Libyan International Medical University

Faculty of Information Technology

Department of Health Informatics

Project Title:

Electronic Prescription System

This project is presented as fulfillment of the requirement for
Bachelor degree of Information Technology

(Health Informatics)

Done by student:**Rabha Mohamed Saad**

Student number:**632**

Supervised by :**Dr.TawfiqAltwil**

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DEDICATE

We must and we move past our steps in the university life of pause go back to the years we spent in the university campus with valued our professors who have given us so much great efforts in building tomorrow's generation to send the nation again...

Before we offer our deepest gratitude and appreciation and love to those who carried the message in the most sacred of life...

To us who paved the road of science and knowledge...

All our professors Distinguished.......

Thanks and Appreciation

Requires to be first to thank Almighty God who helped me in completing this research, we do not have at this moment, but to raise our sincere deepest thanks and appreciation to an area not endure the paper to:

Dr. Tawfig Tawill

Thanked him for his help me. Do not skimp and self-giving. To remove this achievement which translates tender facade work, and projection creativity, and its scale collection, hoping to God Almighty that we've come to the required level ...

I also extend my sincere thanks to:

Mr. Ihab Al-Falah

Miss. Heba Magrabi

Dr. Esam Aldnaa

For their effort to demonstrate what I've ever had from Assistance extend my sincere thanks to all the teachers who have graced the teaching throughout my studies.

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Introduction

Health Information Technology

The term "health information technology" (health IT) is a broad concept that encompasses a set of technologies to store, share, and analyze health information.

Increasingly, health care providers are using health IT to improve patient care. But health IT isn't just for health care providers. It can be use health IT to make better communication between patients and doctors, learn and share information about patient's health, and take actions that will improve the quality of life. Health IT lets patients be a key part of the team that keeps them healthy.

Types of Health Information Technology

Electronic health records (EHRs) allows hospitals or doctors keep records of patients health information, such as the history of diseases and which medications they are taking. Up until now, most hospitals and doctors stored this information in paper files.EHRs are electronic systems that store patient's health information.EHRs allow doctors to more easily keep track of patient's health information and may enable them to access patient's information when patient has a problem even if their office is closed. EHRs also make it easier for doctor to share information with specialists and others so that everyone who needs patient information has it available when they need it.Some EHRs may also allow you to log in to a web portal to view your own health record, lab results, and treatment plan, and to email your doctor .

Personal health records (PHRs).A PHR is a lot like an EHR, except that patient controls what kind of information goes into it.Patient can use a PHR to keep track of information from his/her doctor visits, but the PHR can also reflect his/her life outside the doctor's office and his/her health priorities, such as tracking food intake, exercise, and blood pressure. Sometimes, PHR can link with his/her doctor's EHR.

e-Health Tools"e-Health tools" that patient can use on his/her own, if he/she wish, that may be considered a part of the broader health IT world. These include:

Personal health tools, these are tools that help patient check his/her health, get feedback, and keep track of his/her progress to better manage his/her health .Examples include smart phone "apps" that can help patient set and monitor fitness goals and cell phone text reminders to take your medicine on time.

Online communities can help people connect with one another to try to maximize good health (such as during pregnancy) or to respond to concerns about poor health. Through online communities patient can share information with -- and emotionally support -- others facing similar concerns about a particular disease or disability.These e-health tools are designed to place patient at the center of care – helping to put the "I" in health IT.

Management of Health IT systems

Due to the threat of patient data breaches, widespread use of mobile health devices and telemedicine technologies, and updates to health IT-related incentive programs and regulations, providers that adopt health IT systems sometimes replace or upgrade their systems.

E-prescribing.A paper prescription can get lost or misread. E-prescribing allows your doctor to communicate directly with your pharmacy. This means you can go to the pharmacy to pick up medicine without having to bring the paper prescription.
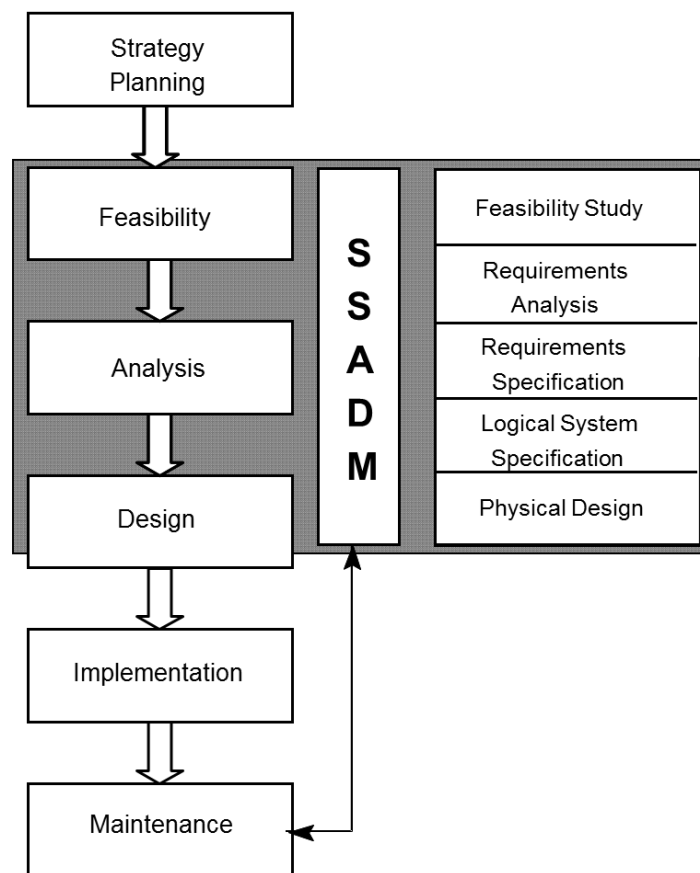
Proposed Project

We don't doubt that health informatics is very common and helpful which the services are much better and tasks are easier,in this project, e-Prescription system was built. E-prescription is the process of electronically generating and sending a prescription order, so that doctors and other medical practitioners can transmit an electronic prescription to a pharmacy directly from the point of care. e-Prescription system improves accuracy, enhances patient safety and quality of care since there is no handwriting for the pharmacist to interpret or calling in prescriptions .The system enters the patient information ,drug. He takes and his diagnose, and retrieve data as reports.

Project Methodology

In this project, Software Development Life Cycle SDLC approach was used for software development. The SDLC illustrates the software development process in a linear sequential flow; hence it is also referred to as a linear-sequential life cycle model. This means that any phase in the development process begins only if the previous phase is complete.

SDLC Model is used widely in Software Engineering to ensure success of the project. In this approach, the whole process of software development is divided into separate phases.

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          ┌─────────────────┐
          │    Strategy      │
          │    Planning      │
          └─────────────────┘
                  │
          ┌─────────────────┐        ┌───┐     ┌──────────────────────┐
          │   Feasibility    │        │ S │     │   Feasibility Study   │
          └─────────────────┘        │ S │     ├──────────────────────┤
                  │                   │ A │     │   Requirements        │
          ┌─────────────────┐        │ D │     │   Analysis            │
          │    Analysis      │        │ M │     ├──────────────────────┤
          └─────────────────┘        │   │     │   Requirements        │
                  │                   │   │     │   Specification       │
          ┌─────────────────┐        │   │     ├──────────────────────┤
          │     Design       │        │   │     │   Logical System      │
          └─────────────────┘        │   │     │   Specification       │
                  │                   │   │     ├──────────────────────┤
          ┌─────────────────┐        │   │     │   Physical Design     │
          │ Implementation   │        └───┘     └──────────────────────┘
          └─────────────────┘
                  │
          ┌─────────────────┐
          │   Maintenance    │
          └─────────────────┘
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Structured Systems Analysis and Design Methodology (SSADM) was used for developing this project**,**which is an approach to analysis and design of information systems. **SSADM** was produced for the Central Computer and Telecommunications Agency, a UK government office concerned with the use of technology in government, from 1980 onwards.

