Pharmacy Management system

1. Introduction

What is pharmacy management system?

It is a computer software (program) that is programmed with the ability to perform different tasks required to operate a pharmacy. They make working easier and allow for the digital record stage and fast retrieval of information.

Pharmacy Management System is a system that stores data and allows functionality to maintain and organize the medication use and process within pharmacies. The system is an independent technology, particularly in use for pharmacies and hospital settings.

2. Objectives

Problems with the existing pharmacy system?

At present, manual system is being utilized in the pharmacy. It requires the pharmacist to manually monitor each drug that is available in the pharmacy. Pharmacy management has kept paper record in filing cabinets. Managing a very large pharmacy with records on papers will be tedious and difficult to keep track of inventories with regards to the drugs in the store, expiry date, quantity of drugs available based on the categories and their functions. This implies that these services will be manually completed by the pharmacist. This usually leads to mistakes as the workload of the pharmacist increases.

Main objective

The main objective of the application is to automate and facilitate the existing system of manually maintained records of the counter sales, purchases, Supplier and Customer monetary positions of pharmacies. Doing so, time and efficiency of the transaction process will be fast and reliable.

It is the user-friendly application for Pharmacist which reduces the burden and helps to manage all sections of Pharmacy like Medicine management and Billing etc., which improve the processing efficiency.

The pharmacy management system is built for the sake of ensuring effective and clear data saving and manipulating as well as neat work on the pharmacy medical products.

This application can be used by any small level pharmacy to automate the process the whole work flows.

3. Project presentation

3.1 Assumptions

During the making of this project some assumptions were taken into consideration such as

- The would be two side during the transaction process (billing). First, the user side or the customer which the user can place an order, edit and delete their order. Second, the admin side or the cashier, which they can manipulate placed orders and organize total daily summary.
- By the 'admin' we meant cashier or chief director of the pharmacy
- By the 'user' we meant any one who place their order, which could be the cashier or any ordinary person.

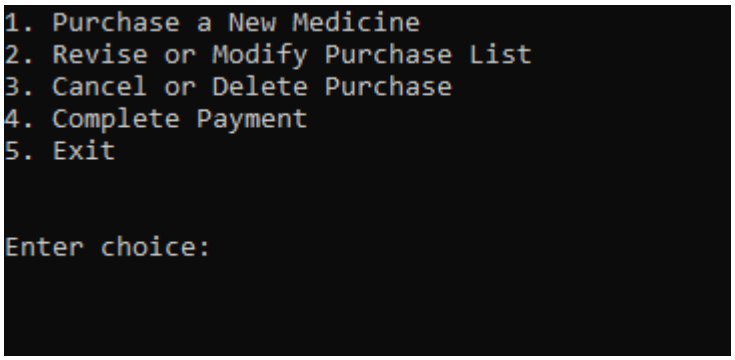
3.2 Basic Features

- ✓ Purchase a New Medicine:
- ✓ Revise or Modify Purchase List:
- ✓ Cancel or Delete Purchase
- ✓ Complete Payment
- ✓ Daily summary of total sale

3.3 User flow or user journey schemes

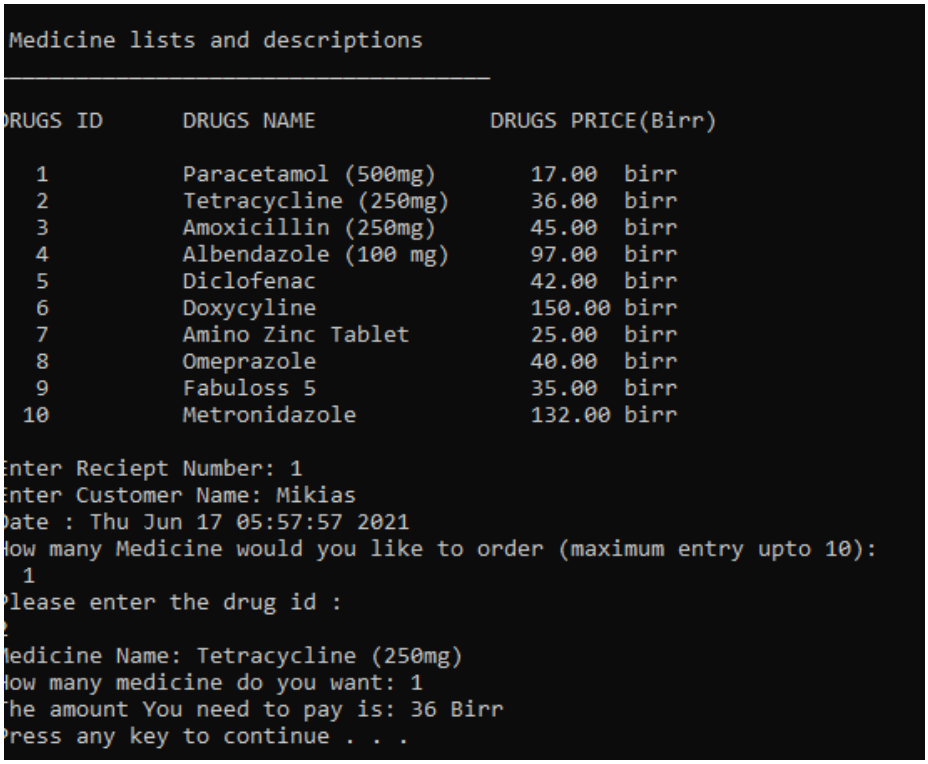
During the first stage, the user needs to choose their level of authenticity. The program accepts three numbers only 1, 2 or 3. If the user entered a different option an error message gets displayed and the user will be asked to repeat the process.

