

SQIT1013 PROGRAMMING IN BUSINESS APPLICATIONS GROUP A

2020/2021 (A202) GROUP PROJECT

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FEASIBILITY STUDY

Feasibility study is an analysis to determine whether the proposed project is feasible and should go ahead. There are 5 types of feasibility which are technical, economic, legal, operational and schedule.

1) Technical Feasibility

Technical feasibility is focus on technical resources. It considers the technical requirements which then will compared to the organization technical capability. The required resources are involved software, hardware and others.

2) Economic Feasibility

Economic feasibility is referring to the cost-benefits analysis of the proposed project. The organization should count the cost of the proposed project. Then, if the benefit of this proposed project is equal or exceed the cost, the economic feasibility of this proposed project assume to be succeed.

3) Legal Feasibility

Legal feasibility is to investigate whether the proposed project have any conflicts with the legal requirement such as data protection acts or social media laws.

4) Operational Feasibility

The uses of operational feasibility is to analyze and understand how well the proposed system solve the problems. Operational feasibility also can determine whether the organization satisfies with the alternative solutions.

5) Schedule Feasibility

This feasibility helps to the organization estimates how the proposed project can be complete in given time. The given time can be decided by the organization and customers. At the same time, it can also determine the speed of development process.

PROBLEM STATEMENT

Generally, a property manager will contact the customers when they want to find a house. So, they will show the available house to the customers physically. Then, due to the Covid-19 pandemic that occurs nowadays, MCO was announced by the government. Hence, the property managers were in dilemma whether they could operate their business without physical interaction.

Therefore, we ought to construct an application for Nest Finder property management to help extend their business operating boundaries by establishing an online business application.

INTRODUCTION

Nest Finder is an application that can help customers find the most suitable house for themselves easier. This application also give suggestion to the customers who cannot decide for the house. The suggestion given is based on number of people per house, budget, and their lifestyles.

On the organizer side, the Nest Finder application can update information in the real time to the customers about the latest information that can be seen at the company information page. The information stated include the latest available property, company sales and more.

Other than that, organizer also can manage the existing and new properties. They can add the new properties in the list of Nest Finder properties and edit or delete the existing properties.

Besides that, organizer can manage the customers list too which they can add the new customers, edit the active customers information and delete customers information after they are no-longer of Nest Finder users.

PROGRAM DEVELOPING LIFE CIRCLE (PDLC)

Problem Understanding

Property management is the daily oversight of residential, commercial, or industrial real estate by a third-party contractor. Takes responsibility for day-to-day repairs and ongoing maintenance, security, and upkeep of properties. They usually work for the owners of investment properties such as apartment and condominium complexes, private home communities, shopping centres, and industrial parks.

Due to the Covid-19 epidemic and MCO was announced by the government, property managers were in a dilemma as to whether they could operate their business without physical interaction. Therefore, we are like to construct an application for Nest Finder property management to help extend their business operating boundaries by establishing an online business application.

Problem Analysis

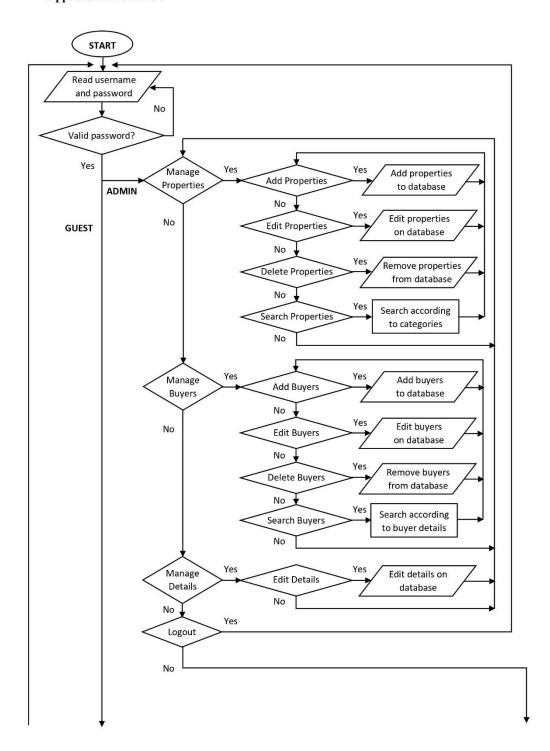
Our system must have features about storing data, edit data, display data and filter data about properties, buyers and company information. In addition, our system also needs to have a suggestion mechanism, which can suggest the best properties to the tenant. We need to create a database to save the information.

