A PROJECT REPORT
Niramoy a Pharmacy Management System

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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ABSTRACT

Pharmacy Management System application to help pharmacists to manage pharmacy in systematic ways. A Pharmacy Management System can make the work easier by giving the details of the medicine when its name is entered. A computer gives the details of the medicine like the rate of medicine and the expiry date of the medicine. It becomes very difficult in big medical stores to handle the details of all the medicines manually, so by using this pharmacy management system we can maintain the records of all the medicines. It is fed with the information whenever new medicines are brought and it is provided with an expiration date with a search option. When we enter the name of medicine it gives the details of medicine. One of the most important responsibilities of pharmacy management is to supervise and manage pharmacy employees in order to ensure healthy working relationships and outcomes. Each of these functions is critical to the pharmacy's operation and should be explained by the management.

DECLARATION

I hereby declare that the project entitled "Pharmacy Management System" submitted for the degree of Bachelor of Science Engineering in Computer Science and Engineering in the faculty of Computer Science and Engineering of Bangladesh University of Business and Technology (BUBT), is our original work and that it contains no material which has been accepted for the award to the candidates of any other degree or diploma, except where due reference is made in the next of the project to the best of our knowledge, it contains no materials previously published or written by any other person except where due reference is made in this project.

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CERTIFICATION

This project "Pharmacy Management System" report submitted by Ahnaf Abid Tawsif, Md. Motahar Hossain Mohim, Md. Shobahan Dewan, Jannatul Ferdush, Md. Nawrose and Md. Mahedi Hasan is a student of the Department of Computer Science and Engineering, Bangladesh University of Business and Technology (BUBT), under the supervision of M.M. Fazle Rabbi, Assistant Professor, Department of Computer Science and Engineering has been accepted as satisfactory for the partial requirements for the degree of Bachelor of Science Engineering in Computer Science and Engineering.

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DEDICATION

Dedicated to our parents and our honorable teacher for all their love and inspiration.

ACKNOWLEDGEMENTS

APPROVAL

This report "Niramoy a Pharmacy Management System" Submitted by Md. Sanowar Hossain, Md. Motahar Hossain Mohim, Md. Shobahan Dewan, Jannatul Ferdush, Md. Nawrose and Md. Mahedi Hasan. ID NO: 21221503141, 21221503229, 21221503241, 21221503243, 21221503248, 21221503252 Department of Computer Science and Engineering (CSE), Bangladesh University of Business and Technology (BUBT) under the supervision of M.M. Fazle Rabbi, Assistant Professor, Department of Computer Science and Engineering has been accepted as satisfactory for the partial fulfillment of the requirement for the degree of Bachelor of Science (B.Sc. Eng.) in Computer Science and Engineering and approved as to its style and contents.

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ABBREVIATIONS AND NOMENCLATURES

PMS	Pharmacy Management System.
API	Application Programming Interface.
UI	User Interface.
DBMS	Database Management System.
VSc	Visual Studio community.
DFD	Data Flow Diagram.
ERD	Entity Relationship Diagram.

CHAPTER 1
INTRODUCTION

1.1 Introduction

The Pharmacy management system, a medicine information system is a desktop-based application. An interface application for mainly in both Stock and Billing which helps in maintaining the records of the medicine, the users, and store details and also reduces the work of searching the medicine. The main aim of this application is to apply technology to support the pharmacist and the store to reduce the human effort on searching and automation of the beeling. The project has been developed based on stock management and its billing process being presently used in the medical store for storing and receiving the available information in the store. The user has to get his username and password from the admin by providing the name, address, phone number, and username, and can access the application without the username and password they cannot get access to the application. In this application, we have two types of users who have their specified work to perform and while logging into the application he should know this designation to log in and in this, we can manage all the stocks of the store and can manage it. Is and the manager are the two who have almost all the permission to work with.

1.2 Existing Model

Analyzing an existing pharmacy involves several key steps to evaluate its functionality, usability, performance, and security. Here's a structured approach to conducting such an analysis:

Drugs Database:
- Think of it like a giant list that has details about each medicine, such as its name, what it's used for, how strong it is, and how it's packaged.

