بِسْمِ اللهِ الرَّحْمٰنِ الرَّحِيمِ

# PHARMACY INFORMATION SYSTEM

## FOR

## RAWALPINDI GENERAL HOSPITAL

BY

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A report submitted to
the Department of Computer Center, Quaid-i-Azam University
as a partial fulfillment of the requirement for the award of the
degree of
**Post Graduate Diploma**
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## QUAID-I-AZAM UNIVERSITY
## COMPUTER CENTRE

### FINAL APPROVAL

This is to certify that we have read the project report submitted by **MUHAMMAD ASIF** and found it sufficient standard to warrant its acceptance by Quaid-I-University, Islamabad for the Post Graduate Diploma in Computer Sciences.

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*Dedicated
to my
parents*

## PROJECT   BRIEF

**Project Title:** Pharmacy Information System

**Organization:** Rawalpindi General Hospital

**Undertaken By:** Muhammad Asif

**Supervised By:** Mr. Munawar Tiwana

**Date of Commencement:** June 2000

**Date of Completion:** August 2000

**Source Language:** Visual Basic 6

**Operating System:** Windows 98

**System Used:** Pentium based IBM compatible PC

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The words like gratitude, humble respect and regard become immaterial when I want to write a few words about my roommates Muhammad Abid, Muhammad Ramzan, Shahzad Ahmad, Zulfiqar Ahmad and Mumtaz Ahmad, Muhammad Mushtaq. They provided me help as possible as they can in solving my problems and difficulties

At last I want to extend my special attributes and regards to my parents, which have been encouraging me to cope with the unfavorable situation positively. They got me out of the life of disappointment and stand by me in the whole duration of M.Sc.

**August 2000**                                    **MUHAMMAD ASIF**

# ABSTRACT

The pharmacy Information system has been developed for the Rawalpindi General Hospital, using Microsoft Visual Basic 6 with MS access as database. The main objectives of this project are to maintain the stock of pharmacy. It is externally difficult to handle large amount of data manually and achieve valuable results. Through computerization such sort of problems are solved and more reliable results can be obtained it has a number of facilities for handling data effectively to insert, delete the records in a user-friendly environment. Different statement and reports can be obtained any time. Keeping in view all the necessary requirements of the user develops this software.

# PREFACE

This report is concerned with the development of PHARMACY INFORMATION SYSTEM for the Rawalpindi General Hospital. It is hoped that this report will serve as useful introduction to the project.

**Chapter 1:**     A brief introduction to the Existing System.

**Chapter 2:**     This chapter is about the basic concepts of Proposed System.

**Chapter 3:**     This chapter is about the System Designing.

**Chapter 4:**     This chapter covers the System Development.

**Chapter 5:**     Is about the System Implementation & Evaluation.

**Chapter 6:**     Covers User's Manual.

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# CHAPTER 1

## EXISTING SYSTEM

## 1.1 <u>INTRODUCTION</u>

The Rawalpindi General Hospital was established to provide the international medical facilities to the people. It was first established by the Government of Pakistan as a central hospital. Then after few years it was given under the Government of Punjab. The pharmacy department among many others departments of the hospital plays a very important role by providing accurate and timely medicines to the patients. In the manual procedure it is not possible to give speedy services with 100% accuracy. So it was needed to computerize the pharmacy department. A computerized system was developed for the stock maintenance purpose. With the passage of time the needs of the pharmacy department grew more and more, and it became impossible to accommodate these growing requirements in the existing system. So it was decided to develop new software in the latest and more powerful programming language and databases to meet the requirements of hospital. A comprehensive case study was carried out for this purpose and following facts and figures came before us.

## 1.2 <u>EXISTING SYSTEM</u>

There is a stock register that is divided into different parts according to medicine types. When medicines reach in pharmacy from a particular supplier, they are entered into stock register depending upon their types.

Now when a request for a medicine is made from any department of the hospital on special pharmacy voucher, the page no which that medicine is available is written in front of medicine name. And on that page which is written on the medicine request voucher the quantity is subtracted. In this way, a medicine is issue from the pharmacy of hospital.

# CHAPTER 2

## PROPOSED SYSTEM

## 2.1  INTRODUCTION

Computerization means to change over from a manual system to a computer based system. Since our existing system is working manually so in order to computerize it or for its modification it is essential to develop logical model for the proposed system.

