19.   VB Project and Menu Design

19.1 Working with Projects

As you develop an application, you work with a project to manage all the different files that make up the application. A VB project consists of:
- One project file that keeps track of all the components (.vbp).
- One file for each form (.frm).
- One binary data file for each form containing data properties of controls on the form (.frx). These files are not editable and are automatically generated for any .frm file that contains binary properties, such as Picture or Icon.
- Some optional files such as standard module (.bas) and class module (.cls).

19.2 Structure of a VB Project

Form Modules

Form modules (.frm file name extension) can contain textual descriptions of the form and its controls, including their property settings. They can also contain form-level declarations of constants, variables, and external procedures, event procedures, and general procedures.

Class Modules

Class modules (.cls file name extension) are similar to form modules, except that they have no visible interface. You can use class modules to create your own objects, including both properties and methods.

Standard Modules

Standard modules (.bas file name extension) can contain public or module-level declarations of types, constraints, variables, and procedures.

Standard Controls

Standard controls are supplied by VB. Standard controls, such as the command button or frame control, are always included in the toolbox.

19.3 Menu Design

So far, you might notice that all the simple applications in our class only consist of one form and several controls. However, for a relatively larger project, you should use Menu Editor to create new menus and menu bars.

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Let me give you a simple example to show you how to create menus. Suppose we need to create the following menus in this example:

- File
    - o Close
    - o Exit
- Edit
    - o Species
    - o Stand
        - ▪ Natural
        - ▪ Planted
- Help
    - o About
    - o Content

We are also required to do the following things:
a. Close all window items in MDI form if the user clicks the Close menu.
b. Exit the program if the user clicks Exit menu.
c. Invoke species form if the user clicks the Species menu.
d. Invoke About form if the user clicks About menu.

What we need to do are as follows:
(1) Start a new VB project
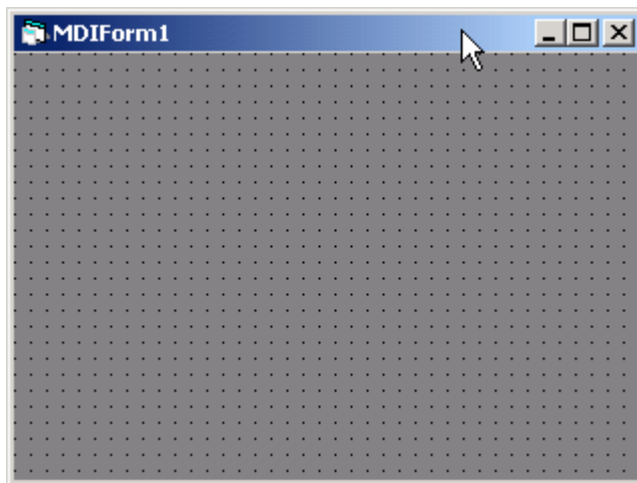(2) Add a MDI form to the project by clicking Add MDI form from Project menu (Figure 1).

Figure 1. MDI form.

(3) Create menus
    To display the Menu Editor, choose Menu Editor from the Tools menu (Figure 2).

