



**NEAR EAST UNIVERSITY**

**Faculty of Engineering**

**Department of Computer Engineering**

**CONTRADICTING MEDICINES  
DATABASE APPLICATION**

**Graduation Project  
COM-400**

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**Nicosia-2002**

## **CONTRADICTING MEDICINES DATABASE APPLICATION**

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I want to thank my family, especially my parents. Without their endless Support and love, I would never be where I am today.

## **ABSTRACT**

The rapid increase of computer's influence in our daily life, has simplified and automated tasks, not a while ago were much time and effort consuming, yet this desire to get more out of computers has created a new demand and competition for better and new Technologies. Database development is one of the most areas that's developing and demanded by every local and international firm and institution around the world.

The aim of this project is to develop a medicine's database for general purpose Physician and pharmacist, this project is done to help creating a system that will keep Records about different medicines and their contradicting medicines. so that any doctor or Pharmacist could analyze the patient's medicines and to avoid giving a medicine that clashes with the medicines a patient is currently taking.

Microsoft's Access is used to solve the problem, the basic structure and functions of Access is also discussed in this project.

## **TABLE OF CONTENTS**

<b>ACKNOWLEDGEMENT</b>	<b>i</b>
<b>ABSTRACT</b>	<b>ii</b>
<b>TABLE OF CONTENTS</b>	<b>iii</b>
<b>INTRODUCTION</b>	<b>1</b>
<b>CHAPTER ONE: DATABASE DEVELOPMENT SYSTEMS AND ACCESS</b>	<b>2</b>
1.1 Use of Computers in life	2
1.2 Database Management Systems (DBMS)	3
1.3 Relational Database	3
1.4 Introduction to MS Access Development	3
1.4.1. what is MS Access	3
1.4.2. Applications that can be developed by MS Access	4
1.4.3. Access development platform	4
<b>CHAPTER TWO: BUILDING THE RELATIONSHIP LOGIC</b>	<b>6</b>
<b>2.1. Case Study</b>	<b>6</b>
2.2. Solution	6
2.2.1. Design Steps for Building the System	7
2.3. Tables Design	8
2.4. Relationship between the Tables	9
2.5. The Flowcharts	10
2.5.1. Flowcharts of the Processes	11
2.5.2. Flowcharts of the Processes	11

<b>CHAPTER THREE: BUILDING USER INTERFACE</b>	<b>26</b>
3.1. Building Forms	26
3.1.1 The Splash Screen	26
3.1.2. The Main Menu	27
3.1.3. The Sub Menus	28
3.1.4. The View Menu	28
3.1.5. The Update Menu	29
3.1.6. The Report Menu	30
3.1.7. The Registration Form	30
3.2. Building Reports	34
<b>CHAPTER FOUR: BUILDING THE INTERFACE CODE</b>	<b>50</b>
4.1. The Macros	51
4.2 Building the Modules	54
4.2.1. Code Behind the Forms	55
4.3 Queries	65
<b>CONCLUSION</b>	<b>68</b>
<b>REFERENCES</b>	<b>70</b>



## INTRODUCTION

Many excellent database systems are available to doctors all over the globe. Withers developed by MS Access or other database tools. But this database is talking about the medicines and its contradicting ones, i.e. if you are taking some medicine it may be give some minor or major side effects if you take a medicine that's on its contradicting list, since the chemicals in both medicines clashes.

However, I have experienced that some pharmacists or even doctors are not fully aware of how serious this could be especially in the case of old people and infants.

So I took this project to make it easy for doctors or any one who is interested in knowing about the medicines he/she is taking and what's it contradict(s) and some other information about the proper dosage and over dosing symptoms. I also wanted to design a system that's easy and straightforward, that any one interested in using it won't have to go to the process of trail and error, and this system at the same time should provide what any complex powerful system can do. In the first chapter there is a brief history of databases and their need in any application containing big amount of records and MS Access can promise in the field of computer science as a database system provider.

The second chapter provides the case study of the application under construction "Contradicting medicines database" and the design of tables and their relationship followed by the program and its flowcharts.

In the third and fourth chapter, the design of the forms and reports are explained in detail, the menu forms with its properties, all topped with detailed explanation about the codes used by forms, search forms and reports and queries.

## **CHAPTER ONE**

### **THE WORLD OF DATABASE DEVELOPMENT AND ACCESS**

#### **1.1 Need of Computers In Life**

Computer software has become a driving force; it's a powerful force that set Decision-making and serves as a basis for modern investigation and problem solving.

Computers have become a key factor that gives products and services that modern look, its embedded in systems of all kinds; medical, industrial, military, entertainment, even office-based products.

Before the introduction of computers in medicines records and their management, it was not so simple to recall all the medicines and their information and the contradicting ones, also it was equally as hard to keep track of all the new medicines that are newly introduced. There are huge books to store all the information in a difficult way to pin point the medicine you want and to know its contradicting medicines. Due to the chance of new medicines introduced errors may occur during the look up for the contradicting medicines.

To improve the speed and efficiency of the hospital, computers are replacing humans to eliminate the chance of errors, and at the same time search and update records in a fast way, but in case the data in a non computerized work place may suffer the chance of getting damaged or lost, in using computers all records can be backed up and have all the data in a safe place to replace the damaged data in case if any.

A computer system in a hospital or clinic can promise better speed and efficiency with almost no chance of errors.



## **1.2 Database Management System**

Database is collection of related data items. Examples of records of products in a grocery store, customers records in a bank, medicines records in a pharmacy etc.

When its needed to access a particular record in a given database, a database management system (DBMS) is used. The DBMS creates the database, provides easy access to users who want to view, update or add a new record.

Many large applications will require more than one database to store its records.

## **1.3 Relational Database**

DBMS has established themselves as one of the primary means for data storage for information based systems ranging from large business applications to simple PC based programs. However a relational database management system (RDBMS) is the system used to work with data management operations for more than 15 years, and still improving, providing more sophisticated storage, retrieval systems. Relational database management systems provides organizations with ability to handle huge amount of data and changing it into meaningful information.

## **1.4 Introduction to Access Development**

### **1.4.1 What is Access**

Access is high powered database engine that enable technologies like client/server, data warehousing and online data processing, all composed in one of the best information management systems.

### **1.4.2 Applications that can be developed in MS Access**

Microsoft Access can offer a variety of features for different database needs. An Access application is made up of the same elements as an Access database including tables, queries, forms, reports, macros and modules. What makes applications different from a database is that application are tied up in one system and all related tasks are organized in a way enables the user to focus on the job.

Microsoft Access can help in developing the following type of applications

1. Personal records
2. Applications used to run small businesses
3. Departmental applications
4. Corporation wide applications
5. Front end for enterprise wide-client/server applications

### **1.4.2 Access as a development tool**

Applications in Access are made up of objects that the user sees and uses directly like forms, reports and objects that supports these ones like tables, queries, macros and modules.

Since Access might be best suited for departmental applications. It can also be used to produce applications that are used in almost any section of the organization, but still there is a limit of how many user may share an Access application and still working satisfactory, there is also a limit for the amounts of records that each table can handle without causing a decrease in performance, such cases depends on the following factors:

1. network traffic in the network
2. the amount of RAM and the speed and amount of processors being used.

3.tasks that the application is going to perform; reporting, entering data, querying.

4.wither MS Access and your application are in the place or the run will be from the server or the workstation.

5.the network operating system being used.

6.wither data will be shared on the internet with various branches of the same department in different locations.

## **CHAPTER TWO**

### **BULDING THE RELATIONSHIP LOGIC AND CASE STUDY**

#### **2.1 Case study**

What we have here is a medicine database with all the information necessary about it, and another table which will have the contradicting part of a medicine, both tables must be linked in a way so that when a user ask to see the contradicting medicine or medicines of a particular medicine, the list of all possible contradicts will appear and in case the user wants to know the cure of some illness or medicine(s) the user will have to type the name of the medicine if he/she remembers it or the user can fill some fields with he/she already knows and the application will do the rest.

#### **2.2 The solution**

MS Access is being used as the development tool, and the application is going to be a single user application, which means its going to be installed on one machine, this application however may be used by more than one user on many computers sharing the same tables by using simple advancements.

##### **2.2.1 Design steps for building the application**

The design steps are the steps to be followed during the life cycle of creating the application, the following steps to be used are

1. designing the database structure that is going to hold the medicines data. and make the relation ship between tables.
2. designing the stored procedures in the databases to perform basic functions like adding, updating and viewing the records.



3. designing the user interface of the application.
4. coding the user interface using macros and modules, while maintaining the macros use to minimum.
5. testing and debugging the system with a sample run.
6. deploying the system.

## 2.3 Tables Design

The first step is to design the table(s) required to store the data of the medicines in it. There are two basic tables being used

1. table1 for holding the medicine information and anything associated with it from its name to its dosage.
2. table 2 for holding the contradict information about a particular medicine.

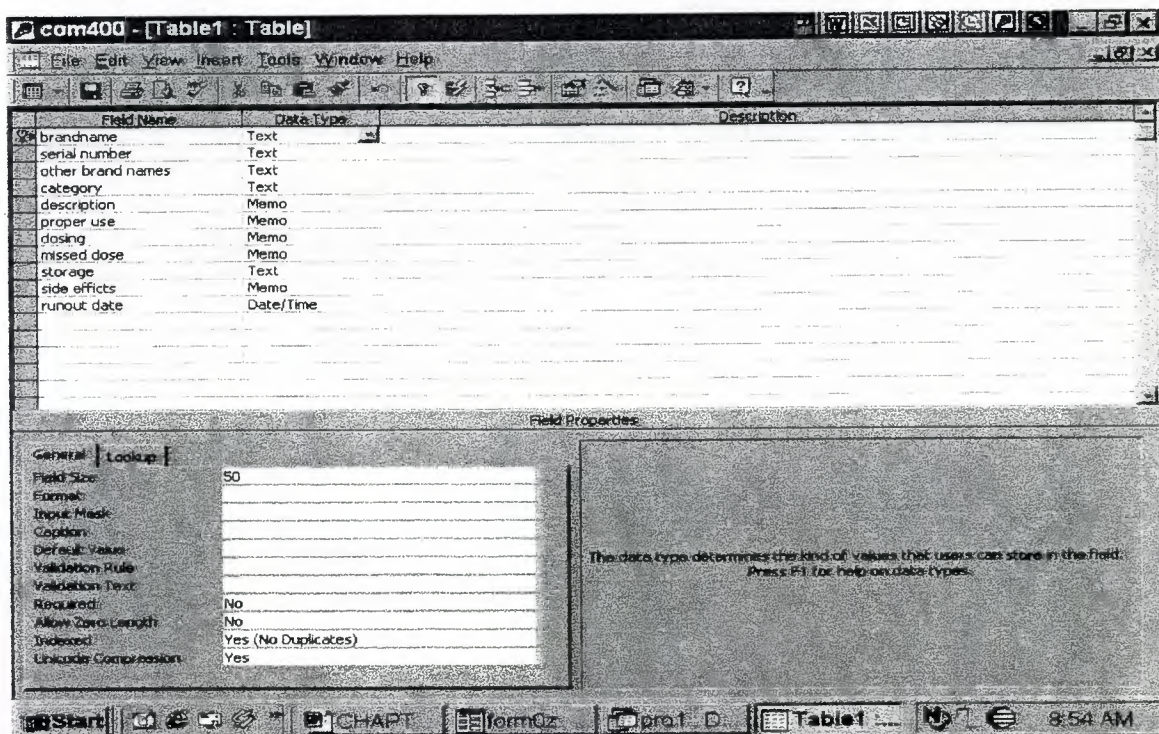


Figure2.1 the first table structure.

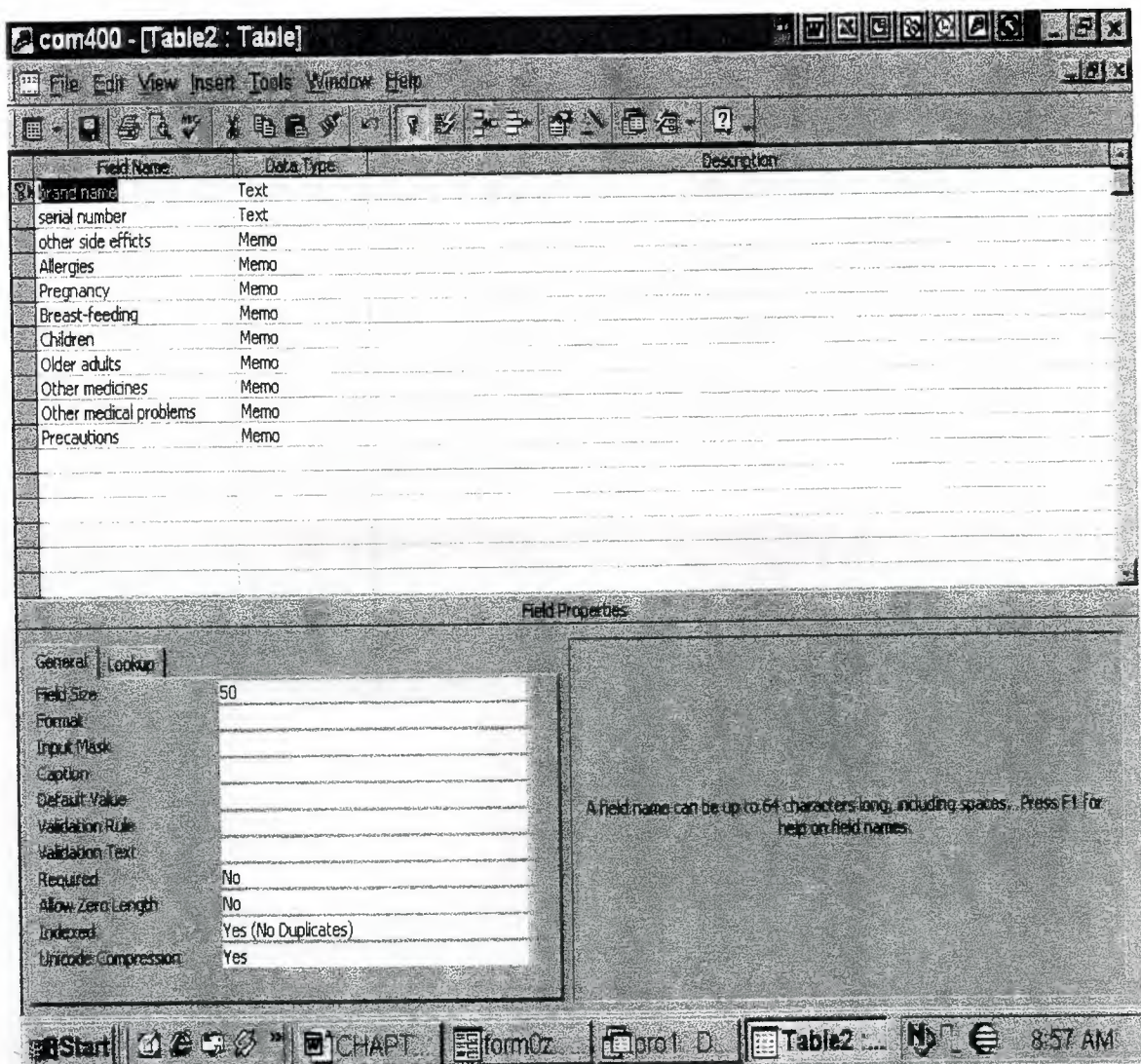


Figure2.2. structure of the second table



## 2.4 Relationship Between Tables

The relationship between tables means how are the databases interact with each other, and how the data in one table is related with the data in another tables, In relationships it is always import to have one master table and other tables linked with it, here table1 is connected with table2, the primary key is Table1 is ID which is the same for Table2, the relationship is done using the same id for both tables.

The relationship is shown in table below:

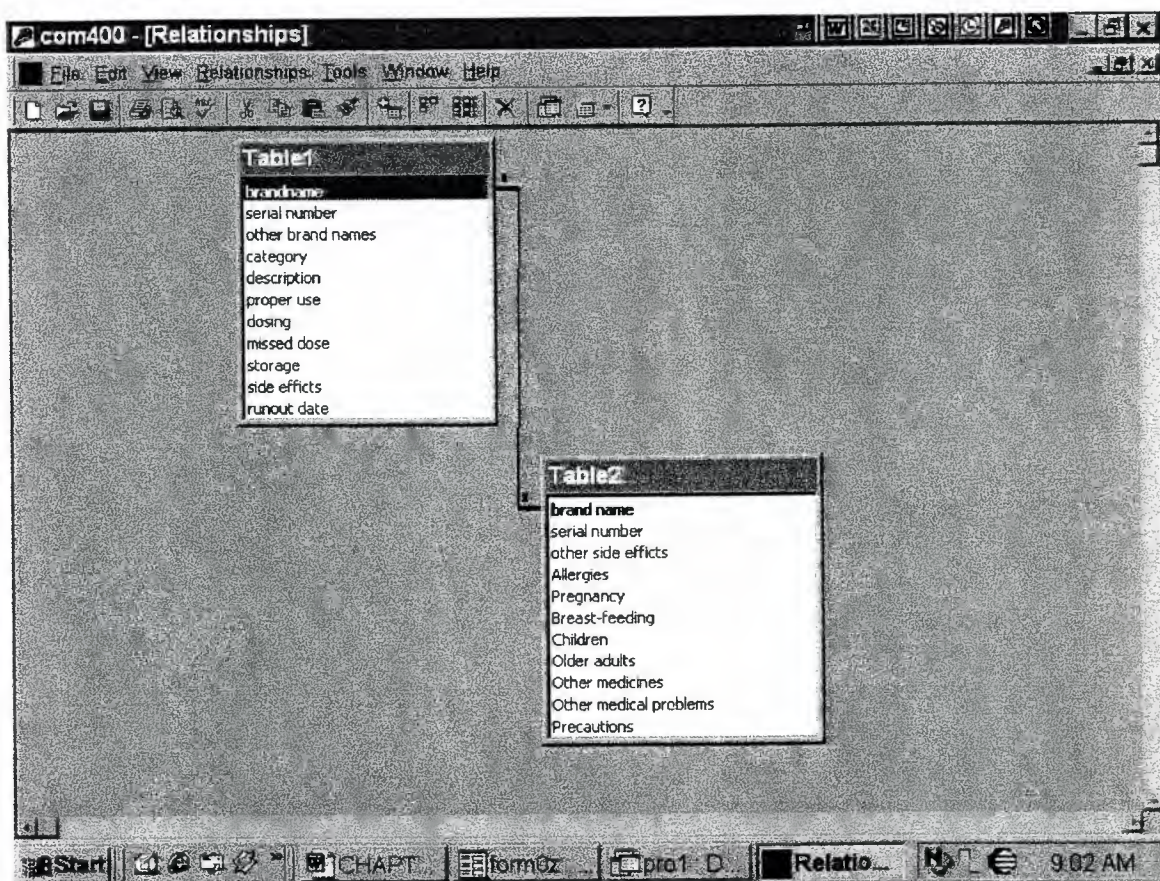


Figure 2.4 The relationship between tables

## **2.5 The Flowcharts**

Flowcharts are one of the best tools for software engineering modeling, they show how the data and information is flowing in the system, they are made easy for making applications of any kind, they are basically steps of how the program is going to be developed.

There are many types of flowcharts, like dataflow diagrams, simple flowcharts, structure charts etc. here a mixture of structures and flowcharts are used to model the system.