Drugs Sorting and Finding:
- They can organize this list based on different categories like what the medicine treats or its ingredients, so it's easier to find what they need.

Information About Drugs:
- Each medicine has a page in this big book that tells you everything about it: what it does, how much you should take, if there are any side effects, and so on.

Keeping Track of Inventory:
- This system helps the pharmacy keep track of how many of each medicine they have when they need to order more, and when medicines are going to expire.

Finding Prices and Deals :
- It also helps figure out how much each medicine costs and if there are any special discounts or promotions going on.

By following these steps, you can conduct a comprehensive analysis of an existing Pharmacy Management System to identify strengths, weaknesses, and areas for improvement.

1.3 Problem Statement

Identifying possible problems or challenges that may arise during the development and implementation of a Pharmacy Management System is crucial for effective project management. Here are some common problems that could be encountered :

Having Too Much Medicine:

- Sometimes, pharmacies have trouble keeping track of how much medicine they have. This can lead to situations where they either run out of the medicine people need or end up with too much that expires and goes to waste.

Long Time Waits and Not Great Service:

- Waiting a long time to get medicine or not getting good service can be frustrating for customers. Pharmacies need to be organized and have enough staff to help everyone quickly and nicely.

Using the Right Technology:

- Pharmacies use computers and software to keep track of things, but if they're using old methods and the methods don't work well together, it can make things harder for the people working there and for customers too.

Keeping Information Safe:

- Pharmacies have a lot of information about people's health and the medicine they take. It's important to keep this information safe from other people.

Addressing these potential problems requires proactive risk management, stakeholder engagement, and collaboration between project teams and stakeholders. By identifying and mitigating risks early in the project lifecycle, organizations can increase the likelihood of success for their Pharmacy Management System implementation.

1.4 Project Motivation

History of the Problem:

Pharmacy management issues have existed since pharmacies relied on manual record-keeping and inventory management. The rise in pharmacy scale and medication complexity highlighted the limitations of these manual processes, leading to errors and inefficiencies.

Why is this Problem Interesting?

It intersects healthcare and technology, directly affecting patient safety, healthcare costs, and operational efficiency. Addressing it involves integrating healthcare regulations and technological innovations, offering significant potential for improving public health outcomes.

When and Why Does the Problem Occur?

Problems arise during inventory management, prescription handling, and medication dispensing, especially during peak times or health crises. Issues are due to manual errors, lack of real-time tracking, and inefficient patient management.

Is the Problem Already Solved? What is Done Now?

While advanced systems like Cerner's Etreby and McKesson's EnterpriseRx exist, many pharmacies still use outdated or semi-manual systems due to cost or complexity. Current solutions are not fully utilized across the board.

Similar Systems or Solutions

- Cerner's Etreby Pharmacy Management System: Integrated management with e-prescriptions and inventory control.
- McKesson's EnterpriseRx: Cloud-based with comprehensive workflow and inventory features.
- QS/1 Pharmacy Management Systems: Robust for inventory, patient records, and billing.
- Possible Improvements to Current Solutions
- Enhanced user interfaces for ease of use.
- Scalable solutions for different pharmacy sizes.
- Better integration with electronic health records (EHR).
- Incorporating AI for predictive management and personalized care.
- More affordable pricing models for broader accessibility.

1.5 Objectives of the Project

The goals or objectives of a Pharmacy Management System typically revolve around

enhancing the efficiency, accuracy, and safety of pharmacy operations while improving patient care and satisfaction. Here are some common objectives :

Improve Workflow Efficiency :

- Streamline pharmacy operations by automating routine tasks such as prescription processing, inventory management, and billing.
- Reduce manual errors and redundancies to improve the overall efficiency and productivity of pharmacy staff.

Optimise Inventory Management :

- Maintain optimal stock levels by tracking medication usage, expiration dates, and reorder points in real-time.
- Minimise stockouts and overstock situations to improve inventory turnover and reduce wastage.