The objectives of the proposed system should clearly be defined and newly designed system should meet those objectives. A menu driven system has been suggested, for proper functioning and requirements of the department and to make the system more efficient, effective, and easy to use and error free.

## 2.2  PROJECT OBJECTIVES

For a successful database, it is most important that it satisfies the user's requirements. Most projects fail due to the unreasonable exceptions attached to them. User's exceptions should clearly be defined. The main goal of this project is to design and implement system in which data entry and report generation is possible, which helps pharmacy department in decision making. Following objectives are kept in mind while proposing the system.

### SPECIAL OBJECTIVES

- To provide better services to doctors and patients.
- The new system would be efficient.
- It would be error-free and reliable.
- It would be flexible to copy with future changes.

- It would be user-friendly and provide help to user, where necessary.

- The proposed system would be a comprehensive database consisting of insertion, deletion, modification, and retrieval for any data entry and facilities of various queries and reports.

- The proposed system would minimize redundancy of data, which frequently occurs in non-computerized systems.

- The goal job proposed system would be to keep every thing nice and simple for all users.

- To make data reliable, data validation checks would be provided in the system.

- System would be acceptable to the department in designed standard, to ensure the previous objectives are likely to met.

## 2.3 SOFTWARE  TOOL FOR DEVELOPMENT

There are three aspects of a database input, output and the programs that manage all the operations and storage of information. Besides this, the programming aspect is the most important one as it controls both the input and output activities and storage of information inside a database. Thus, it is very important that a suitable software tool or a database management system is chosen, keeping in view all the aspects of the problem and after studying different software tools Visual Basic was considered to be the most appropriate for the proposed system. It fulfills the above mentioned requirements because of the following features.

- It is an object oriented language which makes it easy for the user to avail jthe opportunities of its inheritance and encapsulization properties.

- It has a very powerful GUI "Graphical User Interface ' which facilitates the user in a very friendly atmosphere.

- Its debugging tools are also very powerful and one can use them easily to debug the application programs.

- It is also accompanied with many powerful data aware controls, which makes it excellent choice for the database applications.

- It supports Microsoft Access as a native database and has its database engine, which makes it easy to develop and maintain database in Microsoft Access.

- It contains all the features of DBMS, i.e. relation operations like insertion, deletion, modification etc.

- RWBE (Relational QUERY by Example) facility job help visually create complex single and multi-table queries for program and reports.

- Debugging and trace facilities and powerful on line help with suitable examples are available for any function used.

- It has menu driven windowed user interface.

- Powerful and efficient indexing (compact and compound) limited only by memory, are bright features of it.

- It provides low level file functions and handles.

- It is easy to modify, as it has English like syntax, which enables even non-technical user to understand and modify the program.

- It contains rich library of commands and functions (Specially string and date), which simplifies any programming task.

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# CHAPTER 3

## SYSTEM DESIGN

After the examination of the currently implemented system of the medicines section of RGH Rawalpindi. It has been found that automation of the present system is the only solution that can remove its deficiencies and provide a suitable solution for the encountered problems. To do that first of all the objectives of the proposed system were outlined, keeping in mind the requirements of the organization. The main goal was to propose a solution that was acceptable to the management and feasible for actual implementation.

## 3.1 OBJECTIVES OF THE PROPOSED SYSTEM

Before designing any computer based system it is necessary to establish a set of objectives that are agreed upon by the management of the organization and the developer. Among all of the objectives stated the relative importance of each must also be finalized. After understanding the limitations and drawbacks of the system under study the following objectives of the proposed system were defined.

- The proposed system should be more efficient and useful than the existing system. It should minimize time involved in processing and retrieval of data.
- It should store and retrieve information accurately.
- It should be error free and bug free.
- The procedures carried out in the system must be as close to the existing system as possible so that implementation of the system should not pose any problem.

▪   The system is being developed for users with only basic knowledge of computers. Therefore the most important consideration should be that the system must be easy to learn and operate and must not prove to be source problem instead of being a solution.

## 3.2  FEATURES OF THE PROPOSED SYSTEM

The following features have been in the proposed system which not only accomplish the functionality of the system but also improve upon its performance.