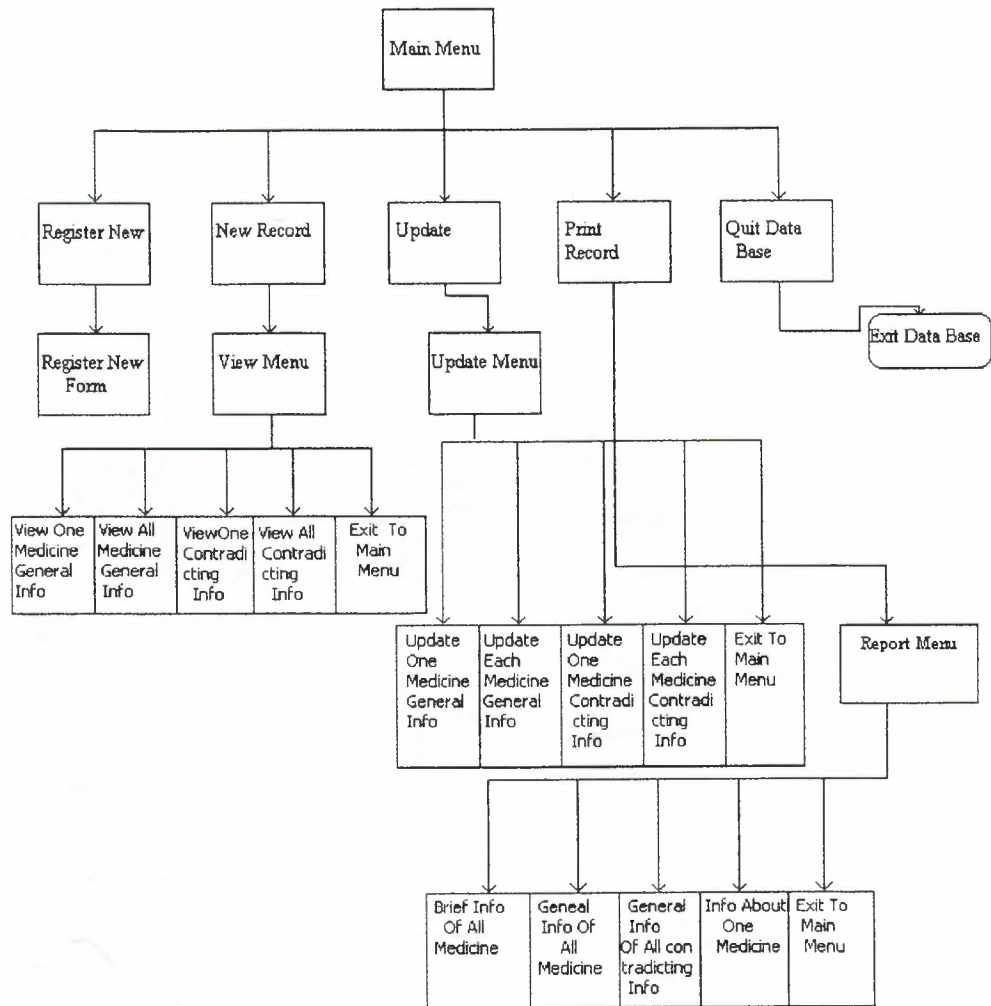


Figure 2.6.

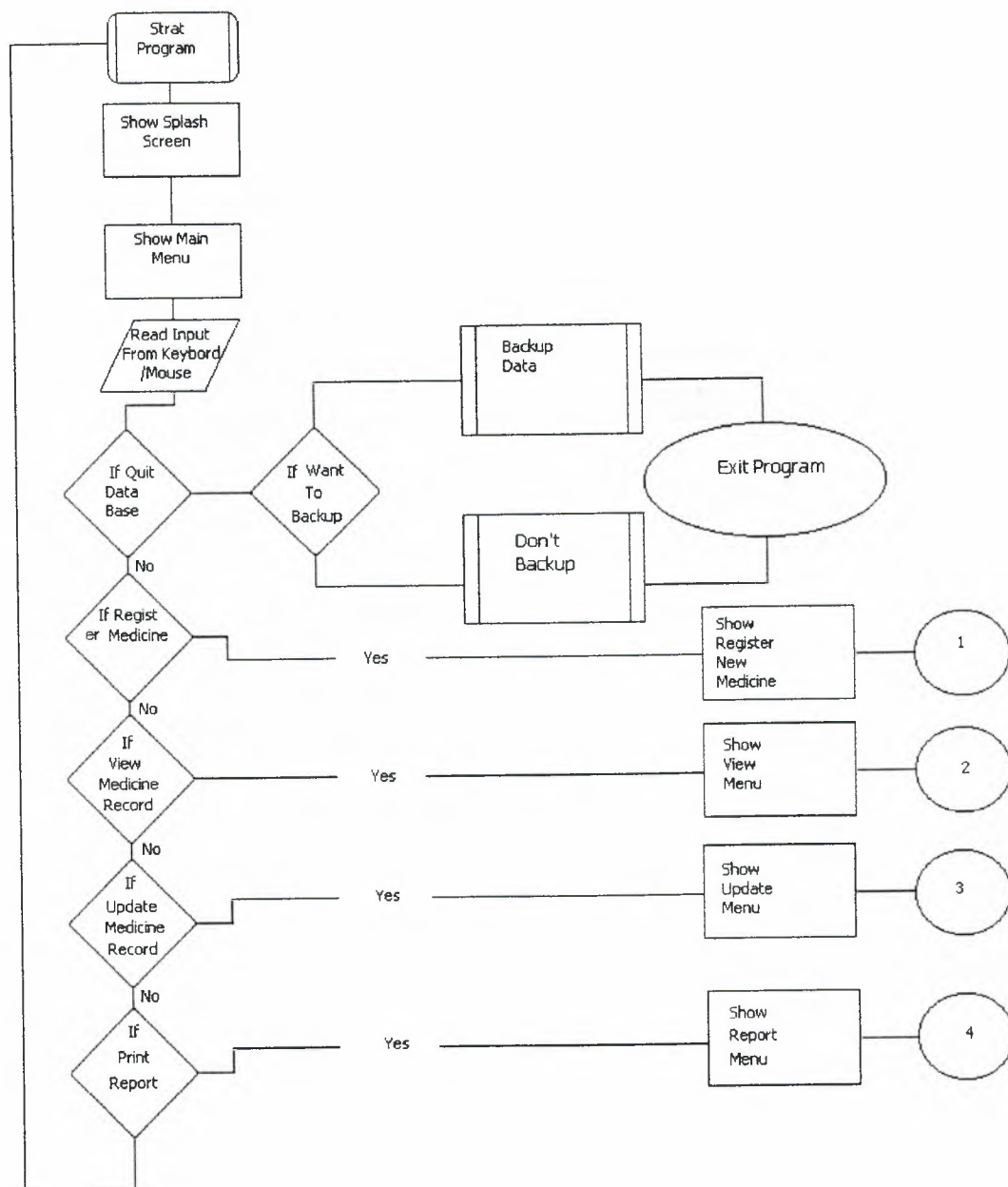


Figure 2.7.



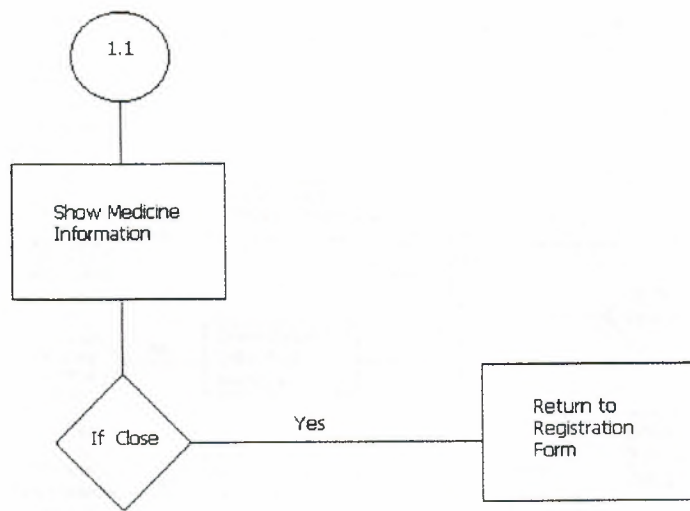
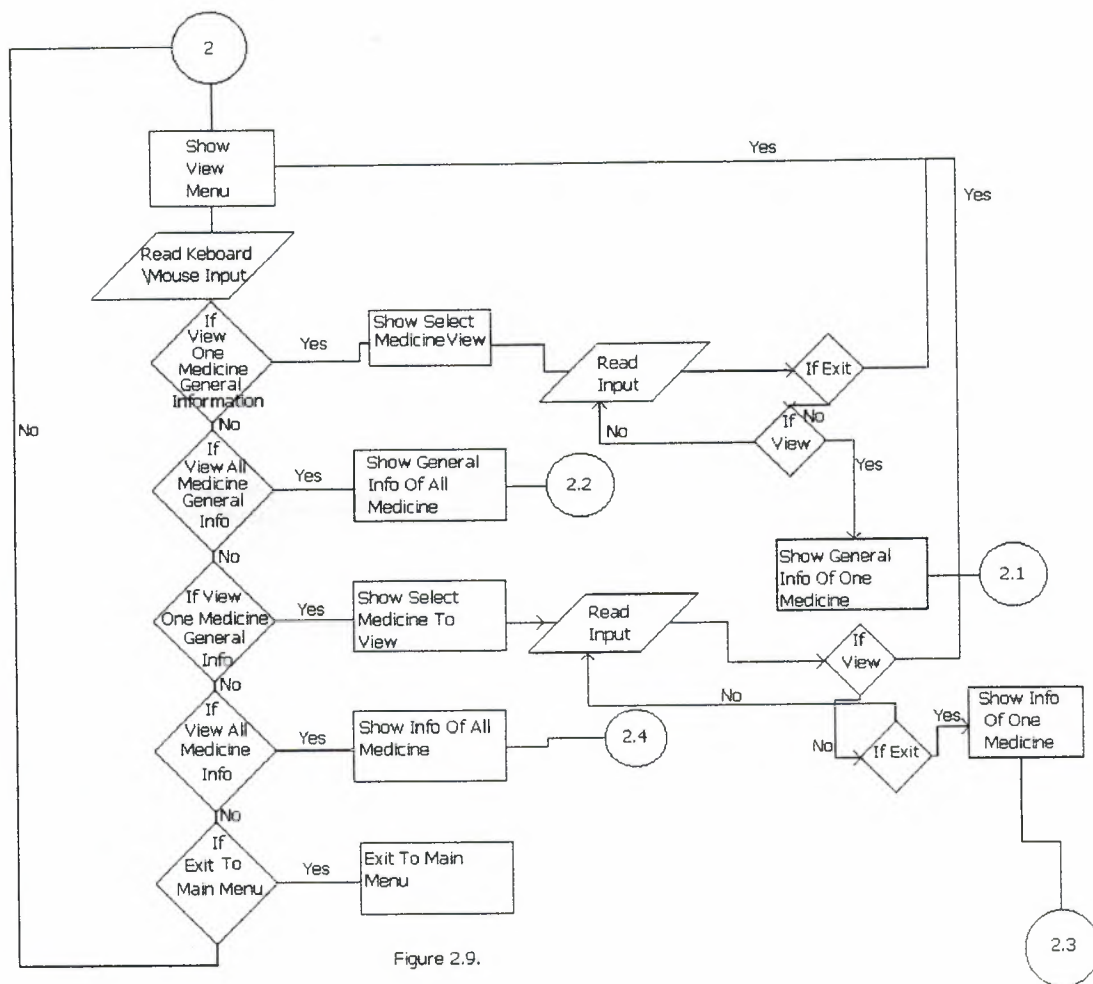


Figure 2.8.





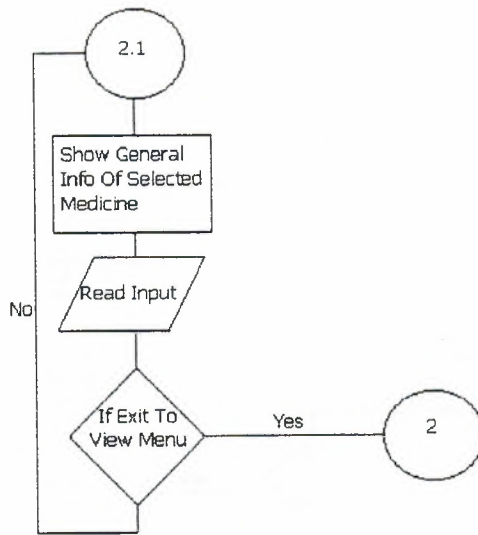


Figure2.10.

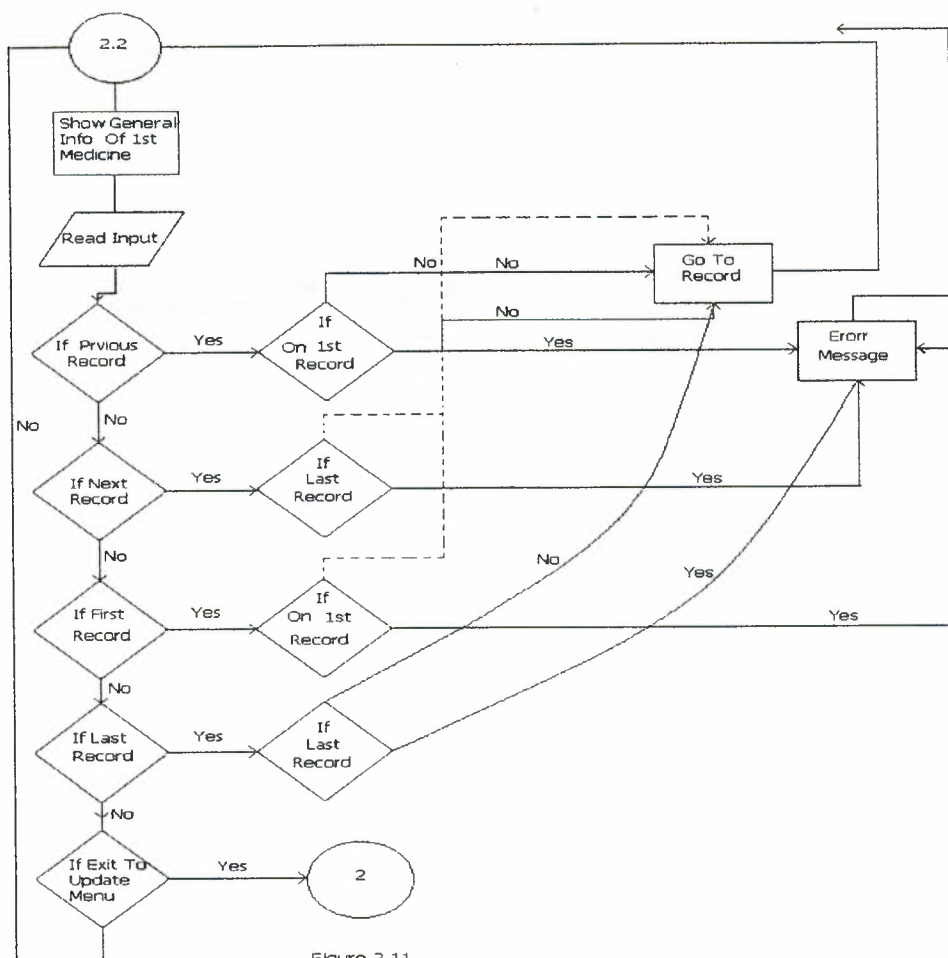


Figure 2.11.

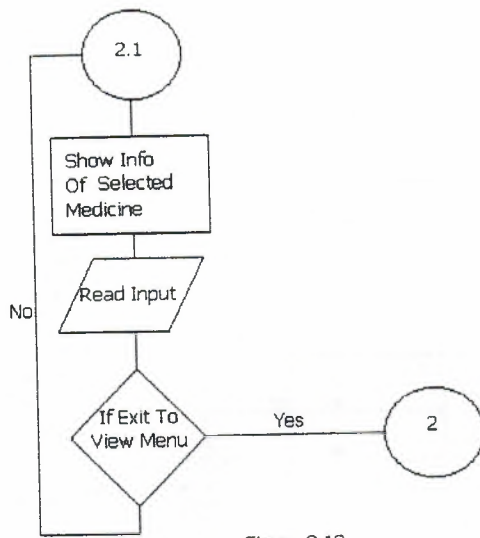


Figure 2.12.

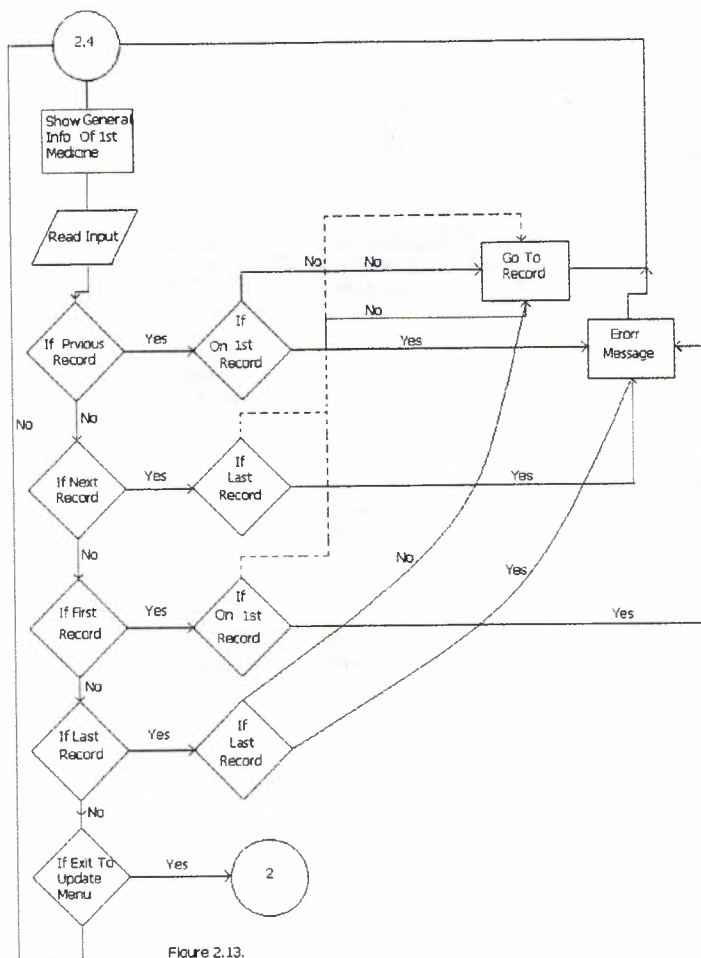


Figure 2.13.

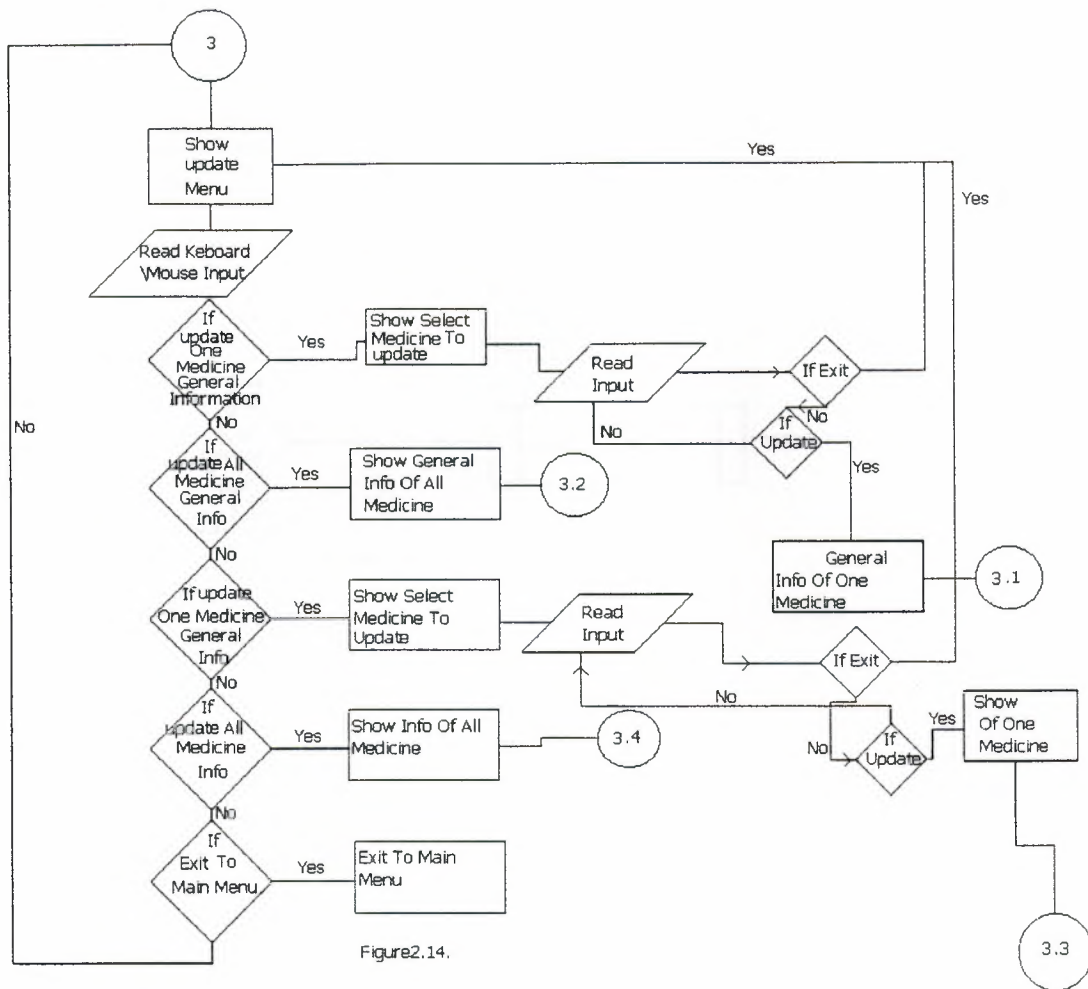


Figure2.14.