Improve Customer Service :

- Enhance the overall customer experience by reducing wait times, improving prescription fill accuracy, and offering convenient services such as online refills.

Increase Revenue and Cost Savings :

- Identify opportunities to increase revenue through expanded services, such as medication therapy management or immunization programs.
- Reduce costs associated with medication errors, inventory inefficiencies, and manual administrative tasks.

Support Business Growth and Expansion :

- Provide a scalable and flexible platform that can accommodate the evolving needs of the pharmacy, including expansion into new locations or service lines.
- Ensure continuity of operations and data integrity during periods of growth or organizational changes.

By aligning the Pharmacy Management System with these objectives, pharmacies can improve their operational effectiveness, deliver high-quality patient care, and maintain

compliance with regulatory requirements.

1.6 Conclusions

Implementing a Pharmacy Management System is like giving a pharmacy a makeover. It helps the pharmacy work faster and smarter by using computers to handle tasks like keeping track of medicines and managing inventory. With the Pharmacy Management System, pharmacists can give better advice to patients, keep everything organized, and make sure they follow all the rules about selling medicines safely. It also helps pharmacies keep track of their money and figure out what sells best. Even though it might cost some money upfront, in the long run, it saves time, reduces mistakes, and helps the pharmacy do a better job of taking care of its customers.

CHAPTER 2

EXISTING SYSTEM

2.1 Introduction

Analyzing an existing Pharmacy Management System (**Lazz Pharma, Jannat Pharma, Kazi Pharma**) involves several key steps to evaluate its functionality, usability, performance, and security. Here's a structured approach to conducting such an analysis:

2.2 Existing System

Analyzing a Pharmacy Management System (PMS) like those used by Lazz Pharma, Jannat Pharma, and Kazi Pharma involves a detailed look at several key features. At its core is the drugs database, which acts as a comprehensive catalog containing vital details about each medication, including its name, therapeutic uses, dosage strengths, and packaging information. Ensuring the accuracy and completeness of this database is essential for the system's reliability.

Another crucial aspect is the system's ability to sort and find drugs. This feature allows pharmacy staff to organize and retrieve medications quickly based on various criteria such as therapeutic category, active ingredient, or brand name. Efficient searching and sorting capabilities are vital for the smooth operation of the pharmacy, enabling quick access to necessary medications.

Inventory management is another critical function. The system should track stock levels in real-time, monitor sales, and alert staff when stock is low or medications are nearing expiration. This helps ensure that the pharmacy maintains adequate supplies and minimizes waste from expired products.

Pricing and promotions management is also key. The PMS should keep up-to-date price lists, apply discounts, and track promotional offers efficiently. Accurate pricing information and flexible discount management are essential for maintaining profitability and customer satisfaction.

Through this structured analysis, you can identify the strengths and weaknesses of the PMS, uncovering areas for improvement to enhance its overall functionality, usability, and performance.

2.3 Supporting Literature

2.3.1 Used Diagram

- **Use Case Diagram :**

  A use case diagram shows the interaction between the user(actors) and the system to achieve specific goals or tasks. It shows various use case and their relationships with actors. Use case diagrams helps stakeholders understand the functionalities and interactions of the pharmacy from a user's perspective. They aid in requirement analysis, system design, and validation of user requirements.

- **Data Flow Diagram (DFD):**

  A DFD is a graphical representation of the flow of data within a system. It illustrates how data moves thought processes, stores, and external entities. DFD is useful for understanding the overall structure and data flow of the pharmacy. They help identify, inputs, outputs, processes, and data stores making it insure to analyse and improve system efficiency.

- **Level Zero Diagram:**

  A level zero data flow diagram (DFD), also known as a context diagram provides a high-level overview of the interior system or process being analyzed. It shows a single process node and its connections to external entities, offering a broad view with minimal details.

- **Contacts Level Diagram:**

  A contest level diagram, also known as a level zero data flow diagram provides a high-level view of the system. It illustrates the interactions between the system being developed and its external entities(such as users, other systems, or processes). The focus is on how the system fits into its environment without delivering internal details.