VB Project and Menu Design, Prepared by Dr. Jingxin Wang   2
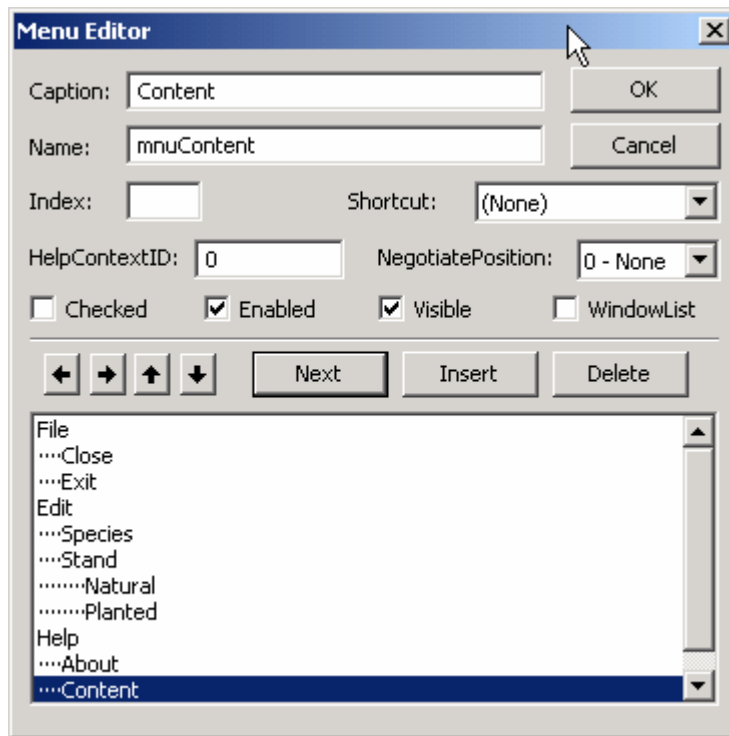
Figure 2. Menu editor.

Name – this is the name you use to reference the menu control from code.
Caption – this is the text that appears on the control.

Click OK button, the menus will be created on the top of MDI form (Figure 3).
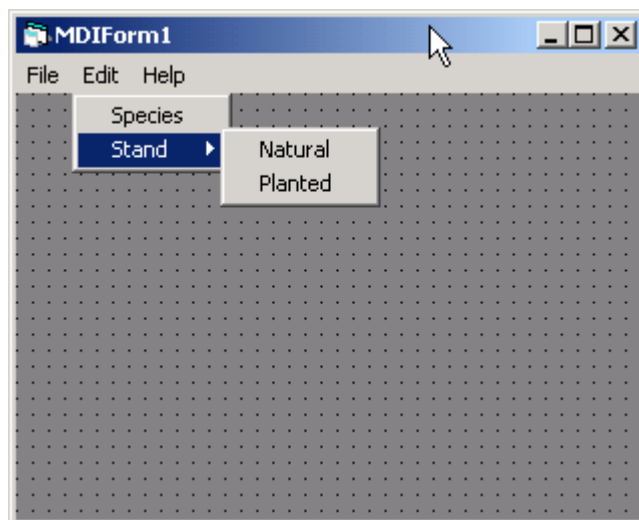

Figure 3. Menus.

(4) Now you need to add another form that will be used to edit species and display about information since form1 is already in the project. You can do that by clicking Add Form from Project menu.

(5) Double-click menu item and add codes there.

```
Private Sub mnuAbout_Click()

   Form2.Show
   Form2.Caption = "About My Program"

End Sub

Private Sub mnuClose_Click()

   Unload Form1
   Unload Form2

End Sub

Private Sub mnuExit_Click()

   End

End Sub

Private Sub mnuSpecies_Click()

   Form1.Show
   Form1.Caption = "Edit Species"

End Sub

'Display a popup menu
Private Sub MDIForm_MouseUp(Button As Integer, Shift As Integer, X As Single, Y As Single)

   If Button = 2 Then
      MDIForm1.PopupMenu mnuFile
   End If

End Sub
```

(6) In Project Explorer Window, right click your project, click property and then change the start object of your application to MDIForm1 (Figure 4).

(7) Before you start to run the project, you need to set the form properties as listed in Table 1.

(8) Run the project (Figure 5).
   i.   Click Edit|Species
   ii. Click Help|About
   iii. Click Close
   iv. Click Exit

(9) Save your project.

Table 1. Property settings of forms.