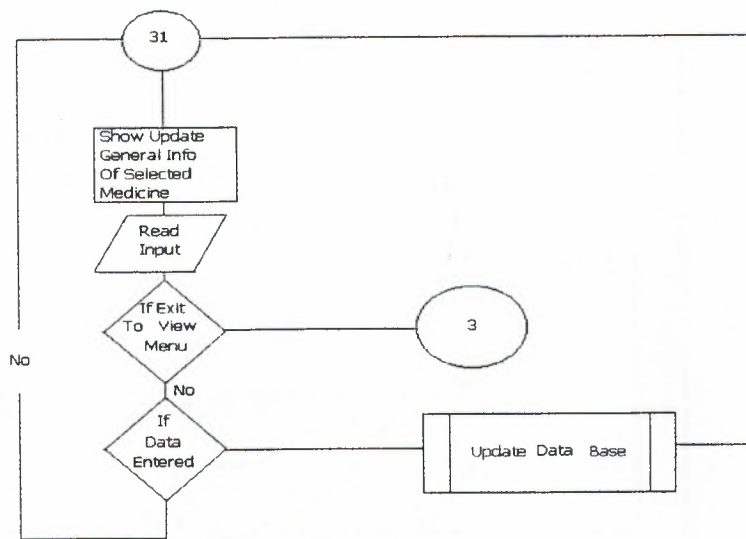


Figure 2.15.



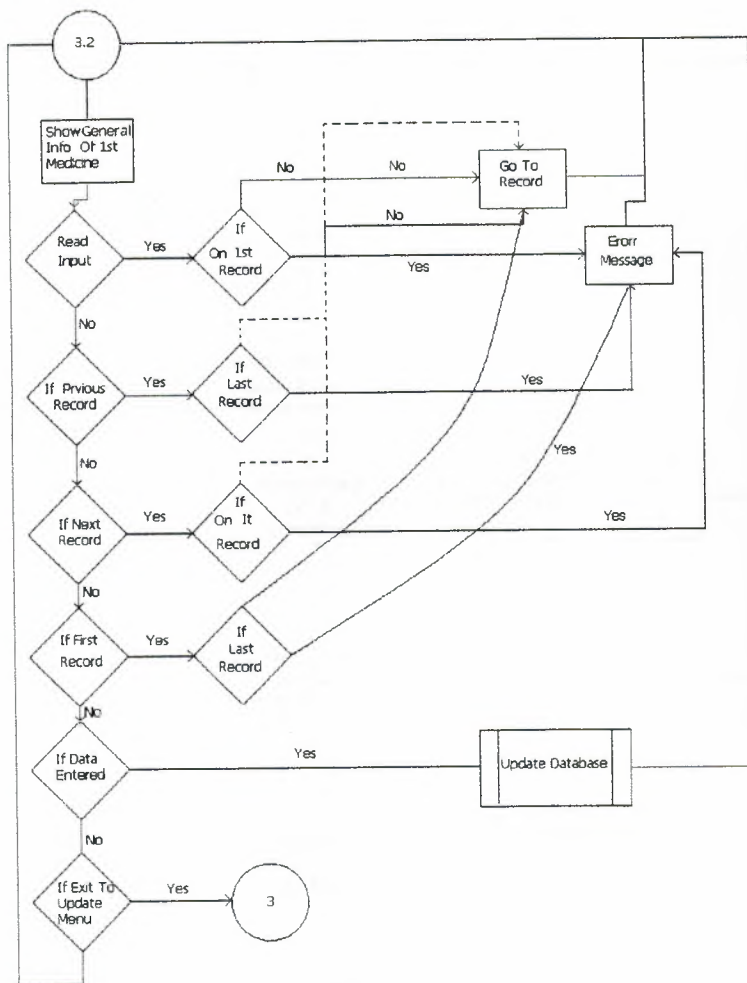


Figure 2.16.

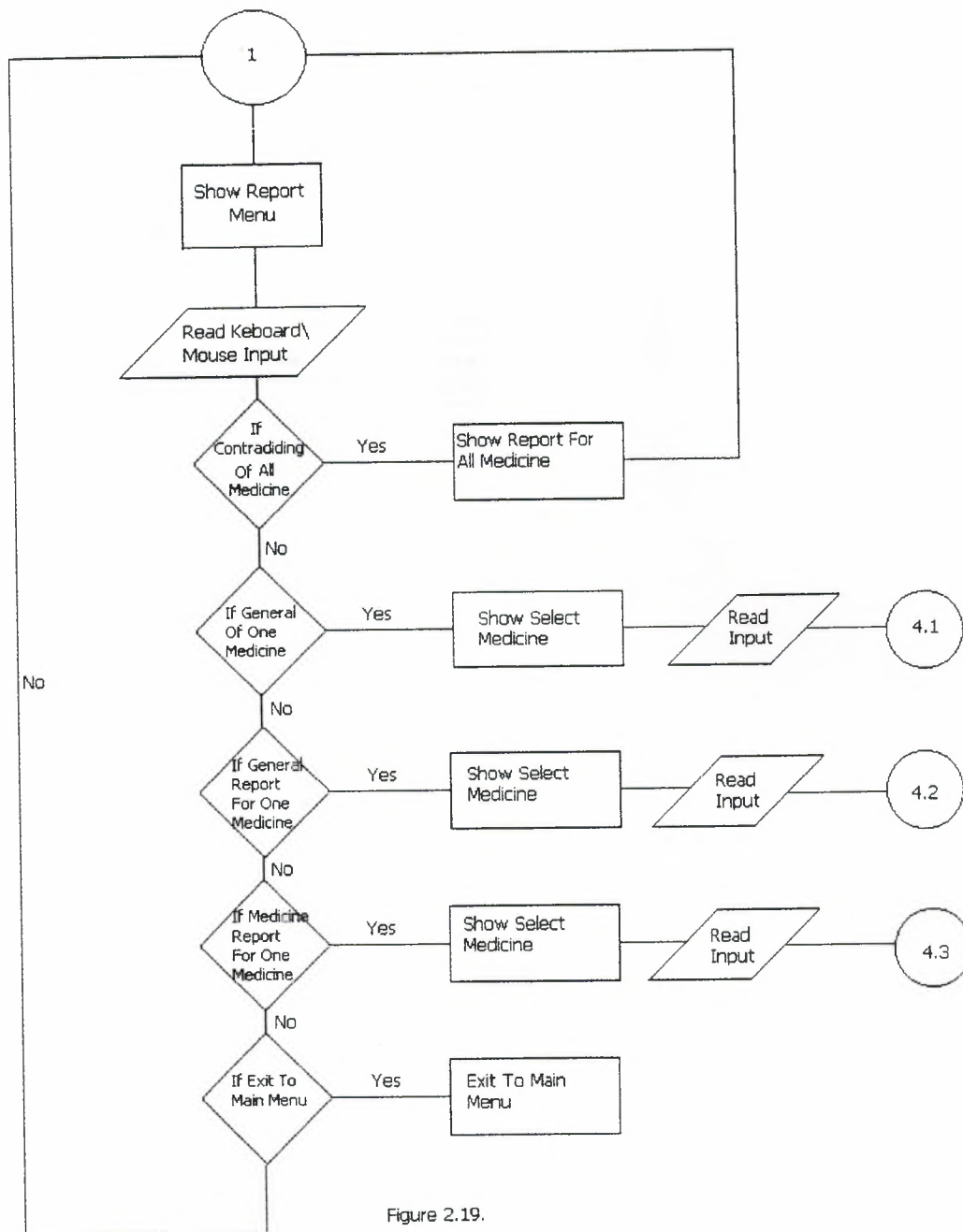


Figure 2.19.

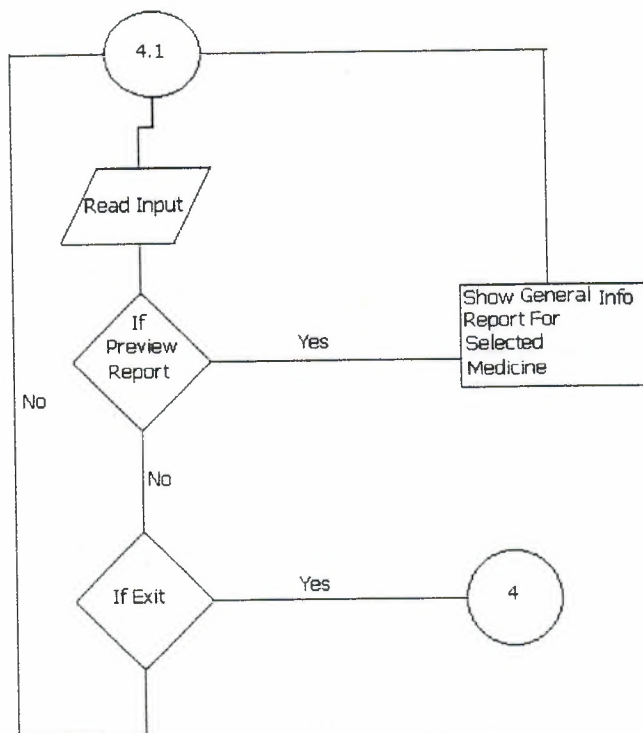


Figure 2.02.

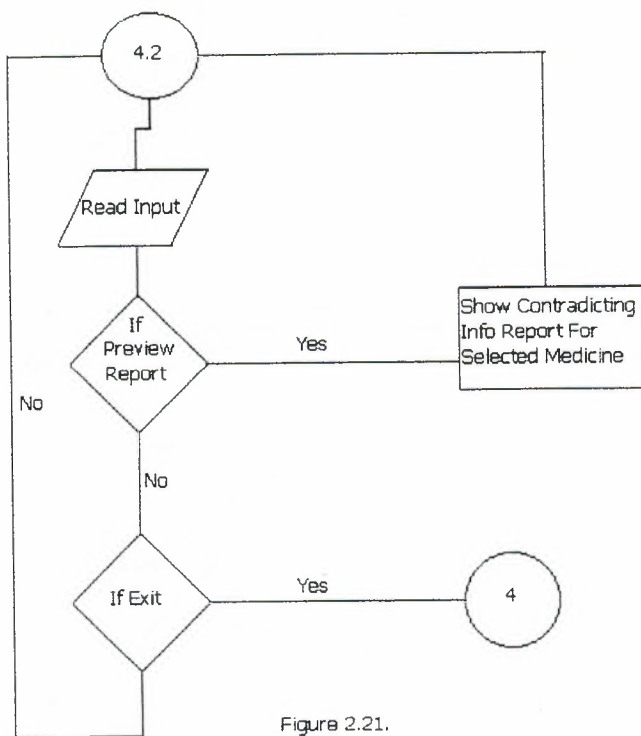


Figure 2.21.

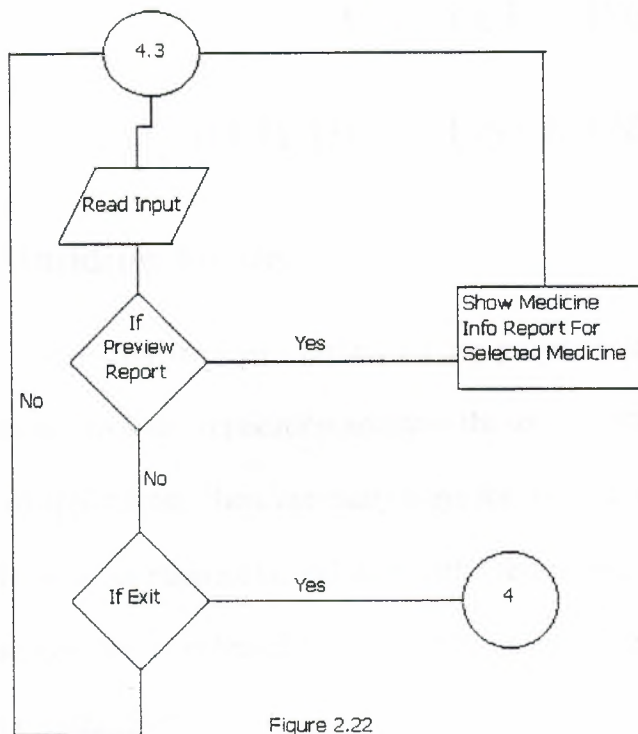


Figure 2.22

# CHAPTER THREE

## BUILDING USER INTERFACE

### 3.1 Building Forms

To make the user interface for any project means defining how the user will interact with the application and how the user interface must relate to the logic of application. There are many ways for building interfaces, we are using one main form as the main menu and other MDI forms linked with it to navigate the other menus. Also there are linked forms to enter or update the records

#### 3.1 The Splash Screen

The splash screen is going to appear when the application is loaded which is going to give some information about the program, it's name and the name of it's programmer,

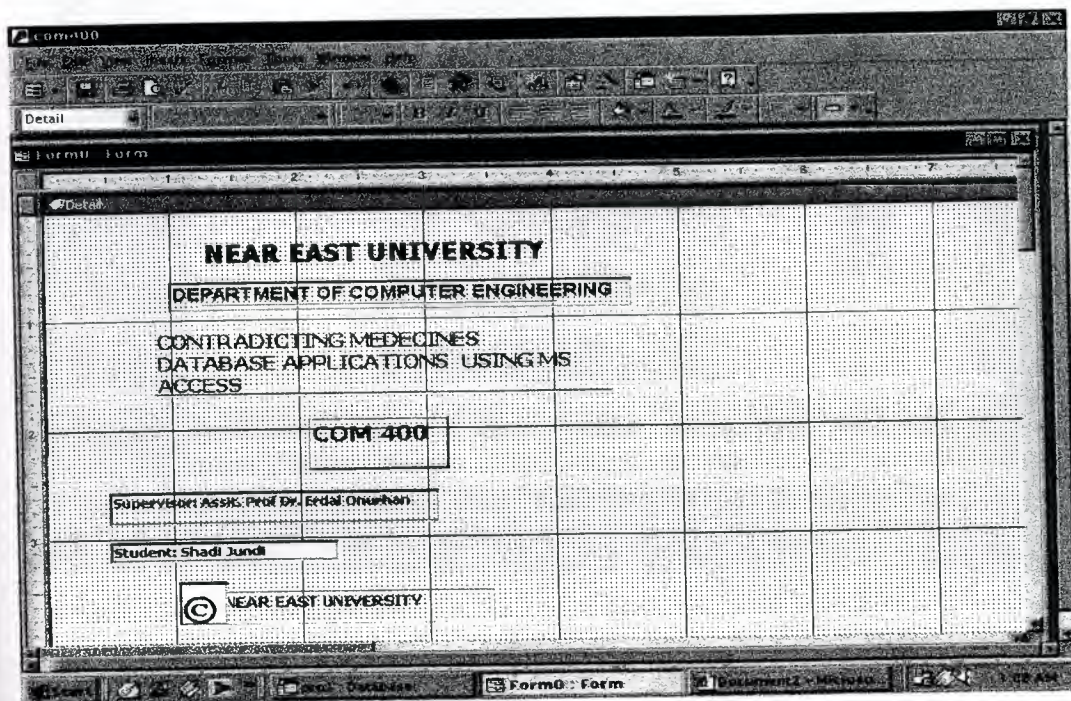


Figure 3.1. The splash screen main design



### 3.1.2. The Main Menu

The main menu is going to navigate to the other menus, it contains five buttons (options), the user can go to any of the sub menus like view menu or the user can quit the database application, the program is going to ask the user wither to back up the data or not. the main menu design is in figure 3.2

