



2/10/2019

Hospital Management System

Technical Documentation



Group 3

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1. INTRODUCTION

This Software is made with the use of Microsoft visual Basic and MS Access database.

SYSTEM REQUIREMENTS

- ❖ It occupies 10-12 MB of RAM.
- ❖ The System Support MS ACCESS Database.

CONNECTION ESTABLISHMENTS

- ❖ Access database is used as database in the software.
- ❖ And that Database is added in the software.
- ❖ After the Adding Connection software establish connection as con, just after form loads . The code used for establishment is as :

```
Dim path As String = Directory.GetCurrentDire
ctory
path = Directory.GetParent(path).ToString
path = Directory.GetParent(patyh).ToString
Dim connectionstring As String = "provider=Microsoft.ACE.OLEDB.12.0 ; data source =
" & path & "\hms_Database.accdb"
```

Database

Access database is used for Database management.

The tables and fields are:

- 1) Appointment_DataBase: For Appointments storing.
- 2) Billing_Database: For Billing, Storing Costumers details and data.
- 3) Doctot_DataBase: For Storing Doctor database.
- 4) Emergency_DataBase: Emergency Database

- 5) Laboratorist_DataBase: Laboratorists DataBase.
- 6) Nurse_DataBase: Nurse DataBase.
- 7) OPD_DataBase: OPD Database.
- 8) Patient_DataBase: For Storing Patient DataBase
- 9) Pharmacist_DataBase: For Storing pharmacist database.
- 10) Pharmacy_DataBase: For Storing Medicines data
- 11) Room_DataBase: For Storing Room Allotment Database
- 12) RoomAllocation_DataBase: For room Details
- 13) Password_Database: For Passwords of Admin, Pharmacist, staff

2. LOG IN SYSTEM

- The Initial Log In Details for
 - 1.Admin: [Username:admin],[Password:admin]
 - 2.Pharmacist: [Username:pharmacist],[Password:pharmacist]
 - 3.Staff: [Username:staff],[Password:staff]
 ***These can only be changed by the admin
- For taking Inputs Textboxes are used.
- Sign up needed for patient only.
- On clicking Log in the software generates the hash value for inputs and then checks with that of stored in database. A Function has been made to generate hash values for username and password.
- If the Hash value matches with that in the system for those password and user name then it will show another form for patient with message "Login Successful". otherwise in case of mismatching shows a message box saying " Username or password is correct".

GENERATING THE HASH VALUE

The Hash Function Generator code is as follows:

#Region "Functions"

Private Function StringtoMd5(ByRef Content As String) As String

Dim M5 As New System.Security.Cryptography.MD5CryptoServiceProvider

Dim ByteString() As Byte =System.Text.Encoding.ASCII.GetBytes(Content)

ByteString = M5.ComputeHash(ByteString)

Dim FinalString As String = Nothing

For Each bt As Byte In ByteString

FinalString &= bt.ToString("x2")

Next

Return FinalString.ToUpper()

End Function

#End Region

CHECKING THE HASH VALUE AND OTHER CODE

After Successfully generating the hash Value Software compares the two hash values. And Provide the appropriate Message.

Connection is Established as con.

Try

```
con.ConnectionString = connectionstring
Dim dt As New DataTable
Dim da As New OleDbDataAdapter
Dim username As String = "Username input"
Dim password As String = CType(StringToMd5("Password input"),String)
Dim query As String = ""
Dim id_display As Int16
query = "Select * From Database where Username_field_name = '" & username & "' And
        Password_field = '" & password & "'"
con.Open()
Dim cmd As New OleDbCommand(query, con)
Da.Fill(dt)
For Each row As DataRow In dt.Rows
    For Each column As DataColumn In dt.Columns
        If column.ColumnName = "ID" Then
            Id_display = row(column)
        End If
    Next
Next
Dim reader As OleDbDataReader
Reader = cmd.ExecuteReader()
```

```
Dim count As Integer = 0
While (reader.Read)
    Count += 1
End While
con.Close()
If (count <> 1) Then
    MessageBox.Show("UserNAme or Password is incorrect!")
Else
    New_Form_to_show.user.text = id_display
    New_Form_to_show.show()
    Me.Close()
End If
Catch ex As Exception
    MessageBox.Show(ex.Message)
End Try
```

3.INSERTION INTO DATABASE

- Inserting data for staff can only be done by Admin.
- Pharmacy data can be inserted by admin as well as pharmacist person.

