



**North South University**  
**Department of Electrical and Computer Engineering**

**Project Proposal**  
**on**  
**Pharmacy Management System**

**DATABASE SYSTEM LAB**

**CSE311L**

Section: 05

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Group: 14

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# Introduction

The Pharmacy Management System (PMS) is a modern, web-based solution aimed at streamlining the various operations within a pharmacy. In today's fast-paced environment, pharmacies are tasked with handling complex processes such as prescription management, inventory tracking, billing, and customer service. Traditional, manual methods often lead to errors, inefficiencies, and wasted time, which can negatively impact both customers and businesses. By centralizing all critical pharmacy functions into a single platform, the system will enable pharmacies to operate more efficiently and provide better services to their customers.

## Objective

- To develop a web-based Pharmacy Management System that simplifies pharmacy operations improves prescription accuracy, and ensures proper inventory management.
- To enhance customer experience by providing easy prescription handling and real-time availability of medicines.
- To reduce operational costs by automating routine tasks such as stock tracking, invoicing, and reporting.
- To provide a user-friendly interface for pharmacy staff and customers, improving overall workflow efficiency.

## Target Customers

- **Retail Pharmacies:** Small to medium-sized pharmacies looking to digitize their daily operations.
- **Hospital Pharmacies:** Institutions that manage a large inventory and handle complex prescription systems.
- **Healthcare Providers:** Clinics or healthcare facilities that also run small pharmacy units.

## Value Proposition

- **Improved Customer Satisfaction:** Provides real-time updates on medicine availability, ensuring patients get their medicines on time.
- **Cost Reduction:** Minimizes costs by avoiding overstocking and reducing wastage through effective inventory control.
- **Compliance:** Helps pharmacies remain compliant with healthcare regulations by maintaining proper records of prescriptions and inventory.
- **Data Insights:** Offers insights into sales, stock levels, and customer preferences, which can help in strategic decision-making.

## Web Application Features and Description

- **E-Prescription Support:** Provide integration for doctors to send prescriptions directly to the pharmacy through the system, streamlining prescription management.
- **Medication History Management:** Keep a detailed record of a customer's medication history for reference during future visits or consultations.
- **Loyalty and Reward Program:** Implement customer loyalty programs that reward frequent buyers with discounts or points, encouraging customer retention.
- **Automated Billing and Invoicing:** Generate automatic invoices after transactions, with various payment options such as cash, card, or digital wallets.
- **Prescription Validity Checking:** Automatically validate prescription dates to ensure customers use up-to-date prescriptions before dispensing.
- **Multi-Pharmacy Integration:** Support for chain pharmacies or franchises to manage inventories, finances, and customers across multiple branches from a central dashboard.
- **Customer Feedback System:** Allow customers to submit feedback or ratings on their experience with the pharmacy to improve services and customer satisfaction.
- **Employee Shift and Attendance Management:** Provide tools to manage employee schedules, shifts, and attendance, simplifying staff management.

## Tools and Resources

- HTML
- Javascript
- MySQL
- PHP
- Web server

## Challenges

- **Data Security and Privacy:** Ensuring that sensitive patient information, such as prescription details, is securely stored and transmitted, complying with healthcare regulations (HIPAA or GDPR).
- **Scalability:** As the pharmacy grows, the system must handle increased loads in terms of inventory, transactions, and customer data without performance degradation.
- **Integration with Other Systems:** Some pharmacies may use legacy systems or other healthcare platforms. Integrating these systems could be challenging and require robust APIs and middleware solutions.
- **User Adoption:** Training pharmacy staff, who may not be tech-savvy, to use the system efficiently can be a challenge, necessitating the development of an intuitive and user-friendly interface.
- **Regulatory Compliance:** Ensuring the system complies with local or international pharmacy and healthcare regulations to avoid legal challenges.