### 3.2.1 CODES

A code is basically an abbreviation of a word defined to save and improve efficiency. These form a very important features of computer based system because not only they help the user in data entry but ensure that large amount of data would be stored in encoded form. They also eliminate redundancy, which is an absolute requirement for a sound design of a system.

In the proposed system codes have been defined for

▪   Stock
▪   Voucher
▪   Medicine type
▪   Medicine name
▪   Supplier name
▪   Company name
▪   Ward

In the current system the description of each code would be presented on screen. The user would select any one of these descriptions. When data is saved the description is first decoded and the underlying code is stored. At the time of retrieval of data the reverse process is applied and the user is presented with the corresponding description of each coded value.

### 3.2.2 PASSWORD FACILITY

The use of password at the time the system is started would ensure that no unauthorized person has access to the system and the information contained within it. The facility to update or delete data from the system would be provided but necessary authentication would be performed first.

### 3.2.3 ERROR HANDLING AND RECOVERY

Although the system would be developed with full consideration on it being error free. However it is required that VB must anticipate any mistake that the user may commit. The system should be able to handle all exception and conditions. Keeping this in view sound error handling is provided with in the system. In case of error the system will not only report the error correctly but should also guide the user on how to come out of the error situation.

### 3.2.4 USER FRIENDLY INTERFACE

As mentioned before the system is being developed for users with little experience in using computers therefore it is necessary that the system be convenient for their use. Along with this the interface should

be attractive and pleasing. The choice of colors and positioning of screen elements must be done keeping in view basic elements of human psychology. To achieve these goals the interface should inherit the following features:

- Eye catching colors and images are incorporated.

- Focusing on any screen element should result in appearance of an understandable message that informs the user of its characteristics.

- System defined messages should be overridden and messages boxes conveying meaningful information must be displayed at each step.

- Operations implemented by button commands should also have equivalent menu commands and keyboard shortcuts to suit the requirements of the user and to cater for variation in users.

- Commands and controls must be enabled and disabled to show that it is currently unavailable.

- To increase readability and decrease error rate input mask and formats must be displayed along with input and output layout.

- Since Windows is the most popular environment now a day, an application resembling it would be relatively easier to use.

## 3.3  SOFTWARE DESIGN

Beginning when the software requirements have been analyzed and its objectives specified, software design is the first of the three technical activities

That is design code and test that are required to build and verify software.

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Software design is the process through which requirements of the system are translated into a representation of the software. The more your design is precise and close to the defined requirements the more you can expect the resulting software to be reliable, efficient and correct.

### 3.3.1 INPUT DESIGN

The input design is of most importance since it not dictates output design but also serves as the base for the logical design of the software.

### 3.3.2 CODE DESIGNING

Various codes have been designed to facilitate input, storage and retrieval of information. The coding scheme for the system has the following codes defined:

- Stock
- Voucher
- Medicine type
- Medicine name
- Supplier name
- Company name
- Ward

### 3.3.3 VALIDATION CHECKS

These checks are necessary so that user may not attempt to store data that is not in proper format as required by the system. Validation checks must ensure that a user will not be allowed to proceed to the next input

field unless he has entered data in the previous field according to the defined format. The checks implemented within the system are:

- Primary key can not be duplicated
- Primary key cannot be left empty.
- Data field must be valid and in proper format.
- Some fields are mandatory and must be filled in.
- Length of string type fields is fixed so no input can succeed that value.

### 3.3.4 EXEPTIONS

Whenever a user commits an error the effect of the error is controlled, an appropriate error message is displayed and the user is informed of how to escape from this condition.