SSADM divides an application development project into modules, stages, steps, and tasks, and provides a framework for describing projects in a fashion suited to managing the project. SSADM's objectives are to:

- Improve project management & control
- Make more effective use of experienced and inexperienced development staff
- Develop better quality systems
- Make projects resilient to the loss of staff
- Enable projects to be supported by computer-based tools such as computer-aided software engineering systems
- Establish a framework for good communications between participants in a project

SSADM covers those aspects of the life-cycle of a system from the feasibility study stage to the production of a physical design. SSADM's steps, or stages, are:

- Feasibility study
- Requirement Analysis
- Requirement Specification
- Logical System Specification
- Physical design and Implementation.

The following paragraphs describe the project chapters in brief:

Chapter one Feasibility Study:

This chapter includes the study of the current regime in Benghazi Diabetes Centre is simple and a summary of the proposed system, a medical prescription , know their goals system ,including investigation of current environment phase and business system options phase .

Chapter two Requirements Analysis

In this chapter the requirements of the complete system are clearly defined and understood. Any model represents the current system should describe the functions performed and how to save data.

Chapter three Requirements Specification

The purpose of this chapter is to describe the system in terms of implementation at the various software and also hardware with which it deals and specifications of those devices and including.

Chapter four Logical System Specification

This stage is the stage parallel to the stage of writing software and designing the system it depends on special programs and devices and shifting theories proposed objectives into programs to be executed materially.

Chapter five Physical Design and Implementation

This stage is follows the design directly and where the application of the system, and here we can enter real data and the final delivery of the system after making sure there are no defects in the system.

Chapter One

Feasibility Study

1.1 Preface

The initial study phase is a phase that precedes the two phases of analysis, design and study the primitive initial definition of the problem and determine the desired goals of pacing, here are the initial study, take a look at the dimensions of the project through frequent visits to the center of Benghazi Diabetes and Documentation Center began.

1.2 Benghazi Debates Center

The Center was established in 1969 at the hands of Dr. Othman Alcadekke Stadium and was a room at the Hospital of the Republic and was the first clinic for follow-up of diabetes in the Middle East and North Africa and then moved to a clinic, Cdi-Hussein.

In 1977 and until the present time is in the same headquarters and provides services to more than 70,000 AC Ali Center and is virtually the only place in the eastern region of Libya.

It provides services to the Center for follow-up clinics for diabetes, divided into three days for women and three days for men.

With clinics castrating him place such as(Diabetic foot, Eye Clinic, Dental clinic, Clinic pregnant women with diabetes)Clinic, Dermatologist.

1.3 E-Prescription

E-prescriptions are computer-generated prescriptions created by healthcare provider and sent directly to pharmacy, Instead of writing out prescription on a piece of paper, doctor or other healthcare provider enters it directly into his or her computer. Prescription travels from your doctor or other healthcare provider's computer to the pharmacy's computer. E-prescriptions are sent electronically through a private, secure, and closed network.

1.4 Problem definition

With the beginning of each new day is witnessing the world in which we live a growing momentum of the information in various spheres of life, including health

care, it has been the introduction of IT in health care to help providers of care and prevent a lot of mistakes in the health care, including diagnosis and prescription medical, as in manual system there probability the occurrence of errors and the loss of patient data and which is reflected in the patient's health.

1.5 Benghazi Diabetes Center current system

The current system in Benghazi Diabetes Centre is a manual system and all medical prescriptions managed manually.

1.5.1 Disadvantage

- Difficulty reading prescription.
- Do not write the dose of the drug.
- Ambiguous nomenclature.
- Time waste.
- Non-registration data in records.
- Failure to obtain the required data.
- Overlapping prescription for patients to pharmacist.
- Manual system does not give detailed reports fast.

1.6 The proposed system

We have graduate students doing health file-mail to the center of Benghazi Diabetes systems to help improve the quality of service the foreground of the patient and improve the performance of jobs at the center. These are in the project I take a penalty on medical prescription**.**

1.6.1 Objectives

- Saving time and effort.
- Reduces the risk of readmissions.
- Reduces the number of lost prescriptions.
- Prevents prescription drug errors.
- Improve the quality of services provided to the patient.
- Eliminate the problem of security weakness by setting a password.

- Rapid access to different data and produce reports detailed.

1.7 Investigation of the current environment

In Benghazi Diabetes Center the environment was equipped with a set of computers. They have proper infrastructure and employee well trained and have connected with local area network. So the environment will be suitable to be used for a new proposed system.

1.8 Business System Options

This system was billed as gradation project so don't include any payment process.

Chapter Two

Requirements Analysis
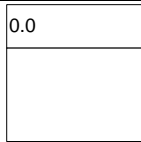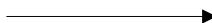
2.1 Preface

This chapter describes system requirements analysis for e-Prescription system, which is a systematic approach to identify problems and opportunities and objectives, analyzing the information flows in organizations and designing the information systems to solve problems. This stage is can be achieved by specific techniques such as DFD and ERDs. DFD illustrates how data is processed by a system in terms of inputs and outputs. As its name indicates its focus is on the flow of information, where data comes from, where it goes and how it gets stored. An entity relationship diagram (ERD) shows the relationships of entity sets stored in a database. An entity in this context is a component of data. In other words, ER diagrams illustrate the logical structure of databases. Those tasks that go into determining the needs or conditions to meet a new product, taking into account of the possibly conflicting requirements of the various stakeholders, such as beneficiaries or users.

2.2 Data Flow Diagram (**DFD**) is a graphical representation of the "flow" of data

through an information system, modeling its *process* aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

A Data Flow Diagram (DFD) shows what kind of information will be input to and output from the system, where the data will come from and go to, and where the data will be stored. It does not show information about the timing of process or information about whether processes will operate in sequence.

