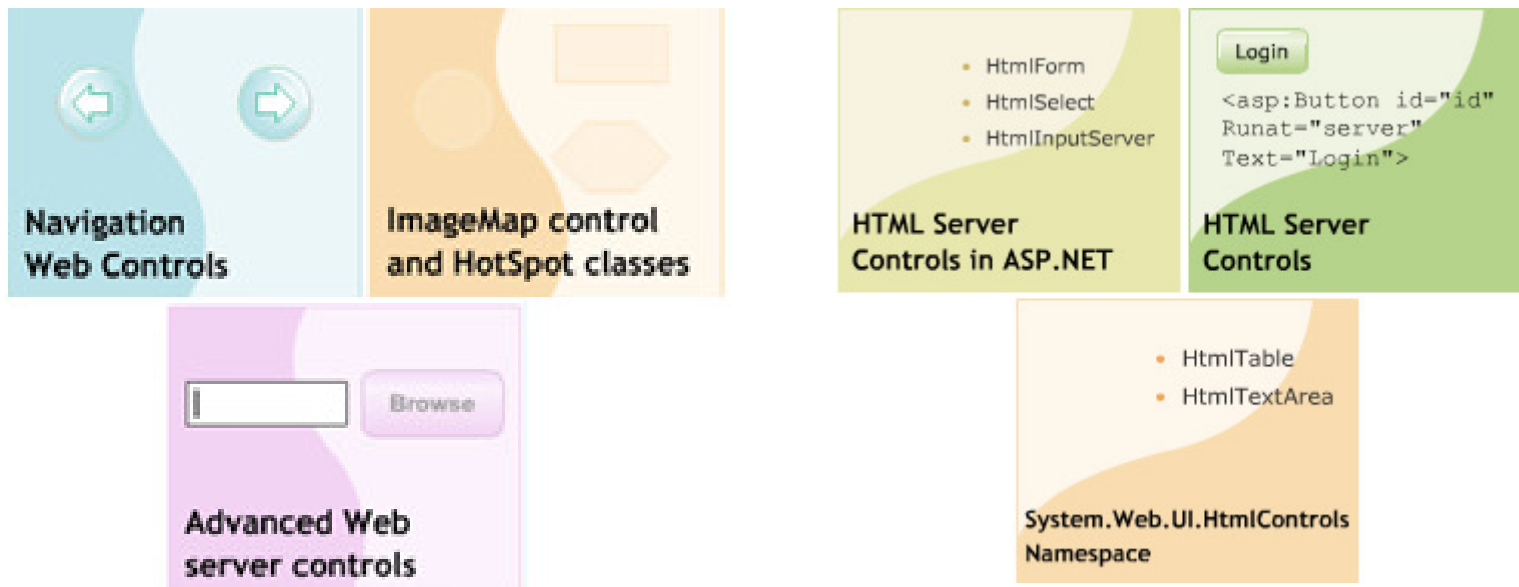# ACCP I7.1 – SEMESTER 3
BEGINNING ASP.NET

Session 4 - More Web Server Controls

Objectives

- Navigation Web Controls
- ImageMap Control and HotSpot classes
- Advanced Web server controls
- HTML Server Controls in ASP.Net

Navigation Web Controls

- ASP.NET navigation controls
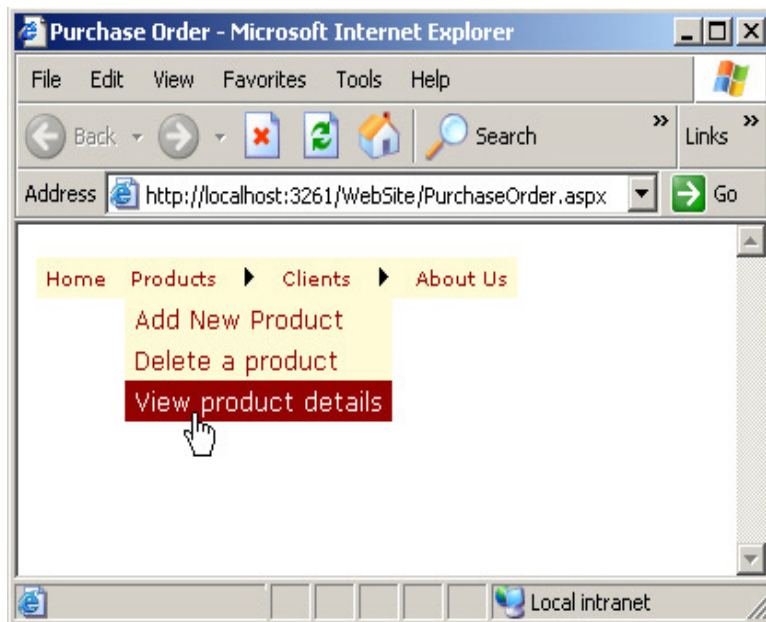 - Menu
  - TreeView
  - SiteMapPath

