Software Requirements Specification

for

Online Pharmacy System

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1 Introduction

1.1 Purpose

This Software Requirements Specification (SRS) is intended to delineate software requirements for the customer's gas pump system. This SRS is intended to provide guidance to the developers of the system to implement required functionality, as well as the test team to develop appropriate Verification and Validation (V&V) plans and procedures required to demonstrate to the customer that the system was built to this specification.

1.2 Scope

This document specifies the requirements for the following capabilities.

1. User and Admin Registration
2. Product Catalog
3. Product Details and Reviews
4. Prescription Management

1.3 Definitions

2. Overall Description

2.1 Product Perspective

An Online Pharmacy Web Application represents a crucial step toward enhancing the accessibility and efficiency of pharmaceutical services. This project aims to develop a user-friendly, secure, and efficient platform that enables users to purchase medications online, and access pharmaceutical information, thus bridging the gap between patients and healthcare services

In constructing our Online Pharmacy Web Application, we will implement Object-Oriented Programming (OOP) principles for a streamlined and scalable architecture. Classes will be employed to modularize entities and functionalities, enhancing code organization. Inheritance ensures code reuse, while encapsulation maintains data integrity. Polymorphism provides adaptability, and abstraction guides consistent implementations. By adopting these OOP concepts, we aim to develop a robust, user-friendly online pharmacy platform, seamlessly connecting patients with pharmaceutical services and healthcare professionals.

