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Pharmacy Management System with Inventory Stock Alert System

A Report for the Evaluation 3 of Project 1

Submitted by

Mayank Chauhan

(1713104050/17SCSE104051)

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Under the supervision of

Mr. SUBHASH CHANDRA GUPTA, Assistant Professor

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ABSTRACT

Nowadays, the chemical control system is one of the most important tools used in the pharmacy; It is widely used to manage pharmacy related activities such as medical inventory, record keeping, sales management and stock management and outdated pharmaceutical details. Many pharmacies in India are still working manually; they do not have enough software to manage their daily tasks. You need a pharmacist to check the day that the medicine has expired twice a week, and it can take a lot of time to find out if a particular medicine has run out. In this project we have tried to develop a chemical and Web based Pharmacy management system. Our main goal is to allow this application to be used in many retail pharmacies, where a small customization point for each pharmacy will be needed at launch. This program is designed to overcome all the challenges related to medication management that used to be managed here and at home. The pharmacy management system has its own importance in pharmacy stores . Using this system, it will help us record all transactions in daily transactions, identify all debtors, buyers, employees, stocks, etc. It will control all activities around the store that increase productivity and maximize profits, and also reduce the risk of loss because all transactions are recorded in the system.

This project demonstrates the design and functionality of the Medicines Control Program with a stock-raising awareness program. The first goal is to improve accuracy and strengthen the safety and efficiency of the pharmacy. Today administration is one of the most important of all kinds. Managers provide the expertise to perform any type of work in a particular way. This is a chemical management system; is used to manage many pharmacy-related activities in the pharmacy.

Keywords: Program management, Inventory management, database, graphical interface

1. INTRODUCTION

This project involved developing a Pharmacy Management System that will be used for marketing and pharmacy level. The purpose of this project is to manage all data taken from the pharmacy to safeguard their business in the system rather than recording their data manually which is a major risk for the business to maintain and avoid loss. Based on my research on the different pharmacies I came across different pharmacies and found that most of them recorded their information manually through an account book. This type of data recording causes them to lose a lot of weight and is unable to see if they have lost or not to those who have a large stock of drugs. With so many variations in stock, it's difficult for them to know all of their customers' records; they cannot even have their weekly, monthly or annual report because of hand recordings. In light of these challenges to reduce business profits I developed a solution on how to reduce risks and maximize their profits through the Pharmacy management system.

The Chemical Control System is a comprehensive workflow distribution system designed to improve accuracy, enhance safety and efficiency. Many Pharmacies still do all their work manually; This is a manual procedure that requires the pharmacist or staff to manually monitor the entire process and monitor the availability of each medication in the Doctor. So, when new drugs or new drug labels come into Pharmacy the book entry is made on the register. And this is followed when the medicine is given to any patients. When the month is completed the staff at the Pharmacy should either list or report the drugs in Pharmacy. This kind of work can lead to mistake by staff and lead to serious trouble.

Therefore, to address these types of problems is an urgent need to develop a pharmaceutical management system that will benefit the Pharmacy [3]. By using this software, we can save money, save stock more efficiently, can save costs and maintain inventory control.

2. STATEMENT OF THE PROBLEM

The pharmacy managers keep records of the paperwork for closets. Managing a large pharmacy with paper records will be tedious and difficult to keep track of in-store drug discovery, expiry date, number of medications available based on the categories and their activities. The pharmacist should order the drug to return the stock already gone. In addition, the order of the drugs is done manually. An important amount of time is set to write the order as the pharmacist needs to go through the stock balance and make an indirect estimate of the order value based on Figure. Drugs should not be used after they expire. This promotional activity will inform pharmacists about drugs that are about to expire, prevent those drugs from being sold and offer solutions to the aforementioned problems.

Improving the effectiveness and efficiency of pharmacy stores is the main objective of the Drug Control Program. For work related to sales, stock records are kept manually currently. This will have to be automated and the application needs to be addressed logically and logically so that the current system can be replaced and approved without major changes and problems. The app will provide quick access to the records held and should generate valuable reviews about the business so that growth can be easily measured and will provide various reports that show related information that important decisions can be taken for granted. The following is one of the issues that lead us to propose the creation and construction of a Software Management System Software.

- No effective information management
- Differences in stock items.
- It is difficult to find a stock balance.
- Hard and Time consuming on preparation of daily, weekly, monthly, and yearly reports.