- **Activity Diagram:**

  An activity diagram visually represents the flow of actions or control within a system. It focuses on execution rather than implementation, showing how activities (operations) relate to one another.

- **Sequence Diagram:**

  A sequence diagram is an interaction diagram that details how operations occur Specifically, what messages are sent, and when. It represents the chronological order of interaction between objects in a system, showing how different parts work together in a sequence to achieve a specific function.

2.3.2 Technology Used

Designing and developing a Pharmacy Management System software requires careful consideration of various factors to ensure the system meets the needs of

pharmacies efficiently and effectively. Here's a description of the software requirements for developers :

❖ **Microsoft Visual Studio :**
  ● Visual Studio Community Integrated Development Environment for C# development.

❖ **Programming Language and Framework :**
  ● C# (C Sharp): Primary programming language for desktop application development.

  ● .NET Framework or .NET Core: Frameworks for building Windows-based applications. .NET Core is recommended for modern and cross-platform development.

❖ **Database Management System (DBMS) :**
  ● Microsoft MySQL Server Express: Free edition suitable for applications with moderate database requirements.

2.4 Conclusions

The current pharmacy management system effectively manages prescriptions and inventory

but needs improvements. It has a difficult-to-use interface and lacks integration with other healthcare systems. Performance issues and security vulnerabilities also need addressing.

User feedback calls for better features like automated reporting and improved regulatory compliance. Compared to global standards, the system is cost-effective but technologically behind.

Short-term fixes include user training and software updates. Long-term upgrades should focus on integration, advanced analytics, better security, and a more user-friendly interface. Improving these areas will enhance efficiency, user satisfaction, and patient care.

CHAPTER 3

PROPOSED MODEL

3.1 Introduction

A system is a collection of interrelated components that work together to achieve a purpose. System analysis refers to the systematic examination or detailed study of a system to identify problems in the system and use the information gathered in the analysis stage to recommend improvements or solutions to the system. System design is an abstract representation of a system component and their relationship which describes the aggregated functionality and performance of the system. System design is also the overall plan or blueprint for how to obtain the answer to the question being asked. The design specifies which of the various types of approach.

3.2 Feasibility Study

Pharmacy Management System is an innovative pharmacy platform designed to revolutionize the way customers access and purchase pharmaceutical products. This feasibility report analyses the technical, operational, and financial aspects of implementing the Pharmacy Management System.

3.2.1Technical Feasibility:

System Architecture: The proposed system utilizes a scalable architecture, ensuring user experiences even during peak traffic.

Security Measures: The Pharmacy Management System employs security protocols to safeguard user data and ensure compliance with regulatory standards.

*To develop our system the necessary current technical resources are given below:-

The Hardware Required :

- **PROCESSOR:** Minimum Intel Core i3 or equivalent.
- **RAM:** Minimum 4GB.
- **HARD DISK:** Minimum: 100 GB Hard Disk Drive (HDD) or Solid State Drive.
- **Recommended:** 256 GB SSD for faster data access and system responsiveness.
- **Operating System:** Windows 10 or 11.

Client infrastructures are more than enough to run the system smoothly.

The Software Required :

- Visual Studio 2022.
- Microsoft MySQL
- LANGUAGE: C Sharp(C#)

This project is technically feasible given an extended development team and client infrastructures.

3.2.2 Operational Feasibility

- **User-Friendly Interface:** The intuitive user interface is designed for easy navigation, enabling users of all Pharmacists.
- **Regulatory Compliance:** Pharmacy Management System complies with all relevant pharmaceutical regulations and licensing requirements. A dedicated team monitors and updates the system to align with any changes in regulatory standards.
- **Integration with Existing Processes:** The system should seamlessly integrate with the existing workflow and processes of the pharmacy. It should not disrupt operations but rather enhance efficiency and accuracy. If the system requires significant changes to existing processes, it may face resistance from staff.
- **Resource Requirements:** Consider the resources required for implementing and maintaining the system, including hardware, software, training, and ongoing support. The pharmacy should have the necessary resources and capabilities to support the system effectively.