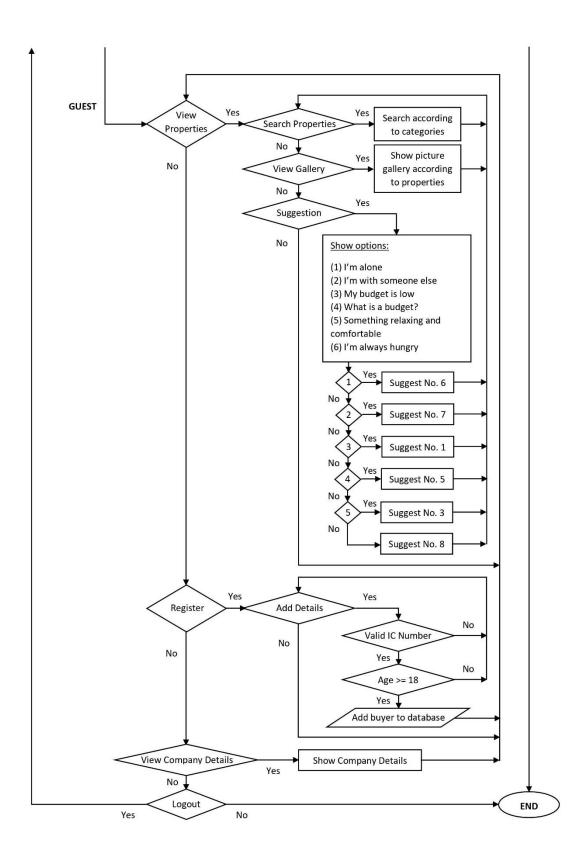
First, we need to input username and password. If the user key in username and password for admin, they will login to manager main page. After that, user can choose to manage properties, tenants or company's information. This basic information such as ID number, house type, rent, number of rooms and toilets, location, contact number and simple description about properties. We can add, edit, delete and edit the information from database.

Then, if user key in username and password for guess, they will log in to guess main page. They can choose to view properties, register or view our company details. When they choose to view properties, they can get some suggestion base on house type, rent, rooms, toilets and location they choose. After that, user can register their information to system, their information will be saved in our database.

Algorithm Design

Application Flowchart





Implementation

We used visual basic windows form app to develop our system application. In this system application, we used programming language C# to develop and run our program.

Testing

After we done write our program code and design our interface, we try to run our program. We will make sure our program can be run perfectly without any bugs. If there are some problems or bugs discovered, we will look back to our code and discover the problem part. This process will be repeat and continue until no bugs and problem are discovered.

Maintenances

After we done testing our system application, we must always update the program base on user's suggestion. Such as add one more information for properties' pictures.

SIGNIFICANCE OF THE APPLICATION AND FUTURE WORK

A New Booking Trend

The entire world is now connected to the internet. Clients nowadays use the Internet to learn whatever they need to know. You're probably missing out on a lot of opportunities if you don't have an internet presence

Hassle-Free Management of Bookings

Clients will save time with a booking system because they will not have to wait hours for the admin to confirm their booking details. At the same time, there's no need to hire a workforce to handle the clients and won't be tied to a phone waiting for guest calls.

The application system is available for 24 hours

The process is automated with the use of a booking system. The platform automatically reduces the number of houses available in the system after a booking is made. The online reservation system is available at all times. This allows potential clients the freedom to hire a property whenever they wish. It also allows you to increase your sales because you are not restricted by working hours.

You can maximize booking

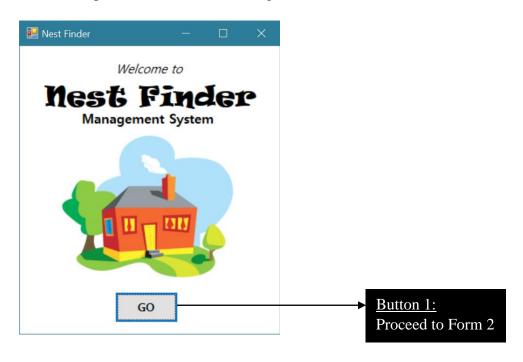
Clients who plan their own reservations are more likely to show up, limiting the chance of noshows. If a customer needs to cancel, the property automatically becomes available online for another client to book. You won't leave any unused activity slots or rentals on the table if you maximise your bookings.

Reduce the amount of work you do

Online reservation systems lighten your staff's burden and improve customer service. With each booking, these platforms can ensure that bookings are linked and availability is updated. The work process is made easier with a competent booking system.

