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A MINI PROJECT REPORT

on

"Pharmacy Management System"

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In partial fulfillment of the requirements for the VI semester

File Structures Laboratory With Mini Project(18ISL67)

of

BACHELOR OF ENGINEERING

in

INFORMATION SCIENCE & ENGINEERING

Under the Guidance of

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CERTIFICATE

This is to certify that the mini project entitled "Pharmacy Management System" has been carried out by Karthik J (4SF20IS041) and Mohammed Uyam Abbas (4SF20IS055) the bonafide students of Sahyadri College of Engineering and Management, Bachelor of Engineering in Information Science & Engineering of Visvesvaraya Technological University, Belagavi during the year 2022-23. It is certified that all corrections / suggestions indicated for internal assessment have been incorporated in the report deposited in the departmental library. The mini project report has been approved as it satisfies the academic requirements in respect of mini project work prescribed in File Structures Laboratory with Mini Project(18ISL67) for the said degree in sixth semester.

Signature of the Guide1 Ms. Jayapadmini Kanchan	Signature of the Guide2 Mrs. Madhura N Hegde	Signature of the HOD Dr. Mustafa Bhastikodi	
	External Viva:		
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DECLARATION

We hereby declare that the entire work embodied in this Mini Project Report titled "Pharmacy Management System" has been carried out by us at Sahyadri College of Engineering and Management, Mangaluru under the supervision of Ms. Jayapadmini Kanchan, for Bachelor of Engineering in Information Science & Engineering. This report has not been submitted to this or any other University for the award of any other degree.

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Abstract

Pharmacy is a crucial field that plays a vital role in healthcare, focusing on the safe and effective use of medications. Pharmacists serve as experts in medication management, providing guidance and support to individuals in maintaining their health and well-being. This system utilizes primary indexing, a fundamental method for efficient data organization, to manage stocks of medicines effectively. The goal of a pharmacy management system is to streamline and enhance the overall efficiency and accuracy of pharmacy operations. By maintaining a comprehensive record of day-to-day transactions for medicinal products, this system ensures smooth operations and facilitates seamless customer service. The scope of a pharmacy management system typically includes functions such as inventory management, billing and payment processing. Pharmacists face the challenge of managing a vast number of records, which can be a time-consuming task. However, with the aid of automated features, they can efficiently handle large volumes of data and organize it systematically. These features simplify the process of storing records in a structured manner, making it easier for pharmacists to access specific medications whenever needed.

Acknowledgement

It is with great satisfaction and euphoria that we are submitting the Mini Project

Report on "Pharmacy Management System". We have completed it as a part

of the curriculum of Visvesvaraya Technological University, Belagavi for the award of

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Introduction

This System has been developed to override the problems prevailing in the manual system. This software is supported to eliminate and in some cases reduce the hardship faced by the existing system. The software is reduced as much as to avoid errors while entering the data. It is a user-friendly software. As described, it can lead to be an error free, secure, fast management system. It will assist the user to concentrate more on other works rather than concentrating and spending their valuable time in keeping records. Every pharmacy, has a challenge to overcome and managing the information of stocks, medicines, billing receipt.

Every user has their own specific needs. Thus the system is designed as a user-friendly interface that are adapted to user requirements. Whether its managing stocks or pharmacy bill receipt, all these requirements are fulfilled in this system leading to work and time conserving system. Ultimately, this system will help the pharmacy to better manage their resources.

1.1 Overview

The size of data is growing at a much higher rate, it becomes very important to create new systems which can handle high volume of data without affecting the performance and management of those data. In these tough times when the need of doctors and medicines are high, managing all the data of stocks, medicines and also receipts of the pharmacy is very time and energy consuming. This system overcomes all those problems and will manage all the data for a long period and with way less human effort.

1.2 Scope and Purpose

It may help collecting perfect management in details. It helps in keeping track of the management of past and present ongoing management by helping the pharmacist to know the management and works perfectly. The project aims at automating the process i.e. the system is computerized with various process from managing the stocks, taking medicine order, modifying the orders to printing the bill receipt of the pharmacies.