## .4  INPUT TABLES

**able Name:** Medicine-Type            **Primary Key:** Medicine-Type_id

| NO. | Field Name | Type | Length |
|-----|-----------|------|--------|
| . | Medicine_Type_id | Text | 05 |
| . | Medicine _Type | Text | 25 |
| . | Description | Text | 50 |

**able Name:** Medicine Name          **Primary Key:** Medicine_Name_id

| NO. | Field Name | Type | Length |
|-----|-----------|------|--------|
| . | Medicine_Name_id | Text | 13 |
| . | Medicine _Name | Text | 25 |

| . | Field Name | Type | Length |
|---|---|---|---|
| 3. | Medicine_Type_id | Text | 05 |
| 4. | Strenght | Text | 07 |
| 5. | Description | Text | 50 |

**Table Name:** Supplier_Name      **Primary Key:** Supplier_id

| NO. | Field Name | Type | Length |
|---|---|---|---|
| 1. | Supplier_id | Text | 05 |
| 2. | Supplier_Name | Text | 25 |
| 3. | Address | Text | 50 |
| 4. | Description | Text | 50 |

**Table Name:** Company      **Primary Key:** Company_id

| NO. | Field Name | Type | Length |
|---|---|---|---|
| 1. | Company_id | Text | 05 |
| 2. | Comany_Name | Text | 20 |
| 3. | Description | Text | 50 |

**Table Name:** Ward      **Primary Key:** Ward_id

| NO. | Field Name | Type | Length |
|---|---|---|---|
| 1. | Ward_id | Text | 08 |
| 2. | Ward_Name | Text | 25 |
| 3. | No_Of_Beds | Numbe | long integer |
| 4. | Description | Text | 25 |

**Table Name:** Stock                          **Primary  Key:** Stock_id

| S. NO. | Field Name | Type | Length |
|--------|-----------|------|--------|
| 1. | Stock_id | Text | 20 |
| 2. | Medicine _Name_id | Text | 13 |
| 3. | Medicine_Type_id | Text | 05 |
| 4. | Strenght | Text | 07 |
| 5. | Unit_Price | Number | Double |
| 6. | Quantity | Number | long integer |
| 7. | Total Amount | Number | Double |
| 8. | Date_of_purchase | Date/Time | |
| 9. | Supplier_id | Text | 05 |
| 10. | Company_id | Text | 05 |
| 11. | Expiry_date | Date/Time | |
| 12. | Description | Text | 50 |

**Table Name:** Voucher                        **Primary  Key:** Voucher_id

| S. NO. | Field Name | Type | Length |
|--------|-----------|------|--------|
| 1. | Voucher_id | Text | Auto Number |
| 2. | Voucher_No | Text | 08 |
| 3. | Medicine_Name_id | Text | 13 |
| 4. | Strenght | Text | 07 |
| 5. | Quantity | Number | long integer |
| 6. | Bed_No | Text | 04 |
| 7. | Ward_id | Text | 08 |
| 8. | Date | Date/Time | |
| 9. | Description | Text | 50 |

## 3.5 **DATABASE DESIGN**

An aggregate of relate fields or data items make up a record which collectively become the entries of a table or a file. Database design requires that fields be suitably distributed among tables so as to avoid redundancy. Application of these principles lead to the creation of a number tables where each contains information of an entity and is usually related to one or more other tables using primary key/foreign Key relationship.

The graphical representation of the database design of the proposed system is presented on the next page.

**Medicine**

| M_T_Id | M_T | Des |
|--------|-----|-----|

**Medicine Name**

| M_N_Id | M_N | M_T_Id | Stren | Des |
|--------|-----|--------|-------|-----|

**Company**

| C_Id | C_N | Des |
|------|-----|-----|

**Supplier**

| S_Id | S_N | Des |
|------|-----|-----|

**Ward**

| W_Id | W_N | N_O_B | Des |
|------|-----|-------|-----|

**Stock**

| S_Id | M_N_id | M_T_Id | Stren | U_P | Quan | T_A | D_O_P | C_Id | S_Id | E_D | Des |
|------|--------|--------|-------|-----|------|-----|-------|------|------|-----|-----|

**Voucher**

| V_Id | V_No | M_N_Id | Stren | Quan | Bed_No | W_Id | Date | Des |
|------|------|--------|-------|------|--------|------|------|-----|

# CHAPTER 4

## SYSTEM DEVELOPMENT

# 4.1 <u>INTRODUCTION</u>

Once the system is proposed and designed, its development starts. It is more practical, because it involves the realization of the actual system. In the development phase, the system is built to meet the proposed and designed specification. The development phase focuses on how that is done. During development, the software developer attempts to describe how data structures and software architectures are to be designed, how procedural details are to be implemented, how the design will be translated into programming language. And testing will be performed.