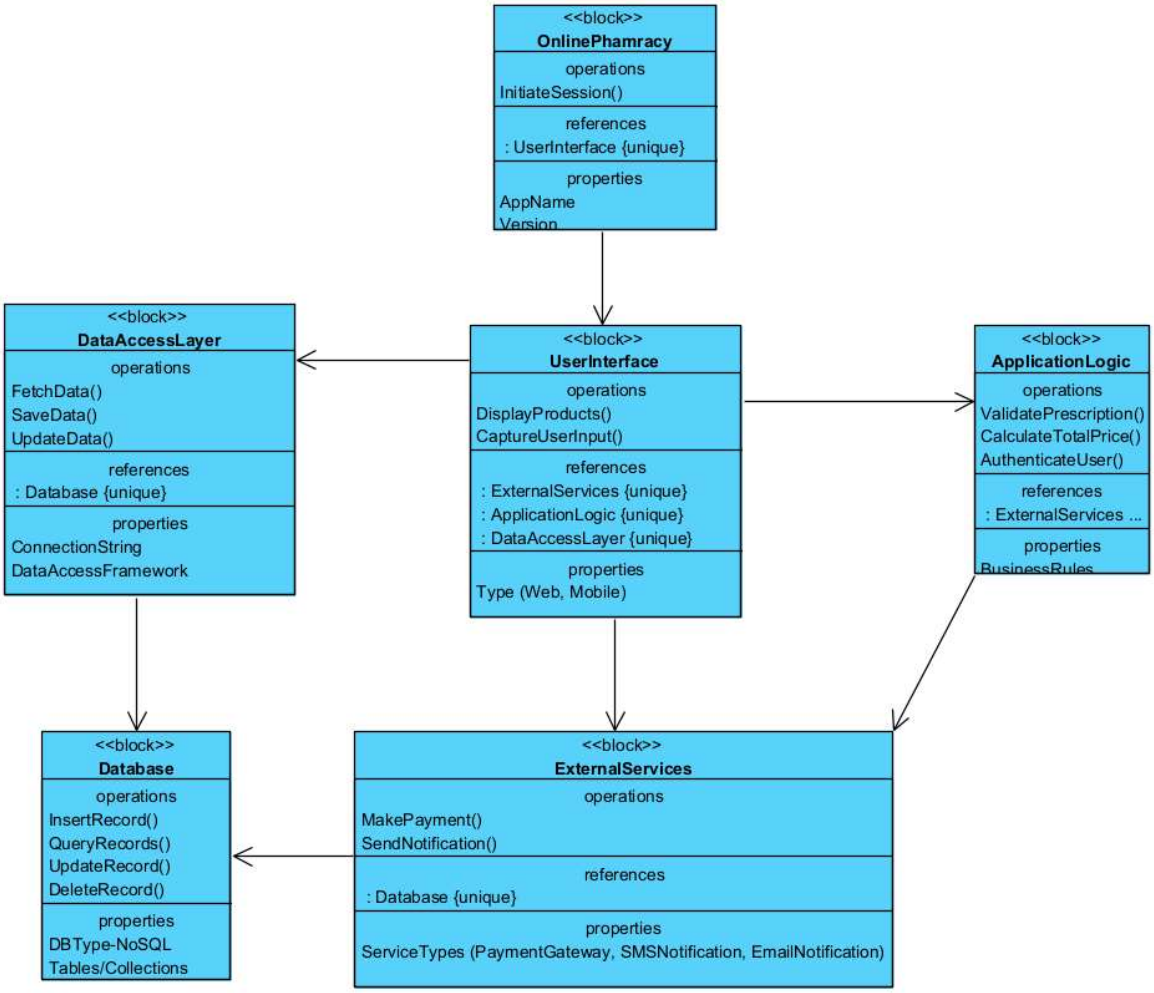
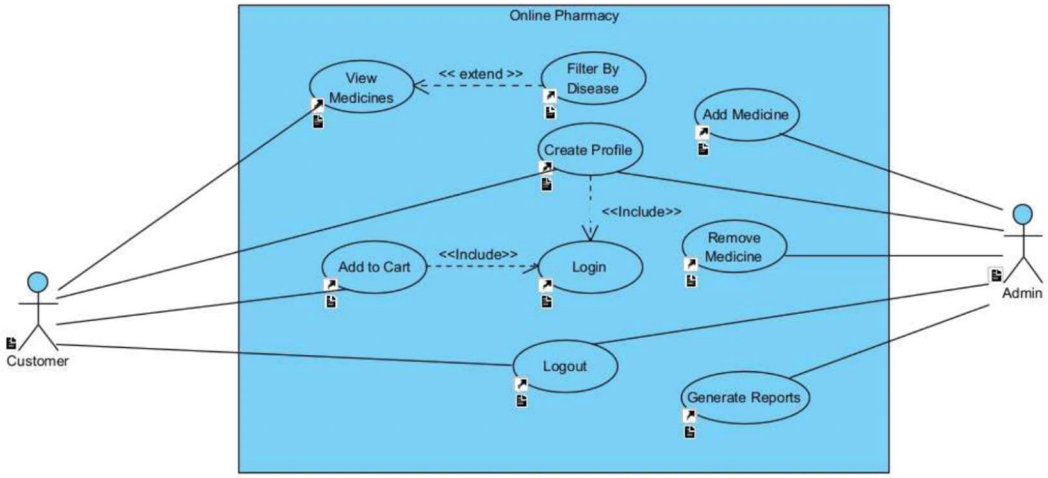


Figure 1 System Architecture Diagram

2.2Product Functions

The following use case diagram depicts the users of the system, and the intended way in which they will interact with the system.



Pharmacy System Use Cases

Use Case Descriptions

2.3.1 User Registration

GENERAL CHARACTERISTICS

Intent	Allow new customers to register, gaining access to pharmacy services.
scope	Online Pharmacy Web Application
Primary Actor	Potential Customer
Secondary Actor	Database, Email Verification System
Preconditions	Potential customer requires internet access and the applications registration page.
Assumptions	The system's database is ready for new registrations.
Trigger	Selection of "Register" or "Sign Up".

Success Post Condition: Customer account creation and verification, providing access to the application.

Failed Post Condition: Failure in account creation due to data validation errors or system issues.

Sunny Day Scenario

1. Start:	Prospective customer selects "Sign Up".
2. Action:	Completes the registration form with personal details.
3. System Response:	Validates and creates account, sends verification email.
4. Outcome:	Customer verifies email, activates account
5. End:	Redirected to login screen.