Table 2.1 illustrates the symbol DFD

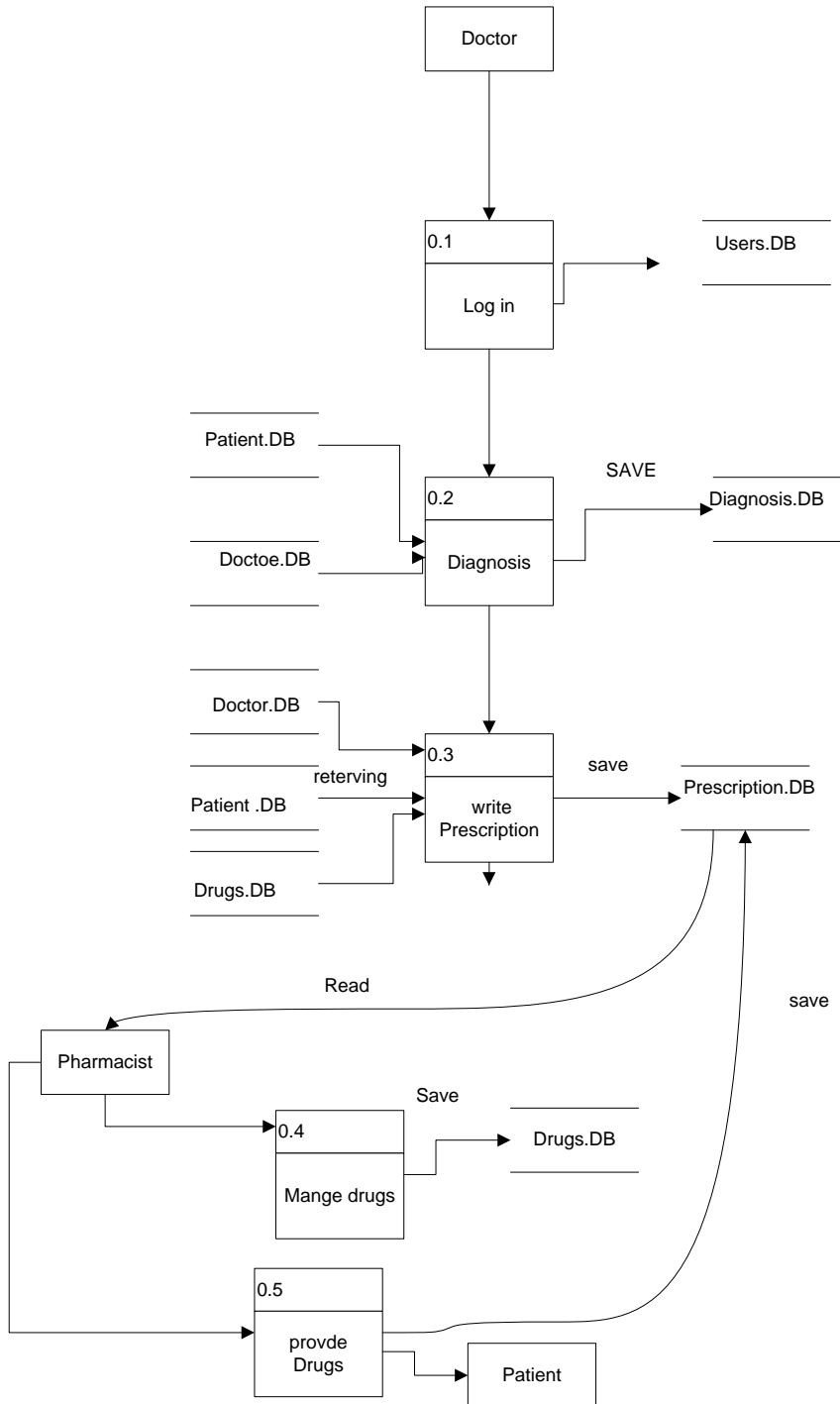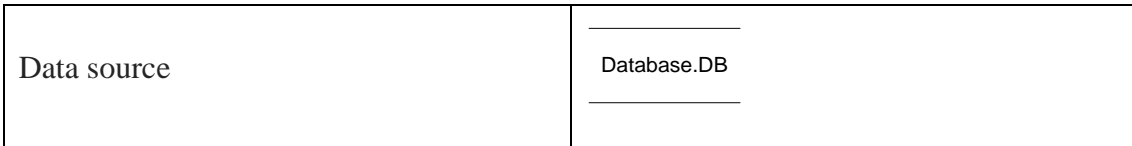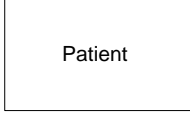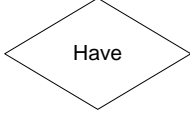| Symbol Function	Symbol
External Entity	
Process	0.0
Process flow	→

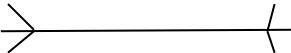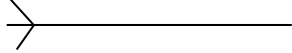| Data source	Database.DB

Figure 2.1 DFD for e-Prescription system

2.3 Entity Relationship Diagram model (**ERD model**)

ERD describes inter-related things of interest in a specific domain of knowledge. An ERD model is composed of entity types (which classify the things of interest) and specifies relationships that can exist between instances of those entity types.

In software engineering an ERD model is commonly formed to represent things that a business needs to remember in order to perform business processes. Consequently, the ERD model becomes an abstract data model that defines a data or information structure that can be implemented in database, typically a relational database.

Table 2.2 ERD illustrates the symbol

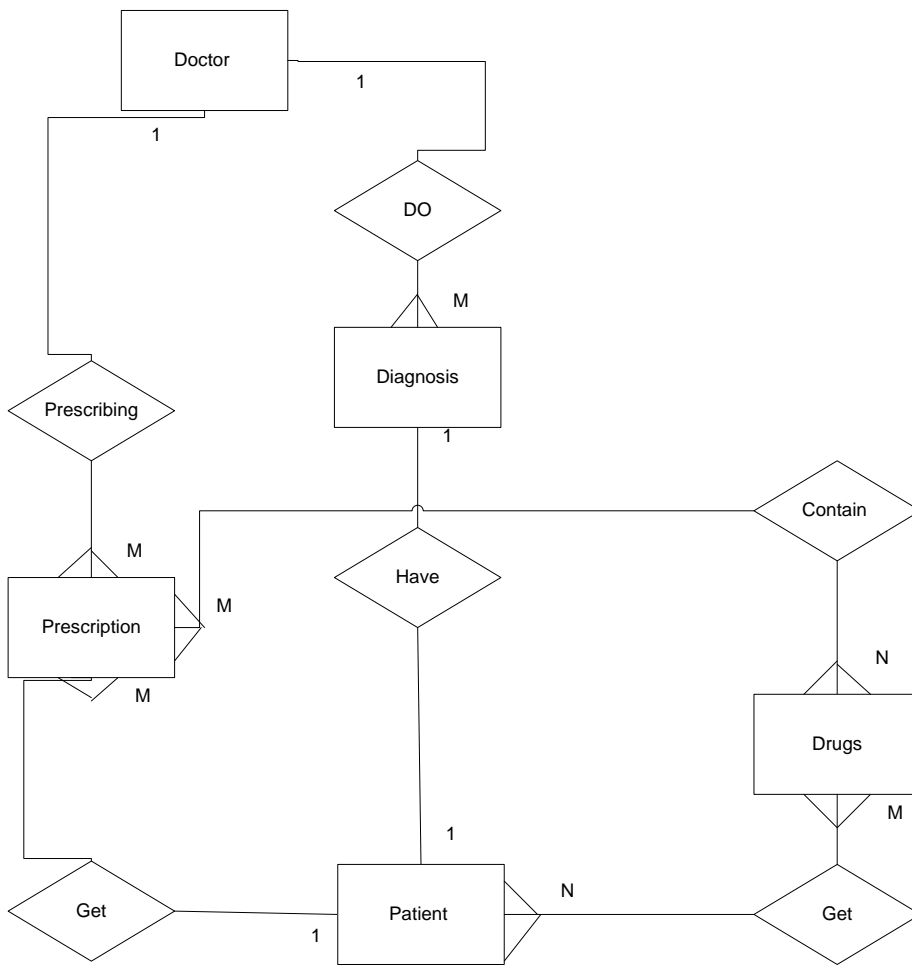| Symbol Function	Symbol
Actor	Patient
Verb	Have
Relation one to one	
Relation many to many	
Relation one to many	

Figure 2.1: ERD for e-Prescription

Chapter three

Requirements Specification

3.1 Preface

This chapter is an intermediate stage between the current system analysis and design of the new system this stage aims to prepare exact specifications of the system.

3.2 The purpose of the project

Has this document was written to document the specifications of the system of medical prescription and objective of this work is a manual system to convert the electronic system to make work more accurate and faster to implement, and also to facilitate access to reports.

3.3 Project Scope

The proposed system helps to accomplish the functions described in the process use cases, and documentation of each case, and also to produce reports and queries.

3.4 General Description of the System

3.4.1 System Function

The system provides the user with many functions which

- Registration, data modification and the powers of the users.
- Registration and edit patient data.
- Save and edit diagnosis.
- Registration and data modification medicine.
- Save and edit medical prescription for the patient.
- Reports.

3.5 System constraints

System constraints dived into general and design constraints.

3.5.1 General constraints system

System Manager is authorized to give powers to use the system and the process is summarized as follows.

Input: It contains the user name and passwords.

Processing: the system should ensure that the username and password are correct.

Output: it will show a massage on the monitor if the user name or password is incorrect if it's not will take you to the window that you authorized to open.