The system development activities include preparation of a plan, called an implementation plan, for bringing the system into operational use. During the development phase, personnel are trained and preparation is made for changing over a project environment to an operational environment.

# 4.2 <u>DEVELOPMENT PHASE</u>

The method applied during the development phase will vary depending upon the software engineering paradigm applied. However the most important stops are:

- Development approach.
- Implement the database design.
- Choose the appropriate tool.
- Develop application to store and retrieve information from the atabase.

- Test the application with sample data for debugging purposes.
- Produced the desired output.

## 4.3 **SOFTWARE SELECTION**

For the implementation of the system MS ACCESS was chosen as the back end development tool where as the front end was developed in VISUAL BASIC 6.0 .The various advantages of both tools led to their selection are listed below:

## 4.4 **MS ACCESS**

➢ Can be easily connected to Visual Basic 6.0.

➢ Has a user friendly interface that assist in development

➢ Has a large variety pf data types defined that facilitate mapping of actual system.

➢ Tables can be easily created through design view.

➢ Primary Key /Foreign Key relationships can be easily implemented.

➢ Allows direct input into tables for testing purposes.

➢ Has the ability to ensure that data violating normalization rules and the defined relationships cannot be entered in the tables.

## 4.5 **VISUAL BASIC 6.0**

➢ Can be easily connected to MS ACCESS .

➢ Have many options for development of applications. Among these the multiple document interface provides an ideal interface for implementation of Database Systems.

➢ The interface developed using it supports all the standard features of MS windows making the application easy to learn and familiar.

➢ It has a large variety of data types that are compatible with those provided by MS ACCESS.

➢ It has built in form designer, which not only provide4 standard form elements but also generates code skeleton. All that a developer to do is to customize them according to requirements

➢ It contains a large variety of functions that can be used to manipulate the underlying database.

➢ There are present a number of functions that help in validating user input error handling and error recovery

## 4.6 DATABASE DEVELOPMENT

➢ Using MS ACCESS first empty database file by the name of "Medicine Information.mdb" was created.

➢ Then the database was opened in table view using the open command.

➢ Clicking the tables tab and then clicking the new command button isplays dialog box. Here you choose how to create tables. I chose the esign view.

➢ A screen is displayed in which you can enter the name of the field, its ypes and any description. You can also change the properties for field

giving default values, validation rules, Validation text, enforce uniqueness etc.

➤ The primary key and any required index were specified.

➤ The table file was saved with the appropriate name.

➤ Now the table view of the database has a tag by the name of the table created.

➤ To modify the design of an existing table Design command button was clicked.

➤ In this manner all the tables created store the values correctly the open command button was used and test values were entered.

➤ This concluded the development of database.

## 4.7 <u>INTERFACE DEVELOPMENT</u>

Visual Basic provides an integrated development environment (IDE), which was explored to the types of development option it provides, which were:

● Multiple Document Interface (MDI)

● Single Document Interface (SDI)

● Explore Style Interface

Out of the above option MDI was chosen since it has all the features required for developing database application.

➤ In MDI application there is a concept of one parent window, which acts as a container for other child windows. This parent window is referred to as the main form. Note that in Visual Basic each window is

called a form. Choosing MDI in the application wizard options automatically generates this main form. Standard interface feature are present in it and the implementation file contains the corresponding skeleton code.

➤ Now the main form's interface was customized .The Menu Editor was used to add menus and the toolbar was customized using properties command in the view menu of the IDE.

➤ For each table in the application database developed in MS ACCESS, a form was created using the Data Form Wizard in the add menu of the IDE.

➤ Each generated form had standard interface i.e .a few command buttons, labels for each field, text boxes to receive and display each field of the table, a data control that was bound to the underlying table.

➤ Adding additional command buttons, enhancing the functionality of the existing command buttons, changing captions of labels to so that they were self-explanatory, customized the interface of the forms.

➤ The IDE provides a standard Toolbox with many controls and options to add further complex controls. This was used and DBCombo boxes were placed on the forms.

➤ To minimize confusion and error rate wherever the user was supposed to enter a value from an existing collection or a predefined code, a drop down DBCombo box was provided.

➤ To facilitate the user for each control added to the form, tool tips and labels defining input masks were given.

