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1. Abstract

The Software Requirements Specification (SRS) for the Online Shopping System outlines the fundamental requirements and technical specifications needed to develop a robust, secure, and user-friendly e-commerce platform. In today's fast-evolving digital marketplace, online shopping plays a crucial role in the retail industry. This document provides a comprehensive framework for designing and implementing an intuitive and efficient platform that caters to both customers and administrators.

The objective of this system is to facilitate seamless online transactions, offering a diverse range of products with an interactive and responsive user interface. The platform will ensure secure payment methods, smooth navigation, real-time order tracking, and a structured inventory management system. Additionally, it will provide administrators with powerful tools for managing product listings, tracking sales, and analyzing customer behavior.

To enhance user experience, the system will incorporate personalized recommendations, a secure authentication mechanism, and multiple payment gateways. The project aims to optimize e-commerce operations by leveraging technology to create an engaging and hassle-free shopping experience for users while ensuring the security and efficiency of the backend administrative functions.

2. Objective

The primary objective of this project is to design and develop an online shopping platform that delivers a seamless and efficient shopping experience while maintaining high security and scalability standards. The following objectives define the core goals:

1. **User-Friendly Shopping Experience**: The system will be designed with an intuitive interface that simplifies product searches, enhances navigation, and streamlines the checkout process to improve user experience.
2. **Secure Transactions**: Robust security measures will be implemented to protect user data, financial information, and online transactions, ensuring trust and confidence among consumers.
3. **Effective Order Management**: Administrators will have tools to efficiently handle orders, update stock availability, and manage customer information, improving overall workflow.
4. **Scalability and Future-Proofing**: The platform will be developed with expansion in mind, making it adaptable to future technological advancements and feature enhancements.
5. **Quality Assurance and Testing**: The system will undergo extensive testing, including unit testing, integration testing, and user acceptance testing, to ensure stability and performance.
6. **Timely Project Completion**: The project will adhere to planned timelines and budget constraints to ensure a successful and timely launch.
7. **Customer Satisfaction**: The ultimate goal is to provide a reliable, fast, and secure online shopping platform that enhances customer loyalty and encourages repeat business.

By achieving these objectives, the Online Shopping System will create a competitive and sustainable e-commerce solution, ensuring smooth transactions and business growth while prioritizing user convenience and security.

3. Introduction

3.1 Purpose

The purpose of this document is to define the software requirements for the Online Shopping System (OSS). It serves as a guideline for the development team and stakeholders, ensuring that all functional and non-functional requirements are well-documented and understood before implementation.

3.2 Scope

The Online Shopping System is designed to provide a seamless shopping experience to users by allowing them to browse, select, and purchase products online. It enables vendors to manage their inventory and customers to shop from anywhere using an internet connection. The system will incorporate security features, multiple payment options, and an intuitive interface to enhance usability.

3.3 Definitions, Acronyms, and Abbreviations

- **OSS**: Online Shopping System
- **UI/UX**: User Interface/User Experience
- **SSL**: Secure Sockets Layer
- **CRUD**: Create, Read, Update, Delete

3.4 Overview

This document details the functional and non-functional requirements of the Online Shopping System. It outlines the system's overall description, specific functionalities, and key features to ensure a successful implementation.

4. Overall Description

4.1 Product Perspective

The Online Shopping System (OSS) is designed to cater to individuals who prefer the convenience of purchasing products online rather than visiting physical stores. This could be due to time constraints, personal preferences, or the desire to avoid lengthy formalities associated with in-store shopping. The system aims to bridge this gap by offering a digital storefront that allows seamless browsing, ordering, and payment processing.

4.2 Product Functions

The OSS application supports the following functionalities:

- **Administrator**: Oversees shop creation requests, manages product categories, and monitors system activities.
- **Shop Owner**: Requests shop creation, manages inventory, processes orders, and accesses business reports.
- **Customer**: Browses products, adds items to a cart, processes payments, and manages order history.
- **Employees**: Handles purchasing, sales, and accounting under designated managers.