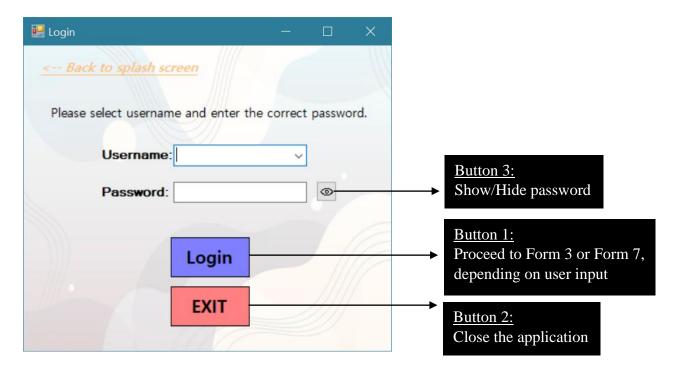
GUI OF FORM AND CODES USED IN THE APPLICATION

Form 1 – Splash Screen (Welcome Page)



Application code for **Button 1**:

Form 2 – Login Form



Application code for **Button 1**:

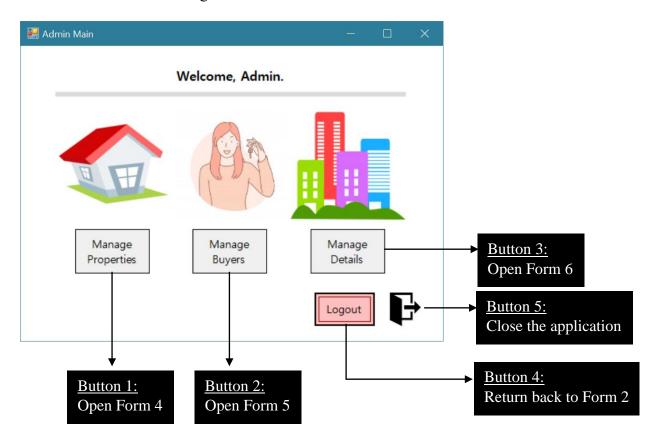
```
Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
       Dim password As String
       password = TextBox1.Text
       If password = "1111" And ComboBox1.Text = "Admin" Then
           Me.Close()
           Main.Show()
           MessageBox.Show("Login success!" & vbNewLine & "Welcome back.",
"WELCOME", MessageBoxButtons.OK, MessageBoxIcon.Information)
        ElseIf password = "guest" And ComboBox1.Text = "Guest" Then
           Me.Close()
           GuestMain.Show()
           MessageBox.Show("Login success!" & vbNewLine & "Welcome to Nest
Finder.", "WELCOME", MessageBoxButtons.OK, MessageBoxIcon.Information)
       Else
           MessageBox.Show("Login failed!" & vbNewLine & "Please enter the
correct password.", "ERROR", MessageBoxButtons.OK, MessageBoxIcon.Warning)
        End If
    End Sub
```

Application code for **Button 2**:

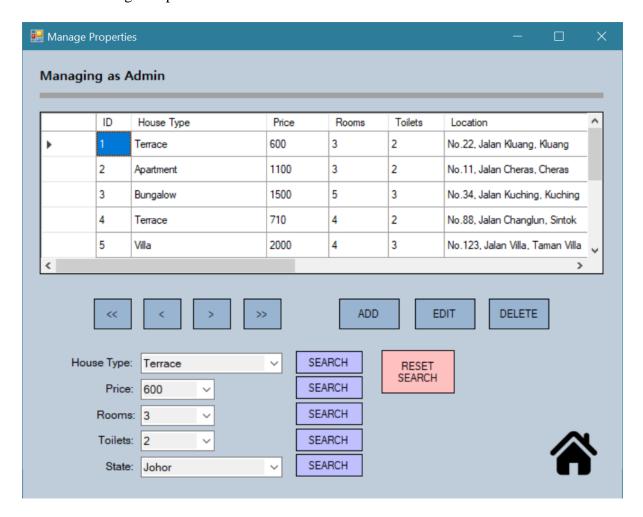
```
Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
Dim user respond As Integer
```

```
user_respond = MessageBox.Show("Are you sure to exit the application?",
"EXIT?", MessageBoxButtons.YesNo, MessageBoxIcon.Warning)
        If user_respond = vbYes Then
            MessageBox.Show("Thank you. Do visit us again :)", "GOODBYE",
MessageBoxButtons.OK)
            Application.Exit()
        End If
    End Sub
Application code for Button 3:
Private Sub Button3_Click(sender As Object, e As EventArgs) Handles Button3.Click
        If TextBox1.UseSystemPasswordChar = True Then
            TextBox1.UseSystemPasswordChar = False
        Else
            TextBox1.UseSystemPasswordChar = True
        End If
    End Sub
```