Rainy Day Scenario

1. Start:	Customer faces registration issues.
2. Action:	System provides error messages.
3. System Response:	Customer corrects data or seeks support.
4. Outcome:	Customer either successfully registers or exits the process.
5. End:	Use case ends after successful registration or withdrawal.

3. Specific Requirements

User Registration and Management

- Users can create and manage their accounts.
- Different user roles (e.g., customers, admin).

Product Management

- Ability to add, update, delete, and search for medications and health products.
- Display product details, including price, description, and availability.

Ordering and Checkout Process

- Users can add products to their cart and proceed to checkout.
- Integration of payment gateway for processing payments.

Order Tracking and Management

- Users can view their order history and track current orders.
- Pharmacists and admins can manage orders, update statuses, and process returns.

Non-Functional Requirements

Security

- Secure handling of personal and payment information.
- Compliance with healthcare and data protection regulations).

Performance

- Fast loading times and efficient processing of requests.
- Scalability to handle high volumes of users and transactions.

Usability

- Intuitive and user-friendly interface.
- Accessible on various devices (responsive design).

Reliability and Availability

- High uptime and minimal downtime.
- Backup and recovery mechanisms in place.

Advanced Functional Requirements

Advanced Search and Filter Option

- Ability to search for medications by name, category, active ingredient, or manufacturer.
- Filtering options based on price, brand, form (e.g., tablet, liquid), and dosage.

Dynamic Pricing and Discounts

- System to offer discounts, coupons, and promotional prices.
- Dynamic pricing based on demand, availability, or customer loyalty.

Health Information and Resources

- Provision of detailed drug information, usage instructions, side effects, and contraindications.

Review and Ratings

2 Feature for customers to review and rate products and services.
3 Display customer feedback and ratings on product pages.
4 The ability for users to manage their health profiles, including medical history, allergies, and chronic conditions.

Interface Requirements

User Interface Requirements

- Ull: Intuitive navigation for viewing and filtering medications.

- UI2: Profile creation process with step-by-step guidance.

- UI3: Simple login procedure with secure credential management.

- UI4: Visible and accessible logout option.

- UI5: Administrative capabilities to manage medication inventory.

- UI6: Reporting tools for admins with customizable parameters.

- UI7: Distinctive access controls for customers and admin roles.

Hardware and Software Interface Requirements

- HW1: Compatibility with standard web browsers on various devices.

- SW1: Integration with a backend SQL database.

- SW2: Secure API connections for payment processing and other services.

System Features

- SF1: 'View Medicines' functionality with advanced filtering options.

- SF2: Real-time shopping cart updates and management features.

- SF3: Administrative features for adding and removing medications.

- SF4: Comprehensive report generation for business analytics.

Specific Requirements

- REQ1: Medication browsing with multiple filters like disease, brand, and cost.

- REQ2: User profile management for order tracking and personal information updates.

- REQ3: Encrypted login process for user security.

- REQ4: Cart functionality with preview before purchase.

REQ5: Multiple secure payment options.

- REQ6: Admin controls for user account management and moderation.

- REQ7: Product listing management with the ability to update inventory.

- REQ8: Dynamic reporting tools for sales, inventory, and user engagement metrics.

- REQ9: Auto-logout for inactive sessions.

- REQ10: Compliance with data protection and privacy laws.

3.3 System Features

3.3.1 The system software supports the Use Cases as described for the Online Pharmacy.

3.3.1.1 Browse Medications

3.3.1.1.1 Introduction/Purpose of Feature

This feature will allow the customer to browse through a catalog of medications, supplements, and health products.