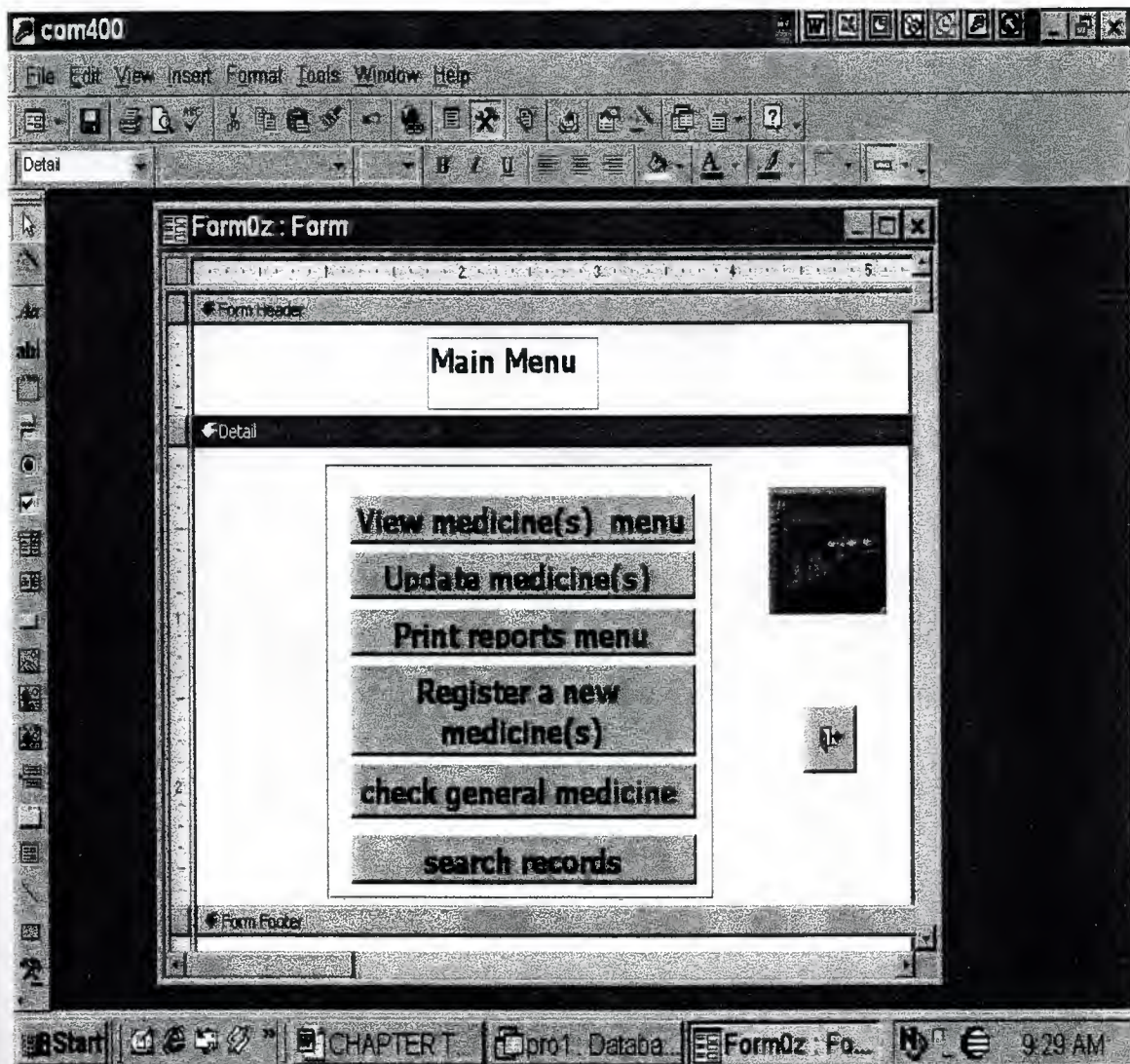


Figure3.2 the main menu

### 3.1.3 The Sub Menu

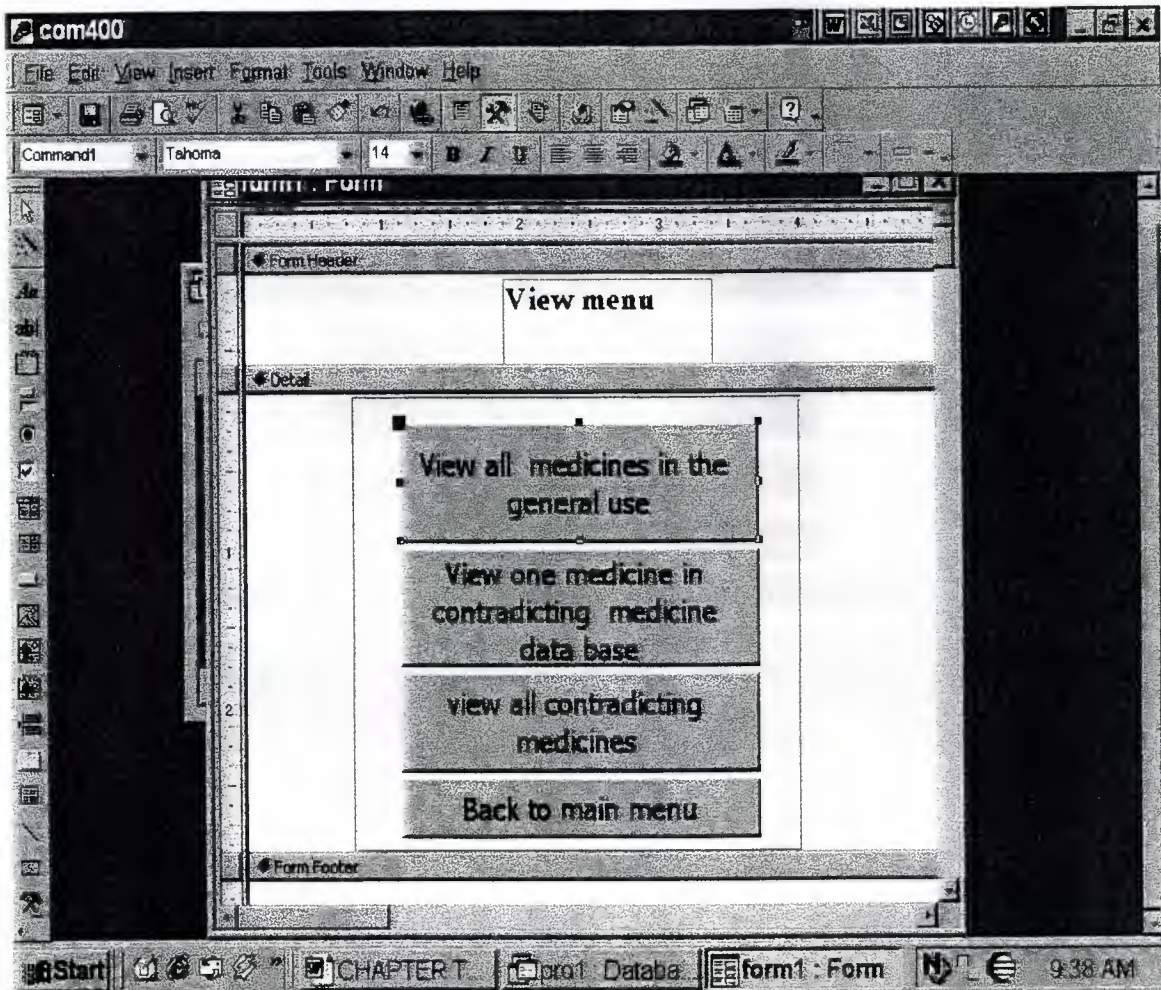
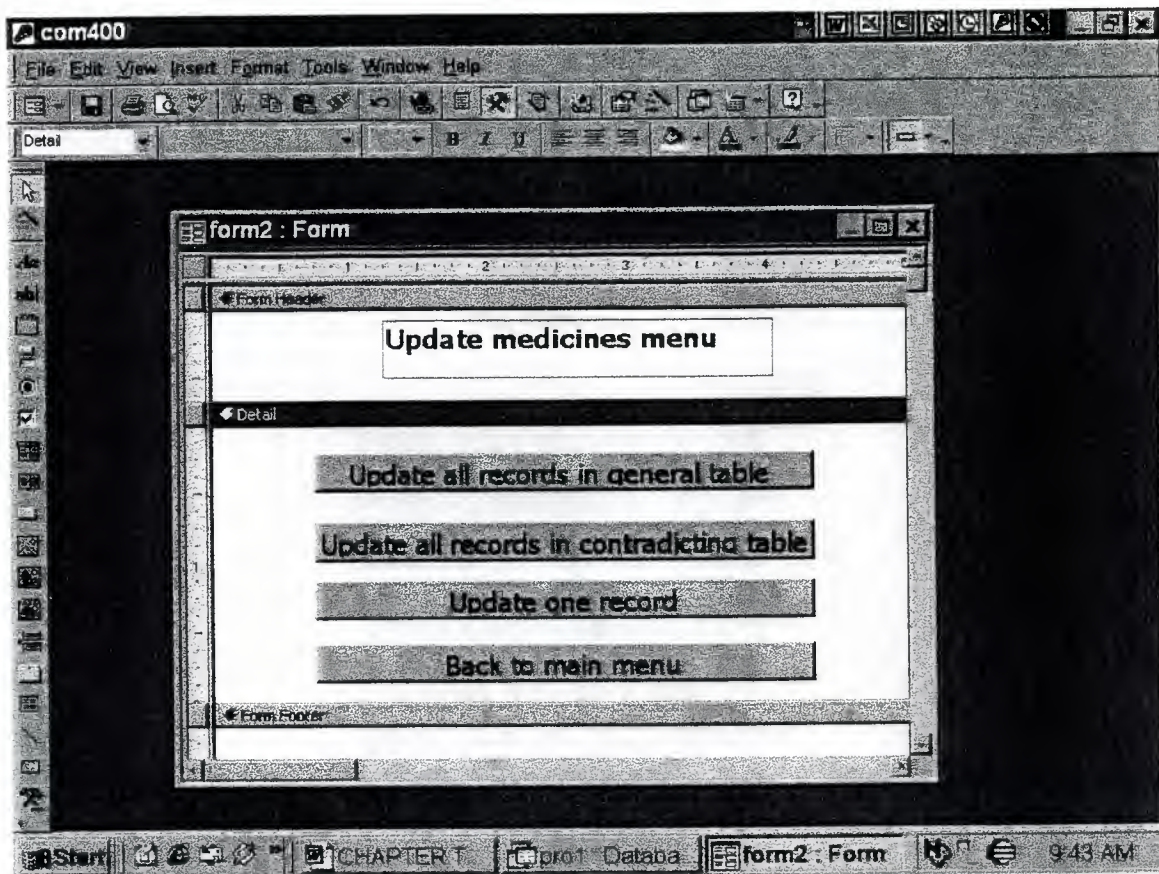


Figure 3.3 the view menu

The view menu is used for viewing data from simple medical tag up to a more complex and detailed contradicting information about some particular medicine





**Figure 3.4** The Update Menu

The Update Menu is used to update records and data in both general info and the contradicting info section.

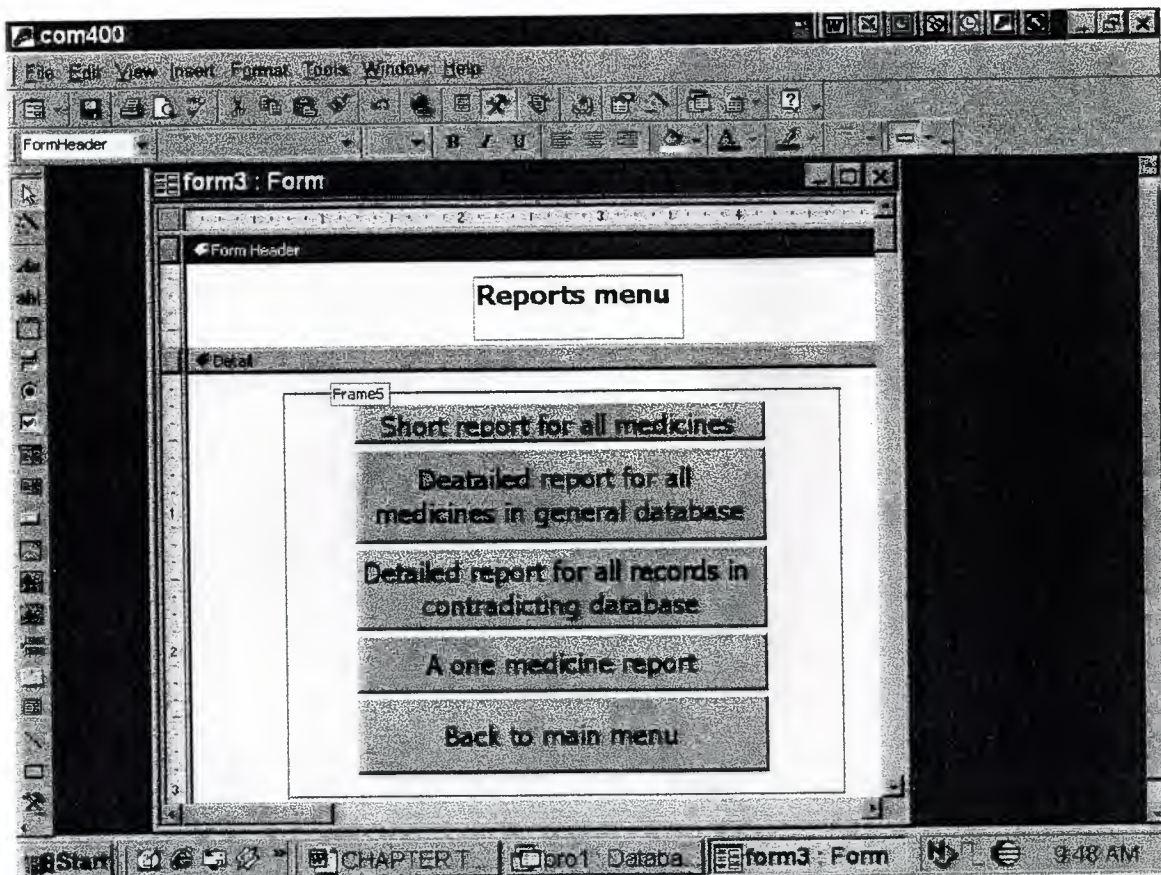


Figure 3.5 The Report Menu

### 3.1.4 The Registration Form

This form is going to work when a new medicine is needed to be added, it will also be going to contain a link to a sub form called check or validate in which the user can see to whom a particular id is given, in case the new id entered is invalid. It also contains tab control on which there are 2 tabs for tag, medical tag and details.



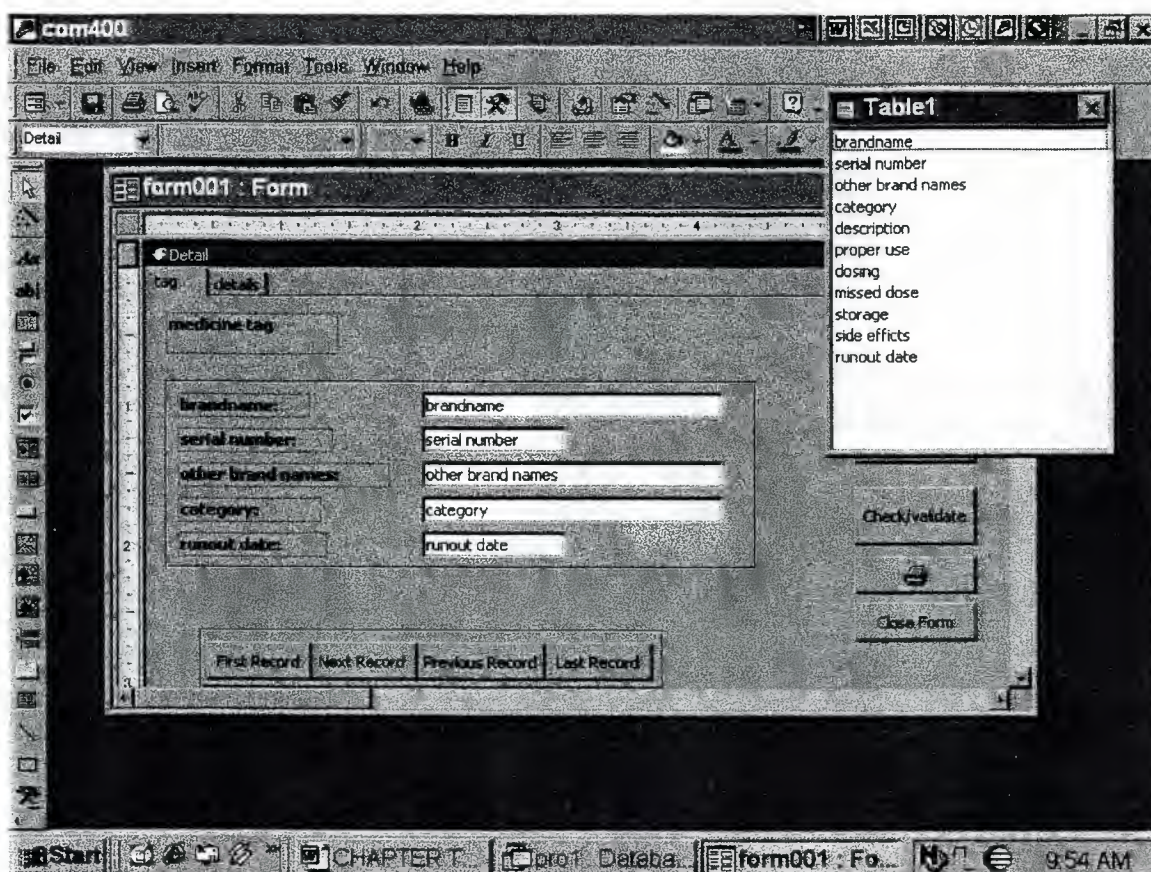


Figure 3.5 general tag tabs

This contains information about the medicine in general for a user with no experience about medicines the user can see information like name of the medicine, when it's used, how to use it and how much dosage must be taken.



The screenshot shows a software application window titled "com400". Inside, there is a form titled "form001 : Form". The form has a "Details" tab selected. The form contains several input fields arranged in a grid-like structure. On the right side of the form, there is a list box labeled "Table1" containing the following items: brandname, serial number, other brand names, category, description, proper use, dosing, missed dose, storage, side effects, and runout date. The status bar at the bottom of the window displays "CHAPTER T", "pro1 : Databa", "form001 : Fo...", and the time "9:58 AM".

Figure 3.5.1 the details tab

This tab contains more detailed information about the same medicine viewed in the first tab, information like proper use, side effects, storage, and run out date.



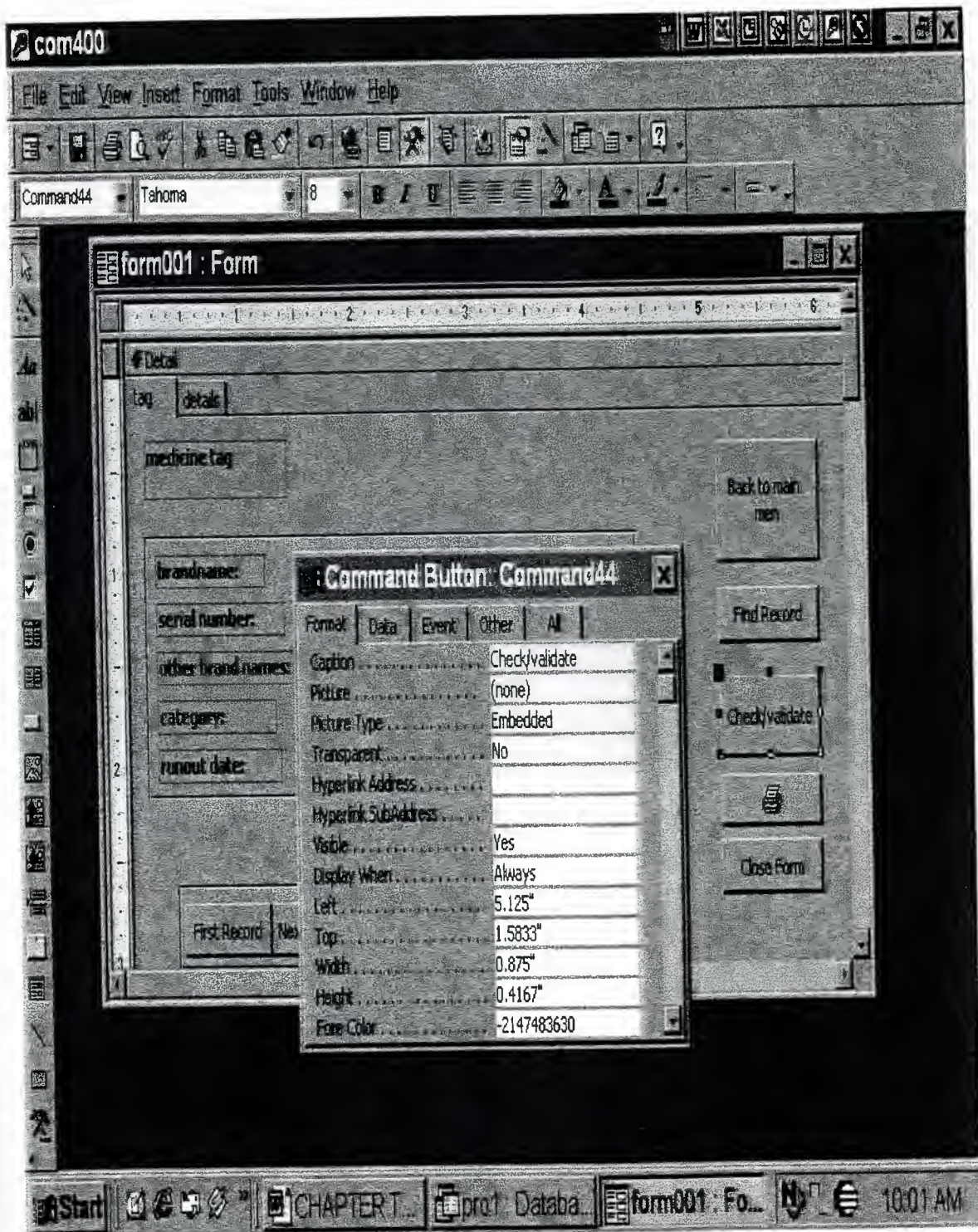


Figure 3.6 the validate/check situation



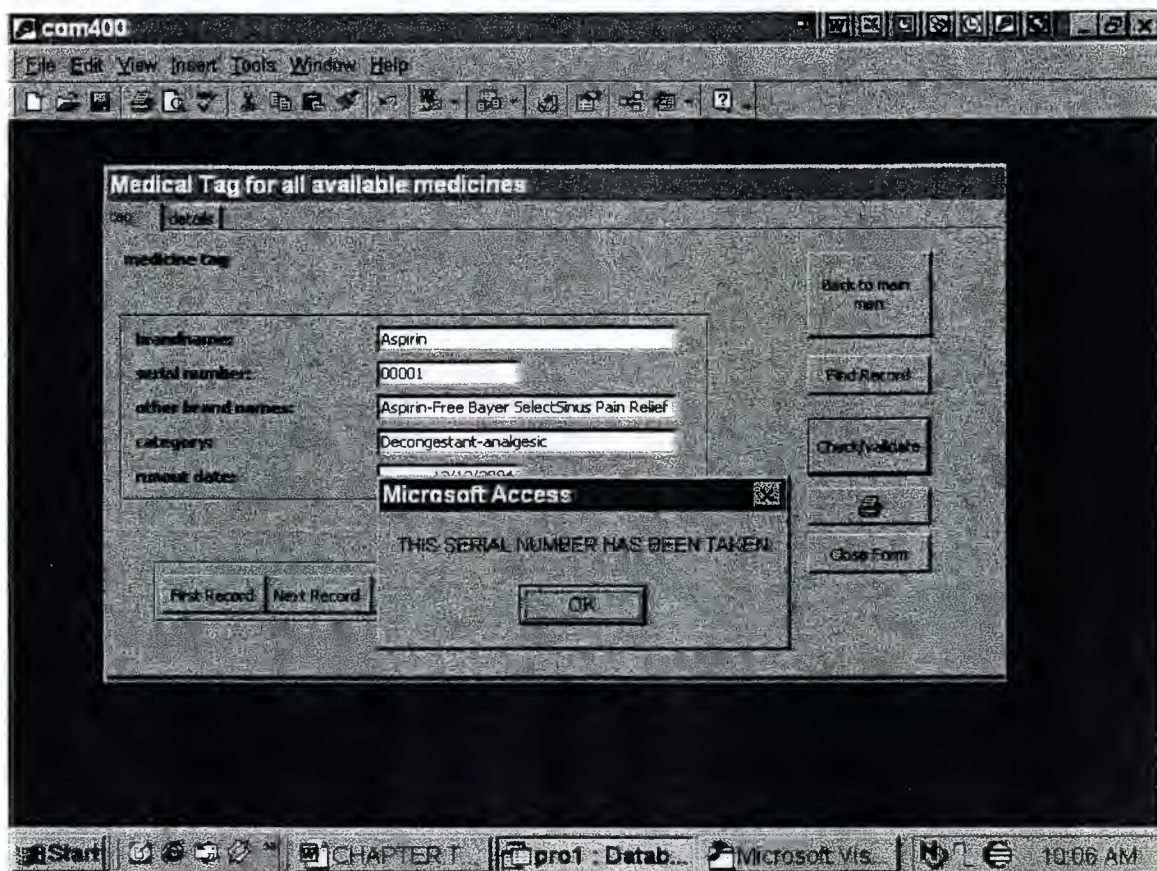


Figure 3.6.1 the error message

This occurs when only id number is entered twice since there should not be any two medicines to have the same id. Every medicine must have a unique id number, and therefore an error message will generate in this case.