4.3 User Characteristics

Users should be familiar with basic shopping and internet-related terminology such as "cart," "checkout," and "transactions."

4.4 Constraints

- The system is restricted to HTTP and HTTPS protocols.
- No real-world banking or credit card validation is in place.
- Multilingual support is not provided.

4.5 Assumptions and Dependencies

- The system requires a stable internet connection.

4.6 Operating Environment

Compatible with all major web browsers and operating systems supporting networking.

5. Specific Requirements

5.1 Functional Requirements

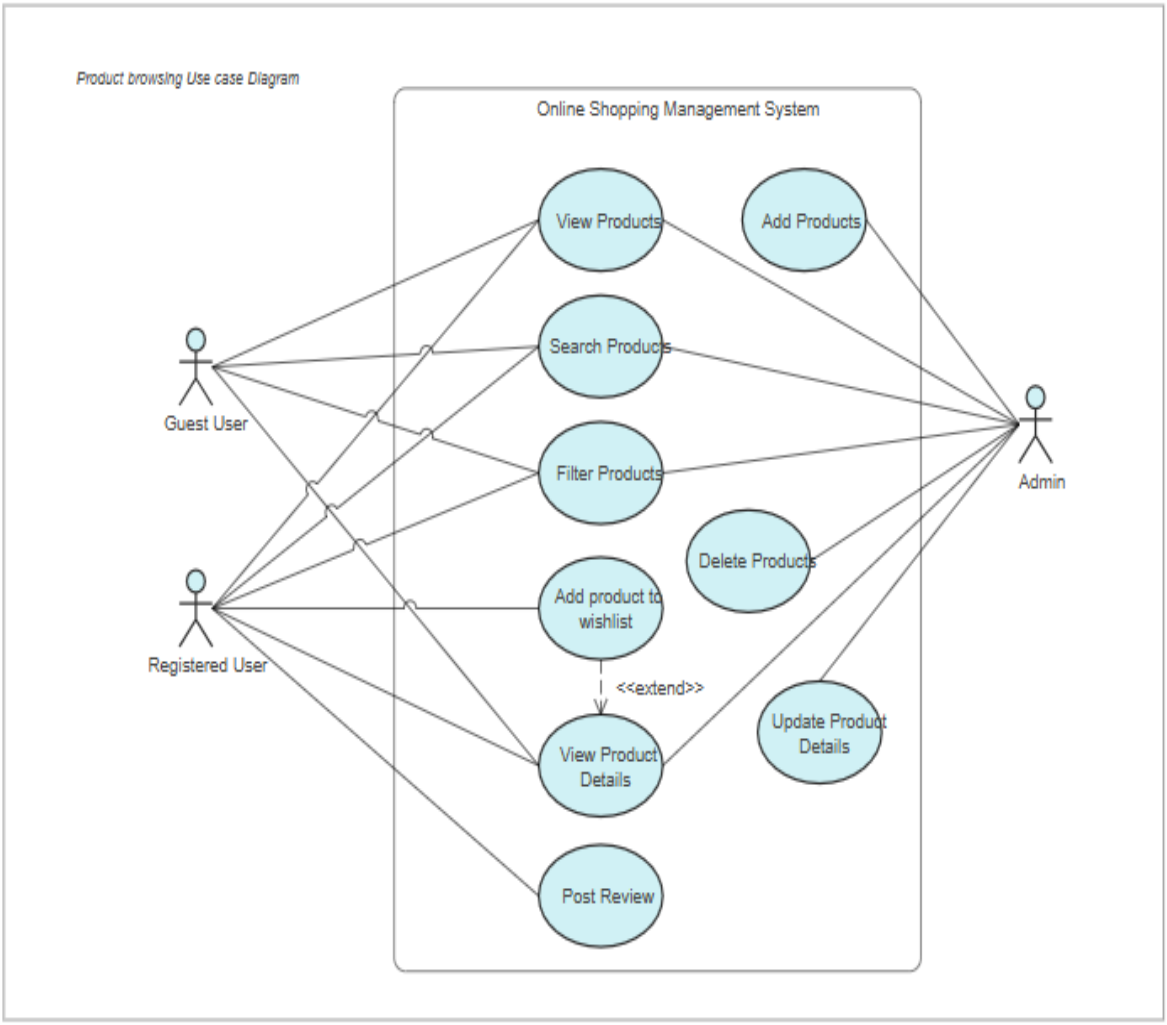
1. **Registration**: Users must be able to create an account by providing personal details such as name, email, phone number, and password. A verification process should be included to enhance security.
2. **Login**: Registered users should be able to log in securely using their credentials. Multi-factor authentication can be incorporated for additional security.
3. **Payment Method**: The system should support multiple payment options such as credit/debit cards, online banking, and digital wallets. A secure encryption mechanism should be implemented.
4. **Logout**: Users should be able to log out of their accounts securely, ensuring that unauthorized individuals cannot access their session after they leave the website.
5. **Bill System**: A detailed invoice should be generated after every purchase, summarizing the total cost, tax breakdown, and payment details. Customers should be able to download or print invoices.
6. **Changes to Cart**: Users should have the ability to add, remove, or modify items in their shopping cart before proceeding to checkout. The system should update the cart in real time.