The main purpose of this system is to manage the data or information of stocks, availability of medicines and the bill. The project is built according to the needs of the pharmacist so that they can use the system according their specific requirements. The ultimate purpose of the project is to reduce work and time that is given in the existing system and to allow the users to use that valuable resource in their other tasks.

Requirements Specification

2.1 Hardware Specification

• RAM : 16GB

• Hard Disk: 512GB

• Input Device : Standard keyboard and Mouse

• Output Device : Monitor

2.2 Software Specification

• Programming Language : C++

• IDE :Visual Code Version 1.79.2

• Compiler:MinGW 11.0.0

• OS:Windows 11

System Design

3.1 Architecture Diagram

The architecture diagram for this System typically consists of multiple components working together to provide a cohesive software solution.

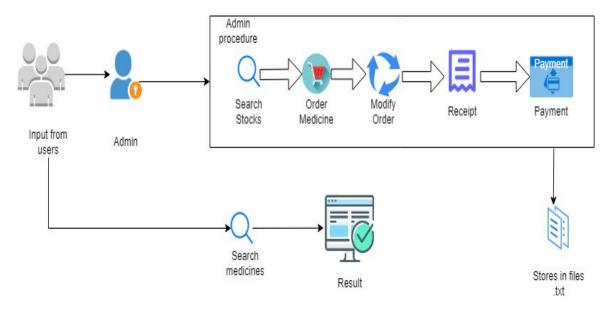


Figure 3.1: Architecture Diagram for Pharmacy Management System

The core of the system is a centralized database that stores various informations. Pharmacist will interact with the system through user interface, and can take the required orders. Once the order is taken the system will generate a receipt based on the order. The pharmacist can modify the orders if required. Pharmacist can also insert, delete and search for available stocks. At the end of the day all the details about the details of the receipt will be stored in a file.

3.2 Application Modules

- Search Module: This module handles searching for medicine in the file structure based on various criteria such as medicine name, dosage, or other attributes.
- **Display Module:** This module is responsible for displaying the available medicines from the file structure, providing information such as medicine name, quantity, price, and other relevant details.
- Order Module: This module handles taking customer orders for medicine. It allows customers to select medicines, specify quantities, and add them to their order.
- Modification Module: This module facilitates modifying customer orders. It enables users to update quantities, remove medicines, or make any necessary changes to the order.
- Receipt Module: This module generates a receipt for the customer's order. It includes details such as the ordered medicines, quantities, prices, total amount, and any applicable taxes or discounts.
- Payment Module: This module handles the payment process for the customer's order. It could interact with a payment gateway or integrate with a payment system to accept various payment methods (e.g., credit cards, online banking, etc.).

Implementation

4.1 Languages Used

4.1.1 C++

C++ is a powerful and versatile programming language widely used for developing a wide range of software applications. It is an extension of the C programming language with added features, including object-oriented programming (OOP) capabilities. C++ combines low-level programming control with high-level abstractions, making it suitable for both system-level programming and application development.C++ is known for its efficiency and performance, as it allows programmers to directly manipulate memory and hardware resources. It supports features such as pointers, which enable direct memory access and efficient memory management.

4.1.2 Storage

Backend storage in Windows often relies on text files, which serve as a fundamental method for storing and manipulating plain text data. These files contain easily readable characters and can be effortlessly created, edited, and viewed using diverse text editors and word processors. In Windows, text files typically carry the ".txt" extension and boast simplicity and versatility, ensuring compatibility across various software applications and operating systems. They find extensive use in storing program source code, configuration files, log files, and other forms of textual data. Notably, text files are lightweight, portable, and facilitate easy information sharing, making them a convenient choice in numerous contexts for storing and exchanging data.