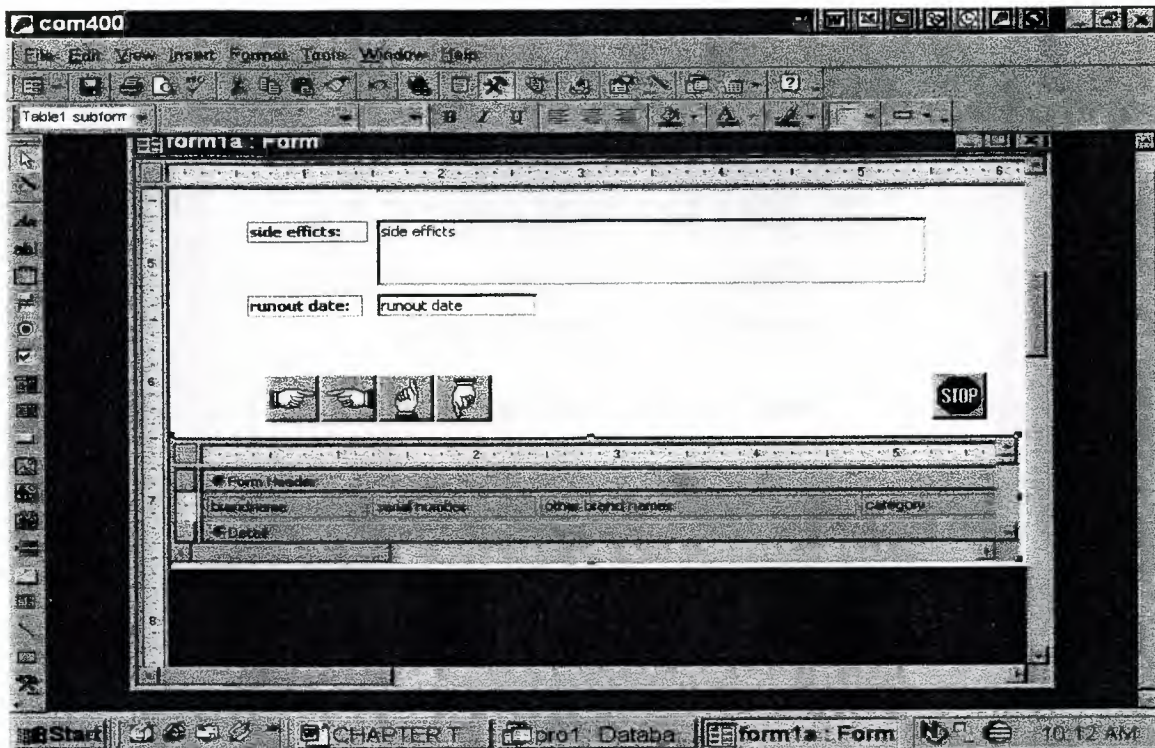


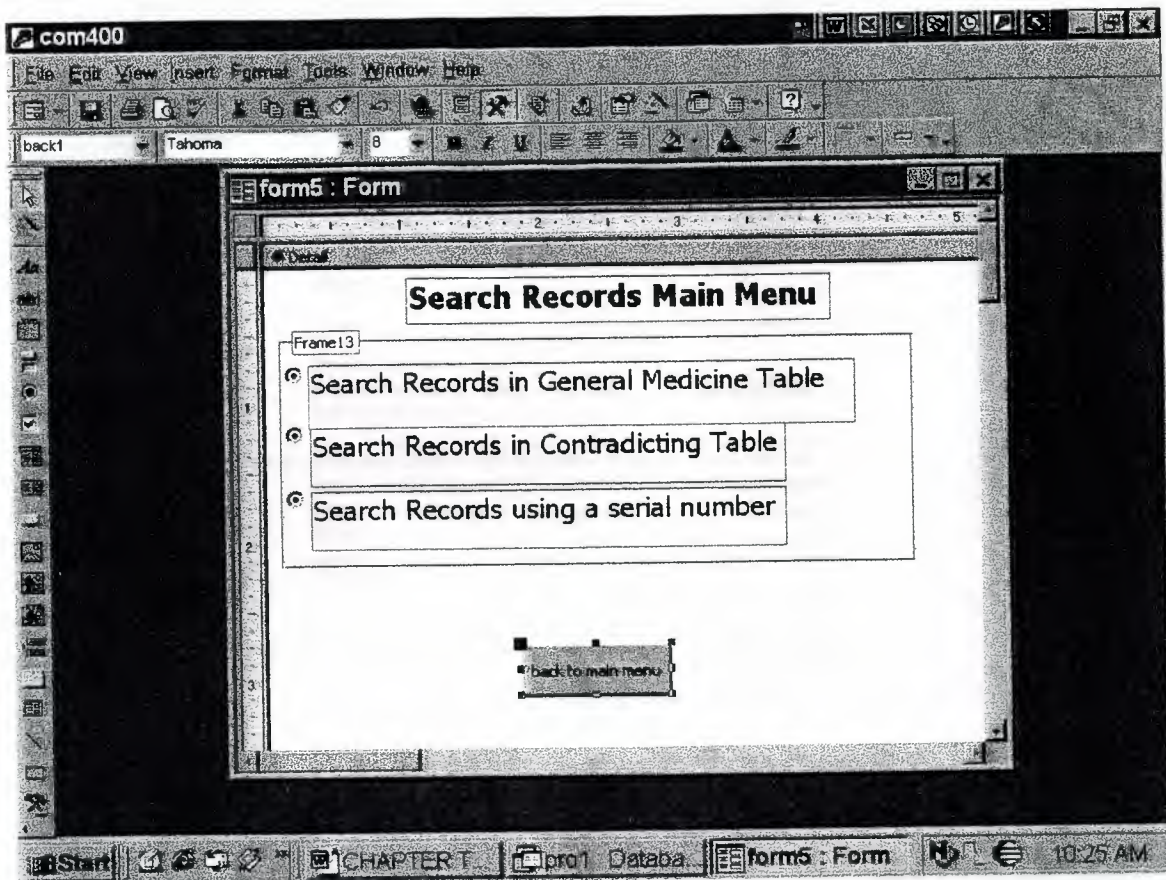
Figure3.7. the medicine info sub form

the design view of a form, which will display the general info for one medicine

### 3.1.5 The View Menu

The view menu contains five options; one of them is to go back to main menu. The view one-medicine general info option is going to show the general information entered at the registration time, but first it will ask the user to fill fields about it for example, if the user will enter the medicine id it will bring the information or the user might not be familiar with the id, the user can enter the name of it, still if the user still unable to locate the medicine there are other fields that can take a key word for example for cough medicine, you can write cough as a keyword, the program will search the data base and see the medicines associated with the keyword 'cough' and list them in another form.





Here is the search category used to locate any medicine in the database

There is search by criteria and search by using a serial number.



com400

File Edit View Insert Format Records Tools Window Help

Tahoma 8

**proper use:** Take this medicine only as directed . Do not take more of it and do not take it more often than recommended on the label, unless otherwise directed by your doctor. To do so may increase the chance of side effects.

**dosing:** For oral dosage forms (capsules, liquid, or tablets):  
For sinus pain and congestion:  
Adults and children 12 years of age and older: 1 to 2 capsules or tablets every four to six hours.

**missed dose:** If you must take this medicine regularly and you miss a dose, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

**storage:** Store away from heat and direct light.

**side effects:** Convulsions (seizures); dizziness or lightheadedness (severe); fast, slow, or irregular heartbeat;  
hallucinations (seeing, hearing, or feeling things that are not there);  
headache (continuing and severe).

**runout date:** 12/12/2004

Records: 1 of 3

Start CHAPTER 1 pro1 Databa form1a Form 10:30 AM

The previous, next and the rest of the button gives the user the ability to navigate to any desired record, but here the user cannot update any record at this form and all the fields will be read only fields.

com400

File Edit View Insert Format Tools Window Help

Form

proper use: proper use

dosing: dosing

missed dose: missed dose

storage: storage

side effects: side effects

runout date: runout date

STOP

Start CHAPTER T... pro1 Databa... form1a Form 10:32 AM

Figure 3.10 the general info for one medicine

com400

File Edit View Insert Format Records Tools Window Help

Tahoma

proper use: Take this medicine only as directed. Do not take more of it and do not take it more often than recommended on the label, unless otherwise directed by your doctor. To do so may increase the chance of side effects.

dosing: For oral dosage forms (capsules, liquid, or tablets):  
For sinus pain and congestion:  
Adults and children 12 years of age and older: 1 to 2 capsules or tablets every four to six hours.

missed dose: If you must take this medicine regularly and you miss a dose, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

storage: Store away from heat and direct light.

side effects: Convulsions (seizures); dizziness or lightheadedness (severe); fast, slow, or irregular heartbeat;  
hallucinations (seeing, hearing, or feeling things that are not there);  
headache (continuous and severe).

runout date: 12/12/2004

STOP

Start CHAPTER T... pro1 Databa... form1a Form 10:30 AM

Figure 3.11 the general info for all medicines



The general info for all medicines does not select a particular medicine it simply displays all the medicines with it details. In case the user want to see a contradicting medicine information the user have to click on the option `view contradicting medicine at the view menu.

The screenshot shows a software application window titled "com400". Inside, there is a menu bar (File, Edit, View, Insert, Format, Records, Tools, Window, Help) and a toolbar. Below the toolbar, a status bar shows "Tahoma" and "8". The main content area is titled "form1a: Form" and contains the text "Viewing data for a medicine for general use". The form displays the following information:

- brandname:** Aspirin
- serial number:** 00001
- other brand names:** Aspirin-Free Bayer SelectSinus Pain Relief Caplets, Advil Cold and Sin
- category:** Decongestant-analgesic
- description:** Decongestant and analgesic combinations are taken by mouth to relieve sinus and nasal congestion (stuffy nose) and headache of colds, allergy, and hay fever
- proper use:** Take this medicine only as directed. Do not take more of it and do not take it more often than recommended on the label, unless otherwise directed by your doctor. To do so may increase the chance of side effects.
- dosing:** For oral dosage forms (capsules, liquid, or tablets):  
For sinus pain and congestion:  
Adults and children 12 years of age and older: 1 to 2 capsules or tablets every four to six hours.
- missed dose:** If you must take this medicine regularly and you miss a dose, take it as soon as possible. However, if it is almost time for your next dose, skip the missed dose and go back to your regular dosing schedule. Do not double doses.

At the bottom of the form, there is a "Record:" field showing "1" and a "Page:" field showing "1 of 3". The Windows taskbar at the bottom shows the Start button, several icons, and the text "CHAPTER T", "pro1: Databa...", "form1a: Form", and the time "10:37 AM".

Figure 3.12 general information form

com400

File Edit View Insert Format Tools Window Help

Detail

form1c : Form

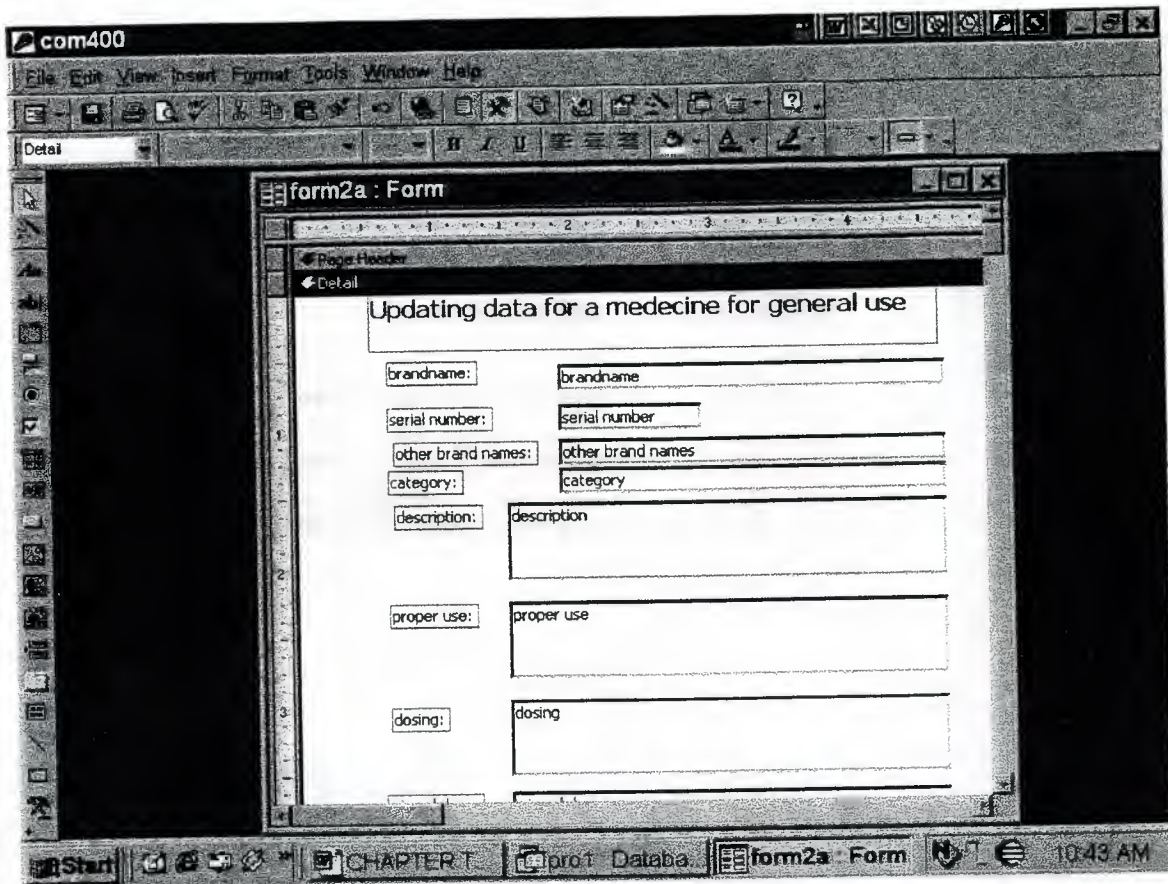
Detail

brand name	brand name	Allergies	Allergies
serial number	serial number		
other side effects:	other side effects	Older adults	Older adults
Children	Children	Other medicines	Other medicines
Precautions	Precautions	Other medical problems	Other medical problems
Pregnancy	Pregnancy	Breast-feeding	Breast-feeding

Start CHAPTER T Data form1c : Form 10:38 AM

Figure 3.15 contradicting medicine information form





### 3.1.6 The Update Menu

The structures and design of the forms are the same as the update menu, the only difference is that the user can update the records or the information about the medicines. This is the last menu which deals with the forms, the next menu will deal with the reports.

### 3.17 The Report Menu

In this menu only six forms are used if the user wants a report about one particular medicine, the user may select the medicine id or might choose other criteria as will.



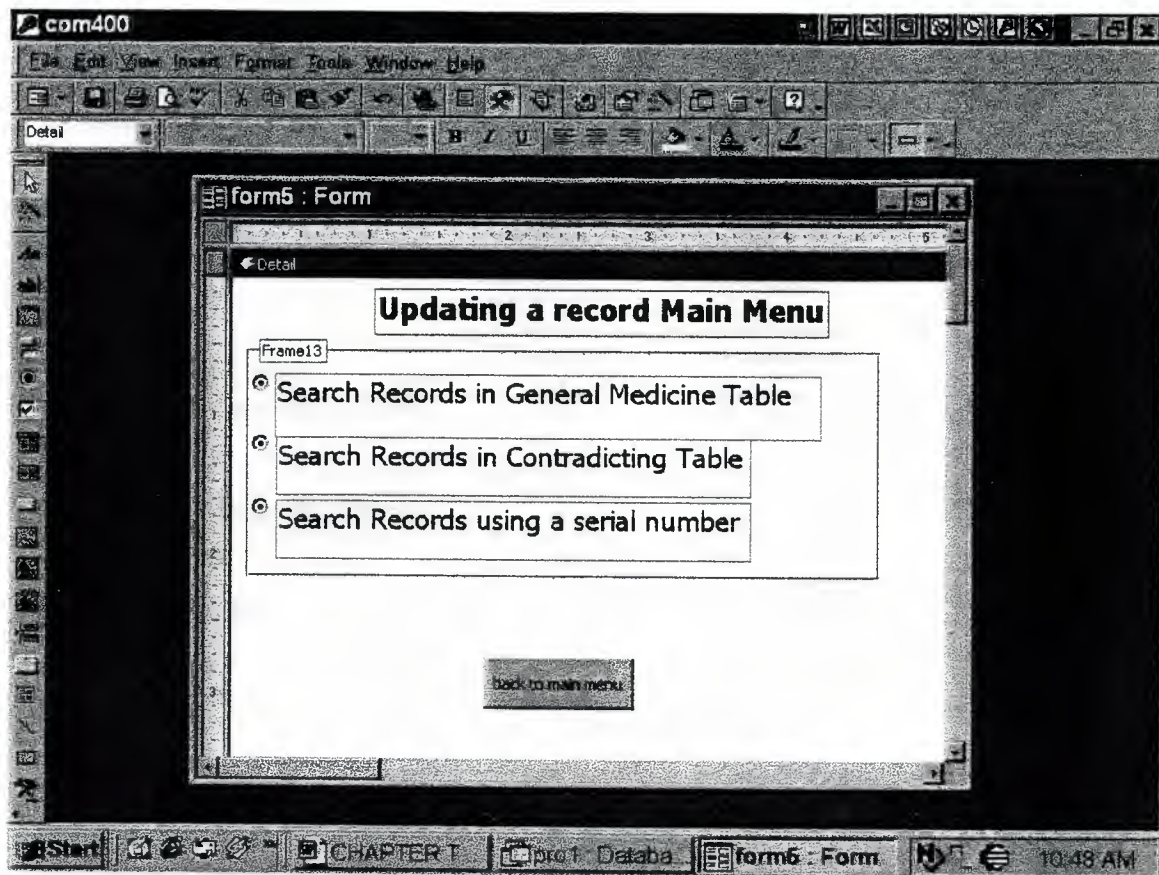


Figure 3.15 select medicine id or the criteria section to preview general info of one medicine.

com400

File Edit View Insert Format Tools Window Help

Form

form1a: Form

brandname: brandname

serial number: serial number

other brand names: other brand names

category: category

description: description

proper use: proper use

dosing: dosing

missed dose: missed dose

storage: storage

Start CHARTER T pro1: Databa... form1a: Form 10:51 AM

Figure 3.16 selecting medicine id or any other criteria to preview contradicting info of one medicine.