3.2.3 Economical Feasibility

- Developer Cost: 5000 x 2 = 10,000

- Equipment: 35,000 x 1 = 35,000

- Expert Fees: 3,000 x 1 = 3,000

- Appoint Costs: 1,000 x 5 = 5,000

- Activity Cost: 200

- Emergency Reserve: 300

- Total Budge: 53,500

The client has agreed to increase the budget to 60,000 after a thought discussion to complete this project so this is the financial feasibility.

3.3 Requirement Analysis

3.3.1 Non-Functional Requirement

A well-designed pharmacy management system must fulfill various non-functional requirements to ensure it operates efficiently, reliably, and is user-friendly. These requirements can be divided into performance, reliability, operation, and supportability.

Performance: The system needs to be quick, answering user questions in 2 seconds for most transactions. It should be able to grow as more people use it. Orders and inventory updates should be done in 1 minute to keep things running smoothly and keep customers happy.

Reliability: It's important for the system to always be working. It should be up and running 99.9% of the time, except when we're doing maintenance. If there's a problem, it should show clear messages to help users fix it. We need to make sure data stays safe and doesn't get lost or messed up. If something does go wrong, we should be able to get everything back to normal within an hour.

Operation: We need the system to be easy to use and look after. It should be simple for pharmacists and staff to use without needing lots of training. We should be able to keep an eye on how well it's working all the time, so we can fix any problems quickly. It should keep a record of what's happening so we can check later if we need to. And when we need to update or fix it, it shouldn't take too long or cause too much trouble.

Supportability: We need to make sure it's easy to keep the system working and help people if they have problems. We'll give clear instructions on how to use it and fix it if something goes wrong. There will be someone ready to help if needed, and we'll make sure they respond quickly. We'll provide training for new users so they can learn how to use it fast. If there's a problem, our technical team can fix it remotely without having to come to the site.

These non-functional requirements ensure that the pharmacy management system is high-performing, reliable, user-friendly, and easy to maintain. This leads to improved efficiency, better service, and higher satisfaction for both pharmacy staff and customers.

3.3.2 Functional requirement

- **Store Necessary Information on Medicines:** The system should store detailed information about each medicine, including its name, generic name, dosage, manufacturer, expiry date, batch number, and price.

  Search Medicine Data Effectively: Users should be able to search for medicines quickly and efficiently using various parameters such as name, manufacturer, or batch number.

- **Update, Delete, and Edit Medical Information:** Authorized users should be able to update, delete, or edit the information on medicines stored in the system. This includes modifying details such as price, dosage, or expiry date.

  Prepared Bills for Medicines: The system should generate accurate bills for medicines purchased by customers. It should include details such as the name and quantity of each medicine, total cost, applicable taxes, and any discounts applied.

- **Alert Users for Low Medicine Inventory:** The system should monitor the inventory levels of medicines and alert users when the stock of a particular medicine falls below a predefined threshold. This ensures timely restocking to avoid stockouts.

- **Support Multi-Language Interface:** The system should provide a user interface that supports multiple languages, allowing users from different regions or language preferences to interact with the system in their preferred language.

- **Change Login Password:** Users should have the ability to change their login passwords for security purposes. This feature should include password strength requirements and validation to ensure secure password changes.

These functional requirements ensure that the pharmacy management system effectively manages medicine information, facilitates smooth transactions, alerts users of inventory shortages, and provides a user-friendly experience with multilingual support and password management features.

3.4 System Design

3.4.1 Agile Method

Choosing the right development model for a Pharmacy Management System depends on various factors such as project requirements, team size, budget, timeline, and the level of flexibility required. Here are some development models commonly used in software development, along with considerations for each in the context of developing a Pharmacy Management System, and below is the given waterfall model for this project :

Agile Model :

❖ In the Agile model, the development process progresses sequentially through phases such as requirements gathering, design, implementation, testing, bug fixing, and maintenance. Below is the given agile diagram for this project :

Figure: 3.4.1.1 Agile Model for Pharmacy Management System.