Form 3 – Admin's Main Page



Form 4 – Manage Properties Form



Application code for **Form 4**:

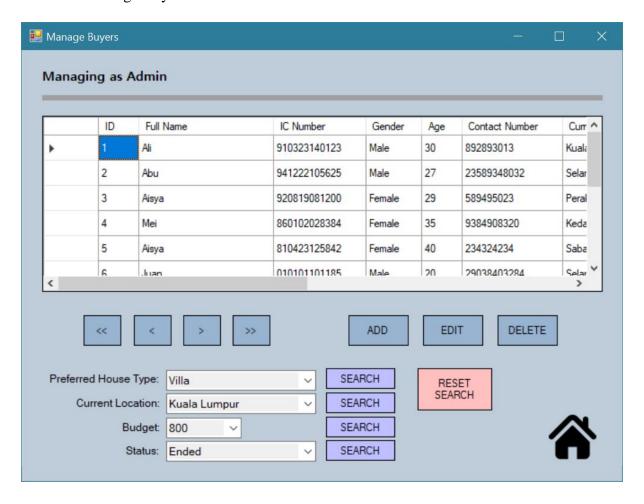
```
Public Class ManageProperties
    Private Sub Button10_Click(sender As Object, e As EventArgs) Handles
Button10.Click
        Me.Close()
    End Sub
    Private Sub PropertiesBindingNavigatorSaveItem_Click(sender As Object, e As
EventArgs) Handles PropertiesBindingNavigatorSaveItem.Click
        Me.Validate()
        Me.PropertiesBindingSource.EndEdit()
        Me.TableAdapterManager.UpdateAll(Me.NestFinderManagementDataSet)
    End Sub
    Private Sub ManageProperties_Load(sender As Object, e As EventArgs) Handles
        'TODO: This line of code loads data into the
'NestFinderManagementDataSet.Properties' table. You can move, or remove it, as
needed.
        Me.PropertiesTableAdapter.Fill(Me.NestFinderManagementDataSet.Properties)
```

```
End Sub
    Private Sub Button1_Click(sender As Object, e As EventArgs) Handles
        PropertiesBindingSource.MoveFirst()
    End Sub
    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles
Button3.Click
        PropertiesBindingSource.MovePrevious()
    End Sub
    Private Sub Button4_Click(sender As Object, e As EventArgs) Handles
Button4.Click
        PropertiesBindingSource.MoveNext()
    End Sub
    Private Sub Button2_Click(sender As Object, e As EventArgs) Handles
Button2.Click
        PropertiesBindingSource.MoveLast()
    End Sub
    Private Sub Button5 Click(sender As Object, e As EventArgs) Handles
Button5.Click
        If Button5.Text = "ADD" Then
            Button1.Hide()
            Button2.Hide()
            Button3.Hide()
            Button4.Hide()
            Button6.Hide()
            Button7.Hide()
            Button8.Hide()
            Button9.Hide()
            Button10.Hide()
            Button11.Hide()
            Button12.Hide()
            Button13.Hide()
            Button15.Hide()
            PropertiesBindingSource.AddNew()
            Button5.Text = "SAVE NEW"
            PropertiesBindingSource.EndEdit()
            TableAdapterManager.UpdateAll(NestFinderManagementDataSet)
            PropertiesBindingSource.MoveFirst()
            Button5.Text = "ADD"
            Button1.Show()
            Button2.Show()
            Button3.Show()
            Button4.Show()
            Button6.Show()
            Button7.Show()
            Button8.Show()
            Button9.Show()
            Button10.Show()
            Button11.Show()
            Button12.Show()
            Button13.Show()
            Button15.Show()
```