Staff insertion

Admin add the details of the person and generate username and password for them.

On giving all the inputs and pressing the button add software adds the details in database.

Demonstration of the code is as follows:

Establish Connection

check for all the inputs are they all valid and present

Generate query string

con.Open()

```
Dim insertString As String = " Insert into Databse ( [ field1_name ] ,  
[fiels2_name ],.....,[fieldi_name] ) Values(?,?,?,?,.....,?)"
```

```
Dim cmd As OleDbCommand =New OleDbCommand (insertString, con)
```

```
Cmd.Parameter.Add(New OleDbParameter("field1",CType(input1.Text , String)))
```

for other fields also same

.
.
.


```
.  
  
Cmd.Parameter.Add(New OleDbParameter ("UserName", CType (user_name_input.Text ,  
String)))  
  
Cmd.Parameter.Add(New OleDbParameter("Password",CType( StringtoMd5 (  
password_input.Text ) , String )))  
  
Try  
  
    Cmd.ExecuteNonQuery()  
  
    Cmd.CommandText = "SELECT @@IDENTITY"  
  
    MessageBox.Show("ID" & cmd.ExecuteScalar.ToString, "Successful  
Added ")  
  
    # Clear all input textboxes  
Catch ex As Exception  
    # Show Error Message  
End Try  
  
Con.Close()
```

This will generate an ID number for the Employee Automatically.

Medicine Insertion

Medicine Insertion takes place only when Eid is Correct. Eid is like a number with first 3 characters and 4 letters after that.

The simple format will take place it will take all the details of medicine like Eid, Name, Rate, Expiry Date, quantity).

Gives error when something went wrong like Eid exists in data or Eid is wrong.

Clear Button Just Clears all the data in input boxes like it

```
TextBox1.Clear()
```

Close Button Just Exit the button.

Add Button: checks if primary key is present or not if present then give error.

The code is just Same as for staff insertion.

Searching

Searching is just done in FlowLayout Panel format.

In which a Combobox is used to sort the search data. Text Box is Inserted For Typing for the value of the attribute selected in combobox.