When selecting a development model for a Pharmacy Management System, it's essential to consider the unique requirements, constraints, and goals of the project. Collaboration with stakeholders, including pharmacists, healthcare providers, and software development teams, can help identify the most suitable approach to ensure the successful delivery of the Pharmacy Management System.

3.4.2 Data Flow Diagram

3.4.2.1 Context Level DFD

A context-level Data Flow Diagram (DFD) for a Pharmacy Management System provides a high-level overview of the system's interactions with external entities. Here's a simplified representation of a context-level DFD for a Pharmacy Management System :
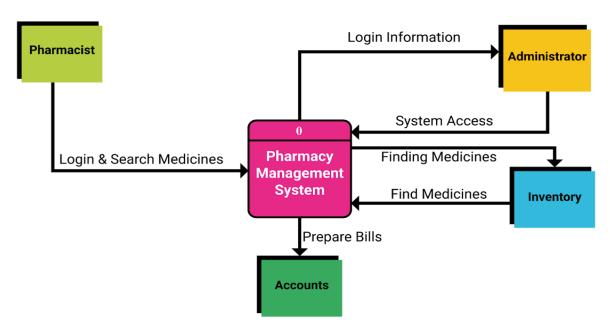

Figure: 3.4.2.1.1 Context Level DFD for Pharmacy Management System.

In this context level DFD :

- The "Pharmacy Management System" is represented as a single process or entity, indicating the system as a whole.

- The system interacts with external entities, such as users (pharmacists and administrators)

- The arrows represent data flows between the system and external entities, indicating the exchange of information.

3.4.2.2 Level Zero DFD

A Level Zero Data Flow Diagram (DFD), also known as a Context Diagram, represents the entire system as a single process and shows the interactions between the system and external entities.

Figure: 3.4.2.2.1 Level Zero DFD for Pharmacy Management System.

This diagram ensures a high-level understanding of the data flow and interactions between the system and external entities.

3.4.3 ER Diagram(ERD)

An Entity-Relationship Diagram (ERD) for a Pharmacy Management System includes entities such as drugs, pharmacists, transactions, and a few relationships between them :

Figure: 3.4.3.1 ER Diagram (ERD) for Pharmacy Management System.

In this Entity-Relationship Diagram :

- **Drug:** Represents the drugs available in the pharmacy. Each drug has a unique ID (**"medicine_id"**) as the primary key, and attributes such as name, manufacturer, price, and quantity.
- **Pharmacist:** Represents pharmacists who handle prescriptions. Each pharmacist has a unique ID (**"pharmacist_id"**) as the primary key, and attributes such as name, email, and phone number.
- **Transaction:** Represents transactions made by patients for purchasing drugs. Each transaction has a unique ID (**"transaction_id"**) as the primary key, and attributes including the date and total amount.

3.4.4 Use Case Diagram

A Use Case Diagram for a Pharmacy Management System outlines the various interactions between users and the system itself. Here's a basic Use Case Diagram for a Pharmacy Management System :
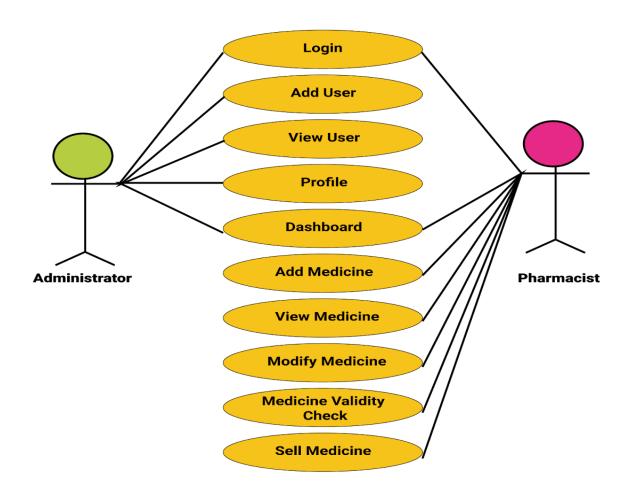

Figure: 3.4.4.1 Use Case Diagram for Pharmacy Management System.