➤ All the form developed was integrated with the main form so that they could be called by menu commands on it.

➤ All in all this development was carried out with purpose of implementing complete functionality of the system and providing a user-friendly interface.

➤ Using built in functions appropriate message boxes for error reporting, confirmation, authorization and reporting of any other necessary conditions was carried out.

# 4.8 <u>INPUT FORMS</u>

The purpose of each form and its contents have been discussed in detail during design, therefore there only the name of the form , its corresponding table in the database have been developed using the techniques listed above.

### 4.8.1 <u>MEDICINE TYPE FORM</u>

This form is used to provide access to the  medicine type of a medicine.

### 4.8.2 <u>MEDICINE NAME FORM</u>

This is used to maintain the different medicine names.

### 4.8.3 <u>WARD FORM</u>

This form is used to maintain codes for the different designation of words. It contains Ward Name, Ward name id, No of beds and description.

### 4.8.4 <u>SUPPLIER FORM</u>

This form is used to maintain names of supplier and its addresses.

### 4.8.5 COMPANY FORM

This form is used to maintain different company names.

### 4.8.6 VOUCHER FORM

This form is used to maintain the records of medicines which are issues, its also contains bed_no, voucher No, Ward_id and date of issue.

### 4.8.7 STOCK FORM

This form is used to maintain the records of medicines that are available in the stock. It also contains, Supplier-id, Company-id, Date of purchase, Expiry date, Quality of medicine.

## 4.9 OUTPUT REPORTS

### 4.9.1 MEDICINE REPORT

This report is generated whenever a requested is made about the medicine name and their description

### 4.9.2 COMPANY REPORT

This report is generated whenever a request is a made about the registered medicine company name.

### 4.9.3 SUPPLIER REPORT

This report is used to know about Supplier name their address and description.

### 4.9.4 WARD REPORT

This report is used to know about the ward-id, ward-name, no-of-beds and their description.

## 4.9.5 <u>STOCK REPORT</u>

This report is used to find the medicines that are available in stock. It also contains stock-id, Quantity, Date of purchase, Expiry date, company-id, Supplier-id, Unit price, Total amount and their description.

## 4.9.6 <u>VOUCHER REPORT</u>

This report is used to find the information about medicines that are issues. It contains the voucher-no, medicine-name, Quantity, Date of issue, Bed No and their description.

## 4.9.7 <u>EXPIRED MEDICINE REPORT</u>

This report is used to know about the medicines, which are expired. It contains the medicine-Name, Expiry-Date, Quantity, Unit Price, and Total Price, Total amount.

# CHAPTER 5

## SYSTEM IMPLEMENTATION
## AND
## EVALUATION

# 5.1  INTRODUCITON

System and evaluation is the final phase in the system development life cycle, after development of the software. In this chapter various methods of system implementation, description of testing and conversion techniques used for the developed system, are discussed. The system is then evaluated according to the standard.

# 5.2  SYSTEM IMPLEMENTATION

Implementation is the process of bringing into operational use, a system that has been developed. This phase starts at the beginning of the development phase with a plan, called the implementation plan. Under this plan the new system is tested, converted and replaced by the old system. The new system may be totally new, replacing an existing system. In either case, proper implementation is essential to provide a reliable system to meet the requirements of the organization. The major parts of this phase are

- System testing
- System conversion

# 5.3  SYSTEM TESTING

Testing and validation of results is very important to make the system acceptable. Even if the system is developed using correct algorithms, its reliability remains doubtful. The system can not be handed over to the user until its accuracy is proved mathematically. System testing is the process of executing a program, with the intent of finding errors. The data

is entered into the database with the intent of determining, whether the system will process it correctly or not. The system testing is performed in the following three steps.

- Unit Testing
- Integrated Testing
- System Testing

### 5.3.1 UNIT TESTING

In unit testing, different modules of the system are tested, independently of each other. The purpose is to determine whether each module is working properly and to locate logical and coding bugs.

### 5.3.2 INTEGRATED TESTING

After testing the system at unit level, all these units are combined in a menu driven environment, and then their testing is carried out. The main purpose is to determine that the modules are correctly interacting with each other.