3.3.1.1.2 Associated Functional Requirements

3.3.1.1.2.1 The system shall provide a search and filter functionality to find specific medications.

3.3.1.1.2.2 The system shall provide detailed descriptions for each medication.

3.3.1.1.2.3 The system shall alert users when medications are out of stock.

3.3.1.2 Order Medications

3.3.1.2.1 Introduction/Purpose of Feature

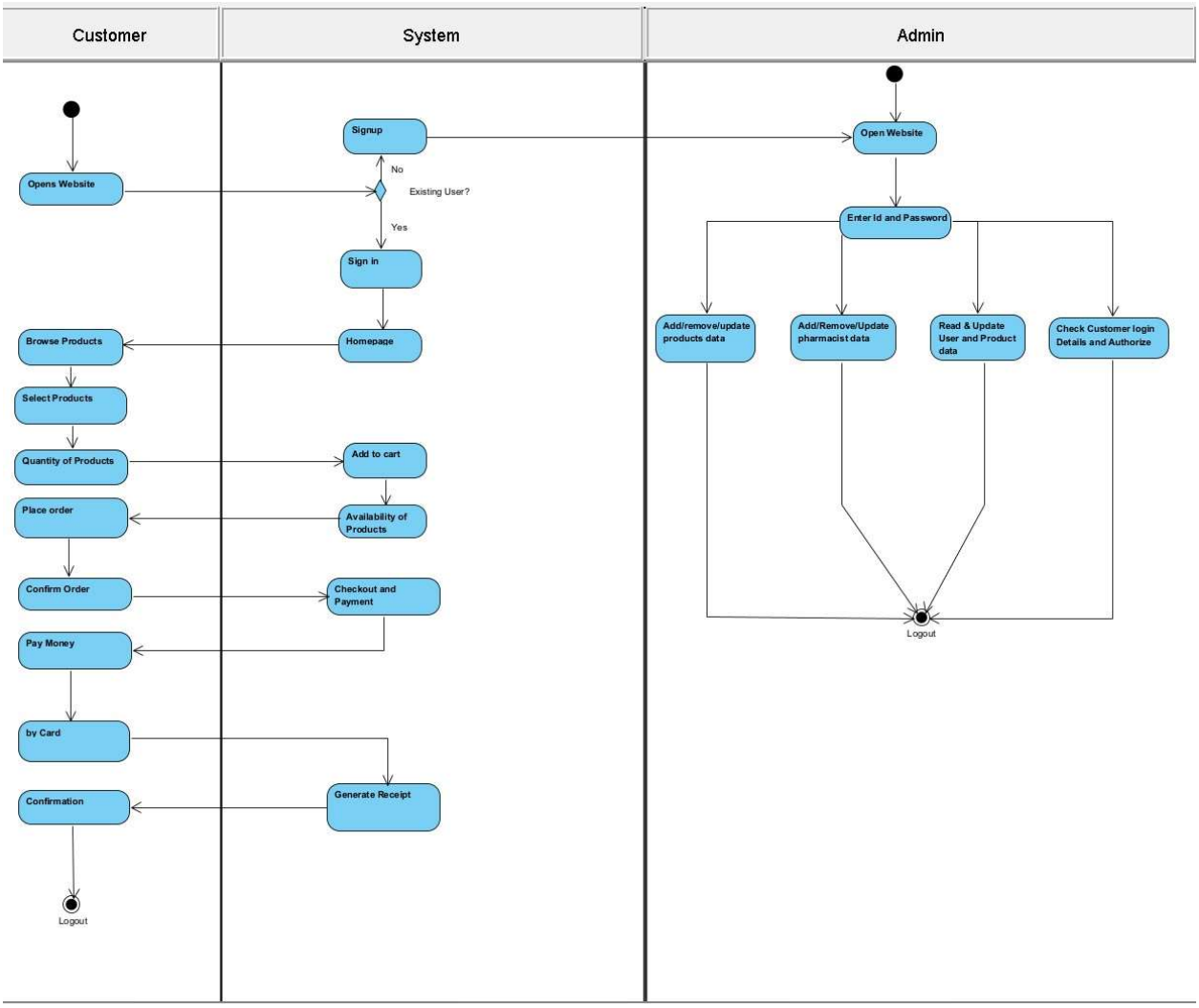
This feature enables customers to select and order medications for delivery.

