions

Customer registration and login, product browsing and search, cart management, order placement and tracking, admin management of products like adding and deleting, orders, and customers.

## 2.3 User Characteristics

## Customer**:** Can register, log in, browse, search, add to cart, checkout, track orders, and manage accounts.

## Admin**:** Can log in, manage products, view and update orders, manage inventory, and generate reports

## 2.4 General Constraints

* The system must support secure HTTPS connections
* Requirements to integrate with external systems such as payment gateways, shipping services, and inventory management systems.
* Require implementation of encryption, secure authentication, and compliance with security standards

## 2.5 Assumptions and Dependencies

* Target users will have access to the internet and appropriate devices to use the online store.
* Users are familiar with web navigation and online shopping.
* The system relies on an external payment gateway.

# 3. Specific Requirements

## 3.1 External Interface Requirements

### 3.1.1 User Interfaces

Customer UI: Homepage, Product Pages, Cart, Checkout, Order History.  
Admin UI: Dashboard with inventory management, user management, order tracking.

Guest UI: Product Pages, Cart, Checkout.

### 3.1.2 Hardware Interfaces

Compatible with desktops, tablets, and mobile devices.

### 3.1.3 Software Interfaces

* Browser-based interface.
* Database Management System for data storage.
* Payment gateway API for transactions.

### 3.1.4 Communications Interfaces

* HTTPS for secure web transactions.
* Encryption: Protects data in transit, particularly when sensitive information (like payment details) is exchanged.
* Authentication and Authorization: Ensures that only authorized users and systems can access specific interfaces, often implemented through tokens or API keys.

## 3.2 Functional Requirements

1-User requirements:

1.1-User Registration and Login:

* can create a new account (Inputs: username, password, email).

- Validate input fields ensure username and email are unique, password meets security criteria.

-Store user information securely in the database.

* can login/logout to an existing account (Inputs: username, password, email).

- Validate login credentials against stored data.

- Generate a session taken upon successful login (next: Login success message and redirect to user dashboard.)

- Close a session taken upon logout

1.2- Product Browsing and Search:

* View product details, including images, descriptions, and pricing.
* Add products to the shopping cart.
* Search for products by keyword or filter by attributes.

1.3- Product Selection and Purchase

* Ability to add products to the shopping cart.
* View cart contents and quantities of added products.
* Remove items from the cart.
* View cart totals and proceed to check out.
* Choose the payment method and complete the purchase.

2-System Requirements:

2.1-Hardware Requirements:

* Sufficient CPU and RAM to handle website traffic and database operations.
* storage space for product images, customer data, and other files.

2.2- Network:

* Reliable internet connection with sufficient bandwidth.
* Secure network infrastructure to protect sensitive customer data.

2.3-Software:

* Operating system for the web server
* Apache HTTP Server

2.4 Database management system

* MySQL (DBMS) to store product information, customer data, and order history.

2.5- Programming Languages:

PHP, JavaScript for web development.

3.5 Non-Functional Requirements:

1-User requirements:

1.1Performance

* The website should load quickly, and actions like searching, adding to cart, and checkout should be responsive.
* System Perspective: The system should have low response times for all operations, especially during peak usage.

1.2 Reliability

* The website should be available 24/7 with minimal downtime.
* System Perspective: The system should have high availability, with redundancy and failover mechanisms in place.

1.3 Availability

* The website should be accessible from various devices (desktop, mobile, tablet) and browsers.
* System Perspective: The system should be compatible with multiple platforms and devices.

1.4 Security

* The website should protect user data and transactions with strong security measures.
* The system should implement robust security measures, including encryption, secure authentication, and regular security audits.

1.5 Maintainability

* User Perspective: The website should be easy to use and navigate.
* System Perspective: The system should be easy to maintain, update, and modify.

1.6 Portability

* User Perspective: The website should be accessible from different locations and devices.
* System Perspective: The system should be deployable on different hardware and software platforms.

2-System Requirements:

2.1- Performance:

* The system should respond to user requests within a specified time frame.
* Throughput: The system should be able to handle a certain number of transactions per second.
* Scalability: The system should be able to handle increased load as the business grows. Reliability

2.2- Reliability:

* The system should have a long MTBF.
* The system should have a short MTTR.
* Disaster Recovery Plan: The system should have a plan to recover from failures.

2.3- Availability:

* The system should be available for a specified percentage of the time.
* Redundancy: The system should have redundant components to minimize downtime.

2.4- Security

* Access Control: The system should have strong access controls to protect sensitive data.
* Encryption: The system should encrypt sensitive data.
* Penetration Testing: The system should be regularly tested for vulnerabilities.
* Maintainability

2.5- Maintainability:

* The system should be modular and easy to modify.
* Documentation: The system should be well-documented.
* Testability: The system should be easy to test.

2.6- Portability:

* The system should be able to run on different platforms.
* Configuration Management: The system should be easy to configure. configure.

3.6 Inverse Requirements

* The system should not have error messages that are unclear or unhelpful.
* The system should not load slowly or have frequent crashes.
* The system should not display incorrect product information or pricing
* The system should not collect or store personal data without explicit consent.
* The system should not violate copyright or trademark laws.
* The system should not have confusing or inconsistent navigation.

3.7 Logical Database Requirements:

Logically scalable to manage the products , customers and admins

**Products:**

* ProductID (Primary Key)
* Name
* Description
* Price
* QuantityInStock
* CategoryID (Foreign Key)

**Customers:**

* CustomerID (Primary Key)
* FirstName
* LastName
* Email
* Password
* Address
* PhoneNumber

**Admins:**

* AdminID
* FirstName
* lastName
* Email
* Password
* phoneNumber