Searching in database takes place when the flowlayou

4. Flow Charts and others

Main Page

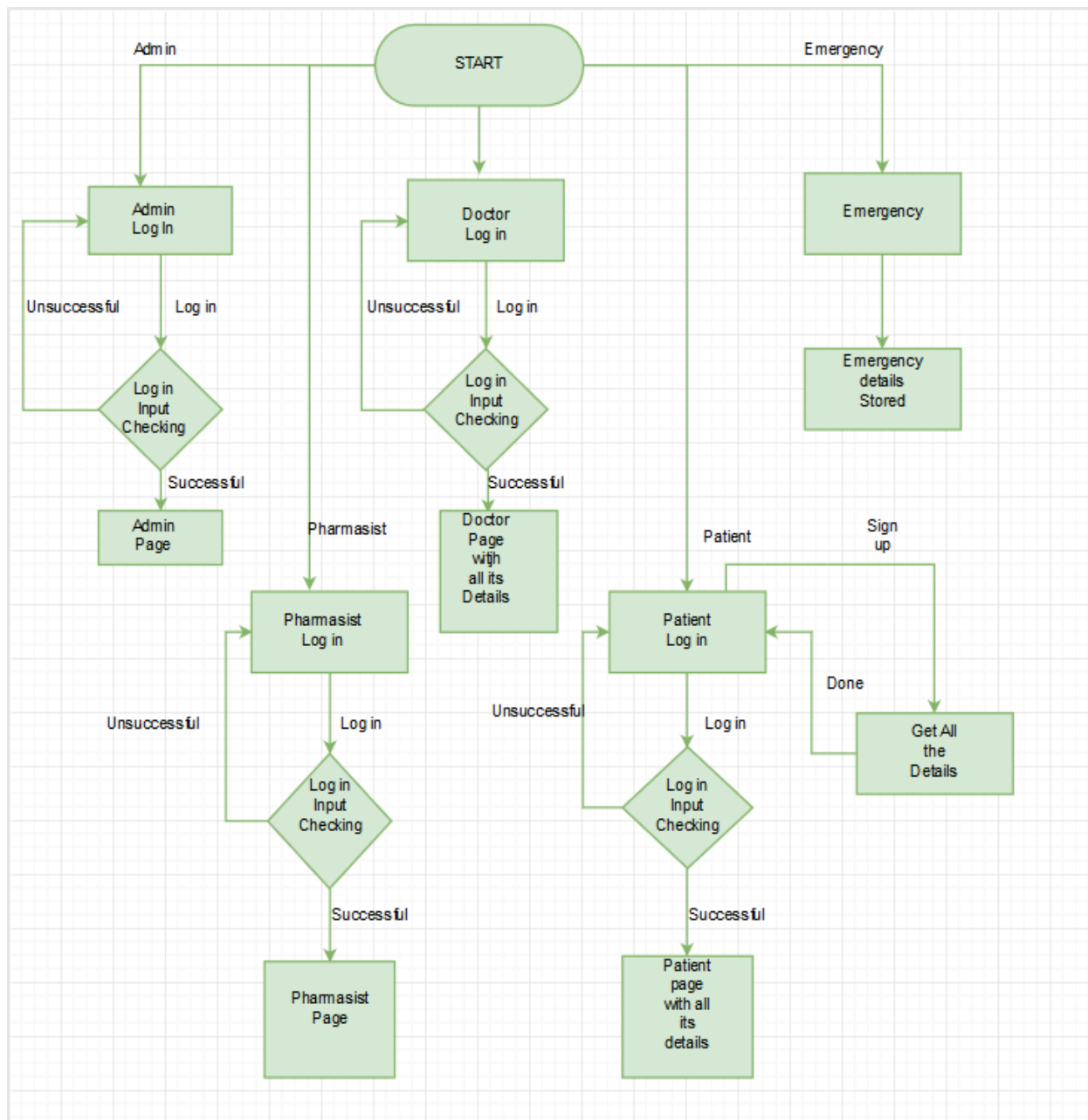


Figure 1/ Flow Chart For Main Page

Admin Page

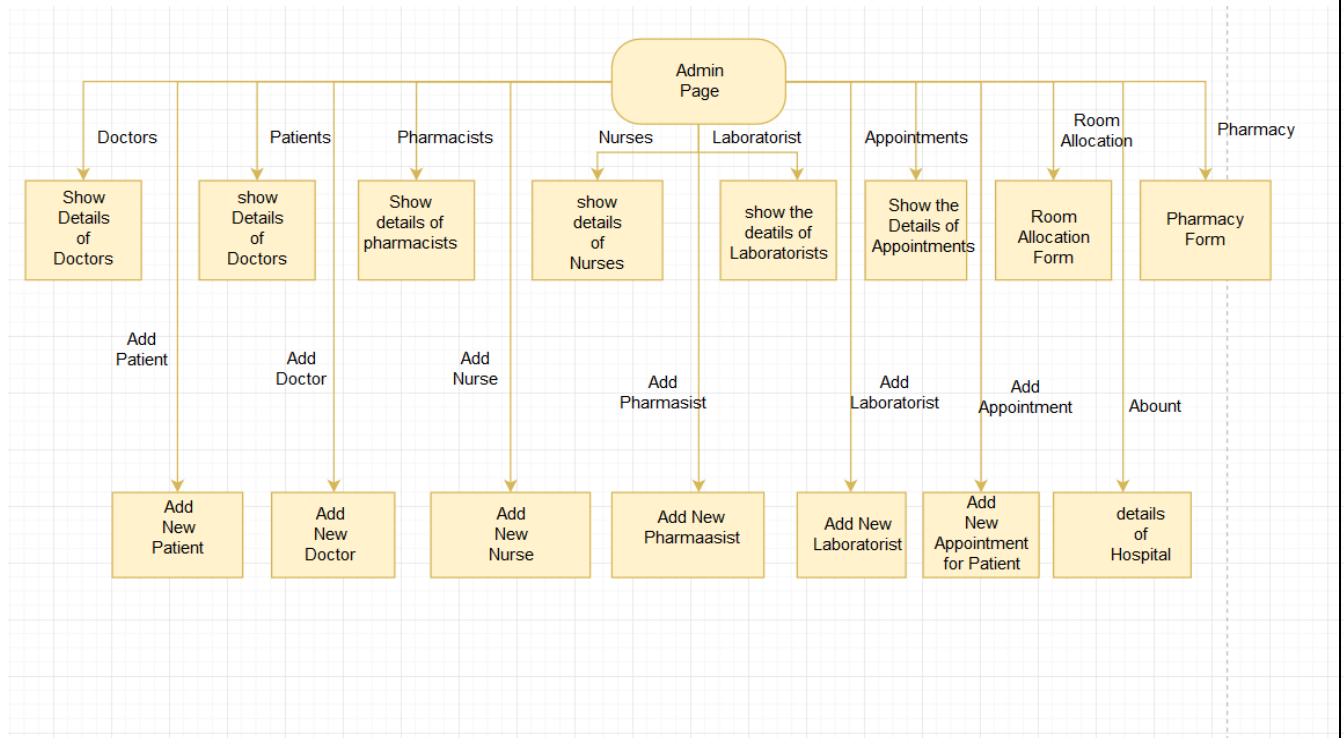


Figure 2Flow Chart For Admin

Pharmacy Page