Navigation Web Controls : Menu

ASP.NET 2.0 enables creation of menus using Menu control. The menus created in ASP.NET Web applications can have multiple levels of sub-menus.

"SiteMapDataSource" Control

The Menu control is linked to the SiteMapDataSource control, which in turn is linked to the web.sitemap file. Any changes made in the menu structure in the web. sitemap file, is automatically reflected in the Menu control.


```xml
<?xml version="1.0" encoding="utf-8" ?>
<siteMap>
<siteMapNode url="Hello.aspx" title="Home">
  <siteMapNode url="Prod.aspx" title="Products">
    <siteMapNode url="BuyPrd.aspx" title="Buy"/>
    <siteMapNode url="SelPrd.aspx" title="Sell"/>
  </siteMapNode>
  <siteMapNode url="Clients.aspx" title="Clients"/>
    <siteMapNode url="AbtUs.aspx" title="About Us"/>
</siteMapNode>
</siteMap>
```
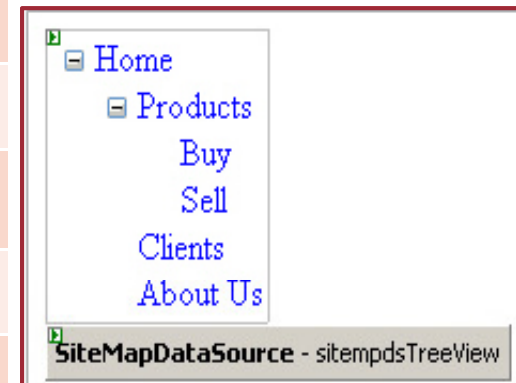
Navigation Web Controls
Menu Control

Properties	Method	Events
Items	FindItem	MenuItemClick
Orientation		
PathSeparator		
Target		

Navigation Controls : TreeView

Properties	Method	Events
Nodes	FindNode	SelectedNodeChanged
ShowCheckBoxes		TreeNodeCollapsed
SelectedValue		TreeNodeExpanded
NodeStyle		TreeNodeCheckChanged
ShowLines		
SelectedNode		

```
⊟ Home
   ⊟ Products
        Buy
        Sell
      Clients
      About Us
SiteMapDataSource - sitempdsTreeView
```

```xml
<?xml version="1.0" encoding="utf-8" ?>
<siteMap>
<siteMapNode url="Hello.aspx" title="Home">
  <siteMapNode url="Prod.aspx" title="Products">
    <siteMapNode url="BuyPrd.aspx" title="Buy"/>
    <siteMapNode url="SelPrd.aspx" title="Sell"/>
  </siteMapNode>
  <siteMapNode url="Clients.aspx" title="Clients"/>
    <siteMapNode url="AbtUs.aspx" title="About Us"/>
  </siteMapNode>
</siteMap>
```

Navigation Controls : SiteMapPath

ASP.NET 2.0 provides the SiteMapPath server control to work with site map files and create a breadcrumb navigation mechanism.