3. AIM OBJECTIVE OF CONSIDERATION

A pharmacy management system is a system that consists of data entry, retrieval and stock monitoring, sales, customer records, credit manager records and minimum price per drug. A string search strategy is also used in this program. This method addresses drug name, drug code and drug description. Besides, the system also offers two types of methods namely Quantity and expire date for drugs. Main aims are as follows:

- a) Provide appropriate data storage.
- b) Make data access easier for the user.
- c) Provide quick feedback on user requests for data.
- d) Making the conversion to the database immediately available.
- e) Allow multiple users to work simultaneously.
- f) Protect information from physical harm
- g) No unauthorized access.
- h) Get alerts about nearby expiration dates,
- i) Notify drugs that will end up in custody.
- j) To have a good statistic to know how much benefit was earned on a daily, monthly or specific day that a manager may need to receive a report.

The program always looks for a reminder day for a sales person when a particular drug expires and will fight to remind the sales person if a specific drug reaches a minimum. This system allows the manager to control and monitor drug stock effectively. Due to the size and value of the pharmacy service, the pharmacy has a large customer base. The number of customers is increasing rapidly due to the increase in the number of drugs in many areas. This situation makes pharmacists busy and spend a lot of time managing and managing their business records. In the meantime pharmacists should ensure satisfaction in effective record keeping services in a timely manner. Pharmacy management involves managing the stock of a drug and choosing the right drug that consumers need. At the core of the chemical profession is the preservation of quality and the subsequent meaning of medical monitoring and control in pharmacy practice. The background of this project is information technology in healthcare. In light of the growing awareness of Communication Technology and Medical Technology, program developers are taking this opportunity to help pharmacists manage stocks and select medicines using a computer program. The PMS is developed to select a drug to control every drug in the pharmacy and other pharmacy-related activities. This system also controls the sales process, customer records, credit records and user records. Sell mainly in Malaysia, India, United States of America and South Africa etc. In addition, PMS provides retail drug data. The involved module is the pharmaceutical management module, pharmaceutical search module, pharmaceutical sales module, user authentication module, user registration module, pharmaceutical sales module, latest reporting date, and reporting for all users when selling any items in the program.

4. TECHNOLOGY USED

SOFTWARE OR TOOLS

The tools I have used to develop this System are: -

- ❖ Basic, Notepad++
- ❖ Wampserver
- ❖ Adobe Photoshop
- ❖ Google chrome, Firefox, Internet Explorer
- ❖ Bootstrap Framework
- ❖ FPDF Framework
- ❖ Microsoft name for project writing
- ❖ JQuery FREE MySQL

HARDWARE REQUIREMENTS

1. Personal computer with at least

- ❖ At least 4GB of RAM
- ❖ At least Hard disk (300GB, 500GB .etc.)
- ❖ At least 2.7 processor GHZ

5. SCOPE

The user of this program is able to manage all operations required in a pharmacy. The information management provided by the system is a major benefit of reducing the errors of records associated with pharmacy stores. The system handles all aspects of the asset management function. Allows directors, managers and shareholders to record new layers of trees being removed drugs that are no longer active and change current dose and drug database indicators. In addition, the system will make the share repurchase process much easier.

On the other hand, PMS is able to release reports on drug stocks over a period of time. The system also lets you know the date of expiry of the drug from the expiry date before the expiry date. Although the Vendor cannot delete, or update any items to enter the database because he does not have the authority to do so, or view or print any report, the system still allows him to sell and see which items were sold at that time. The Pharmaceutical Control Program covers the following areas.

- Customer Management
- Management of managers
- Human resource management
- Sales management
- Credit management
- Stock management
- Management reports

6. Methodology

A method of combining a combination of conceptual and step-by-step approaches to effective planning, control and project delivery. It is a scientifically proven, structured and directed approach to project development and implementation. System to be used in System Development. For this project I used System Development Life Cycle (SDLC) Methodology. System life cycle (SDLC) is a traditional way of improving the maintenance and recovery of an information system. This approach consists of various stages that describe the processes of successful program development.

- ❖ Planning
- ❖ Analysis
- ❖ Designing
- ❖ Implementation and
- ❖ Preparation

Planning:

The process of identifying problems, opportunities and objectives. This phase required analysts to look closely at what's going on in the business. After that, along with other members of the organization, the analyst identifies problems. Object identification is also an important part of the first phase. The analyst first determines what the business is trying to do. Then the analyst was able to determine whether a particular aspect of the use of information systems could help the business achieve its objectives by addressing specific problems or opportunities. Tasks in this section consist of :

- discussion and management of users
- Summarizing the information gained
- Predicting project scope and
- Writing results

The results of this section are a height report with a description of the problem and a summary of the objectives.