In this diagram:

Pharmacists and Administrators are the primary actors interacting with the system. Each actor has specific use cases they can perform within the system. Use cases include managing inventory, processing prescriptions, managing customers, generating reports, and managing system settings.

3.5 Conclusions

The proposed pharmacy management system model offers a comprehensive solution that enhances the overall effectiveness of pharmacy operations. By integrating efficient information management, advanced search capabilities, dynamic inventory management, accurate billing, multilingual support, enhanced security, and robust support features, the system meets the evolving needs of modern pharmacies. This leads to improved operational efficiency, better customer service, and higher satisfaction for both pharmacy staff and customers.

CHAPTER 4

USER MANUAL

4.1 Introduction

The user manual guide is designed to help navigate and utilize the various features and functionalities of the Pharmacy Management System efficiently. Whether a pharmacist, a pharmacy technician, or a staff member, this manual will provide step-by-step instructions and tips to ensure make the most out of the system.

4.2 System Requirements

4.2.1 Hardware Requirements:

- **Device:** Computer, Laptop or Tablet.
- **Display:** Minimum screen regulation of 1024 X 768 pixels.

4.2.2 Software Requirements:

- **Operating System:** Windows 7 or later, Mac OS, iOS.
- **Web Browser:** Compatible with Google Chrome, Mozilla Firefox or Equivalent.

4.3 User Interface

4.3.1 Login:

Administrator :

Figure: 4.3.1.1 Login for Pharmacy Administrator.

Pharmacist:

Figure: 4.3.1.1 Login for Pharmacy Pharmacist.

4.3.2 Incorrect Login:
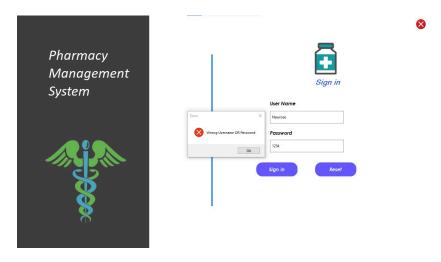
Administrator :

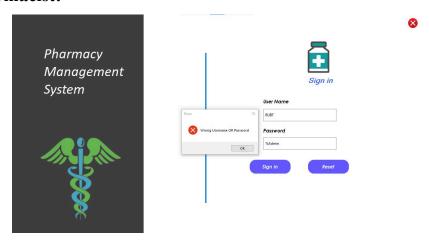*Figure: 4.3.2.1 Incorrect Login for Pharmacy Administrator.*

Pharmacist:

Figure: 4.3.2.2 Incorrect Login for Pharmacy Pharmacist.
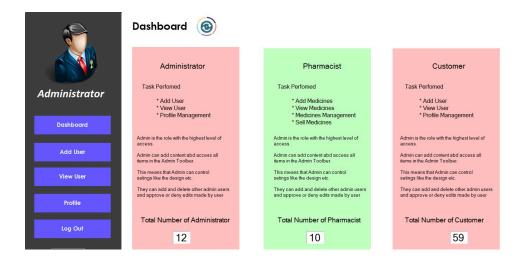
4.3.3 Dashboard:

Figure: 4.3.3.1 Dashboard for Pharmacy Admistrator.

4.3.4 Home Page :

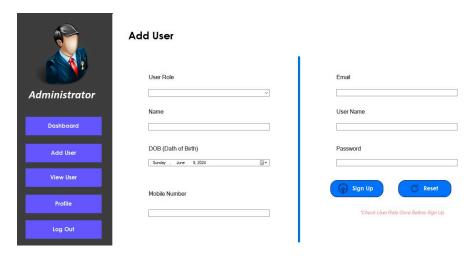*Figure: 4.3.4.1 Home Page for Pharmacy Pharmacists.*

