Software Requirements Specification

for

Pharmacy Inventory Management System

Version 1.0

Prepared by

Group Name: ***team 22***

Rishitha Janga	**se22ucse223**	**se22ucse223@mahindrauniversity.edu.in**
Anisha	**se22ucse028**	**se22ucse028@mahindrauniversity.edu.in**
Sameer	**se22ucse247**	**se22ucse247@mahindrauniversity.edu.in**
Jai Aditya	**se22ucse150**	**se22ucse150@mahindrauniversity.edu.in**
Sreeyansh	**se22ucse248**	**se22ucse248@mahindrauniversity.edu.in**
Manas	**se22ucse086**	**se22ucse086@mahindrauniveristy.edu.in**
Soumith	**se22ucse234**	**se22uces234@mahindrauniversity.edu.in**

Raunak **se22ucse219** se22ucse219@mahindrauniversity.edu.in

Instructor: Vijay rao

Course: Software engineering

Lab Section: *Lab-2 block, ground floor*

Teaching Assistant: *Swapna ma'am*

Date: 10/03/2025

Contents

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Rishitha , Sameer	Initial SRS Draft	04/03/2025
1.1	Jai , Raunak	Updates to Functional Requirements	06/03/2025
1.2	Manas , Anisha	Added Use Case Diagrams and System Flow	09/03/2025

1. Introduction

1.1. Document Purpose

This document outlines the software requirements for the **Pharmacy Inventory Management System**. The system is designed to track medicine stock, monitor expiry dates, handle sales transactions, and manage subscriptions for monthly medicine deliveries.

1.2. Product Scope

The **Pharmacy Inventory Management System** will be a **web and mobile-responsive application** providing real-time updates on medicine stock levels and automating medicine subscription deliveries. The key features include:

- **Admin Dashboard** for stock and sales management
- **Subscription System** for automatic medicine deliveries
- **Expiry Date Tracking** to prevent outdated medicine usage
- **Secure Payment Integration** using PhonePe, Google Pay (GPay), Paytm, and Razorpay

1.3. Intended Audience and Document Overview

The document is intended for **developers, project managers, and testers** working on the Pharmacy Inventory System. It provides:

1. A high-level **overview** of the system
2. **Functional and non-functional** requirements

3. **Use case diagrams** and system design specifications

1.4. Definitions, Acronyms and Abbreviations

- **POS** - Point of Sale
- **API** - Application Programming Interface
- **DBMS** - Database Management System
- **SRS** - Software Requirements Specification

1.5. Document Conventions

- **Font Style:** Arial, Size 12
- **Section Titles:** Bold, Size 14
- **Code Blocks:** Monospace Font

1.6. References and Acknowledgments

This SRS document references the following materials:

- **User Interface Style Guide:** Pharmacy Inventory Management System UI guidelines.
- **System Requirements Specification:** Pharmacy Inventory software system documentation.
- **Use Case Documents:** Detailed descriptions of user interactions.
- **IEEE Standards:** IEEE 830-1998 for Software Requirements Specifications.
- **Web References:**
  - IEEE SRS Standards
  - MongoDB Documentation
  - Node.js Official Guide
  - React.js Documentation

Acknowledgments:

- Thanks to our **instructor and teaching assistant** for guidance.
- Appreciation for **team members** contributing to development and documentation.
- Special thanks to **Open-Source Communities** for providing useful libraries and documentation.

- **Font Style:** Arial, Size 12
- **Section Titles:** Bold, Size 14
- **Code Blocks:** Monospace Font

2. Overall Description

2.1. Product Overview

The **Pharmacy Inventory Management System** is a **centralised** system aimed at improving pharmacy operations. It ensures seamless inventory management, reducing manual errors in tracking stock levels and medicine expirations.

2.2. Product Functionality

- **Stock Management:** Track medicine inventory, add/remove stock
- **Subscription System:** Customers can subscribe for monthly deliveries
- **Expiry Date Monitoring:** Automated alerts for expiring medicines
- **Sales & Billing:** Generate invoices and sales reports
- **User Authentication:** Secure login for admins and pharmacists
- **Payment Integration:** Multiple digital payment options

2.3. Design and Implementation Constraints

- **Backend:** Node.js with Express.js
- **Frontend:** React.js with Tailwind CSS
- **Database:** MongoDB
- **Hosting:** Cloud-based deployment

- **Security:** SSL encryption for secure transactions

2.4. Assumptions and Dependencies

- The system assumes a stable internet connection for all functionalities.
- It depends on third-party payment gateways (PhonePe, GPay, Paytm, Razorpay).

3. Specific Requirements

3.1. External Interface Requirements

3.1.1. User Interfaces

- **Admin Dashboard** for inventory management
- **Pharmacist POS Interface** for sales and billing
- **Customer Subscription Portal** for medicine delivery

3.1.2. Hardware Interfaces

- Supports desktops, tablets, and mobile devices
- Barcode scanner integration for medicine tracking

3.1.3. Software Interfaces

Integrates with **Google Pay, Paytm, PhonePe, and Razorpay** for secure payments

3.2. Functional Requirements

1. **Admin shall be able to add, update, or delete medicine stock**
2. **Customers shall be able to subscribe for monthly medicine deliveries**
3. **System shall notify the admin when stock is low**
4. **System shall alert pharmacists about expiring medicines**
5. **System shall generate invoices for all sales**
6. **The system shall allow the admin to add, update, or delete medicine stock.**
7. **The system shall enable customers to subscribe for monthly medicine deliveries.**