### 3.2 Building Reports

As seeing information in writing is the most traditional and most convincing method of reporting. That's why it's important to be able to get results on paper.

In the fields of medicine it's considered useful to have medicine description both in detail and in brief handy.

Here are the reports that are designed are as following:

- 1.the first report gives brief description for all medicines in general info.
- 2.the second reports give detailed description for all medicines in general info.
3. the third report gives description for one medicine in general info using an id number or criteria.
4. the forth report gives description for one medicine in contradicting info using id number or some other criteria.
- 5.the first report gives brief description for all medicines in contradicting info.
- 6.the second reports gives detailed description for all medicines in contradicting info.



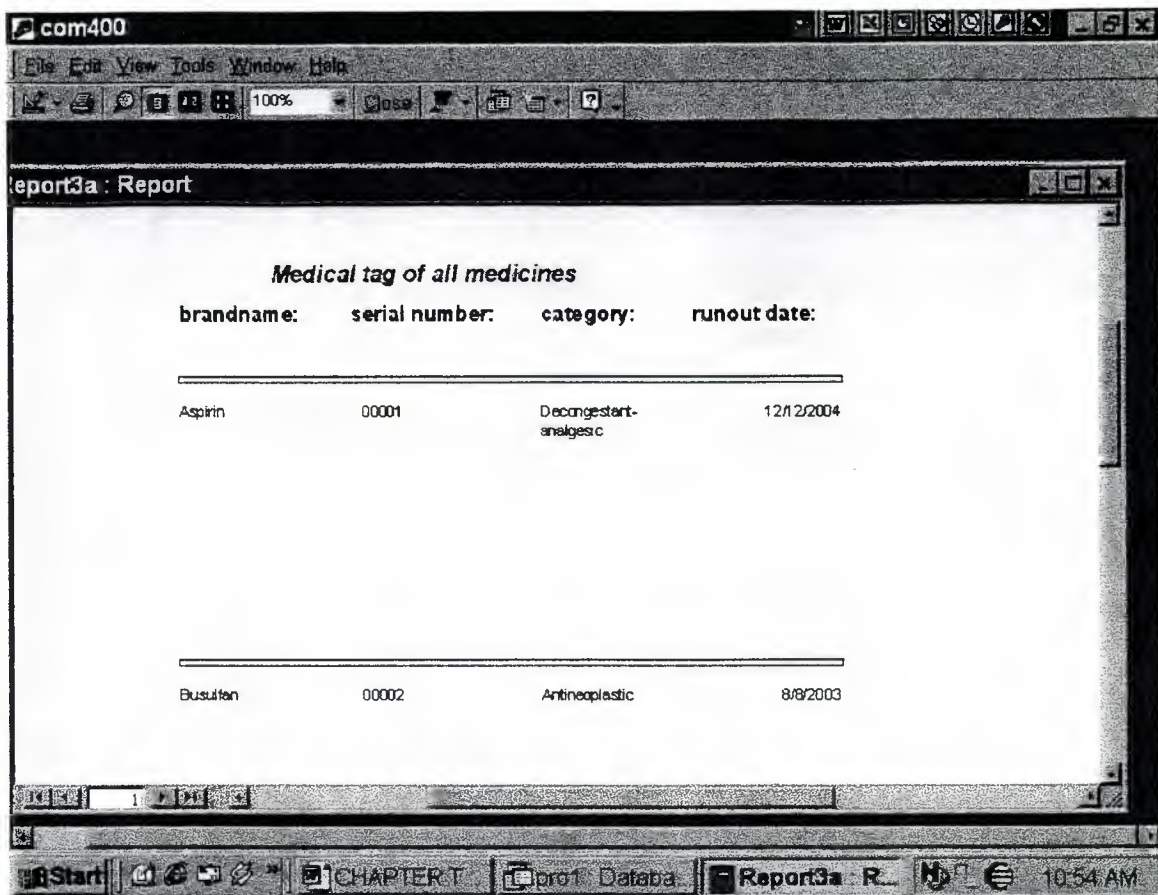
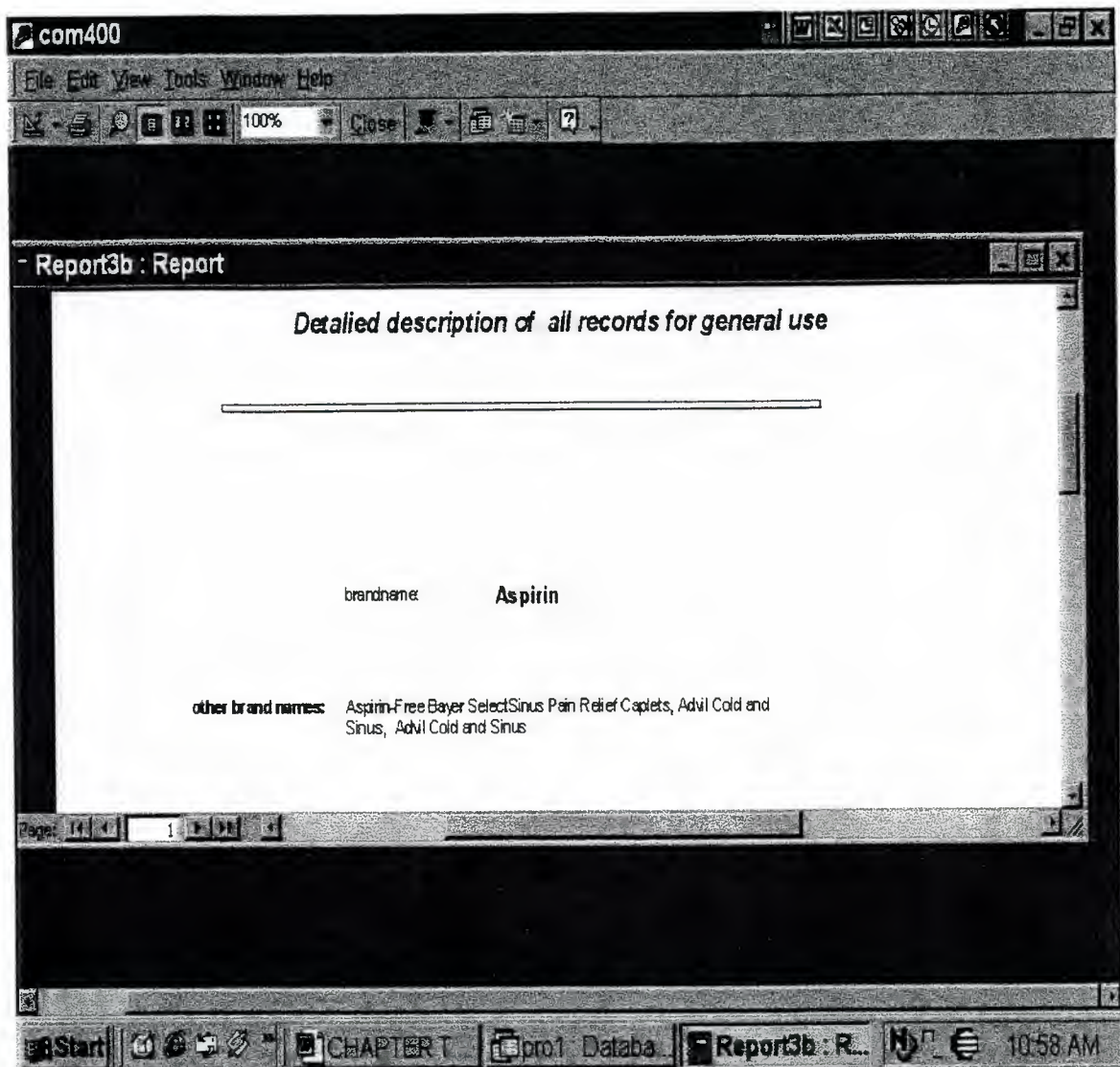


Figure 3.16 all medicine brief description report.



**Figure 3.17** information of all medicines



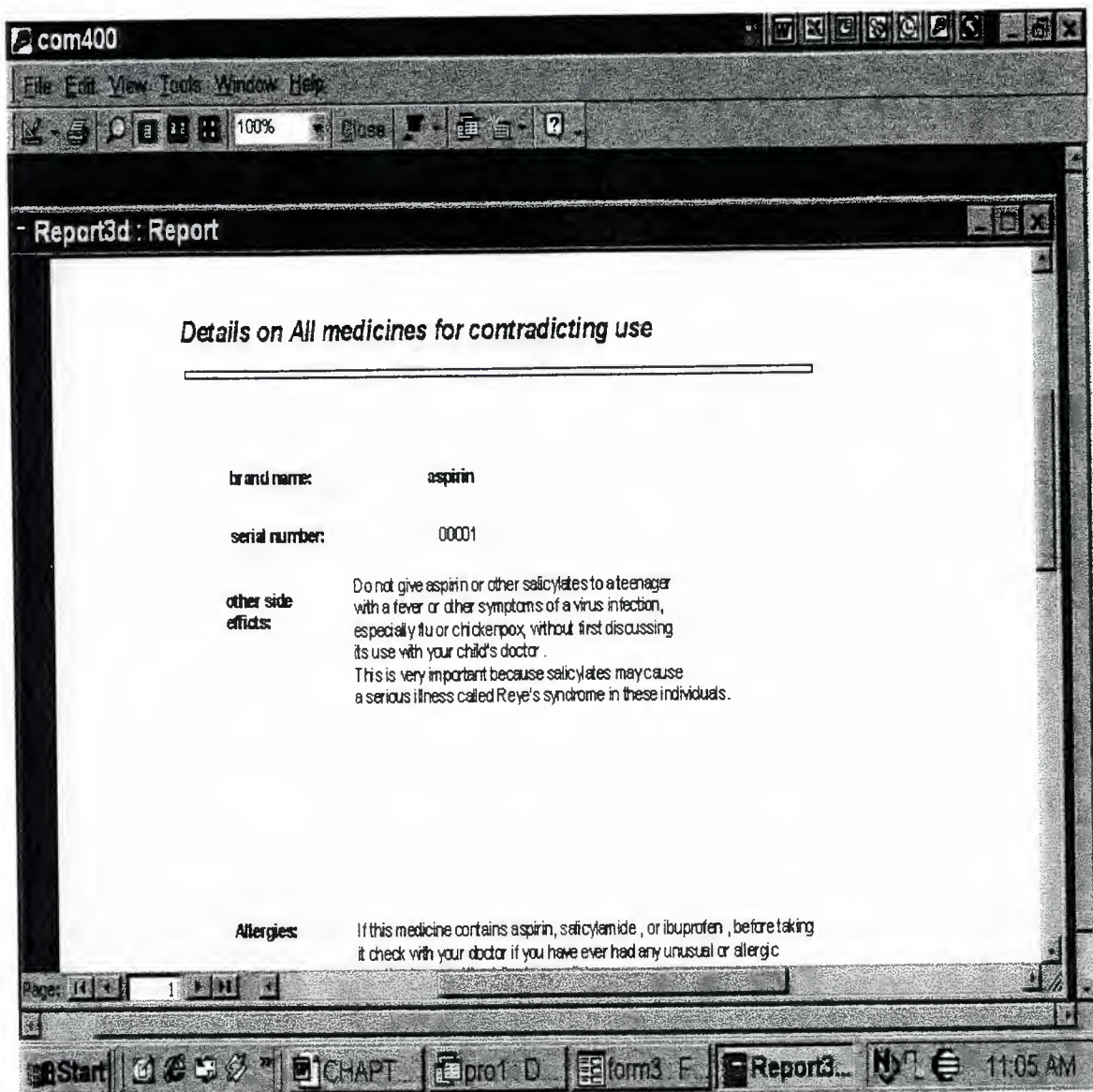


Figure3.17a. report on all contradicting medicines

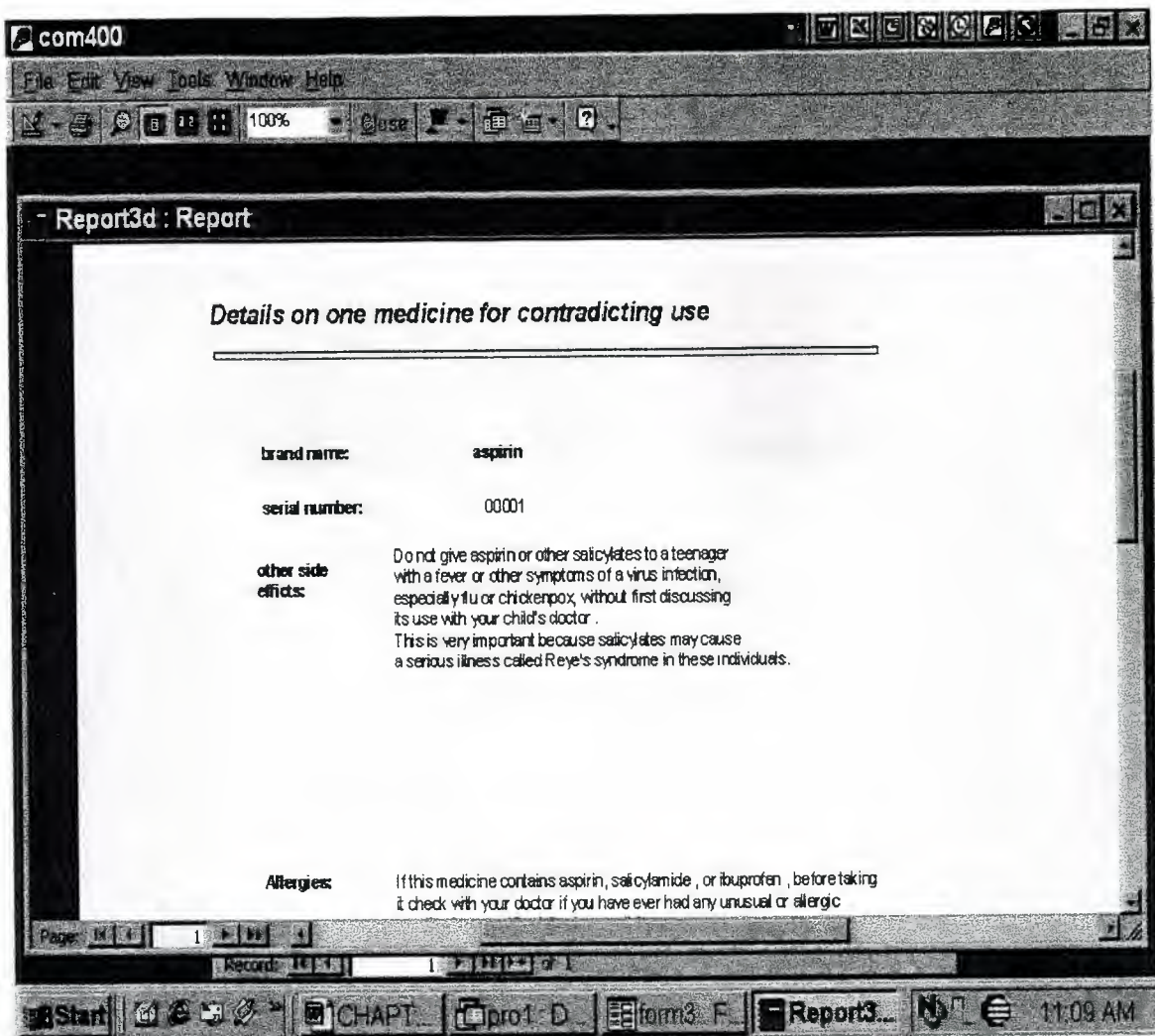


Figure3.18 contradicting info of one medicine.

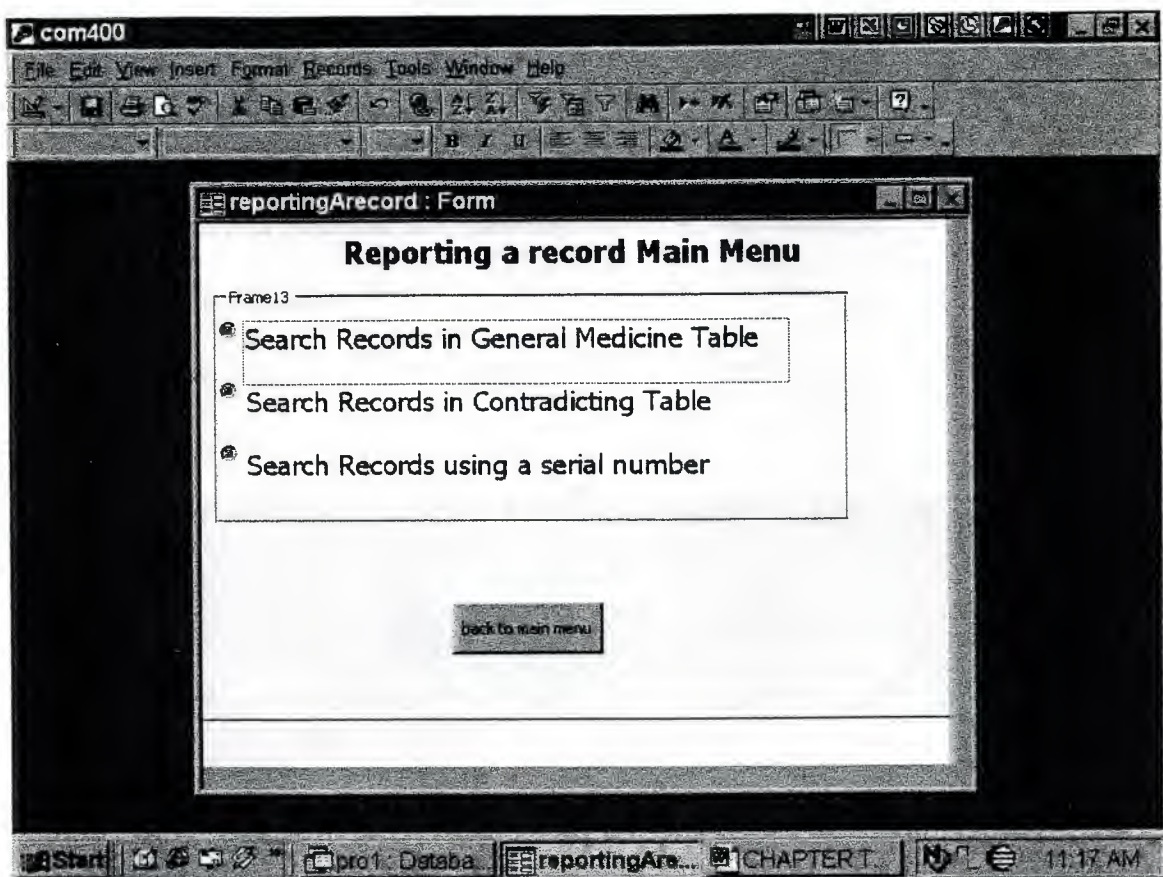


Figure 3.19 The reporting a record menu



# CHAPTER FOUR

## Building The Interface Code

### 4.1 The Macros

The macros are one of the most powerful tools of MS Access, Macros can perform many useful functions like updating, deleting, and closing/opening the forms Within Different situations.