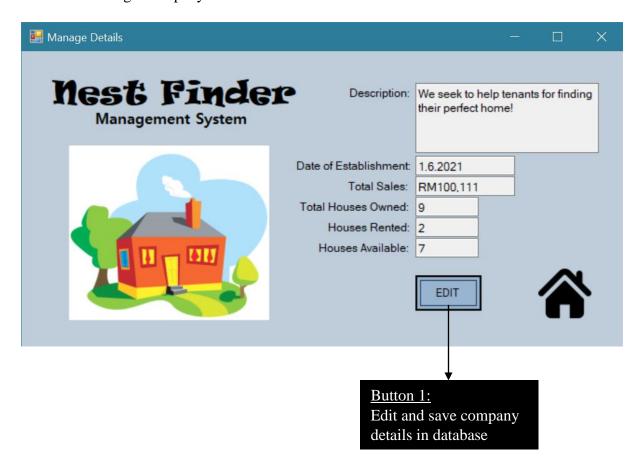
```
End If
    End Sub
    Private Sub Button6_Click(sender As Object, e As EventArgs) Handles
Button6.Click
        If Button6.Text = "EDIT" Then
            Button1.Hide()
            Button2.Hide()
            Button3.Hide()
            Button4.Hide()
            Button5.Hide()
            Button7.Hide()
            Button8.Hide()
            Button9.Hide()
            Button10.Hide()
            Button11.Hide()
            Button12.Hide()
            Button13.Hide()
            Button15.Hide()
            Button6.Text = "SAVE"
        Else
            PropertiesBindingSource.EndEdit()
            TableAdapterManager.UpdateAll(NestFinderManagementDataSet)
            PropertiesBindingSource.MoveFirst()
            Button6.Text = "EDIT"
            Button1.Show()
            Button2.Show()
            Button3.Show()
            Button4.Show()
            Button5.Show()
            Button7.Show()
            Button8.Show()
            Button9.Show()
            Button10.Show()
            Button11.Show()
            Button12.Show()
            Button13.Show()
            Button15.Show()
        End If
    End Sub
    Private Sub Button7_Click(sender As Object, e As EventArgs) Handles
Button7.Click
        Dim user_respond As Integer
        user_respond = MessageBox.Show("Are you sure to delete this property?
Reminder that this cannot be undone once deleted.", "DELETE?",
MessageBoxButtons.YesNo, MessageBoxIcon.Warning)
        If user_respond = vbYes Then
            PropertiesBindingSource.RemoveCurrent()
            TableAdapterManager.UpdateAll(NestFinderManagementDataSet)
        End If
    End Sub
```

```
Private Sub Button8_Click(sender As Object, e As EventArgs) Handles
Button8.Click
       PropertiesBindingSource.Filter = "[House Type] ='" & ComboBox1.Text & "'"
   End Sub
   Private Sub Button9_Click(sender As Object, e As EventArgs) Handles
       PropertiesBindingSource.Filter = "[Price] ='" & ComboBox2.Text & "'"
   End Sub
   Private Sub Button11_Click(sender As Object, e As EventArgs) Handles
Button11.Click
       PropertiesBindingSource.Filter = "[Rooms] ='" & ComboBox3.Text & "'"
   Private Sub Button12_Click(sender As Object, e As EventArgs) Handles
Button12.Click
       PropertiesBindingSource.Filter = "[Toilets] ='" & ComboBox4.Text & "'"
   End Sub
   Private Sub Button13 Click(sender As Object, e As EventArgs) Handles
Button13.Click
       PropertiesBindingSource.Filter = "[State] ='" & ComboBox5.Text & "'"
    End Sub
   Private Sub Button15_Click(sender As Object, e As EventArgs) Handles
Button15.Click
       PropertiesBindingSource.RemoveFilter()
   End Sub
End Class
```