8. **The system shall notify the admin when stock levels are low.**
9. **The system shall alert pharmacists about expiring medicines.**
10. **The system shall generate invoices for all sales transactions.**

3.2.1 F1: The system shall allow the admin to add, update, or delete medicine stock.

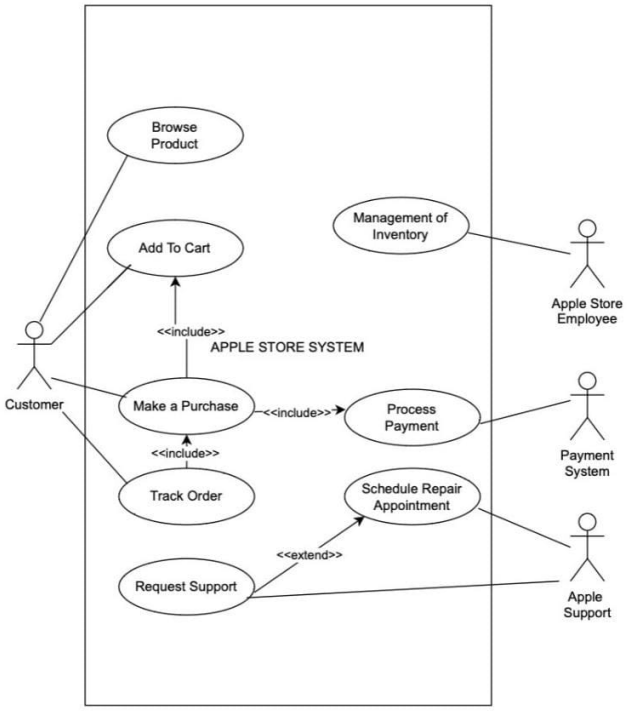
3.2.2 F2: The system shall enable customers to subscribe for monthly medicine deliveries.

3.2.3 F3: The system shall notify the admin when stock levels are low.

3.2.4 F4: The system shall alert pharmacists about expiring medicines.

3.2.5 F5: The system shall generate invoices for all sales transactions.

3.3. Use Case Model



Use Case Specifications

Use Case	Description	Actors	Preconditions	Postconditions
Manage Inventory	Admin can add, update, or delete medicines in stock	Admin	Admin must be logged in	Medicine stock is
Track Expiry Dates	Alerts are generated for expiring medicines	Admin, Pharmacist	Medicines with expiry dates	Notifications are sent
Process Sales Transactions	Pharmacist processes sales and generates invoices	Pharmacist	Medicine must be available	Sales record is updated
Customer Subscription	Customers subscribe for monthly medicine	Customer, Admin	Customer must be registered	Subscription record is
Online Payment Processing	Customers make payments via UPI & wallets	Customer, Payment	Valid payment method is	Payment is processed

3.3.1. Use Case #1 (use case name and unique identifier – e.g. U1)

- **Author:** Rishitha
- **Purpose:** To allow customers to subscribe for automated monthly medicine deliveries.
- **Requirements Traceability:** Related to Functional Requirements 2 and 5.
- **Priority:** High
- **Preconditions:** Customer must be a registered user.
- **Postconditions:** Medicine delivery is scheduled.
- **Actors:** Customer, System, Payment Gateway
- **Extends:** None
- **Flow of Events:**
    1. Customer selects medicines for subscription.
    2. System processes payment.
    3. System schedules monthly deliveries.
- **Alternative Flow:** If payment fails, the system notifies the customer and retries the transaction.

- **Exceptions:** Payment gateway issues, out-of-stock medicines.
- **Includes:** Payment Processing Use Case
- **Notes/Issues:** Requires third-party payment gateway integration.

3.3.2. Use Case #2

- **Author:** Sreeyansh and Soumith
- **Purpose:** To ensure that expired medicines are flagged and removed.
- **Requirements Traceability:** Related to Functional Requirement 4.
- **Priority:** High
- **Preconditions:** Inventory must be updated regularly.
- **Postconditions:** Expired medicines flagged for removal.
- **Actors:** Pharmacist, System
- **Extends:** None
- **Flow of Events:**
    1. System scans expiry dates of all medicines.
    2. System generates alerts for pharmacists.
- **Alternative Flow:** If expiry tracking is disabled, the system will not generate alerts.
- **Exceptions:** Database sync failure, incorrect expiry data.
- **Includes:** None
- **Notes/Issues:** Requires proper inventory data entry.

4. Other Non-functional Requirements

4.1. Performance Requirements

- System should handle **100+ transactions per minute**
- Inventory updates should reflect **in real-time**

4.2. Safety and Security Requirements

- **2-Factor Authentication** for admin and pharmacist login
- **Data encryption** for user and payment information

4.3. Software Quality Attributes

- **Reliability:** System uptime of **99.9%**
- **Usability:** Mobile-responsive design

5. Other Requirements

- **Audit Log:** All stock changes must be recorded
- **Legal Compliance:** System follows pharmacy regulations

Appendix A – Data Dictionary

Appendix A - Data Dictionary

Field	Description
Medicine ID	Unique identifier for medicines
Expiry Date	Date when medicine expires
Subscription ID	Unique ID for each subscription

Appendix B - Group Log

Date	Activity	Team Member
10-Mar-2025	System Design Finalization	Rishitha

12-Mar-2025	API Development	