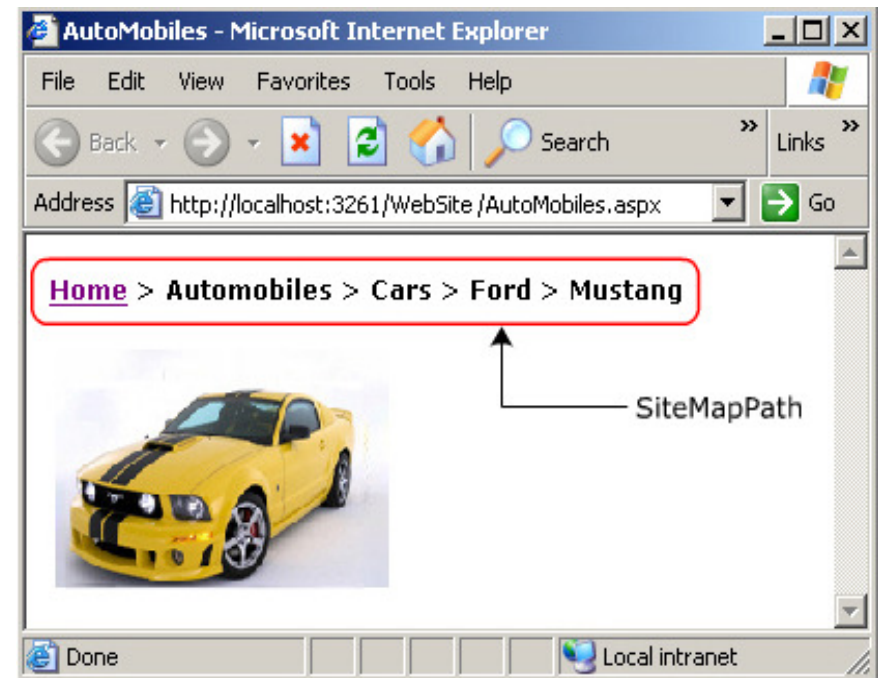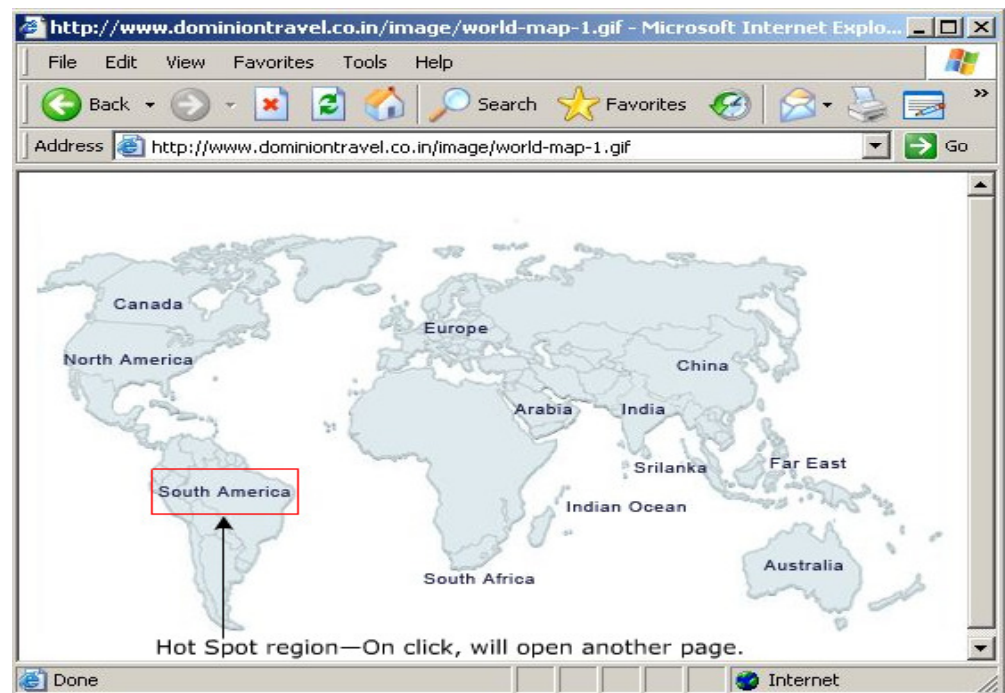| Properties	Events
PathSeparator	ItemCreated
CurrentNodeStyle	
PathDirection	
RootNodeStyle	

Image Map Control

ASP.NET 2.0 provides the ImageMap control to create images containing clickable hot spot regions. When a user clicks a hot spot region, a sub-program can be called or the user can be directed to another page.