Form 5 – Manage Buyers Form



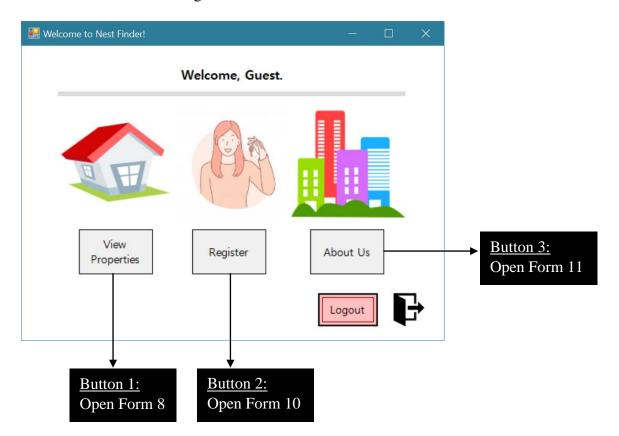
Form 6 – Manage Company Details Form



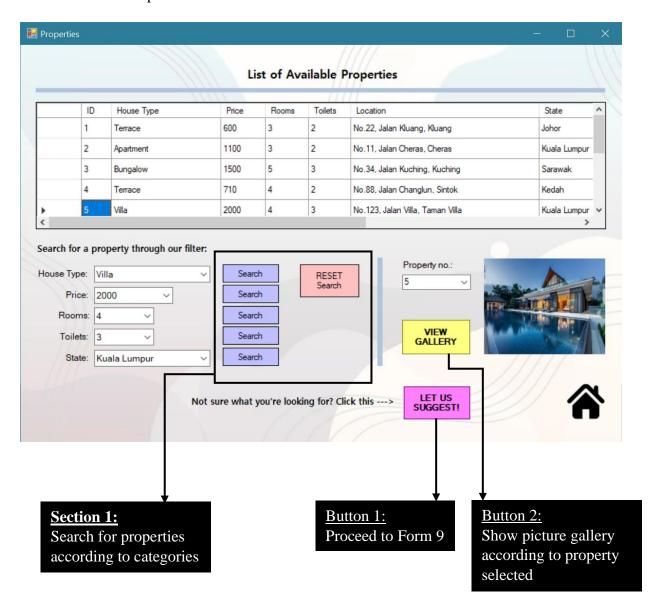
Application code for **Button 1**:

```
Private Sub ManageDetails Load(sender As Object, e As EventArgs) Handles
MyBase.Load
        'TODO: This line of code loads data into the
'NestFinderManagementDataSet.AdminDetails' table. You can move, or remove it, as
needed.
Me.AdminDetailsTableAdapter.Fill(Me.NestFinderManagementDataSet.AdminDetails)
    End Sub
Private Sub Button1_Click(sender As Object, e As EventArgs) Handles Button1.Click
        If Button1.Text = "EDIT" Then
            Button1.Text = "SAVE"
        Else
            AdminDetailsBindingSource.EndEdit()
            TableAdapterManager.UpdateAll(NestFinderManagementDataSet)
            AdminDetailsBindingSource.MoveFirst()
            Button1.Text = "EDIT"
        End If
        End Sub
```

Form 7 – Guest's Main Page



Form 8 – View Properties Form

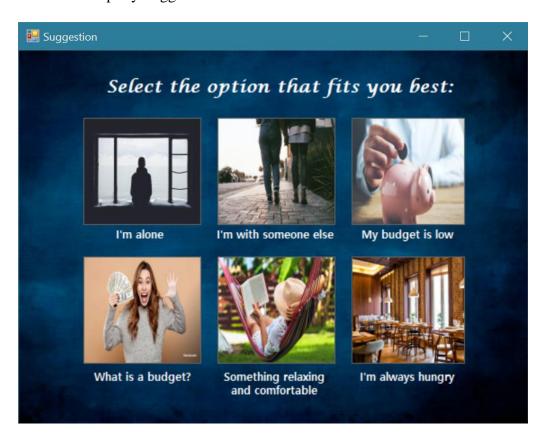


Application code for **Section 1**:

End Sub

```
Private Sub Button8 Click(sender As Object, e As EventArgs) Handles
Button8.Click
        PropertiesBindingSource.Filter = "[House Type] ='" & ComboBox1.Text & "'"
    End Sub
    Private Sub Button9_Click(sender As Object, e As EventArgs) Handles
        PropertiesBindingSource.Filter = "[Price] ='" & ComboBox2.Text & "'"
    End Sub
    Private Sub Button11_Click(sender As Object, e As EventArgs) Handles
Button11.Click
        PropertiesBindingSource.Filter = "[Rooms] ='" & ComboBox3.Text & "'"
    Private Sub Button12_Click(sender As Object, e As EventArgs) Handles
Button12.Click
        PropertiesBindingSource.Filter = "[Toilets] = " & ComboBox4.Text & "'"
    End Sub
    Private Sub Button13 Click(sender As Object, e As EventArgs) Handles
Button13.Click
        PropertiesBindingSource.Filter = "[State] ='" & ComboBox5.Text & "'"
    End Sub
    Private Sub Button15_Click(sender As Object, e As EventArgs) Handles
Button15.Click
        PropertiesBindingSource.RemoveFilter()
    End Sub
Application Code for Button 2:
Private Sub Button2_Click(sender As Object, e As EventArgs) Handles Button2.Click
        If ComboBox6.Text = "1" Then
            PictureBox1.Image = My.Resources._1
        ElseIf ComboBox6.Text = "2" Then
            PictureBox1.Image = My.Resources._2
        ElseIf ComboBox6.Text = "3" Then
            PictureBox1.Image = My.Resources._3
        ElseIf ComboBox6.Text = "4" Then
            PictureBox1.Image = My.Resources. 4
        ElseIf ComboBox6.Text = "5" Then
            PictureBox1.Image = My.Resources._5
        ElseIf ComboBox6.Text = "6" Then
            PictureBox1.Image = My.Resources._6
        ElseIf ComboBox6.Text = "7" Then
            PictureBox1.Image = My.Resources._7
        ElseIf ComboBox6.Text = "8" Then
            PictureBox1.Image = My.Resources._8
        ElseIf ComboBox6.Text = "9" Then
            PictureBox1.Image = My.Resources._9
        Else
        End If
    End Sub
```

