**Software Requirements Specification (SRS)**  
  
**1. Introduction**  
The Pharmacy Management System is a software application designed to streamline and automate various tasks related to managing pharmacies. It provides functionalities to manage pharmacy information, inventory, sales, customers, and employees efficiently. This document outlines the requirements and specifications for the Pharmacy Management System.  
  
**2. Purpose**  
The purpose of the Pharmacy Management System is to:  
- Automate pharmacy operations to improve efficiency and accuracy.  
- Maintain accurate records of inventory, sales, and customer information.  
- Provide a user-friendly interface for easy access to pharmacy data.  
- Generate reports for analysis and decision-making.  
- Ensure regulatory compliance with pharmacy management standards.  
  
**3. Scope**  
The Pharmacy Management System will include the following features:  
- Pharmacy Information Management: Capture and store details of pharmacies, including name, address, contact information, and operating hours.  
- Inventory Management: Track inventory levels of medicines, manage stock replenishment, and generate alerts for low stock levels.  
- Sales Management: Record sales transactions, manage invoices, and generate sales reports.  
- Customer Management: Maintain customer profiles, track purchase history, and manage loyalty programs.  
- Employee Management: Manage employee details, roles, and permissions within the system.  
- Reporting and Analytics: Generate various reports such as sales reports, inventory status reports, and financial summaries for analysis.  
  
**4. Functional Requirements**  
4.1. Pharmacy Information Management:  
- The system shall allow users to add, edit, and delete pharmacy information.  
- Each pharmacy entry shall include fields for name, address, contact details, and operating hours.  
  
4.2. Inventory Management:  
- The system shall maintain a database of available medicines with details such as name, quantity, expiry date, and unit price.  
- Users shall be able to add, edit, and delete medicine entries.  
- The system shall provide alerts for low stock levels and expired medicines.  
- Users shall be able to generate inventory reports.  
  
4.3. Sales Management:  
- Users shall be able to create new sales transactions, add medicines, and calculate total amounts.  
- The system shall generate invoices for each sale transaction.  
- Sales transactions shall be recorded with details such as date, customer information, and items sold.  
  
4.4. Customer Management:  
- The system shall allow users to create, update, and delete customer profiles.  
- Each customer profile shall include information such as name, contact details, and purchase history.  
- Users shall be able to enroll customers in loyalty programs and track rewards points.  
  
4.5. Employee Management:  
- The system shall support user accounts with different roles and permissions, such as admin, pharmacist, and cashier.  
- Admin users shall have the authority to add, edit, and delete employee accounts.  
- Employee accounts shall include details such as name, contact information, and role.  
  
4.6. Reporting and Analytics:  
- The system shall generate various reports, including sales reports, inventory status reports, and financial summaries.  
- Users shall be able to filter and customize reports based on specific criteria.  
- Reports shall be available in formats such as PDF, Excel, and CSV.  
  
**5. Non-Functional Requirements**  
5.1. Usability:  
- The system shall have an intuitive user interface with easy navigation and user-friendly controls.  
- Response times for user interactions shall be minimal to enhance user experience.  
  
5.2. Performance:  
- The system shall be capable of handling concurrent user sessions efficiently without significant performance degradation.  
- Database queries and operations shall be optimized for fast retrieval and processing of data.

5.3. Security:  
- The system shall implement authentication and authorization mechanisms to control access to sensitive features and data.  
- User passwords shall be encrypted and stored securely in the database.  
- Access logs shall be maintained to track user activities and audit trails.  
  
5.4. Reliability:  
- The system shall have robust error handling and recovery mechanisms to handle exceptions and errors gracefully.  
- Regular backups of the database shall be performed to prevent data loss in case of system failures.  
  
**6. Constraints**  
- The system shall be developed using Java programming language and Spring Boot framework.  
- The database shall be implemented using H2 as the default database and PostgreSQL as an alternative.  
- The system shall comply with regulatory requirements and standards for pharmacy management systems.  
  
**7. Glossary**  
- SRS: Software Requirements Specification  
- CRUD: Create, Read, Update, Delete  
- API: Application Programming Interface  
- UI: User Interface  
- PDF: Portable Document Format  
- CSV: Comma-Separated Values  
  
**8. References**  
- Spring Boot Documentation: https://spring.io/projects/spring-boot  
- Hibernate Documentation: https://hibernate.org/orm/documentation/5.5/  
- H2 Database Documentation: https://www.h2database.com/html/main.html  
- PostgreSQL Documentation: https://www.postgresql.org/docs/