The management must make the decision to proceed with the proposed project

System Analysis:

It is the process of collecting factual data, understanding the processes involved, identifying problems and recommending possible suggestions for improving the system's performance. This includes studying business processes, collecting performance information, understanding information flow, finding solutions and developing solutions to overcome system weaknesses in order to achieve organizational goals. System Analysis also includes the classification of a complex process that encompasses the entire system, database store identifiers and manual processes.

System Design:

It is a very important stage in the development of the system. The logical design of the system that came about as a result of systems analysis is transformed into the construction of the physical system. Generally, the composition goes into two phases:

- **General or General design:** In the initial or standard design, the features of the new system are described. The cost of using these features and the benefits to be derived are calculated. If the project is still considered feasible, we move to a more detailed design phase.
- **Formal or Detailed Design:** In the detailed design phase, the work done by computers starts at the beginning. At this stage, the structure of the system is further organized. Structure is a blue print of a computer program for a specific problem with the same elements and the relationship between the same components and the actual problem.

Implementation:

After getting the user's approval of the new operating system, the startup phase started. Usage is the phase of a project where the celebrity is transformed into use. The main steps involved in this phase are:

- **Coding:** The design of the system needs to be optimized. This requires the installation of a computer language of the computer model. This is also called the programming phase where the programmer converts programming information into computer commands, which we call programming. It is an important stage where defined processes are transformed into definitions of control with the help of computer language.
- **Testing:** Before the implementation of the new system, system tests have been performed to remove bugs, if any. It is an important part of a successful program. After integrating all program components, a test plan should be designed and set in a given test set. The outcome of the test run should be in line with the expected results. In some cases, a system test using the following test run data is performed.

7. PROJECT DESIGN

A. DATABASE SYSTEM CONSIST FOR SICKNESS MEDICINES

1. Entry table:

- ID: refers to the counter Id and the manager has the first number.
- Username: refers to the name of the counters.
- Password: refers to the password of that username.

Table1: Entry Table

Field Name	Type	Size	Constrain
<u>ID</u>	Number	Long Integer	Primary key
USER NAME	Text	255	.....
PASSWORD	Text	255	.....

2. Main Table: Is the primary table containing the most important fields for managing the program, the fields are as follows:

- Barcode ID: refers to a barcode with unique numbers over multiple trees.
- Drug Name: refers to the name of the drug.
- Corporate Purchase: refers to the purchase of the merger.
- Sales Price: refers to Sales Price.
- Drugstore (inventory): refers to the number of items in the pharmacy.
- Expiry Time: refers to the expiry period of the drug.
- Product name: refers to the manufacturer of the drug.
- Note: by writing the required note about the drug, you can choose the refill.

Table2: Main Table

Field Name	Type	Size	Constrain
<u>Br ID</u>	Text	255	Primary key
Drug_Name	Text	255	.....
Unitary_price	Number	Long Integer	.....
Selling_price	Number	Long Integer	.....
Drug_store (Inventory)	Number	Long Integer	.....
Expire_Date	Date/Time	....	.....
Manufacture_ Name	Text	255	.....
Note	Text	255	.....

3. Sold Table:

- Barcode ID: refers to a barcode with unique numbers over multiple trees.
- Drug Name: refers to the name of the drug.
- Number of items: the number of items sold.
- Corporate Purchase: refers to the purchase of the merger.
- Sales Price: refers to Sales Price.
- Date of sale: refers to the day of the drug sold.
- Sold by: means the name of the counters can be the director or other counters.

Table3: Sold Table

Field Name	Type	Size	Constrain
<u>Brid</u>	Number	255	.....
Drug Name	Text	255	.....
Number_of_item	Number	Long Integer	.....
Unitary price	Number	Long Integer	.....
Selling price	Number	Long Integer	.....
Sale Date	Date/Time	....	Primary key
Soled By	Text	255	.....

4. Sale Table:

- Barcode ID: refers to a barcode with unique numbers over multiple trees.
- Drug Name: refers to the name of the drug.
- Number of items: the number of items sold.
- Corporate Purchase: refers to the purchase of the merger.
- Sales Price: refers to Sales Price.
- Date of sale: refers to the day of the drug sold.
- Sold by: means the name of the counters can be the director or other counters.