4.2 Pseudocode

4.2.1 Pseudocode for Daily Summary of Orders:

The Daily Summary of orders provides a concise overview of the prescription orders processed within a given day. It generates a report that summarizes key information related to the orders, such as the total number of orders received, the number of orders dispensed, and any orders pending or canceled. The summary may also include details like the average processing time per order or any significant issues or trends observed during the day.

```
void pharmacyManagementSystem::dailySummary()
   int i, num;
   system("CLS");
   node *temp;
   temp = start_ptr;
   float totalPrice = 0;
   if (temp == NULL) // Invalid Receipt Code
      cout << "No Orders To Show!\n"</pre>
          << endl;
      cout << "=======" << endl;</pre>
      cout << "Daily Summary Of All Orders \n"; // Print All Transactions Occurred</pre>
      cout << "========" << endl;</pre>
      while (temp != NULL)
          cout << "Reciept Number : " << temp->recieptNumber;
          cout << "Customer Name: " << temp->customerName << endl;</pre>
          cout << "Order Date : " << temp->date << endl;</pre>
                                                               " << endl;
          cout << "========" << endl;
          cout << " | Medicine Name |
                                     Quantity
                                               | Total Price |" << endl;
```

Figure 4.1: Pseudocode for Daily Summary of Orders

4.2.2 Pseudocode for Deleting Customer Order:

Deleting a customer order in this System involves the removal of a previously placed order from the system. This action may occur if a customer requests to cancel their order or if an order was created in error. When deleting a customer order, the pharmacy staff accesses the system, identifies the specific order to be deleted, and initiates the deletion process. Deleting a customer order ensures accurate record-keeping and inventory management within the pharmacy, allowing for proper tracking and reconciliation of orders.

Figure 4.2: Pseudocode for Deleting Customer Order

4.2.3 Pseudocode for Displaying Customer:

Displaying customers in this System involves presenting relevant customer information for efficient retrieval and reference. The system provides a user interface that allows pharmacy staff to access and view customer details in a structured manner. This information typically includes the customer's name, contact information, billing details.

Figure 4.3: Pseudocode for Displaying Customer

4.2.4 Pseudocode for Displaying Medicines:

Displaying medicines in this System which involves presenting a comprehensive list or catalog of available medications for efficient reference and retrieval. The system provides a user-friendly interface that allows pharmacy staff to access and view detailed information about each medicine.

Figure 4.4: Pseudocode for Displaying Medicines

4.2.5 Pseudocode for Modifying Customer Order:

Modifying a customer order in this System allows for necessary changes or updates to be made to an existing order. When a customer requests a modification to their order, such as changing the quantity of medication or adding/removing items, the pharmacy staff accesses the system and retrieves the relevant order details.

Figure 4.5: Pseudocode for Modifying Customer Order

4.2.6 Pseudocode for Printing Order Receipt:

Printing order receipts in this System involves generating a document that summarizes the details of a customer's order. The system generates a receipt that includes information such as the customer's name, date of purchase, ordered items, quantities, prices, and the total amount due. The receipt serves as a proof of purchase for the customer and aids in accurate record-keeping and financial reconciliation within the pharmacy.

Figure 4.6: Pseudocode for Printing Order Receipt

4.2.7 Pseudocode for Searching Medicine:

Searching medicines in this System involves utilizing a search functionality to find specific medications. The system allows users to input keywords, such as medication names or codes, to retrieve relevant results. This feature enables quick and efficient access to specific medicines, enhancing workflow and facilitating accurate medication dispensing.

Figure 4.7: Pseudocode for Searching Medicine

4.2.8 Pseudocode for Taking Customer Order:

Taking a customer order in a this System involves the process of recording and capturing the details of a customer's medication requirements. When a customer submits their prescription or medication request, the pharmacy staff enters the relevant information into the system, including the customer's name, medication name, dosage, and quantity. The system validates the prescription, checks for any potential drug interactions or contraindications, and updates the inventory accordingly. This process ensures accurate recording of customer orders, facilitating efficient medication dispensing and inventory management within the pharmacy.

Figure 4.8: Pseudocode for Taking Customer Order

Results and Discussion

5.1 Menu Page

The Menu Page in this System serves as the main interface for navigating different functionalities and options. It provides a structured layout with categorized menus, such as customer management, medication inventory, order processing, and reporting. Users can easily access and select the desired menu to perform specific tasks, enhancing the usability and efficiency of the system.