### 5.3.3 SYSTEM TESTING

System testing is performed to ensure, that it is operating according to the desired specifications and requirements of the organization. The size and structure of data fields are checked while using the actual data. The reports / Queries generated by the system are checked against the requirements.

# 5.4 SYSTEM CONVERSION

After the successful completion of testing phase, preparation can be made to switch over to new system. There are four different methods, for performing system conversion over to new system. There are four different methods, for performing system conversion ensuring proper working of the system.

- Direct Conversion
- Phase in Conversion
- Pilot Conversion
- Parallel Conversion

## 5.4.1 DIRECT CONVERSION

In this method, the old system is abandoned and the new one start functioning, to matter bow does it perform in the long run. In case of the new system failure, the loss of data may pose several difficulties to the management, if no backup of the old system is present. This is the major drawback of this type of conversion. That is why this approach requires carefully designed implementation plan. This strategy is also called Cut and start conversion strategy.

## 5.4.2 PHASE-IN CONVERSION

The phase-in conversion is used when it is not possible to install a new system through an organization all at once, i.e. it will be thought in gradually. In this type of conversion long phase-in periods create difficulties.

### 5.4.3 <u>PILOT CONVERSION</u>

In this method, system is first implemented over a small part of the system or some other small system similar to the existing one, to avoid heavy financial loss and chaos spreading in case of designed system failure.

### 5.4.4 <u>PARALLEL CONVERSION</u>

In this method, both the system, existing and designed, work simultaneously for a specific period of time. At the end of the parallel run period, if the new system is approved on the basis of results produced, the existing system will be dropped and the designed system will continue from there onward.

## 5.5 <u>PROPOSED SYSTEM CONVERSION</u>

Since the existing system cannot be discarded at once, direct conversion was not suitable. Pilot conversion was also not good, because the system works as a unit, not in parts. Phase-in conversion was also not applicable due to its similar nature as of pilot conversion. Therefore, the parallel conversion strategy is recommended for this system implementation. Although this implementation approach is more expensive and involves additional work, the old system will be safe. This approach is selected because:

➤  It is normally the safest and suitable conversion strategy.

➤  It minimizes the problems that may arise from system failure.

➤  If unfortunately, system fails, data would no be lost because the old system would also be working in parallel.

➤ It provides an opportunity to compare the result of the existing system with those of the developed system.

## 5.6 SYSTEM EVALUATION

Another activity to judge whether the developed system has met the desired objectives of the proposed system, which are set in the system description, by comparing its merits and demerits, is called system evaluation .The system description is reviewed and evaluated with respect to its completion and efficiency. It also suggests future enhancements in the developed system.

## 5.7 MERITS

Major features of the developed system are:

### 5.7.1 ACCURACY

By accuracy we mean that the inputs are sufficiently precised for their desired output. This new system is accurate because during data entry several data validation checks are provided. However, there is small probability of incorrect data in files as abuser might input wrong spellings and wrong figures.

### 5.7.2 EFFICIENCY

The new system's efficiency the information, which is duplicated, is now entered only once due to the well designed coding structure. The patient bills and suppliers invoices are prepared

automatically which produces more efficiency and reliability. Also, access of information is very fast because of well-designed database.

### 5.7.3 MODULARITY

The system is divided into a number of modules integrated together to fulfill user's requirements. These modules are independent of each other .Another major advantage of modularity is the ease of modification and extension of the developed system.

### 5.7.4 EASY TO USE

The developed system is menu driven. Help is provided at every possible point. Data entry, updating and deletion are all provided on a single screen. During data entry, the user can toggle, between almost all fields.

### 5.7.5 CONSISTENCY

Uniform notations within the system are used to ensure that program contents make its purpose clear to other programs.

### 5.7.6 SECURITY

In the system, entry can only be made by giving correct user password .A password is also required for global deletion. During data entry of key fields the user remains on that field until the correct figure or code is entered .This makes the system protective from unauthorized user.

## 5.8  DEMERITS

The software is designed for standalone system. With a little effort it can be changed to run also on multi-user system.

## 5.9  CONCLUSION

In the end, I would like to say that developing this system was an interesting experience, from practical point of view. I learnt a lot during this, because it was not just based on assumptions, but on actual work .The information was collected, by conducting all the phases of the system life cycle, at the concerned department. I hope that with the development of this system some, if not all, problems of pharmacy department related to patient information and stock maintenance will be solved.