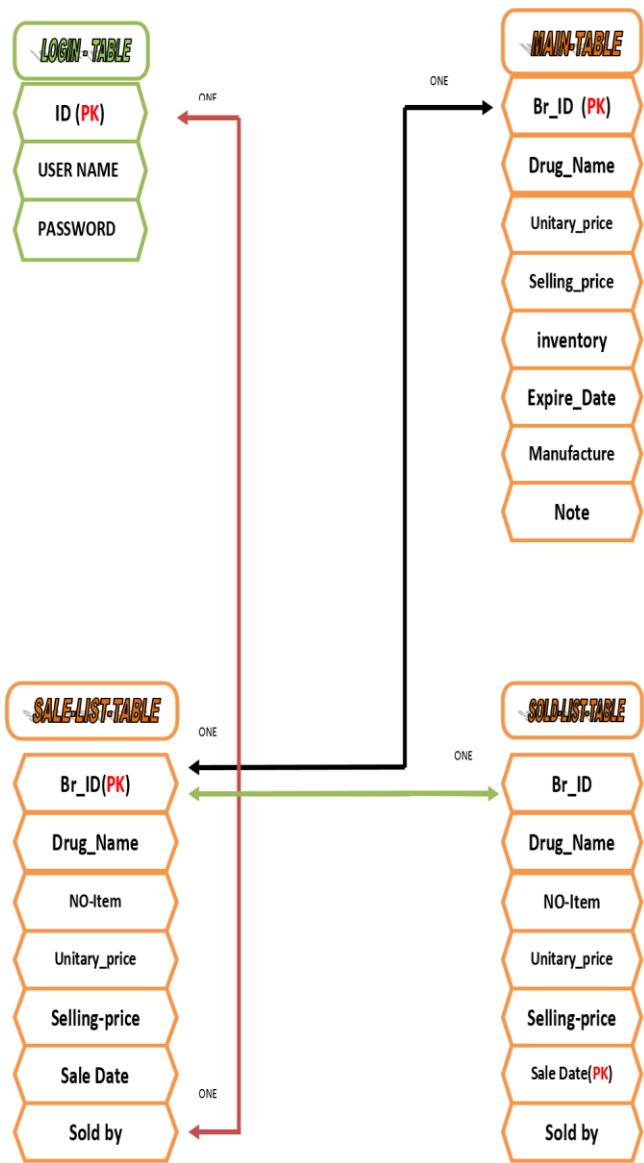


Figure1: Relationship between the tables

B. The Graphical user interface

The graphical user interface is programmed using VB.net consists of forms bellow

1. Login Form:

The Login part has three Fields (Login as (either Admin or User) , User name , Password) .This three field used to

2. Sale Form

After pressing Login Button in the Login form , directly the selling form will be appeared , and it contains many empty field here we can sell drugs by (barcode Id) field and clicking on the search then it will be added to the right side table by its needed information which is important to be there as its shown in Figure3.

Figure3: Sale form

CHECK EXPIRY:

When the Admin or User is clicked on they will not be able to see the entire sales section only and you will receive an alert box which states that if there are drugs some sub-components are needed for the counterparts to handle nearby expires or expire.