2.5.2 Design constraints

Hardware limitation

Monitor, Printer Machine, The device's memory should be at least 2GB.

Software limitation

- Windows 7 operating system or any update latest version of windows.
- Visual basic 2010 .net application.
  About the programming language used in this project:
  I used the language (Visual basic.net 2010) for writing software and designing screens.
  Reasons for selecting this language :
    - Discovery of errors in real time where they are used as a language interpreter (Just In Time Compiler).
    - Support dealing with SQL.
    - Support reports .
- Characterized by the rest of the visual languages to respond to events(event programming).
- Microsoft SQL Server 2008 database management system .
  SQL It is an abbreviation for (Structured Query Language)This language used in dealing with databases, and are used to extract, update and add data and database.

3.6 Requirements description

Table 3.1 Functional Requirements

Use case	Data Entry	Data processing	Output data
Managing patient data (Add, edit and delete)	Patient (name, id number, date of birth , etc)	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined
Recording user data	User name password	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined
Save the diagnosis of disease	Patient name patient id diagnosis doctor (name ,number)	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined
Save the prescription to the patient	Patient name patient number drugs (name ,does)etc	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined
Data recording medication	Drug name drug id dose expire date , etc	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined
Printing Reports	Selection of data to be printed	System must be certain that the data entered in the case is that they are correct Date	Take out an alert message, in the case that the input wrong or no data entry is determined

3.6.1 Non-Functional Requirements

- Speed must be fast system response to commands.
- The system should be connected by local area network.
- The system must be able to serve the number of users.
- Be user interfaces follow a clear and consistent format and follow certain standards in terms of colors so as not to harm the user into.

Chapter Four

Logical System Specification

4.1 Preface

The goal of this stage is to produce a detailed design of the data that will be used as a base for database design files, programs, and also will be described and a description of logically to be utilized in the completion of the physical description of the program.

4.2 Structural Design of the System

4.2.1 Database Design

It was used (SQL SERVER) where he has a huge storage capacity of the largest(ACCESS) information to clarify the types of fields used in the database as table.

Table 4.1: SQL data type

Type	Stored value	Information about the Type
Nvarchar	Variable	Variable length unicode data maximum 4000 characters
Big int	Numerical	Allows whole numbers between 2,147,483,648 and 2,147,483,647 Storage is 4 bytes
Text	Text	Variable length character string maximum 2GB of text data
Bit	0 or 1	Allows 0,1 or null
Image	Binary data	Variable length binary data maximum 2GB
Int	Numerical	Output figures are correct process stores if impropriety 0 and 1 if true
Datetime	Date	From January 1,1753 to December 31,9999 with an accuracy of 3.33 milliseconds Storage is 8 bytes

4.4.2 Data normalization

After completion of stages of data normalization Friday become the database tables

Notes :
This mark * means that the field is a primary key.
Composite key is to make two or more keys primary keys one.

Table 4.2 patient file

Field name	Field Type	Description	Keys
Pa_number	Int	Patient number	*
Pa_name	Nvarchar (50)	Patient name	
Mothername	Nvarchar (20)	Mother name	
DOB	Date time	Date of birth	
Pa_city	Nvarchar (20)	Patient city	
Pa_area	Nvarchar (20)	Patient area	
Pa_street	Nvarchar (20)	Patient street	
Pa_nationality	Nvarchar (20)	Patient nationality	
Gender	Nvarchar (10)	Gender	
Maital_status	Nvarchar (10)	Marital status	
Pa_phone	Nvarchar (20)	Patient phone number	
Job	Nvarchar (25)	Patient job	
Open_date	Date time	Date of opening patient file	

Table 4.3 Diagnosis file

Field Name	Field Type	Description	Keys
Dignosiss_date	Date time	Diagnosis date	*
Pa_number	Int	Patient number	*
Pa_name	Nvarchar (50)	Patient name	
Diagnosis	Text	Patient diagnosis	
Doc_number	Int	Doctor number	
Doc_name	Nvarchar (60)	Doctor name	

Table 4.4 Doctor file.

Field Name	Field Type	Description	Keys
Doc_number	Int	Doctor number	*
Doc_name	Nvarchar (60)	Doctor name	
Doc_nationality	Nvarchar (10)	Doctor nationality	
Doc_gender	Nvarchar(10)	Doctor gender	
Qualified	Nvarchar (20)	Doctor qualification	
Specialization	Nvarchar (20)	Doctor specialization	
Doc_city	Nvarchar(20)	Doctor city	
Doc_area	Nvarchar (20)	Doctor area	
Doc_street	Nvarchar (20)	Doctor street	

Table 4.5 Pharmacy file

Field name	Field type	Description	Keys
Drug_code	Big int	Drug Code	*
Drug_name	Nvarchar(200)	Drug Name	
Stock	Nvarchar (20)	Drug stock	
Expire	Date time	Drug expire date	
Allowed_drug	Nvarchar(100)	If the drugs have conditions to prescript it	
Drug_type	Nvarchar(50)	Drug dosage form	
Dose	Nvarchar (50)	Drug dose	

Table 4.6 Prescription file .

Field	Type field	Description	keys
Vist_date	Date time	Patient visiting date	*
Pa_number	Int	Patient number	*
Drug_name	Nvarchar	Drug name	
Drug_code	Int	Drug code	
Notes	Text	If there is notes about the patient ex (allergy)	
Doc_number	Int	Doctor number	
Doc_name	Nvarchar (60)	Doctor name	
Reciving _drug	Bit	If the patient received the drug from the pharmacy in the center or not	
Img	Image	If there is any paper document	
Pa_name	Nvarchar (50)	Patient name	

Table 4.7 Username .

Field	Field type	Description
Username	Nvarchar(50)	User name
Userpass	Nvarchar(200)	Password
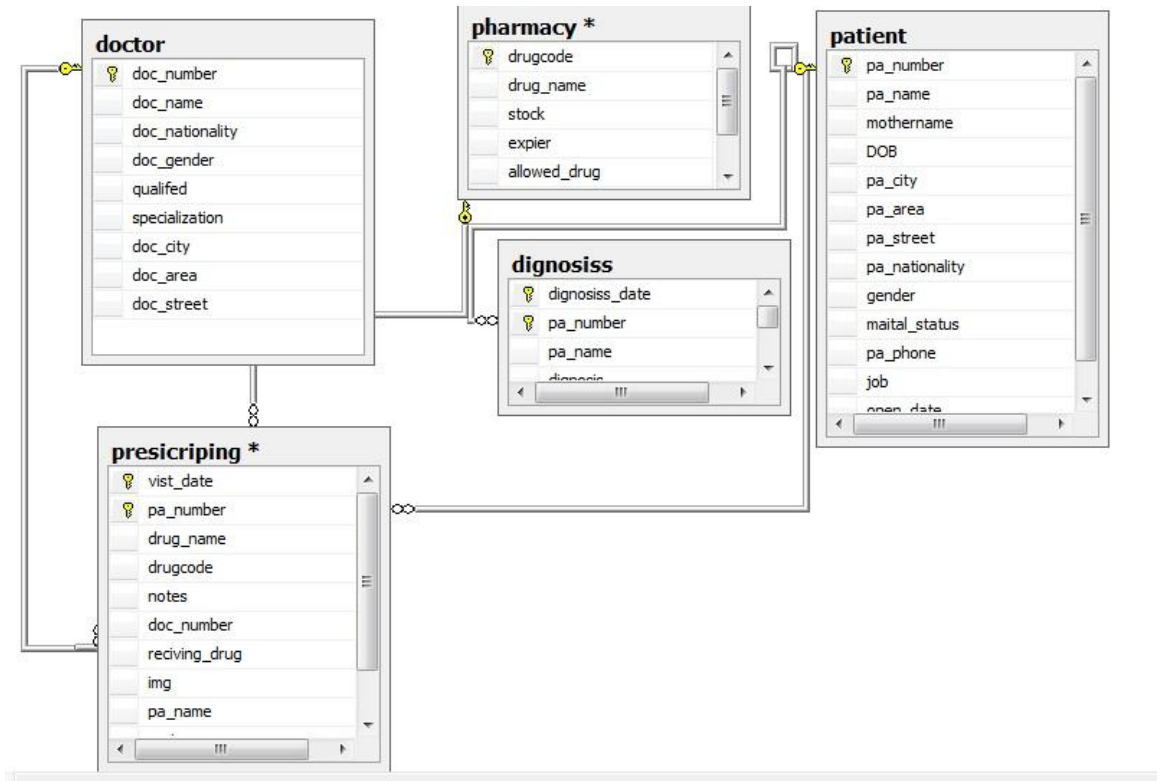
Figure 4.1 Relation Diagram SQL

4.3 Activity Diagram

In Unified Modeling Language (UML), an activity diagram is a graphical representation of an executed set of procedural system activities and considered a state chart diagram variation. Activity diagrams describe parallel and conditional activities, use cases and system functions at a detailed level.