5.2 Non-functional Requirements

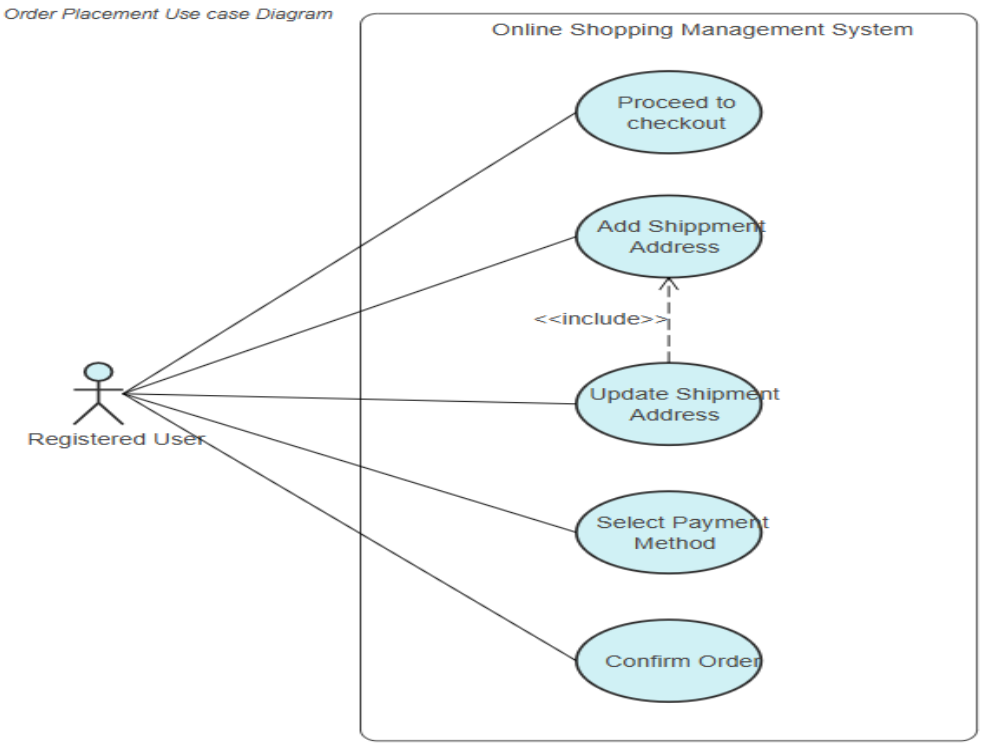
1. **Performance Requirements**: The system should be optimized to handle multiple users simultaneously without significant lag. Page load times should be under three seconds for a seamless user experience.
2. **Scalability Requirements**: The platform should support future growth, accommodating increased user traffic, product listings, and transaction volumes without compromising performance.
3. **Security Requirements**: Data encryption, secure authentication, and role-based access control must be implemented to protect sensitive user information and prevent unauthorized access.
4. **Usability Requirements**: The interface should be intuitive and user-friendly, ensuring accessibility for users with different levels of technical proficiency. It should follow best practices in UI/UX design.
5. **Interface Requirements**: The system must be compatible with major web browsers and mobile devices, ensuring a consistent experience across different platforms and screen sizes.