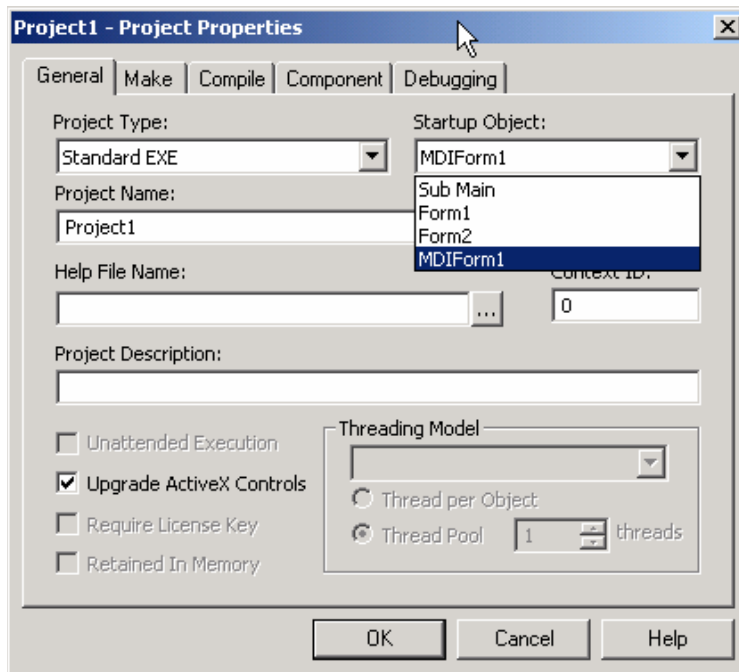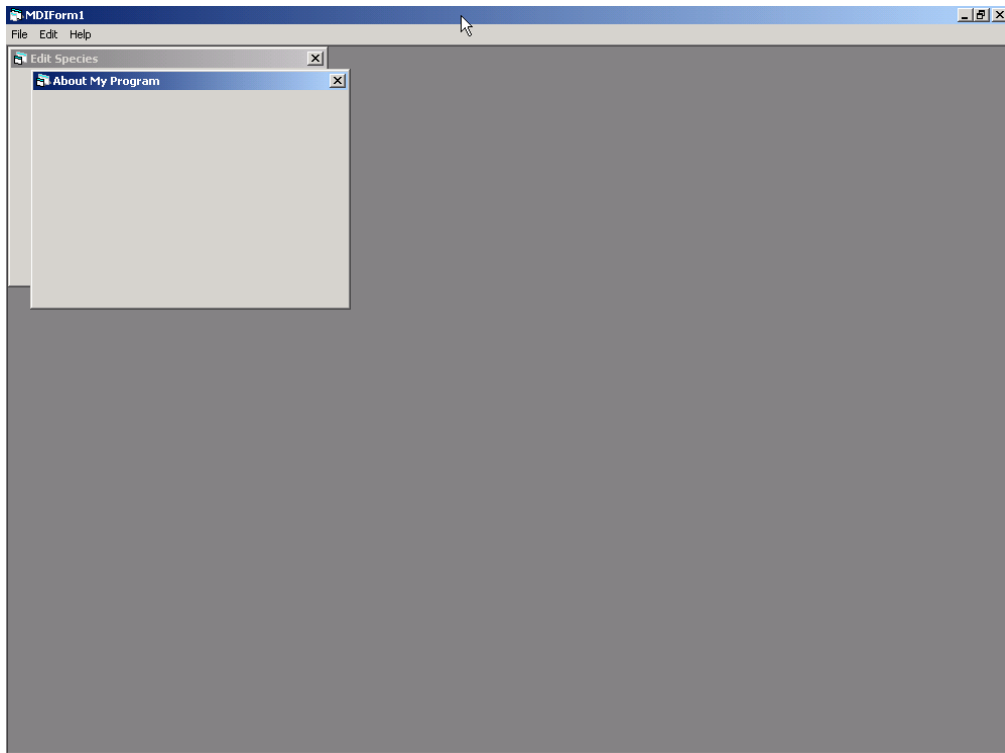| Form	Property	Setting
MDIForm1	WindowState	2 - Maximized
Form1	MDIChild	True
	BorderStyle	1 - FixedSingle
Form2	MDIChild	True
	BorderStyle	1 - FixedSingle

Figure 4. Project properties.

Figure 5. Running the project.