# CHAPTER 6

## USER'S MANUAL

## 6.1 INTRODUCTION

Every new system seems to be difficult for the end user. But in this system, there should no difficulty for the user, because name of every data field is itself its explanation. The field name used is very similar to English language and there is no ambiguity between the field names. The purpose of this chapter is to brief the user about general working of the Pharmacy Information System.

## 6.2 GETTING START

First of all switch on the computer and wait for windows to be completely loaded, then click on Pharmacy shortcut.

## 6.3 LOGIN SCREEN

The login screen appears on the screen. You can enter your user name and password and then click 'OK' button. The system will check for your account by matching the name and password and if they do not match an error message will appear and the user will be prompted to again enter user name and password.

## 4 MAIN MENU

After entering correct name and password we will be successfully
ed in to the main menu (MDI Form). The are important items of the main
nu

Data Entry Forms

Master forms

Reports

Exit

### 1 Data Entry Forms

By clicking Data Entry Form on MDI Form we can enter into two
ns

➢ Stock

➢ Voucher

### 2 Master Forms

By clicking Master Forms on MDI Form we can enter into
)wing forms

➢ MedicineType Form

➢ MedicineName Form

➢ Ward Form

➢ Company Form

➢ Supplier Form

## .3 Reports

By clicking Reports we can access the different reports. We can
e print or can save the report that contains the data fields, current date,
rent time and page no.

## .4 Exit

By clicking Exit we can access
➤ Yes
➤ No

# 5 Buttons

ere are five controls buttons provided to every form.

**Add**

Press add button to add new record in table.

**Update**

Press update button to update the existing record.
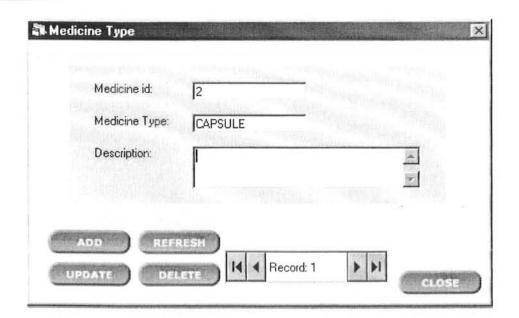
**Delete**

To delete a record from the table press the 'Delete' button. When you
press it the system will confirm to delete the record.

**Refresh**

This button is used to refresh the above button's command.

**Close**

Press close button to exist the form.

**MedicineName**                                                              ☒

Medicine Name id:    2

Medicine Name:       PONSTAN

Medicine Type:       Syrype                        ▼

Strength:                              mg/ml

Description:

ADD          REFRESH          ◀◀ ◀ Record: 1 ▶ ▶▶

UPDATE       DELETE                                    CLOSE

**Supplier**                                                               ☒

Supplier id:        3

Supplier Name:   Prince DawaKhana

Description:

ADD          REFRESH

UPDATE       DELETE        |◀ ◀  Record: 3    ▶ ▶|      CLOSE

**Company**                                                    ☒

Company id:        3

Company Name:    Pashawer University

Description:

ADD        REFRESH

UPDATE    DELETE        |◄  ◄  Record: 1    ►  ►|

                                                CLOSE

**Ward** ☒

Ward id: 6          No of Beds: 24

Ward Name: E.N.T

Description:

ADD    REFRESH    |◄ ◄ Record: 1 ► ►|

UPDATE    DELETE    CLOSE

**Vocher** ✕

Voucher_No:  `21`

Medicine Name: `PANADOL ▼`   Strength: `          ` mg/ml

Quantity: `45`   Bed No: `3`

Ward: `E.N.T ▼`   Date: `5/6/00`  `...`

Description: `          ` ▲ ▼

| MEDICINES AVAILABLE IN THE STOCK | | | | | |
|---|---|---|---|---|---|
| Stock_id | Medicine_Name | Medicine_Type | strength | Quantity | Expiry_Date |
| ▶ 6 | 5 | | | 57 | 4/5/02 |

| ADD | REFRESH |
|---|---|
| UPDATE | DELETE |

`|◀ ◀ Record: 1 ▶ ▶|`   `CLOSE`