The are 15 basic macros used in this application to do simple jobs in less time. The Macros are as under

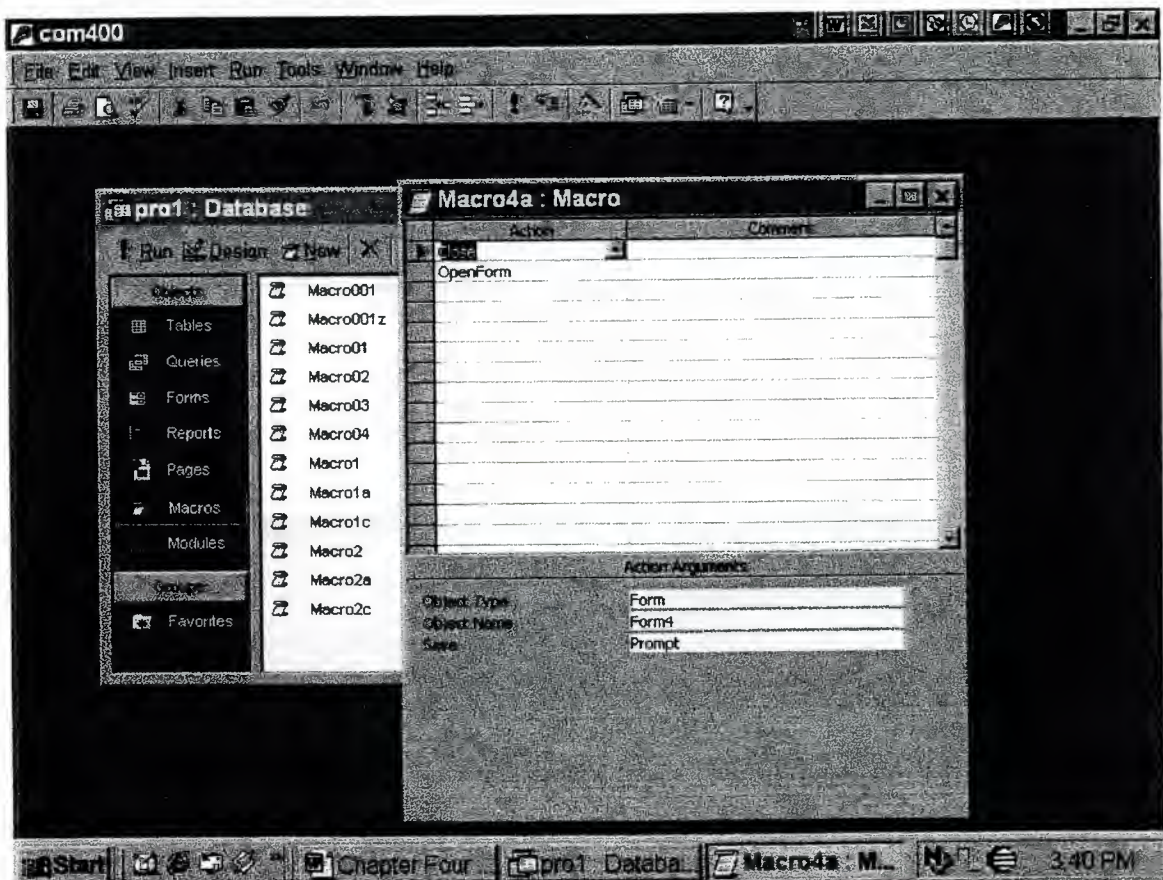


Figure 4.1



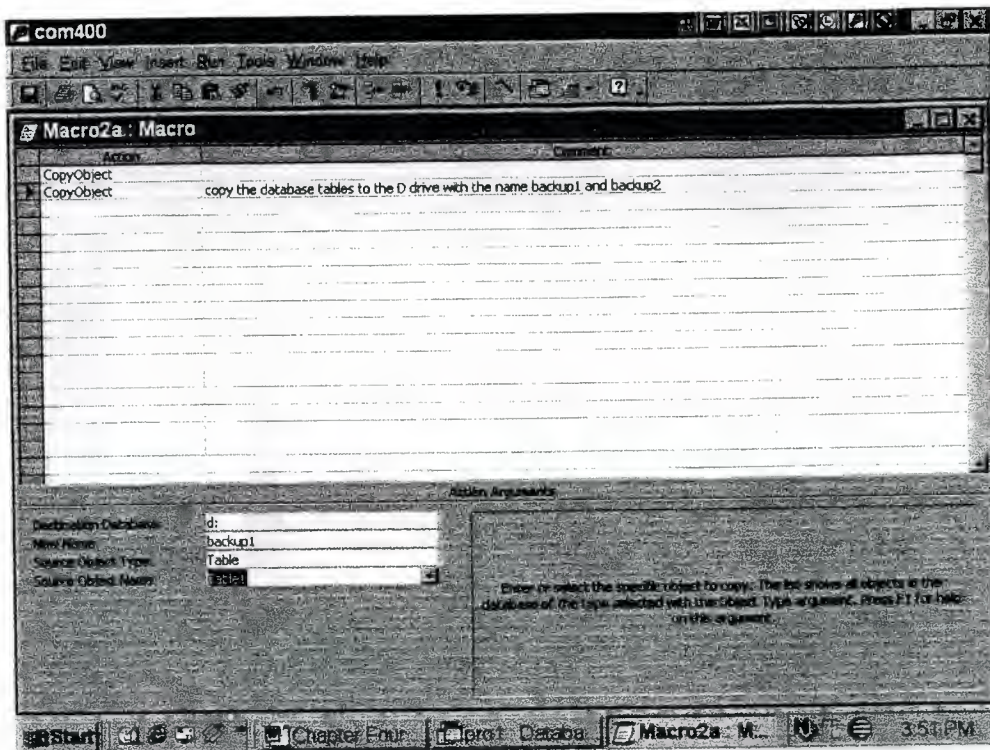


Figure4.2

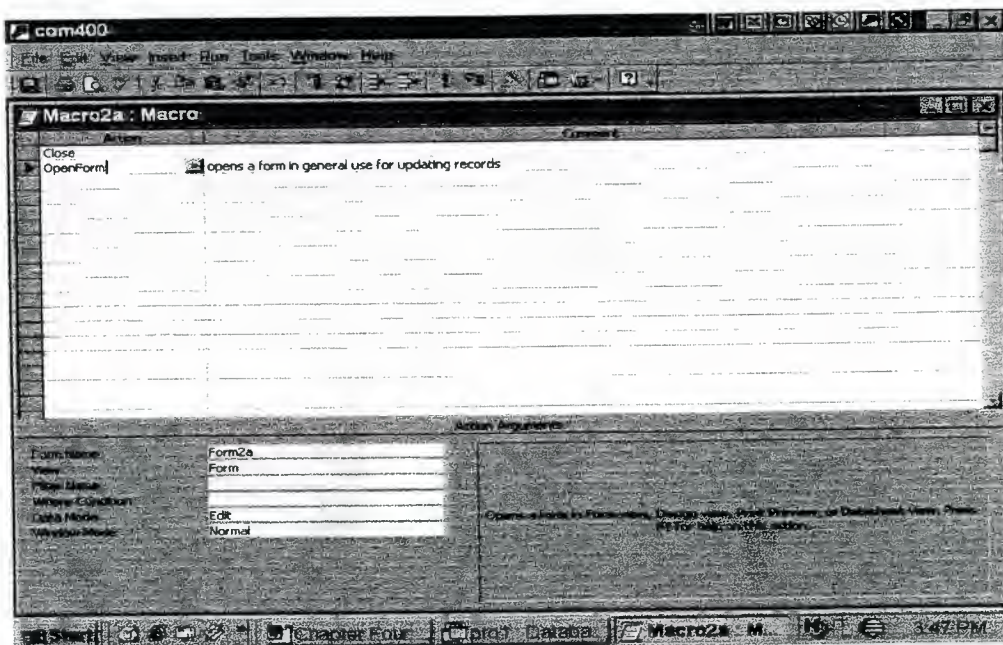


Figure4.3



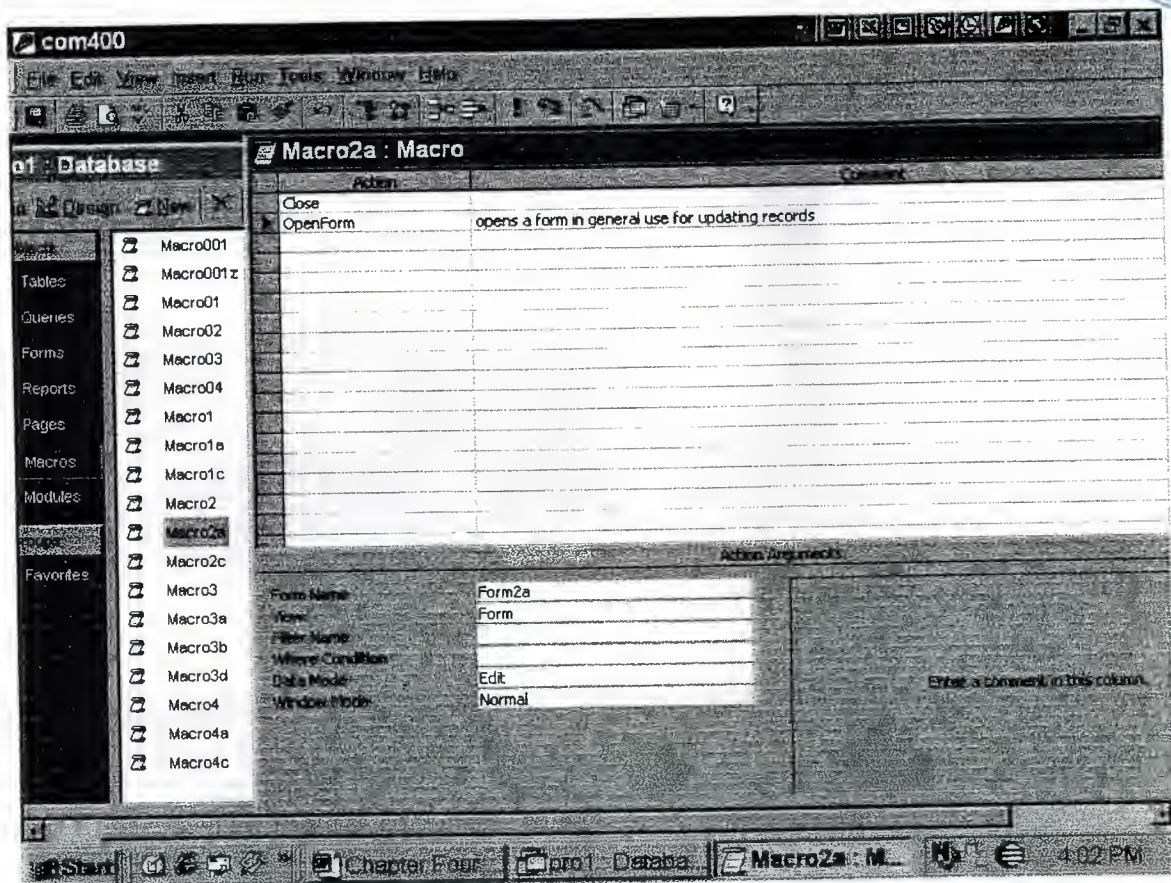


Figure4.4

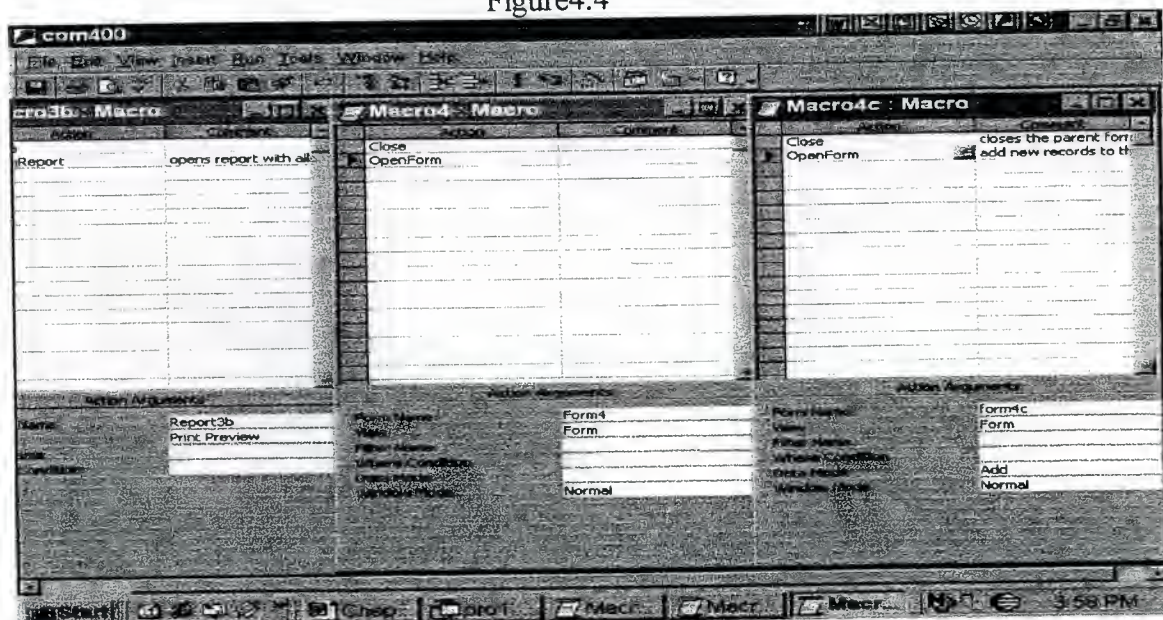


Figure4.5



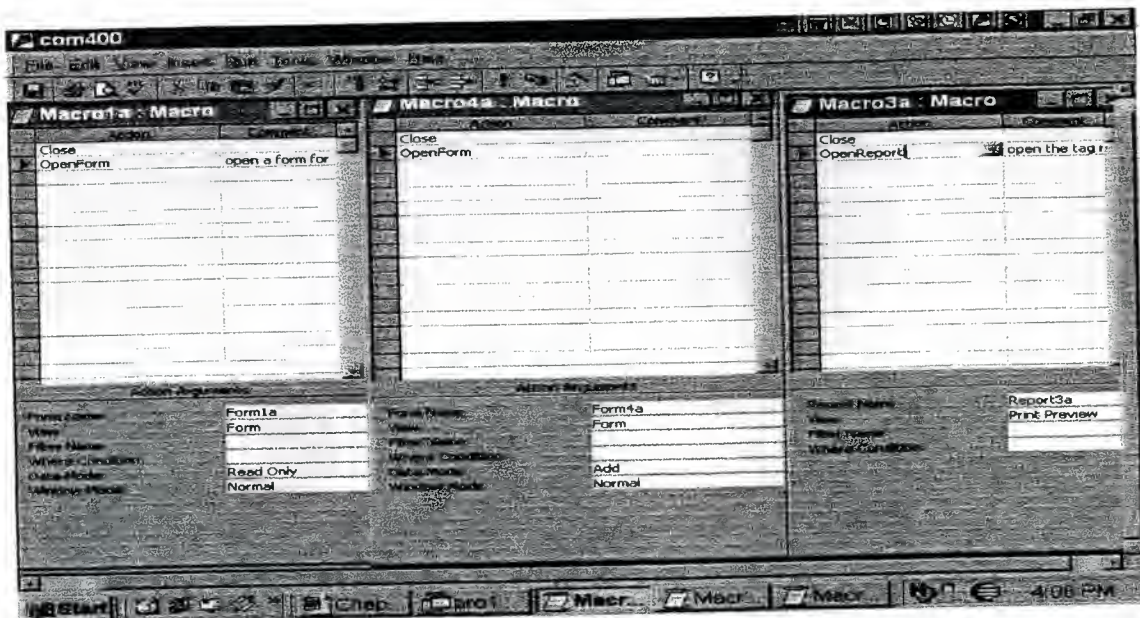


Figure4.6

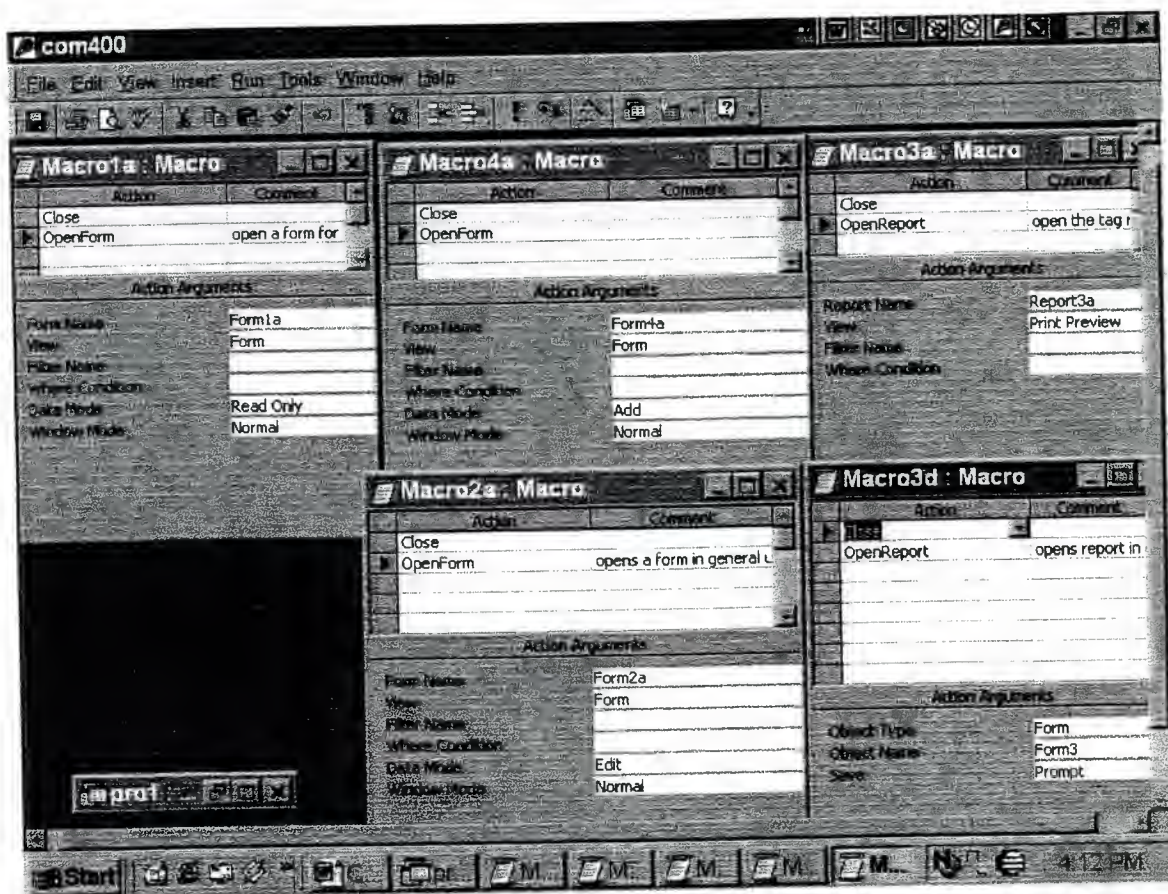


Figure 4.7



## 4.2. Building Modules

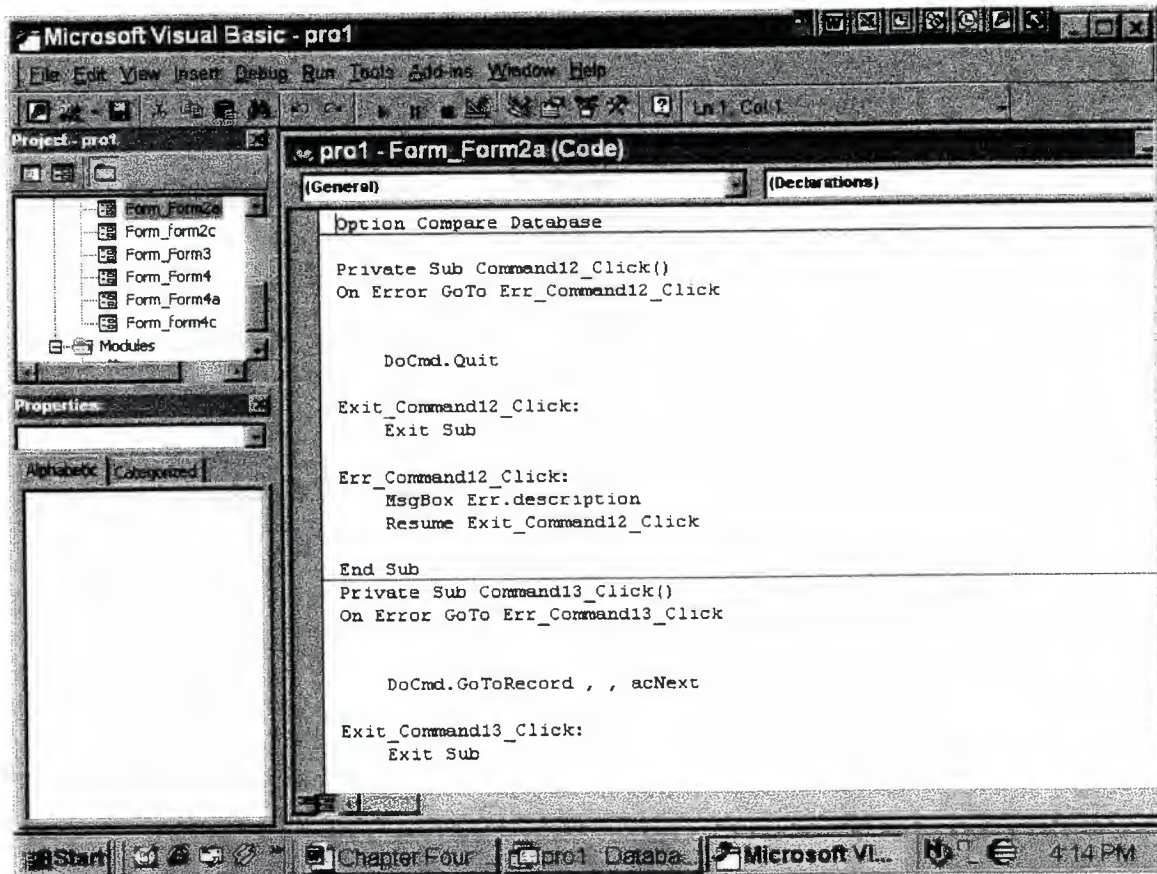


Figure4.8. The VBA (visual basic for application) environment

There are no separate modules used in this application to perform any particular function, however the code used behind the forms and reports for performing functions like Searching, populating the combo boxes, validating the input etc.