Form 9 – Property Suggestion Form

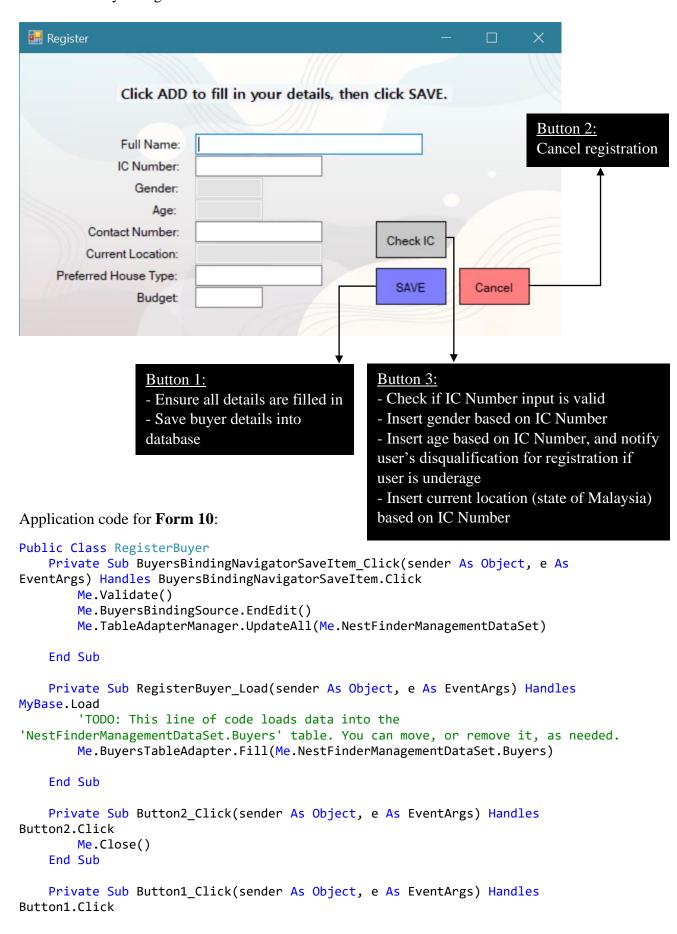


Application code for **Form 9**:

```
Public Class Suggestion
    Private Sub PictureBox1 Click(sender As Object, e As EventArgs) Handles
PictureBox1.Click
        MessageBox.Show("You might be interested to have a look at Bahagia Flats."
& vbNewLine & "Check out the cute property no. 6!", "We got you!")
        Me.Close()
        Properties.Show()
    End Sub
    Private Sub PictureBox2_Click(sender As Object, e As EventArgs) Handles
PictureBox2.Click
        MessageBox.Show("You might be interested to have a look at Jasmine Block."
& vbNewLine & "Check out our cozy apartment property no. 7!", "We got you!")
        Me.Close()
        Properties.Show()
    End Sub
    Private Sub PictureBox3 Click(sender As Object, e As EventArgs) Handles
        MessageBox.Show("You might be interested in a terrace." & vbNewLine &
"Check out our budget-friendly property no. 1!", "We got you!")
        Me.Close()
        Properties.Show()
    End Sub
```

```
Private Sub PictureBox4_Click(sender As Object, e As EventArgs) Handles
PictureBox4.Click
       MessageBox.Show("You might be interested to have a look at Taman Villa." &
vbNewLine & "Check out our beautiful property no. 5!", "We got you!")
       Me.Close()
       Properties.Show()
   End Sub
   Private Sub PictureBox5_Click(sender As Object, e As EventArgs) Handles
PictureBox5.Click
       MessageBox.Show("You might be interested in a bungalow." & vbNewLine &
"Check out our nature-based property no. 3!", "We got you!")
       Me.Close()
       Properties.Show()
   End Sub
   Private Sub PictureBox6_Click(sender As Object, e As EventArgs) Handles
PictureBox6.Click
       MessageBox.Show("You might be interested in our townhouse." & vbNewLine &
"Check out our wonderful property no. 8!", "We got you!")
       Me.Close()
       Properties.Show()
   End Sub
End Class
```