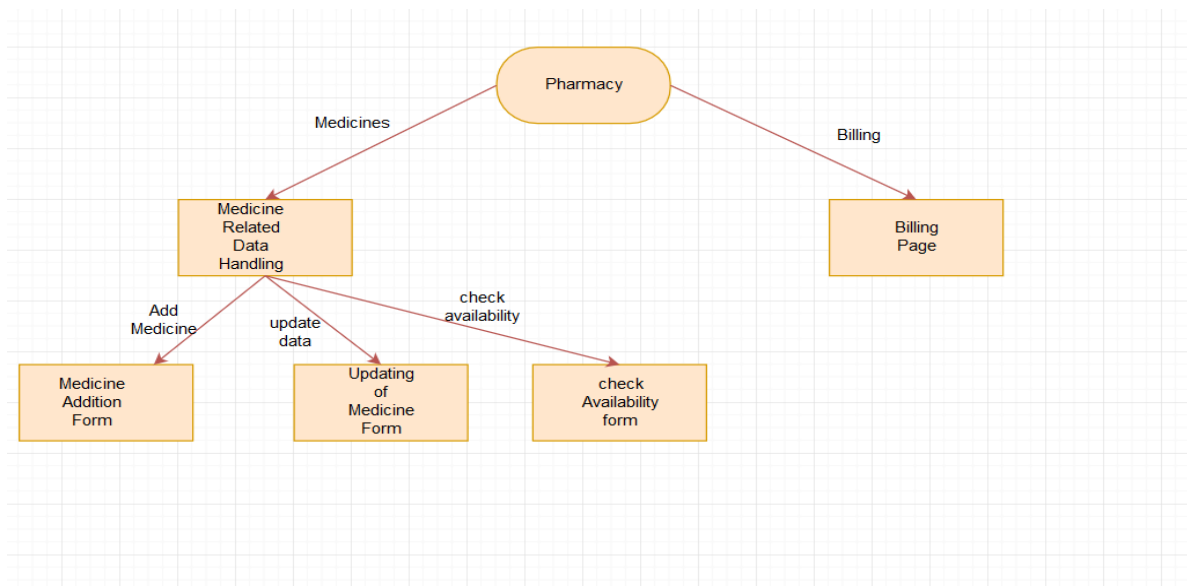


Figure 3/ Flow Chart For Pharmacy

Improvements

- News and feedback forms can be implemented.
- In Billing more data should be stored like list of prescriptions.
- Data deletion option will be more helpful.

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