3.3.1.2.2 Associated Functional Requirements

3.3.1.2.2.1 The system shall allow users to add medications to a shopping cart.

3.3.1.2.2.2 The system shall allow users to choose delivery options.

3.3.1.2.2.3 The system shall provide a secure checkout process.



System Requirements from Detailed Activity Diagram

Functional Requirements:

User Authentication:

- The system should allow users to register.
- The system should allow registered users to log in.

Medicine Ordering:

- Users should be able to search for medicines.
- Users should be able to add medicines to their cart.
- Users should be able to view their cart and proceed to checkout.
- Users should be able to place an order for medicines.

Order Management:

- Admin should be able to view incoming orders.
- Admin should be able to process orders (e.g., verify prescriptions, update order status).

Inventory Management:

- Admin should be able to add new medicines to the inventory.
- Admin should be able to update medicine quantities and details.

User Management:

- Administrators should be able to manage user accounts (e.g., create, update, delete accounts).

Non-Functional Requirements:

Performance:

- The system should respond to user actions within 2 seconds.
- The system should support concurrent user sessions.

Usability:

- The user interface should be intuitive and easy to navigate.
- The system should provide helpful error messages in case of user input errors.

Reliability:

- The system should be available 24/7 with a maximum downtime of 1 hour per month for maintenance.
- The system should ensure data integrity and consistency.

Security:

- User authentication and authorization should be implemented securely.
- User data should be encrypted during transmission and storage.

Scalability:

- The system should be able to handle an increasing number of users and transactions over time.

Additional Considerations:

Regulatory Compliance:

- Ensure compliance with relevant laws and regulations governing online pharmacies.

Integration:

- The system may need to integrate with external systems (e.g., payment gateways, inventory suppliers).

3.4 Performance Requirements

3.4.1 The software shall handle multiple simultaneous users without degradation of performance.

3.5 Design Constraints

3.5.1 The system shall be designed to be accessible to users with disabilities in compliance with ADA standards.

3.5.2 The system shall support multiple languages, including at least:

1. English
2. Spanish
3. French
4. Chinese
5. Arabic

3.6 Software System Attributes

3.6.1 The software shall use end-to-end encryption for all transactions.

3.6.2 The software shall include robust error handling and logging capabilities.

3.6.3 The software shall allow only pharmacists and authorized staff to access medication inventory data.

3.6.4 The software shall provide audit trails for all transactions.

3.7Other Requirements

N/A

Appendix A Use Case Template

GENERAL CHARACTERISTICS	
Intent	[a summary statement of the purpose of the use case]
Scope	[one of: company, name of system under design being considered black box, or another as appropriate] <[owning use case package]>
Primary Actor	[role name for the primary actor, <optional description>]
Secondary Actors	[role names of other actors (could be systems) relied upon to accomplish use case]
Preconditions	[what we expect is already the state of the world] <[pointer to precondition object model]>
Trigger	[the event that starts the use case]
Success Post Condition	[the state of the world upon successful completion] <[pointer to post condition object model]>
Failed Post Condition	[the state of the world if use case abandoned] <[pointer to post condition object model]>

MAIN SUNNY DAY SCENARIO	
Step	**Action**
S	[description in words of the main success scenario] <[pointer to scenario and or activity diagrams for the main success scenario]>
1	["This use case starts when …" followed by the trigger.]
2	[step description… <"included" use case pointer>]
3	[step description… <"included" use case pointer>]
4	["This use case ends when …" the final step in main success scenario.]

MAIN RAINY DAY SCENARIO	
Step	**Action**
S	[description in words of the main success scenario] <[pointer to scenario and or activity diagrams for the main success scenario]>
1	["This use case starts when …" followed by the trigger.]
2	[step description… <"included" use case pointer>]
3	[step description… <"included" use case pointer>]
4	["This use case ends when …" the final step in main success scenario.]