4.3.1 Activity Diagram Symbols Meaning

The start symbol represents the beginning of a process or workflow in an activity diagram. It can be used by itself or with a note symbol that explains the starting point.

The activity symbol is the main component of an activity diagram. These shapes indicate the activities that make up a modeled process.

————→ **The connector symbol** is represented by arrowed lines that show the directional flow, or control flow, of the activity. An incoming arrow starts a step of an activity; once the step is completed, the flow continues with the outgoing arrow.

◇ **The decision symbol** is a diamond shape; it represents the branching or merging of various flows with the symbol acting as a frame or container.

◉ **The end symbol** represents the completion of a process or workflow.
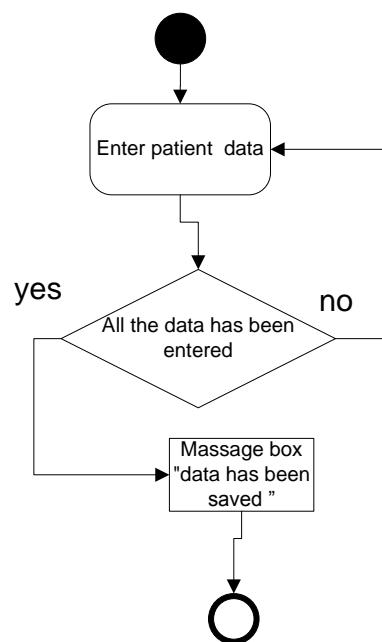
Figer 4.2 Patient Data Entry in The System
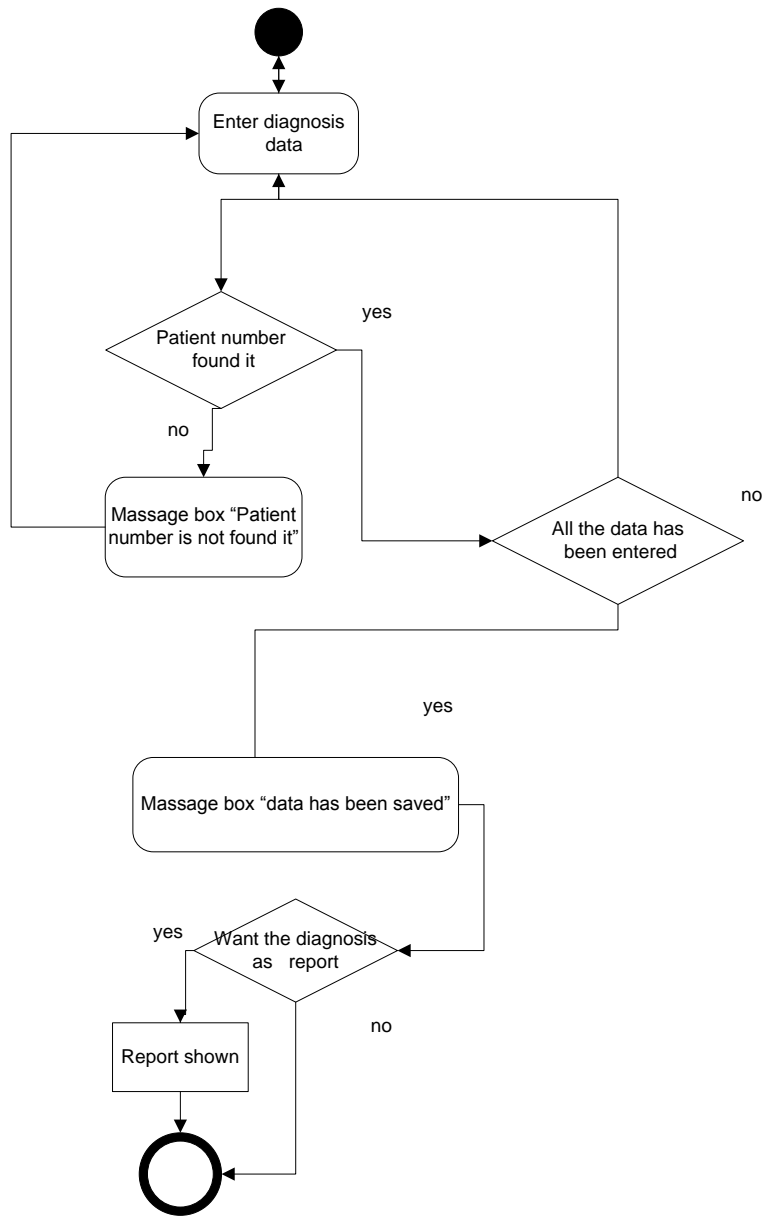
Figure 4.3 Diagnosis Data Entry
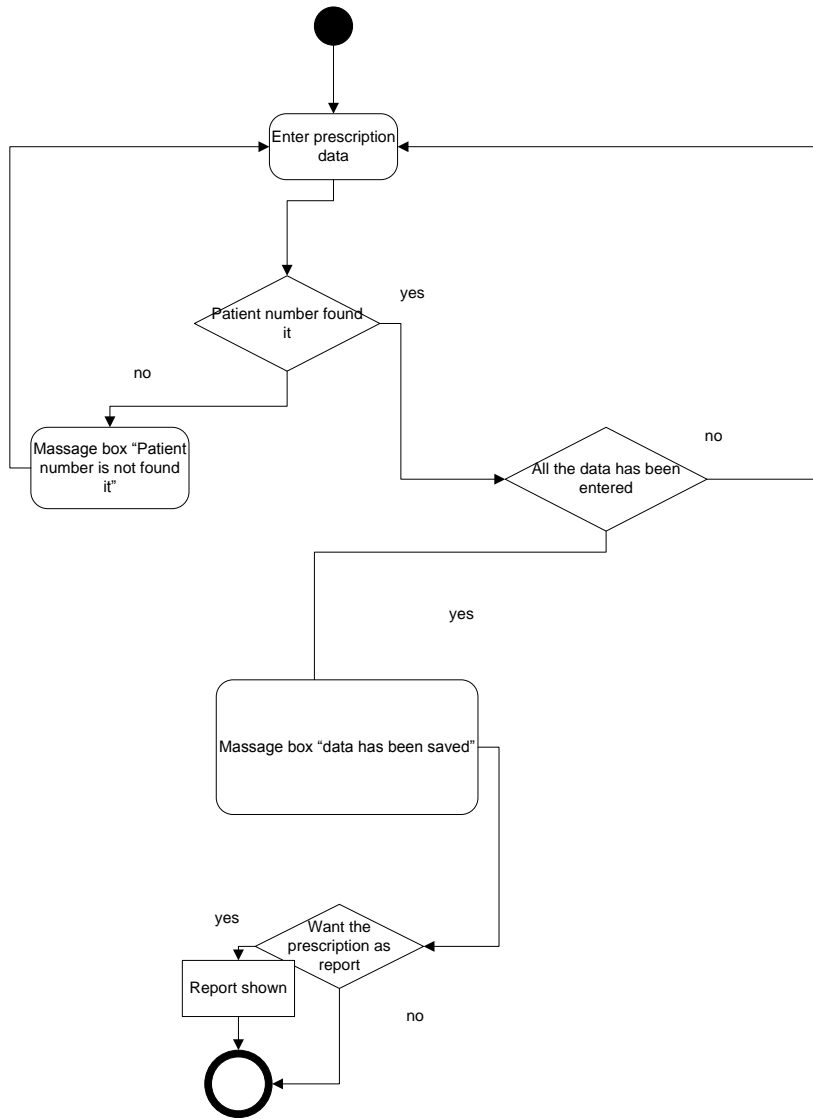
Figurer 4.4 Prescription Data Entry
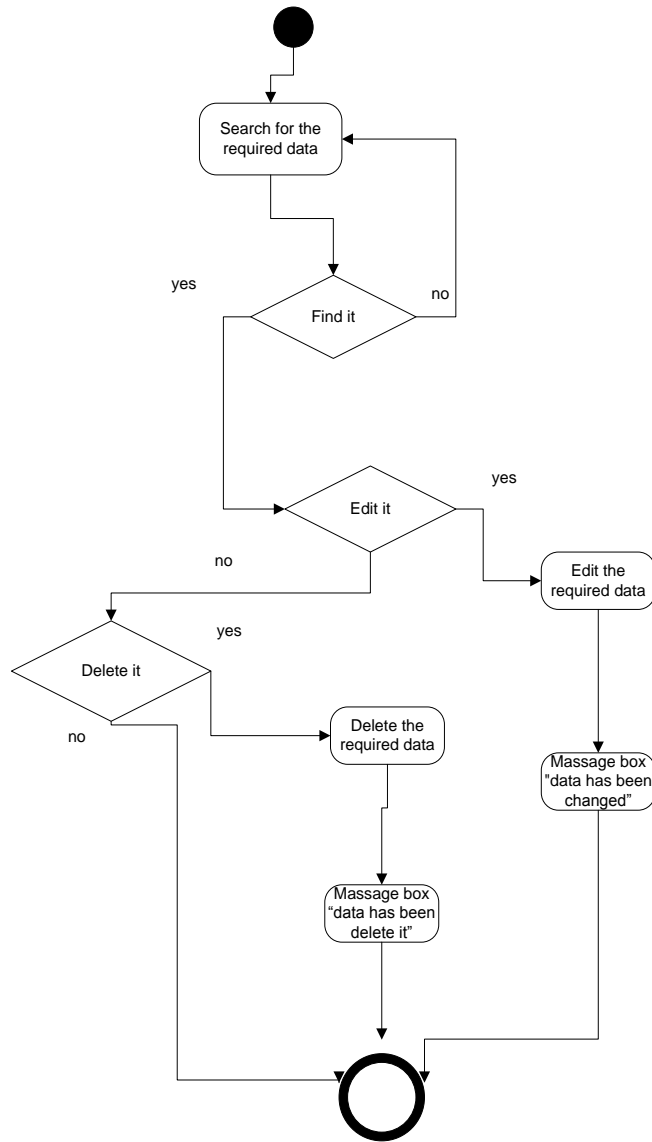
Figure 4.5 Search, Edit and Delete Data
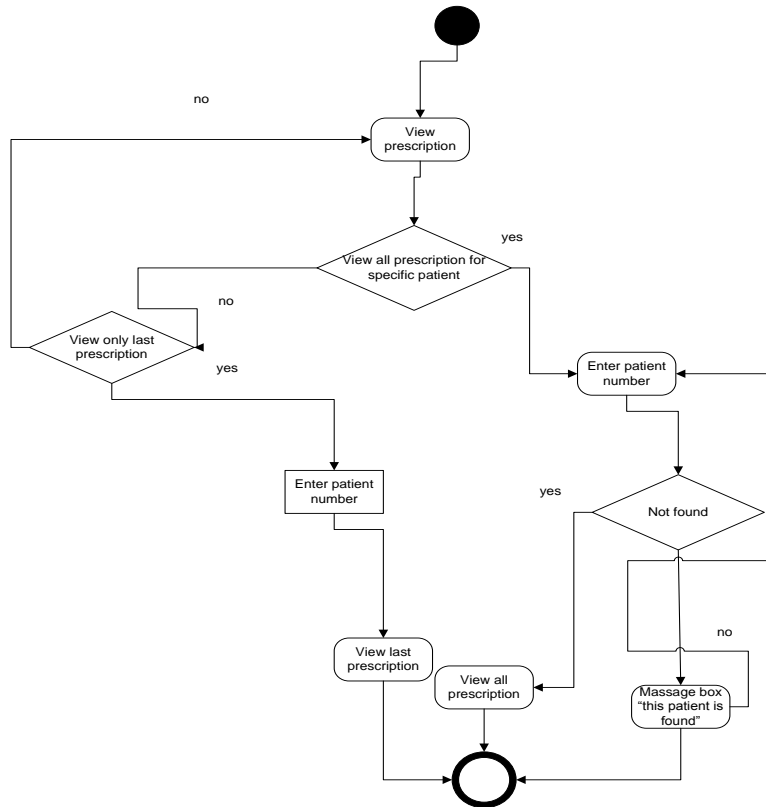
Finger 4.6 view prescriptions