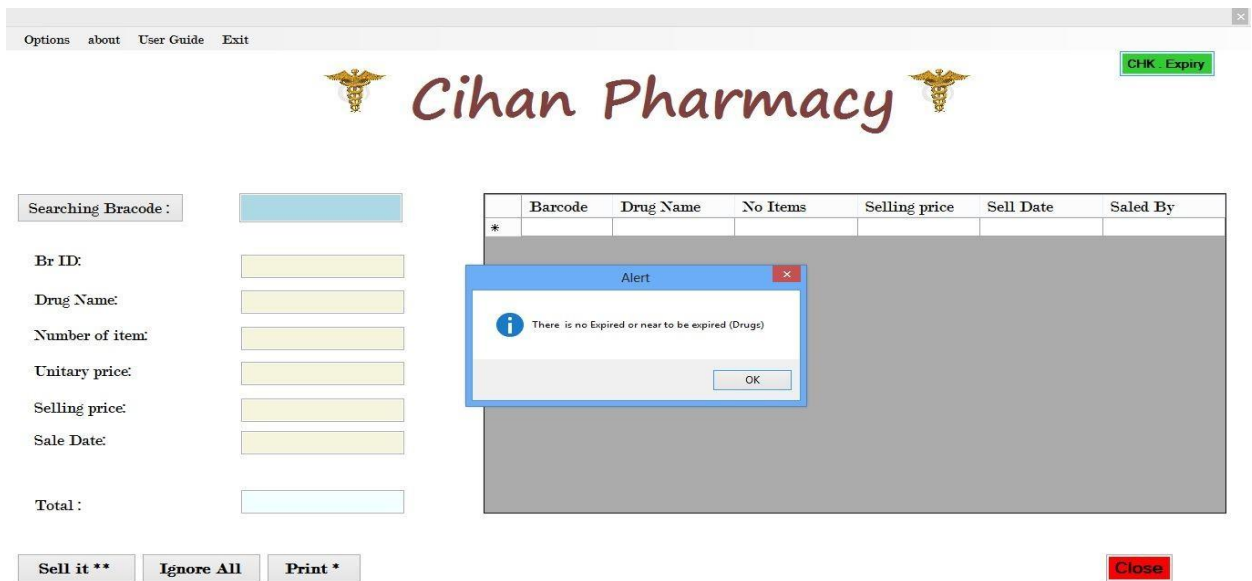


Figure4: Expiry Alert

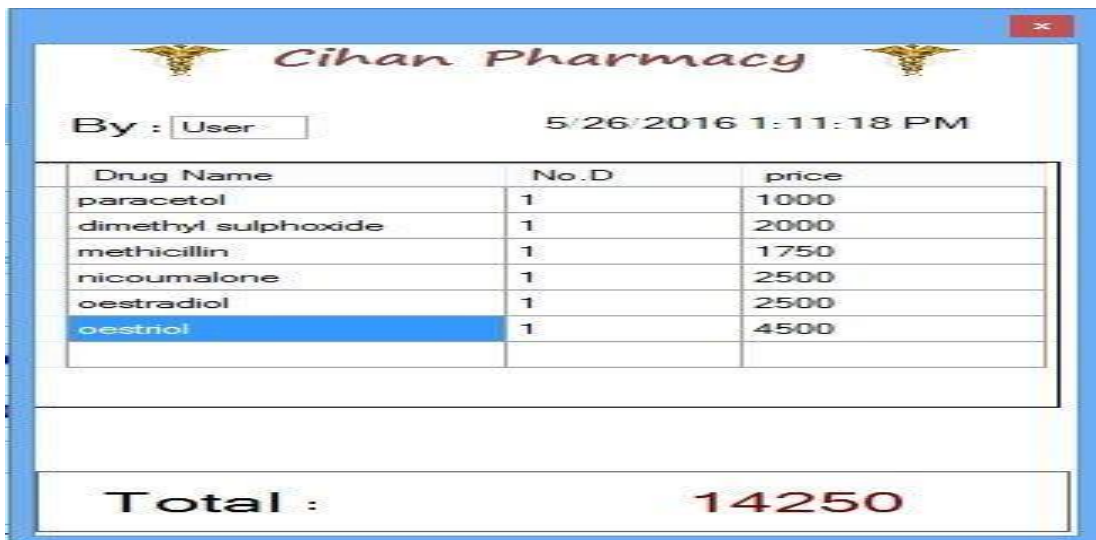


Figure5: Bill

Before clicking the Sell button on another Printer bill by clicking this button we can get a bill containing copies of details of how (Admin or User) made this sale and the date and time of the moment the sale was made, see figure 5.

8. Conclusion / Future work

The PHARMACY MANAGEMENT SYSTEM is designed to improve accuracy, improve safety and efficiency in the pharmacy. In a computer-based program that helps Pharmacist improve collection management, cost, medical security etc. A pharmacy management system is developed to ensure the security of information and the reliability of pharmacy records when it accesses and provides services to customers. The data collected during the data collection period was thoroughly analyzed and the results provided the basis for the new system. The program was tested and found to be effective and the results generated by the program were encouraging. The app will minimize information loss unlike the existing system and details will be processed immediately.

Today administration is one of the most important of all kinds. Managers provide the expertise to perform any type of work in a particular way. This is a chemical management system; is used to manage many pharmacy-related activities in the pharmacy. The first goal is to improve accuracy and strengthen the safety and efficiency of the pharmacy. For this project we can also install the BAR CODE Center using a bar code reader, who will receive an expiry date and other information on related medicines.

And we can conclude that by using pharmacy software, considering both new processes and refilling can be done quickly and with a few clicks or a new mouse click, it is easy to read and use the Graphical User Interface (GUI) solution for managing a pharmacy. That is due to an exchange in which a pharmacist performs his or her job very quickly, switching from patient-centered product to one of the most important keys to medical care. In other words, the pharmacist will have more time in counseling his or her clients, where the purpose of patient counseling is one of the key solutions to avoid medication error.

Depending on the needs of pharmacy managers we can revise our plan, but in the future we have many ideas that can be very useful and simplify the process, some points we can count on for the future:

- a. developing an application for android devices running the same mini database (MySQL).
- b. to place or program over the network and update it.
- c. the android app will be useful to control a system such as a remote app.
- d. have a barcode device but not necessarily a special one that can be used remotely over a Bluetooth connection or Wi-Fi network.

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