## 4.2.1 Code Behind The Forms

First let use see the important code behind the menus. The code behind the main menu.

Option Compare Database

```
Private Sub form0zform1_Click()
```

```
    DoCmd.Close
```

```
    DoCmd.OpenForm "form1"
```

```
End Sub
```

```
Private Sub form0zform2_Click()
```

```
    DoCmd.Close
```

```
    DoCmd.OpenForm "form2"
```

```
End Sub
```

```
Private Sub form0zform3_Click()
```

```
    DoCmd.Close
```

```
    DoCmd.OpenForm "form3"
```

```
End Sub
```

```
Private Sub form0zform4_Click()
```

```
    DoCmd.Close
```

```
    DoCmd.OpenForm "form4"
```

```
End Sub
```

```
Private Sub exit_Click()
```

```
    DoCmd.Close
```

```

MsgBox "logging off"

DoCmd.Minimize

End Sub

Private Sub form0zform001_Click()

    DoCmd.Close

    DoCmd.OpenForm "form001"

End Sub

Private Sub Command10_Click()

Screen.PreviousControl.SetFocus

    DoCmd.FindNext

End Sub

Private Sub form0zform6_Click()

DoCmd.Close

DoCmd.OpenForm "form5"

End Sub

Private Sub Image15_Click()

DoCmd.Close

DoCmd.OpenForm "formres"

End Sub

```

---

Now the code behind each button on the main menu

```

Private Sub form001close_Click()

    DoCmd.Close

```



End Sub

Private Sub form001find\_Click()

Screen.PreviousControl.SetFocus

DoCmd.DoMenuItem acFormBar, acEditMenu, 10, , acMenuVer70

End Sub

Private Sub Command19\_Click()

Screen.PreviousControl.SetFocus

DoCmd.DoMenuItem acFormBar, acEditMenu, 10, , acMenuVer70

End Sub

Private Sub form001close2\_Click()

DoCmd.Close

End Sub

Private Sub form001print2\_Click()

DoCmd.DoMenuItem acFormBar, acEditMenu, 8, , acMenuVer70

DoCmd.PrintOut acSelection

End Sub

Private Sub form001next\_Click()

DoCmd.GoToRecord , , acNext

End Sub

Private Sub form001prev\_Click()

DoCmd.GoToRecord , , acPrevious

End Sub

Private Sub form001first\_Click()

DoCmd.GoToRecord , , acFirst

End Sub

Private Sub form001last\_Click()

DoCmd.GoToRecord , , acLast

End Sub

Private Sub form001print\_Click()

DoCmd.DoMenuItem acFormBar, acEditMenu, 8, , acMenuVer70

DoCmd.PrintOut acSelection

End Sub

Private Sub form001back\_Click()

DoCmd.Close

DoCmd.OpenForm "form0z"

End Sub

Private Sub Form\_Load()

DoCmd.Beep

End Sub

Option Compare Database

Private Sub Command1\_Click()

DoCmd.OpenReport "Report3a", acViewPreview

End Sub

Private Sub Command2\_Click()

DoCmd.OpenReport "Report3b", acViewPreview

End Sub

Private Sub Command3\_Click()

DoCmd.OpenReport "Report3d", acViewPreview

End Sub

Private Sub Command4\_Click()

DoCmd.Close

DoCmd.OpenForm "form0z"

End Sub

Option Compare Database

Private Sub Detail\_Click()

End Sub

Private Sub Form\_Load()

MsgBox "welcome to data base...load splash screen?", 4 + 32, "Entry"

End Sub

Private Sub Form\_Open(Cancel As Integer)

Me.TimerInterval = 9000

End Sub

Private Sub Form\_Timer()

DoCmd.Close acForm, "form0"

End Sub

Private Sub Form\_Unload(Cancel As Integer)

DoCmd.OpenForm "form0z"



End Sub

Option Compare Database

Private Sub Command1\_Click()

On Error GoTo Err\_Command1\_Click

DoCmd.Close

DoCmd.OpenForm "form1a", acNormal, , , acFormReadOnly

Exit\_Command1\_Click:

Exit Sub

Err\_Command1\_Click:

MsgBox Err.description

Resume Exit\_Command1\_Click

End Sub

Private Sub Command3\_Click()

On Error GoTo Err\_Command2\_Click

DoCmd.Close

DoCmd.OpenForm "form1c", acNormal, , , acFormReadOnly

Exit\_Command2\_Click:

Exit Sub

Err\_Command2\_Click:

MsgBox Err.description

Resume Exit\_Command2\_Click

End Sub

```

Private Sub Command2_Click()
On Error GoTo Err_Command3_Click

DoCmd.Close

DoCmd.OpenForm "form1b", acNormal, , , acFormReadOnly

Exit_Command3_Click:

Exit Sub

Err_Command3_Click:

MsgBox Err.description

Resume Exit_Command3_Click

End Sub

```

```

Private Sub form1form0z_Click()

DoCmd.Close

DoCmd.OpenForm "form0z"

End Sub

```

Option Compare Database

```

Private Sub Command1_Click()
On Error GoTo Err_Command1_Click

DoCmd.Close

DoCmd.OpenForm "form2a", acNormal, , , acFormEdit

Exit_Command1_Click:

```

Exit Sub

Err\_Command1\_Click:

MsgBox Err.description

Resume Exit\_Command1\_Click

End Sub

Private Sub Command2\_Click()

On Error GoTo Err\_Command2\_Click

DoCmd.Close

DoCmd.OpenForm "form2c", acNormal, , , acFormEdit

Exit\_Command2\_Click:

Exit Sub

Err\_Command2\_Click:

MsgBox Err.description

Resume Exit\_Command2\_Click

End Sub

Private Sub form2form0z\_Click()

DoCmd.Close

DoCmd.OpenForm "form0z"

End Sub

Option Compare Database

Private Sub Command1\_Click()

DoCmd.OpenReport "Report3a", acViewPreview



```

End Sub

Private Sub Command2_Click()
DoCmd.OpenReport "Report3b", acViewPreview
End Sub

Private Sub Command3_Click()
DoCmd.OpenReport "Report3d", acViewPreview
End Sub

Private Sub Command4_Click()
DoCmd.Close
DoCmd.OpenForm "form0z"
End Sub

Option Compare Database
Private Sub Command2_Click()
On Error GoTo Err_Command2_Click

DoCmd.Close

DoCmd.OpenForm "form4a", acNormal, , , acFormAdd
Exit_Command2_Click:
Exit Sub

Err_Command2_Click:
MsgBox Err.description

Resume Exit_Command2_Click
End Sub

```

```

Private Sub Command3_Click()
On Error GoTo Err_Command3_Click

DoCmd.Close

DoCmd.OpenForm "form4c", acNormal, , , acFormAdd

Exit_Command3_Click:

Exit Sub

Err_Command3_Click:

MsgBox Err.description

Resume Exit_Command3_Click

End Sub

Private Sub Command4_Click()

DoCmd.Close

DoCmd.OpenForm "form0z"

End Sub

```

### 4.3 Queries

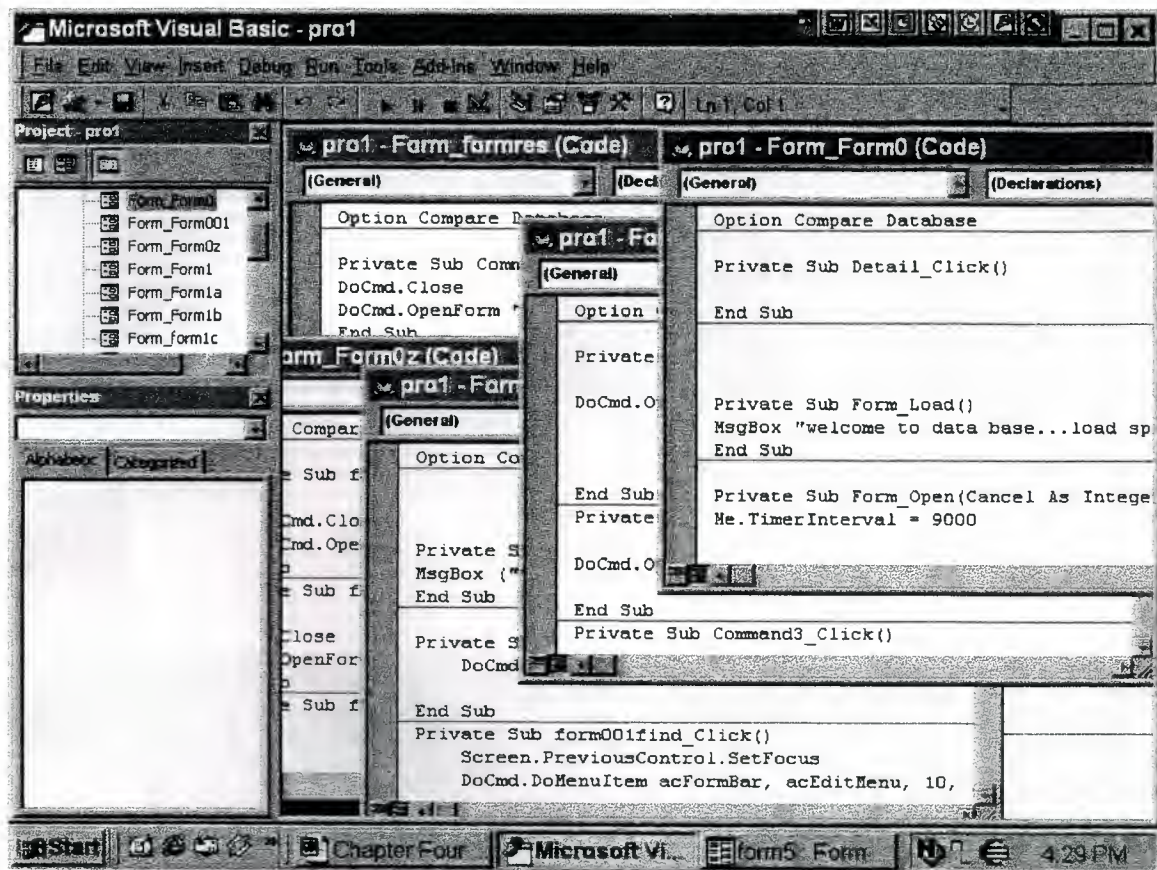


Figure4.8.1 the code and how it appear in the VBA.

## 4.3 Queries

This application contains four queries to output reports for a particular medicine, getting information from a criteria search menu and sending to the report criteria to get the report of the selected medicine.



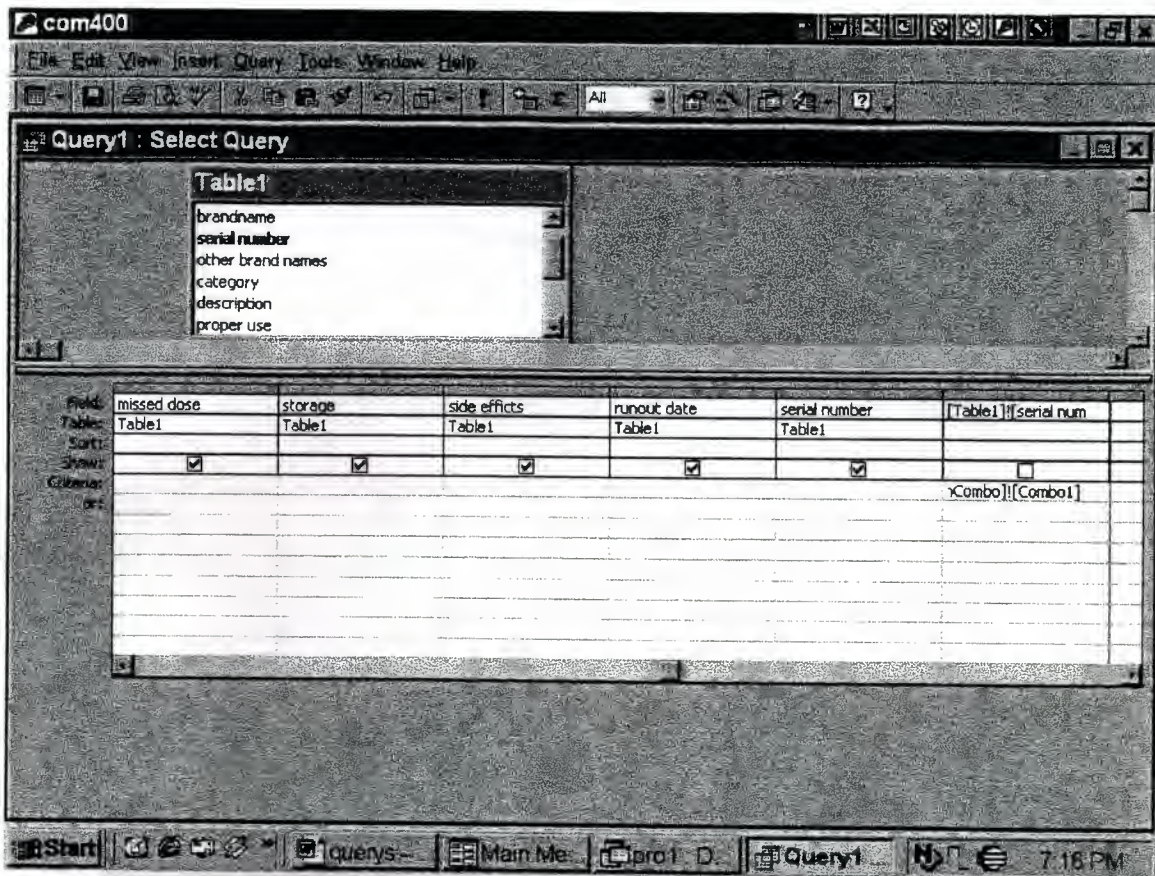


Figure4.9.

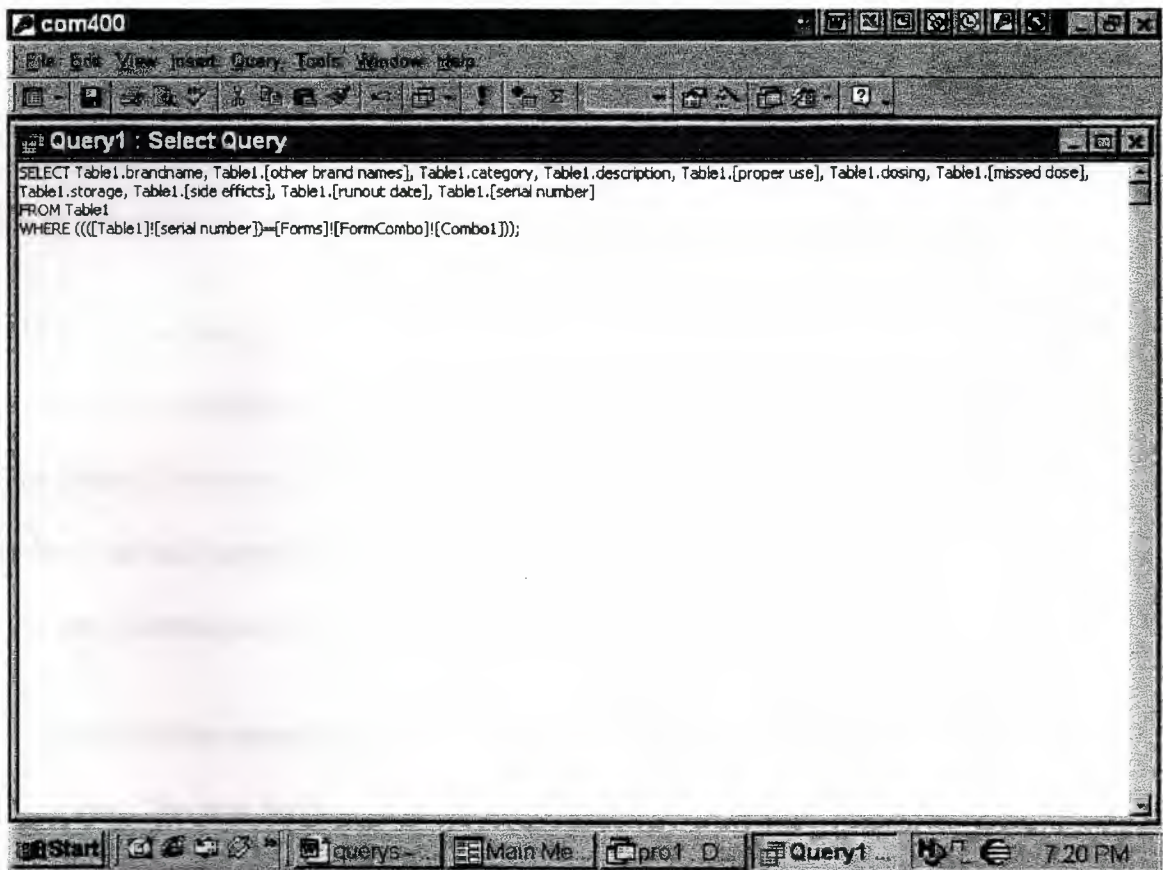


Figure 4.13 the SQL view of queries

## CONCLUSION

Computers has become a vital and important part in daily life. And solutions provided by the advances by the advancement of it, is helpful and makes life easier.

This program can not promises the perfect solution for a medicine database system, however it can help many doctors and pharmacists to keep track of the medicines. Many Extras can be included in this application, it can be developed in visual basic as front end and access as back end data base system which will provide more stability in user interface design.

Access 2000 has emerged as an exciting new version of Microsoft's office data base component. The new features in Access 2000 gives Access developers a common development environment wither its with excel ,word or power point.

It will now be easier than ever for access developers to build cross-component applications that draw on the best of two or more office components.

The object browser can help access developers learn and apply the object models from these other applications.

With VBA, there is still familiar procedures, modules, and debugging tools There is the new ADO modules and new database formats in Access 2000 which has an advantage on how Access works.

A Microsoft Access table can contain up to 32 indexes, very complex tables that are part of many relationships may exceed the index limit, and you want be able to convert the database that contains these tables. Versions 3.5 of the Microsoft jet database engine creates indexes on both sides of relationships between tables.



This application can be made a multi user, for servers like MS SQL server, because Access loses its power (speed) with more than 10 users, on the other hand SQL server supports an unlimited amount of users at the same time.

Still this application can be used in the clinic by any doctor with no or little change, and that's what makes this program ready to use, its simple and basic design.

## REFERENCES

- [1] <http://www.cs.uregina.ca/~pvh/edu/software/access/index.html>
- [2] Running Microsoft Access 97 by john L. Viescas.
- [3] Programming Microsoft Access 2000 by Rick Dobson.