4.4 GUI Graphical User Interface

This screen is login screen which the user enter username and the password then he gets to screen he can view.

Figure 4.8 login screen

Figure 4.9 Main menu which the user enter to his desire screen

Figure 4.10 Patient screen all the process related to patient data

Figure 4.11 Prescription screen

Figure 4.12 Diagnosis screen

Figure 4.13 Pharmacy screen

Figure 4.14 Users screen

Figure 4.15 View prescriptions by choice
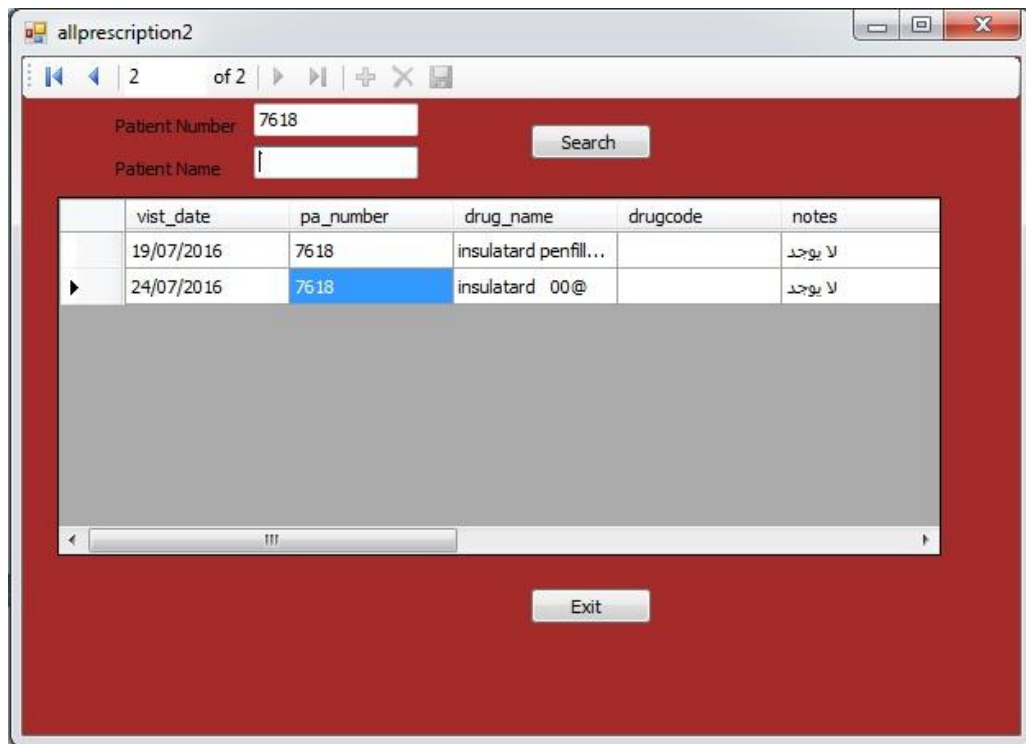