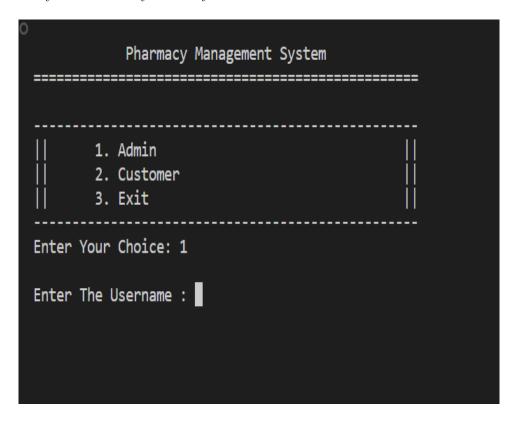


Figure 5.1: Menu Page

5.2 Displaying Available Medicine

Displaying available medicines in this System involves presenting a list of medications currently in stock. The system provides an interface that displays the medication names, quantities, and other relevant details. This feature allows pharmacy staff to quickly identify the availability of specific medicines, aiding in efficient medication dispensing and inventory management.

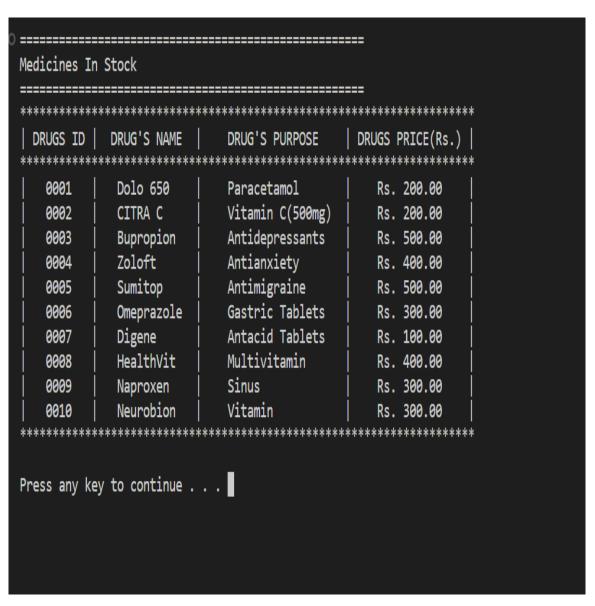


Figure 5.2: Displaying Available Medicine

5.3 Taking Customer Order

Taking a customer order in this System involves recording the customer's prescription details, including medication name, dosage, and quantity. The system verifies the prescription, checks for any drug interactions, and updates the inventory. This process ensures accurate order management, streamlined dispensing, and effective inventory control within the pharmacy.



Figure 5.3: Taking Customer Order

5.4 Payment

Payment in a this System involves the process of settling the financial transaction for a customer's order. The system calculates the total amount due based on the medication prices and quantities. Customers can make payment through various methods like cash, credit/debit cards, or insurance processing. This feature ensures accurate and efficient payment processing, enhancing customer convenience and facilitating financial management within the pharmacy.