6. Use Case Model

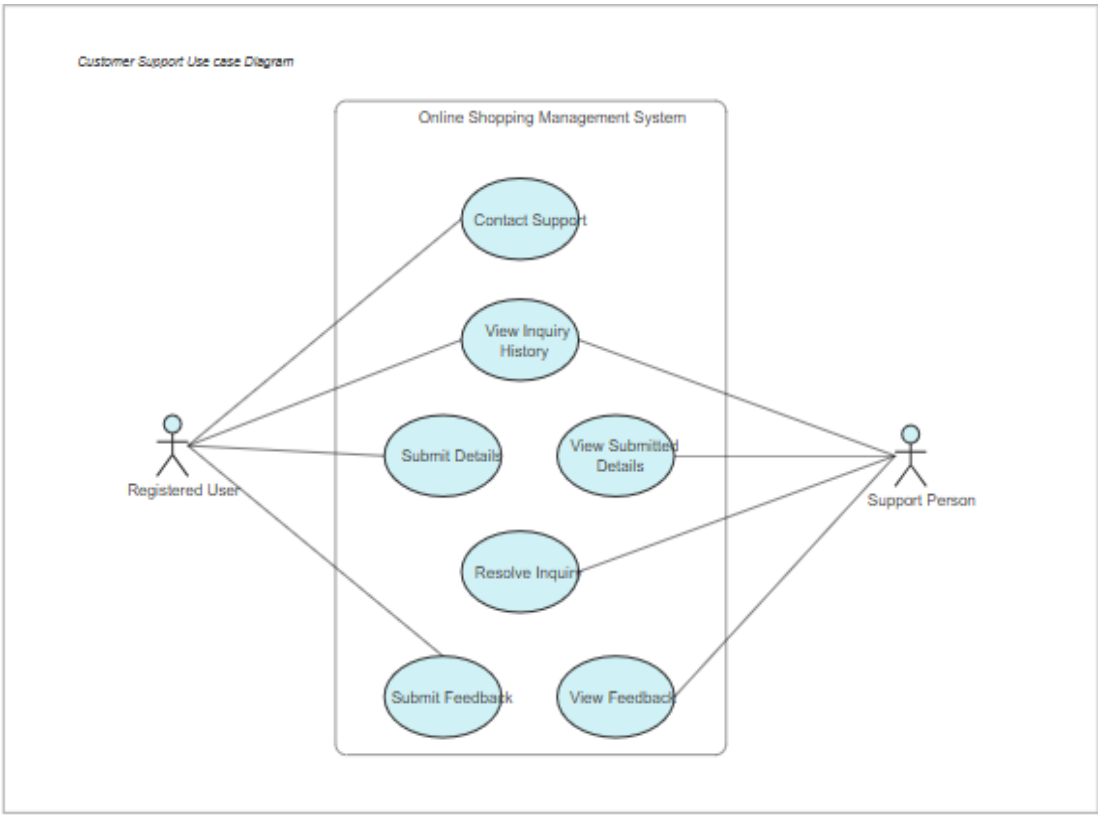
1. Product Use Case Diagram



2. Order Placement Use Case Diagram



3.Customer Support Use Case diagram

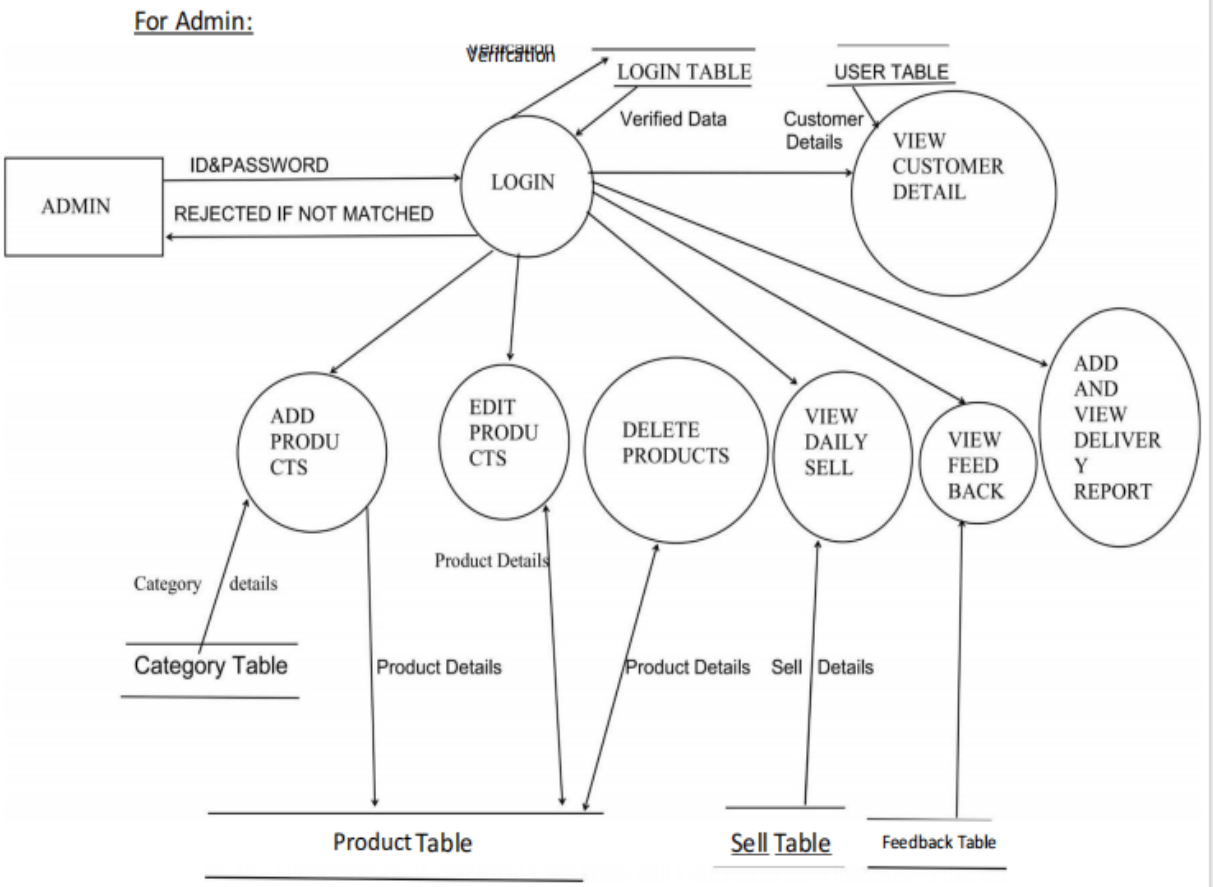


7. Data Requirements

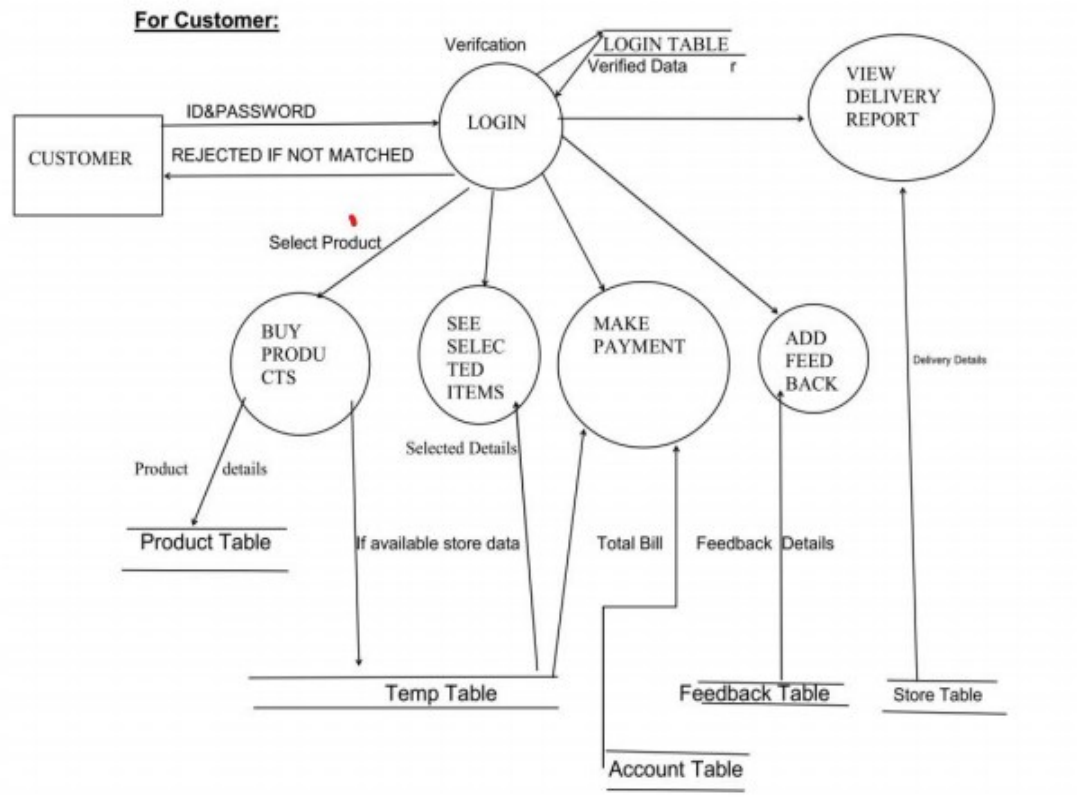
1. Data Flow Diagram

1. DFD Level-0

2. DFD Level-1


For Admin:
Verification
LOGIN TABLE
USER TABLE
Verified Data
Customer Details
VIEW CUSTOMER DETAIL
ADMIN
ID&PASSWORD
REJECTED IF NOT MATCHED
LOGIN
ADD AND VIEW DELIVERY REPORT
ADD PRODUCTS
EDIT PRODUCTS
DELETE PRODUCTS
VIEW DAILY SELL
VIEW FEED BACK
Category details
Product Details
Category Table
Product Details
Product Details
Sell Details
Product Table
Sell Table
Feedback Table

3. DFD Level-1


For Customer:
Verifcation
LOGIN TABLE
Verified Data
VIEW DELIVERY REPORT
ID&PASSWORD
CUSTOMER
REJECTED IF NOT MATCHED
LOGIN
Select Product
BUY PRODU CTS
SEE SELEC TED ITEMS
MAKE PAYMENT
ADD FEED BACK
Delivery Details
Selected Details
Product details
Product Table
If available store data
Total Bill
Feedback Details
Temp Table
Feedback Table
Store Table
Account Table

2. Database ER Diagram