Figure 4.16 View last prescription

Figure 4.17 All prescription for specific patient

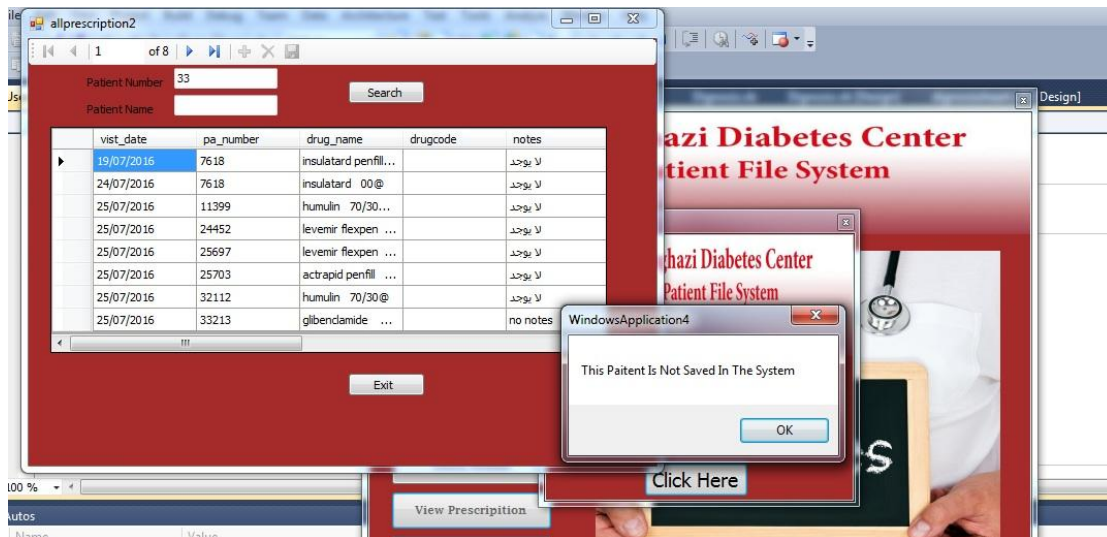This screen is searching for patient prescriptions but the patient number is wrong
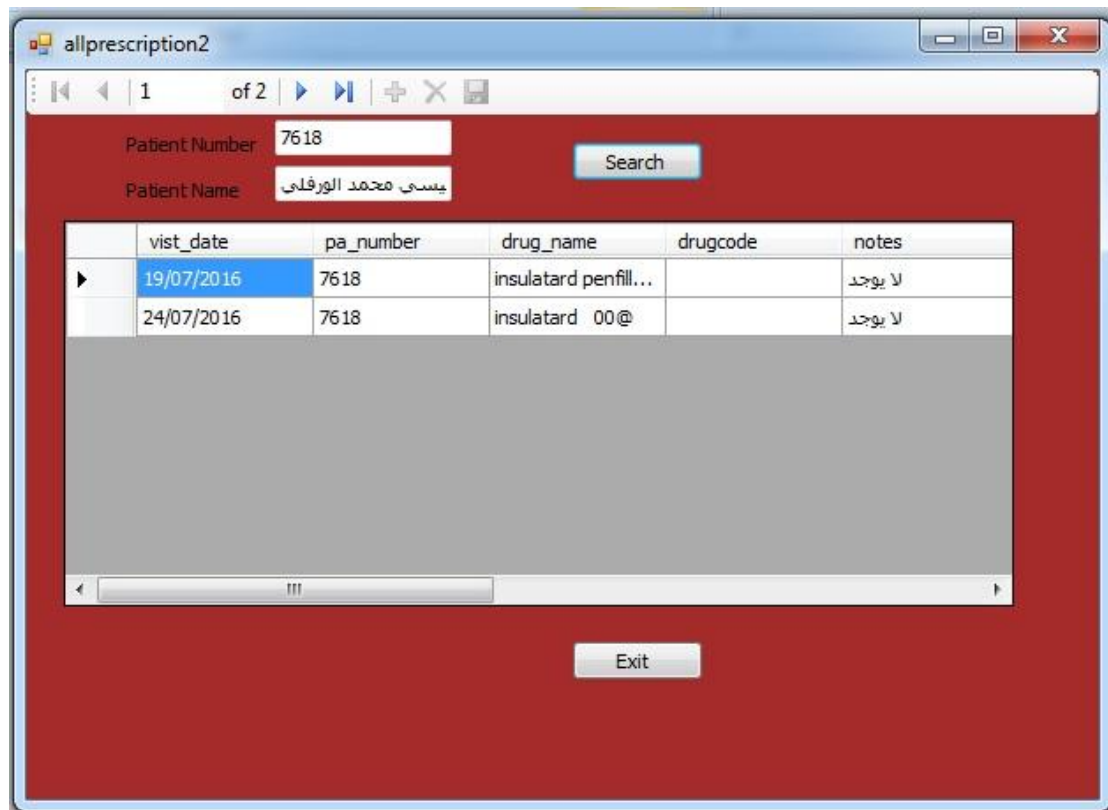

Figure 4.18 search screen

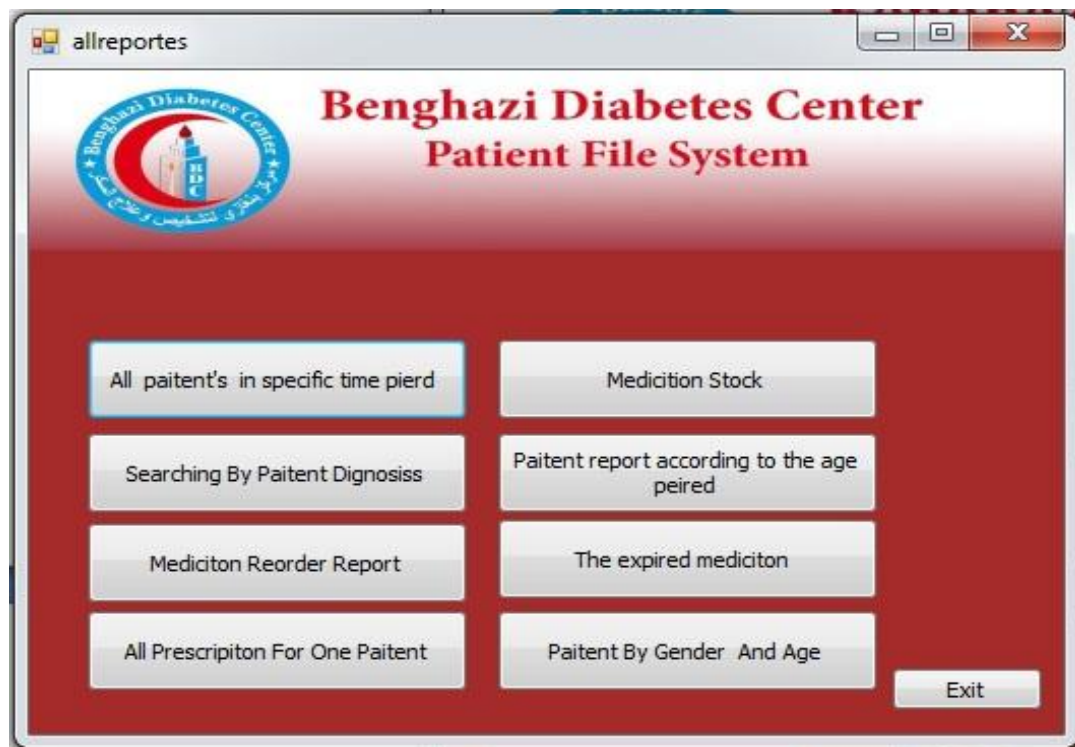Figure 4.19 screen show patient prescriptions Appear

Figure 4.20 Reports screen

Chapter five

Physical design and Implementation

5.1 Preface

In this chapter we will discuss the last phase of the project which is considered the application and the parallel phase of the design phase, which is about transforming what has been understood in the analysis phase and what has been outfitted in the design phase into reality.

