

Visual C# .Net using framework 4.5

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Lecture 08

Menu

In windows applications, menus are used to provide a list of commands available for user to execute in the application. Example the File menu, which contain New, Open, Close, ...

The menu that sits between a form's title bar and the client area is referred as main menu.

Many application support Shortcut menus, context menus, which are menus that appear at the mouse cursor position when you right click the mouse.

A main menu is associated with a form, while context menu is associated with a particular control, that is clicking different controls often causes different context menus to be invoked.

A menu (main or context) contains menu items, such as File, Open, Save,...

Menu

You will find that the File and Edit menu items are different from the Open, Save items. File, Edit are located at the visible part of the program main menu, while other are not.

The items at the visible part are called “Top Level Item”. Selecting any Top Level Item will invoke a menu was called “PopUp menu” or “Drop Down Menu” but now is called SubMenu or ChildMenu.

From the Windows Forms program, The File menu item contains a collection of other menu items contains (Open, Save,...) and the Edit menu item contains a collection of menu items contains (Cut, Copy,...).

One step back, the Main menu itself is a collection of menu items contains (File, Edit,...). Each menu item in the Main menu is associated with its own array of menu items. And in some case some of these menu items have their own array of menu items.

Menu

Similarly, a context menu is an array of menu items.

To Deal With menus, we have 3 classes:

- MenuStrip (the main menu)

- ToolStripMenuItem (sub menus)

- ContextMenuStrip (context menu)

Menu

Creating the Main Menu

- 1) Create an object from the MenuStrip class
- 2) Create the Top Level Menu item (object from ToolStripMenuItem class)
- 3) Add this object (from ToolStripMenuItem) to the object (from MenuStrip) use “items collection”
- 4) Now, make the submenu item (Object from ToolStripMenuItem)
- 5) Add it to the Top Level Menu (use DropDownItems collections)
- 6) Repeat steps 4, 5 to add other submenu
- 7) Repeat Steps 2 to 6 to add other top level Menu items
- 8) Attach MainMenu to the Form

Menu

Creating the Main Menu

Step 1:

```
MenuStrip menuStrip1; //define the object  
menuStrip1 = new MenuStrip(); //object creation
```

Step 2:

```
ToolStripMenuItem fileToolStripMenuItem =  
new ToolStripMenuItem("&File");
```

Step 3:

```
menuStrip1.Items.Add(this.fileToolStripMenuItem);
```

Menu

Creating the Main Menu

Step 4:

```
ToolStripMenuItem exitToolStripMenuItem =  
    new ToolStripMenuItem (“E&xit”,  
        new EventHandler(this.exitToolStripMenuItem_Click));  
exitToolStripMenuItem.ShortcutKeys = (Keys)(Keys.Control | Keys.X);
```

Step 5:

```
fileToolStripMenuItem.DropDownItems.Add(this.exitToolStripMenuItem);
```

Step 8:

```
this.Controls.Add(this.menuStrip1);  
this.MainMenuStrip = this.menuStrip1;
```

Menu

Creating the Main Menu

Step 4:

```
ToolStripMenuItem exitToolStripMenuItem =  
    new ToolStripMenuItem ("E&xit",  
        new EventHandler(this.exitToolStripMenuItem_Click));  
exitToolStripMenuItem.ShortcutKeys = (Keys)(Keys.Control | Keys.X);
```

Step 5:

```
fileToolStripMenuItem.DropDownItems.Add(this.exitToolStripMenuItem);
```

Step 8:

```
this.Controls.Add(this.menuStrip1);  
this.MainMenuStrip = this.menuStrip1;
```


Menu

Creating the Main Menu

The & in the menu name string, tell which variable will be associated with the Alt key to open the menu

Also, each command may have a shortcut to execute this command with no need to open the menu

Context Menu

Creating the Context Menu

- 1) Create an object from the ContextMenuStrip class
- 2) Now, make the submenu item (object from ToolStripMenuItem)
- 3) Add it to the ContextMenuStrip (using Items collections)
- 4) Repeat steps 2, 3 to add other submenu
- 5) Attach ContextMenuStrip to the Form (through contextMenuStrip property of the form)

Toolbar

Toolbars provides an alternate means to activate a given menu item. Most applications use toolbar images that are 16 pixels square.

This is done by ToolStrip class

It can Contains:

- ToolStripButton,
- ToolStripLabel,
- ToolStripDropDownButton,
- ToolStripComboBox,
- ToolStripTextBox

Toolbar

Creating and using Toolbar

- 1) Create object From ToolStrip class
- 2) Create objects From ToolStripButton, ToolStripLabel, ... class
- 3) Configure each object
- 4) Configure toolbar and Add buttons (using Items collection)
- 5) Add the new bar to the control (using Controls collection)

Status bar

Status bars usually conveys textual information to the user.

This is done by StatusStrip class

It can Contains:

ToolStripStatusLabel,
ToolStripDropDownButton,
ToolStripProgressBar

Creating and using Status bar

- 1) Create object From StatusStrip class
- 2) Create objects From ToolStripStatusLabel, ToolStripDropDownButton, ... class
- 3) Configure each object
- 4) Configure status bar and Add buttons (using Items collection)
- 5) Add the new bar to the control (using Controls collection)