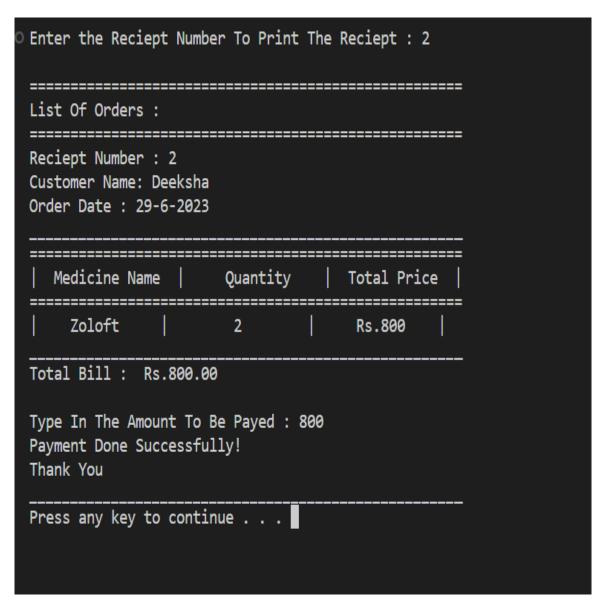


Figure 5.4: Payment

5.5 Displaying Customer Detail

Displaying customer details in this System involves presenting relevant information about individual customers. The system provides an interface to view details such as name, contact information, medical history, and insurance coverage. This feature enables pharmacy staff to access and reference customer information quickly, enhancing personalized care, and facilitating efficient customer service within the pharmacy.

```
Reciept Number : 2
Customer Name : Deeksha
Date: 29-6-2023
Number Of Medicine Ordered: 1
Medicine Name : Zoloft
Medicine Quantity: 2
Total Price: Rs. 800.00
Reciept Number : 3
Customer Name : Karthik
Date: 29-10-2023
Number Of Medicine Ordered: 2
Medicine Name : Dolo 650
Medicine Quantity: 2
Medicine Name : Bupropion
Medicine Quantity: 1
Total Price: Rs. 900.00
_____
Reciept Number: 4
Customer Name : suhas
Date: 16-7-2023
Number Of Medicine Ordered : 3
Medicine Name : Dolo 650
Medicine Quantity: 4
Medicine Name : Dolo 650
Medicine Quantity: 2
Medicine Name : Digene
Medicine Quantity: 3
Total Price: Rs. 1500.00
_____
```

Figure 5.5: Displaying Customer Detail

5.6 Daily Summary

Daily Summary in this System provides a concise overview of daily operations. It includes information such as total prescriptions processed, medications dispensed, and revenue generated. This feature allows pharmacy staff and management to track performance, identify trends, and make informed decisions for optimal operations and financial management.

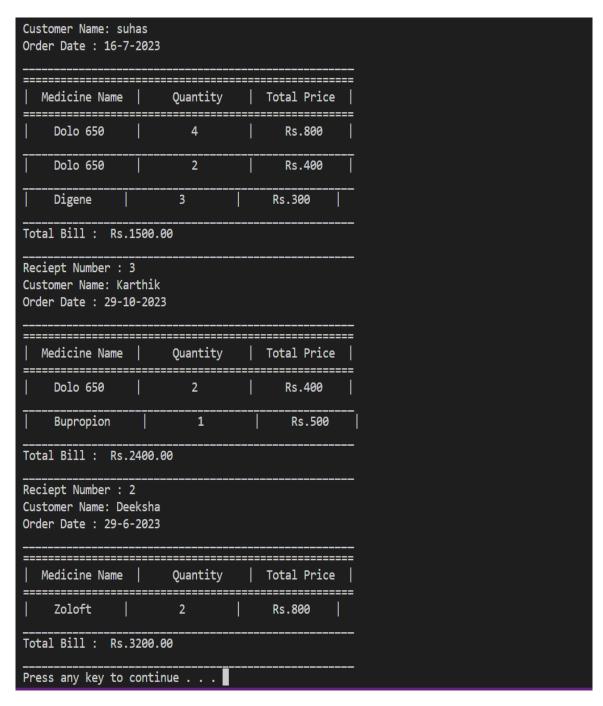


Figure 5.6: Daily Summary

Conclusion

This application has been developed to override the problems prevailing in the manual system. This software enables pharmacies to keep the record of stocks and the pharmacy receipts. This system will not only enable them to manage those data efficiently but also enable the pharmacist to look for medicines and order them. It provides facility for pharmacy to manage, view orders and also modify the orders. This system can be enhanced to enable pharmacy to manage more data on wider aspects of this field. This System can be further enhanced to encompass a wider range of data and functionalities, meeting the comprehensive needs of medical stores. Ultimately, this system is designed to optimize pharmacy operations, improve patient care, and enhance overall efficiency in the pharmacy setting. The system empowers pharmacists by providing easy access to medication information, enabling them to efficiently search for medicines and place orders. These systems will become more sophisticated, incorporating innovative technologies such as artificial intelligence, machine learning, and data analytics. They will streamline the entire pharmacy workflow, from inventory management and prescription processing to patient communication and medication adherence. Advanced algorithms will help pharmacists identify potential drug interactions and optimize medication dosages based on individual patient factors.

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