5.2 Implementation phase

After analysis and design of the system started in one of the main stages of the project which is the implementation phase. In this phase will be the actual and practical planning of the main parts in the system and then reprogrammed.

5.3 About the programming language used

5.3.1 Visual basic

Is the development environment and programming language from Microsoft based on the language of the famous BASIC. It is classified as programming languages beings. Since Microsoft began issuing Visual Basic, which is the convergence of a huge and popular considerable success among programmers due to the extreme ease in exchange for extreme complexity faced by any programmer seeking to Windows programming using C or C ++. Overall fit Visual Basic data earmarked for small businesses, applications and programs accounts database applications and is convenient and easy and serve their purpose as well as it allows the programmer to focus on solving the problem often does not face technical difficulties while writing a Visual Basic program. But it stayed to mention that Visual Basic programs are not complete translated into the machine language such as C ++ or Delphi, but translated into a middle code communicates with linking library called "Run Time library" and its name MSVBM ??.Dll replaced with question marks version number .

5.3.2 Visual basic 2010 .net

In April 2010, Microsoft released Visual Basic 2010. Microsoft had planned to use Dynamic Language Runtime (DLR) for that release but shifted to a co-evolution strategy between Visual Basic and sister language C# to bring both languages into closer parity with one another. Visual Basic's innate ability to interact dynamically

with CLR and COM objects has been enhanced to work with dynamic languages built on the DLR such as IronPython and IronRuby. The Visual Basic compiler was improved to infer line continuation in a set of common contexts, in many cases removing the need for the "_" line continuation character. Also, existing support of inline Functions was complemented with support for inline Subs as well as multi-line versions of both Sub and Function lambdas.

5.3.3 Visual Basic Features

- Quick and easy language to create Windows applications.
- It supports object-oriented programming, but that this is not fully.
- Is the language of Visual Basic language of object-Curve.
- Easy to learn and understand.
- Ease of errors in which the discovery.
- Reliance on HTML and so making him easy to use and understand.
- When you write the correct orders give you examples will confirm the validity of writing code.
- It enables you to skip some of the mistakes when writing specific code.

5.4 Examples of codes from the system

This code if for adding new patient .

```
Dim sql As String = "insert into patient(pa_number,pa_name, mothername, DOB,
pa_city,pa_area,pa_street,pa_nationality,gender,maital_status,pa_phone,job,open
_date)  values("& TextBox1.Text &", N'"& TextBox2.Text &"', N'"& TextBox3.Text
&"', CONVERT(DATETIME, '"& DateTimePicker1.Value &"', 103) , N'"& TextBox4.Text
&"', N'"& TextBox5.Text &"', N'"& TextBox6.Text &"', N'"& TextBox7.Text &"',
N'"& ComboBox2.Text &"', N'"& ComboBox1.Text &"', N'"& TextBox8.Text &"', N'"&
TextBox9.Tdext &"', CONVERT(DATETIME, '"& DateTimePicker2.Value &"', 103)  )"
Dim cmd As New SqlCommand(sql, conn)


cmd.ExecuteNonQuery()

MsgBox("data has been saved")


This code for edit the diagnosis
Dim conn As New SqlConnection
conn.ConnectionString = "Data Source=HOME-PC\SQLEXPRESS;Initial
Catalog=epresc;Integrated Security=True"
conn.Open()
```

```vb
Dim sql As String = " update dignosiss set pa_name = N'"& TextBox2.Text &"',
dignosis= N'"& TextBox3.Text &"' where dignosiss_date = CONVERT(DATETIME, '"&
DateTimePicker1.Value &"', 103)  and pa_number ="& TextBox1.Text &""
Dim cmd As New SqlCommand(sql, conn)
cmd.ExecuteNonQuery()
MsgBox("data have been changed")
        DateTimePicker1.Value = Date.Today
        TextBox1.Text = ""
        TextBox2.Text = ""
        TextBox3.Text = ""
        TextBox4.Text = ""
        TextBox5.Text = ""

conn.Close()

This code for search
Dim conn As New SqlConnection
Dim DR As SqlDataReader
conn.ConnectionString = "Data Source=HOME-PC\SQLEXPRESS;Initial
Catalog=epresc;Integrated Security=True"
conn.Open()
With cmd
        .Connection = conn
        .CommandText = "select * from presicriping where vist_date =
CONVERT(DATETIME, '"& DateTimePicker1.Value &"', 103) and pa_number = "&
TextBox1.Text &" "
        DR = .ExecuteReader
EndWith
While DR.Read

        TextBox10.Text = DR("pa_name")
Dim s As String = DR("drug_name")          Dim t() As String

        t = s.Split("_____")

For i = 0 To t.Length - 1
ListBox1.Items.Add(t(i))
Next


        TextBox2.Text = DR("notes")
        TextBox11.Text = DR("doc_number")

If DR("img").ToString.Length > 0 Then
Dim ms As New MemoryStream(CType(DR("img"), Byte()))
            PictureBox2.Image = Image.FromStream(ms)
EndIf
EndWhile
```

This code is for all prescription for specific patient

```vb
Dim conn As New SqlClient.SqlConnection
conn.ConnectionString = "Data Source=HOME-PC\SQLEXPRESS;Initial
Catalog=epresc;Integrated Security=True"
conn.Open()
Dim DS As New DataSet
Dim Da As New SqlClient.SqlDataAdapter("SELECT * FROM  presicriping  WHERE
(pa_number = "& TextBox1.Text &")", conn)
```

```
Da.Fill(DS)


        ReportViewer1.LocalReport.ReportPath = "C:\Users\home\Documents\Visual
Studio 2010\Projects\eprec\WindowsApplication4\Report3.rdlc"

DimrdsAsNewReportDataSource("DataSet1", DS.Tables(0))
ReportViewer1.LocalReport.DataSources.Clear()
ReportViewer1.LocalReport.DataSources.Add(rds)
ReportViewer1.LocalReport.Refresh()
Me.ReportViewer1.RefreshReport()
```

This code for delete

```
Dim conn AsNewSqlConnection
conn.ConnectionString = "Data Source=HOME-PC\SQLEXPRESS;Initial
Catalog=epresc;Integrated Security=True"
conn.Open()
DimsqlAsString = "delete from presicriping where vist_date=( CONVERT(DATETIME,
'"& DateTimePicker1.Value &"', 103))  and pa_number = "& TextBox1.Text &" "
DimcmdAsNewSqlCommand(sql, conn)
cmd.ExecuteNonQuery()

MsgBox("Data has been deleted")
        DateTimePicker1.Value = Today
        TextBox1.Text = ""
        TextBox10.Text = ""
ListBox1.Items.Clear()
        TextBox2.Text = ""
        TextBox11.Text = ""
        PictureBox2.Image = Nothing
ComboBox1.Refresh()

conn.Close()
```

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Graduated previous project

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