4.3.5 Add User :

Figure: 4.3.5.1 Add User for Pharmacy Administrator.
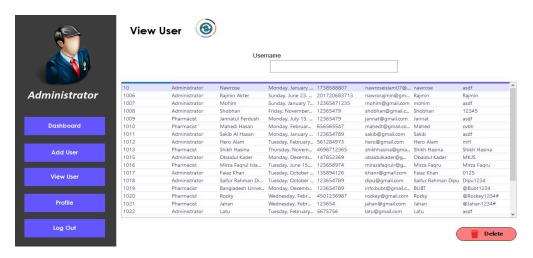
4.3.6 View User :

Figure: 4.3.6.1 View User for Pharmacy Administrator.
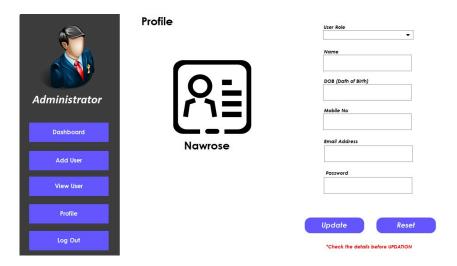
4.3.7 Profile :

Figure: 4.3.7.1 Profile for Pharmacy Admistrator.
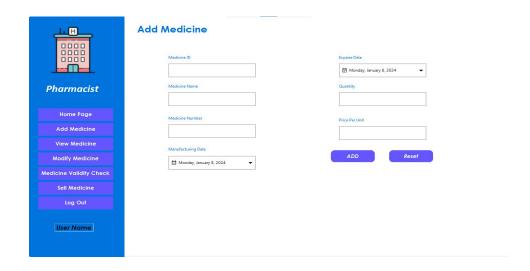
4.3.8 Add Medicine :

Figure: 4.3.8.1 Add Medicine for Pharmacy Pharmacists.

4.3.9 View Medicine :

Figure: 4.3.9.1 View Medicine for Pharmacy Pharmacists.
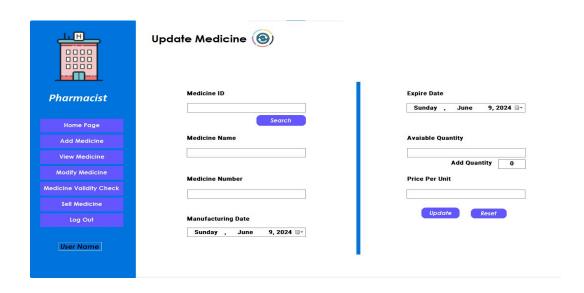
4.3.10 Modify or Update Medicine :

Figure: 4.3.10.1 Modify or Update Medicine for Pharmacy Pharmacists.

4.4 Conclusions

The Pharmacy Management System project has been a great success. It has met its goals of making pharmacy operations more efficient, accurate, and pleasing to customers. The hard work and dedication of the project team and the support from stakeholders have been crucial in reaching these goals. Ongoing support and future improvements will help keep the system a valuable tool for managing pharmacy tasks effectively.

CHAPTER 5
CONCLUSION AND FUTURE WORK

5.1 Conclusion

A Pharmacy Management System (PMS) serves as a cornerstone for modern pharmacies, offering a comprehensive solution to streamline operations and elevate patient care. By automating tasks such as inventory management, and billing, PMS enhances efficiency while minimizing errors. Access to patient medication histories and drug interaction alerts empowers pharmacists to make informed decisions swiftly, ensuring patient safety. Furthermore, robust inventory control features optimize stock levels, reducing wastage and stockouts. Compliance with regulatory standards is simplified through accurate record-keeping and secure dispensing practices. The system's data analytics capabilities provide valuable insights into sales trends and medication adherence, guiding strategic decisions. Seamless integration with electronic health records fosters collaboration among healthcare providers, ultimately improving patient outcomes. While the initial investment may be substantial, the long-term benefits of PMS, including cost savings and enhanced customer satisfaction, underscore its indispensable role in modern pharmacy management.

5.2 Future Works

The future goals for the pharmacy management system include implementing advanced features and addressing existing issues. In the next release with a plan to introduce new sophisticated to enhance system capability. Additionally, we will focus on ensuring smooth performance and user satisfaction. Is to continue a improve the systems officially and continuously user-friendly.