Form 10 – Buyer Registration Form



```
If Button1.Text = "ADD" Then
            Button3.Show()
            BuyersBindingSource.AddNew()
            Button1.Text = "SAVE"
        Else
            Dim respond As String
            respond = MessageBox.Show("Are you sure all your details are correct?"
& vbNewLine & "This cannot be undone after clicking Yes.", "SURE?",
MessageBoxButtons.YesNo, MessageBoxIcon.Warning)
            If respond = vbYes Then
                Dim checkfullname As String = Full NameTextBox.Text
                Dim checkicno As String = IC NumberTextBox.Text
                Dim checkgender As String = GenderTextBox.Text
                Dim checkage As String = AgeTextBox.Text
                Dim checkcontactno As String = Contact_NumberTextBox.Text
                Dim checkclocation As String = Current_LocationTextBox.Text
                Dim checkhousetype As String = Preferred_House_TypeTextBox.Text
                Dim checkbudget As String = BudgetTextBox.Text
                If checkgender = "" Or checkage = "" Or checkclocation = "" Then
                    MessageBox.Show("Please Check IC first before proceeding.",
"REGISTRATION INCOMPLETE!", MessageBoxButtons.OK, MessageBoxIcon.Error)
ElseIf checkfullname = "" Or checkicno = "" Or checkcontactno = ""
Or checkhousetype = "" Or checkbudget = "" Then
                    MessageBox.Show("Please fill in all your details before
proceeding.", "REGISTRATION INCOMPLETE!", MessageBoxButtons.OK,
MessageBoxIcon.Error)
                Else
                    BuyersBindingSource.EndEdit()
                    TableAdapterManager.UpdateAll(NestFinderManagementDataSet)
                    MessageBox.Show("Thank you for filling in your details!" &
vbNewLine & "You're now registered as a customer for Nest Finder." & vbNewLine &
"We'll contact you shortly :)", "YOU'RE ON OUR LIST!", MessageBoxButtons.OK,
MessageBoxIcon.Information)
                    Me.Close()
                End If
            End If
        End If
    End Sub
    Private Sub Button3_Click(sender As Object, e As EventArgs) Handles
Button3.Click
        Dim icno As String
        Dim gender As String
        Dim age As Integer
        Dim state As String
        icno = IC NumberTextBox.Text
        If Len(icno) <> 12 Then
            MessageBox.Show("Please enter the correct IC number.", "INCORRECT
IC!", MessageBoxButtons.OK, MessageBoxIcon.Error)
        F1se
            gender = Microsoft.VisualBasic.Right(icno, 1)
```

```
If gender Mod 2 = 1 Then
                GenderTextBox.Text = "Male"
            Else
                GenderTextBox.Text = "Female"
            End If
            age = Microsoft.VisualBasic.Left(icno, 2)
            Select Case age
                Case 4 To 21
                    MessageBox. Show("You are too young to rent a house!",
"UNDERAGE!", MessageBoxButtons.OK, MessageBoxIcon.Error)
                Case 0 To 3
                    AgeTextBox.Text = 2021 - (2000 + age)
                Case Else
                    AgeTextBox.Text = 2021 - (1900 + age)
            End Select
            state = icno.Substring(6, 2)
            Select Case state
                Case Is = "01"
                    Current LocationTextBox.Text = "Johor"
                Case Is = "02"
                    Current_LocationTextBox.Text = "Kedah"
                Case Is = "03"
                    Current LocationTextBox.Text = "Kelantan"
                Case Is = "04"
                    Current_LocationTextBox.Text = "Melaka"
                Case Is = "05"
                    Current_LocationTextBox.Text = "Negeri Sembilan"
                Case Is = "06"
                    Current_LocationTextBox.Text = "Pahang"
                Case Is = "07"
                    Current_LocationTextBox.Text = "Penang"
                Case Is = "08"
                    Current LocationTextBox.Text = "Perak"
                Case Is = "09"
                    Current LocationTextBox.Text = "Perlis"
                Case Is = "10"
                    Current_LocationTextBox.Text = "Selangor"
                Case Is = "11"
                    Current_LocationTextBox.Text = "Terengganu"
                Case Is = "12"
                    Current_LocationTextBox.Text = "Sabah"
                Case Is = "13"
                    Current_LocationTextBox.Text = "Sarawak"
                Case Is = "14"
                    Current_LocationTextBox.Text = "Kuala Lumpur"
                Case Is = "15"
                    Current_LocationTextBox.Text = "Labuan"
                Case Is = "16"
                    Current LocationTextBox.Text = "Putrajaya"
                Case Else
                    MessageBox.Show("Please enter the correct IC number.",
"INCORRECT IC!", MessageBoxButtons.OK, MessageBoxIcon.Error)
            End Select
        End If
    End Sub
End Class
```

Form 11 – View Company Details Form