Let's see option 2 first. When the user enters '2', these options will be displayed



During this stage, there are 5 options from which the user can choose. Each choices have their own functionality. Option 1 calls the purchase () function, option 2 calls the modify () function, option 3 calls delete_order () function, option 4 calls completePayment () function and option 5 calls exit () function. If the user enters a different number in "Enter Choice" option, they will be asked to correct their choice. This is accomplished with the help of a switch statement inside a do while loop. The do while loop is used for checking the user choices while a certain statement is satisfied.

Purchase a New Medicine



In this path, certain medicines with their order ID and amount are displayed. The first thing the user encounter is to give a unique number to themselves which get stored in receipt_number variable. After that they will provide the information, they get asked, such as name, medication selection and the quantity. Through the process the program itself gives the user the ordered time using a time function and the amount that needs to be paid. This procedure is simple and user friendly, the user needs to take note of the receipt number since they need it for later to delete and modify their order.

Revise or Modify purchase list

By providing the receipt number they provided during the ordering process, users can modify their data. The program receives their input to “Enter Receipt number to Modify: ” input and store the user input to “sid” variable and compare the “sid” value to receipt_number value. If the return is true, the user will be able to modify their information.

Using the users receipt number value, the program alters the other input values by directly inserting or replacing the user inputs into the previous variable memory. This function has more or less the same algorithm as the purchasing process.

Complete payment

This function is designed to finalize the transaction process. Just like the modify () and delete_order () functions it accepts the receipt number value form the user and process the rest of the program using that value.

After that checking the reciept number value, the program display the data that is related to that specific reciept number. For instance, our reciept number is 1.

```
 Enter the Reciept Number To complete the payment
1


               Here is the Order list

Reciept Number : 1
Customer Name: Mikias
Order Date : Thu Jun 17 06:01:45 2021

_____________________________________________________________

|     Medicine Name    |        Quantity     |   Total Price |
_____________________________________________________________
Amoxicillin (250mg)                     1             45 Birr
_____________________________________________________________
Total Bill is : 45

Type the exact amount You need to pay: 50
5 Will be returned!



_____________________________________________________________________________
Press any key to continue . . .
```

Then, the program askes the user to enter the amount that they need to pay. This is to confirm if they have the required amount at that instance. If they entered less or more value than the total bill value, they will be asked to increase or decrease the amount based on the total input value.

Cancel or Delete order

```
Enter the data you want to delete
1
The Reciept is Deleted Successfully
Press any key to continue . . .
```

This is a straight forward process since the only thing that is required from the user is to provide their receipt number and the program will erase that data set.

Daily summary of total sales

In order to access this, feature the user needs to go through the first choice of the first screen values which is “Admin”. This feature displays the total number of sales during that specific day. The program has a drawback of displaying decent past data.

This will be the information that get displayed if there is no order during that day.

```
                      There is no Order to show
                      So The List is Empty


Press any key to continue . . .
```

If there were some other orders, this would be the result that get displayed

```
Number          Name           Medicine Name           Quantity       Payment
1              Mikias Amoxicillin (250mg)                  1             45 Birr
1              Mikias          Albendazole (100 mg)        1             97 Birr
4               Selam                    Fabuloss 5        1             35 Birr
9            Selhadin           Amoxicillin (250mg)        1             45 Birr

Press any key to continue . . .
```

4. Summary

To automate a pharmacy business, the pharmacy can opt for a pharmacy management system to modify the pharmacy needs. Furthermore, it also allows your finance management with revenue management and real-time alerts.

4.1 Drawbacks

The main drawbacks in our project is the fact that there are only limited number of drugs/medicines that we can buy through this project. We have included only 10 drugs that can be bought/read, modified, or deleted. Furthermore, the receipt numbers are given by the customer while they had to be automatically given by the pharmacy administrator. This requires the customer to make a large number of attempts to get unused receipt number. Such drawback might make our project inconvenient for the customer. Another drawback is that the administrator is unable to add new medicines to the system and make required modification about the availability of the drugs.

4.2 Future development

What we have in mind for future development is to overcome the drawback to maintained above. Then, some other additional functionalities that could potentially boost the strength of the program. Such as, the program checks for expiration date of every drug in the pharmacy and notify the admin about it. If any user tries to purchase outdated drug, then the program denies the transaction.

Additionally, what we have in mind is for the program to tell the customer medication consumption procedure including when and how to take the medicine.

The other future development we hoping to create is a user account system, in which customers will have a purchasing history in the pharmacy data table and this will help them to check for medical history.

5. Reference

- https://www.codesdope.com/cpp-structure/
- https://www.geeksforgeeks.org/structure-pointer/
- https://en.cppreference.com/w/cpp/io/manip/setw