Properties	Events
HotSpotMode	Click
HotSpots	
ImageUrl	
AlternateText	

HotSpot Class

- Hotspot class is used to create hot spot regions on an image,

- Hot spot regions can be either *circular*, *rectangular*, or *polygonal*

- *Properties*
  - AccessKey
  - PostBackValue

- *Method*
  - GetCoordinates

CircleHotSpot Class

☐ The CircleHotSpot class is used to define a circular hot spot region on the ImageMap control.

☐ *Properties*

    ❏ NavigateUrl

    ❏ Radius

    ❏ X

    ❏ Y

RectangleHotSpot Class

- The RectangleHotspot class is used to define a rectangular hot spot region on the ImageMap control.

- *Properties*
  - Bottom
  - Left
  - Right
  - Top

PolygonHotSpot Class

□ PolygonHotSpot class is useful when you need to define irregularly-shaped hot spot regions such as areas on a country's map.
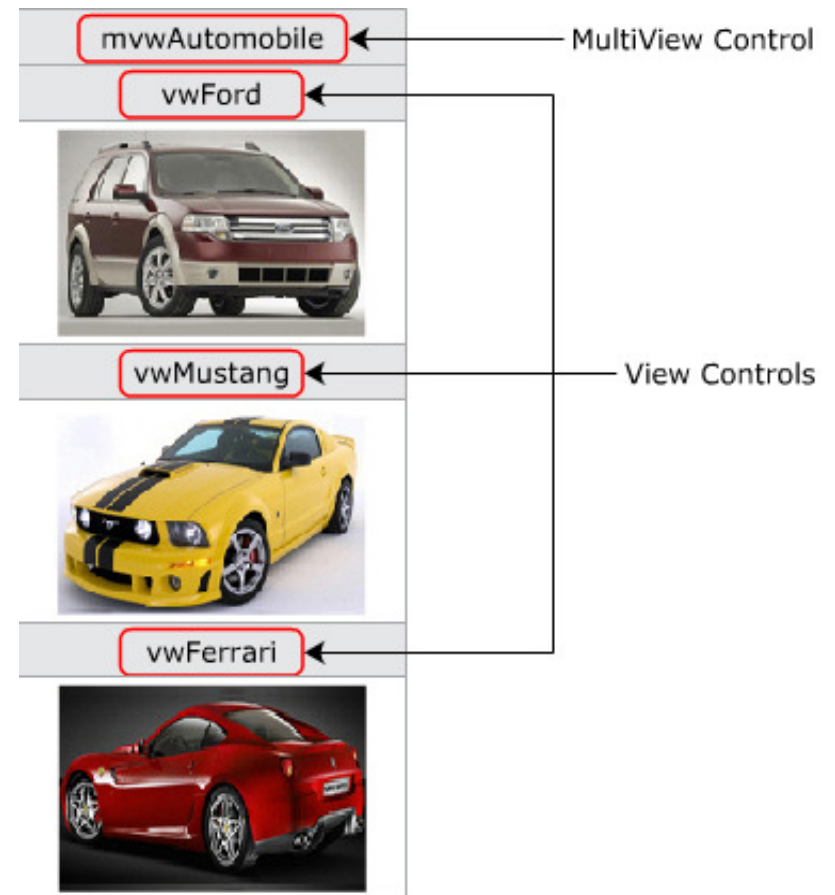
□ *Properties*

- Coordinates
- Target

Advanced Web Server Control

- FileUpload control is provided by ASP.NET for locating and uploading files.

- *Properties*
  - HasFile
  - Filename
  - PostedFile

- *Method*
  - SaveAs

Advanced Web Server Control

□ "View" Control

  ■ ASP.NET 2.0 provides the View control to manage such chunks of data. The View control can be referred to as a container of controls as this control can contain multiple other controls

□ "MultiView" Control

  ■ The MultiView control encloses one or more View controls, These views are indexed in their coded order of appearance,

□ Properties, Methods, and Events

  ■ ActiveViewIndex Property

  ■ Views Property

  ■ SetActiveView Method

  ■ ActiveViewChanged Event

HTML Server Controls
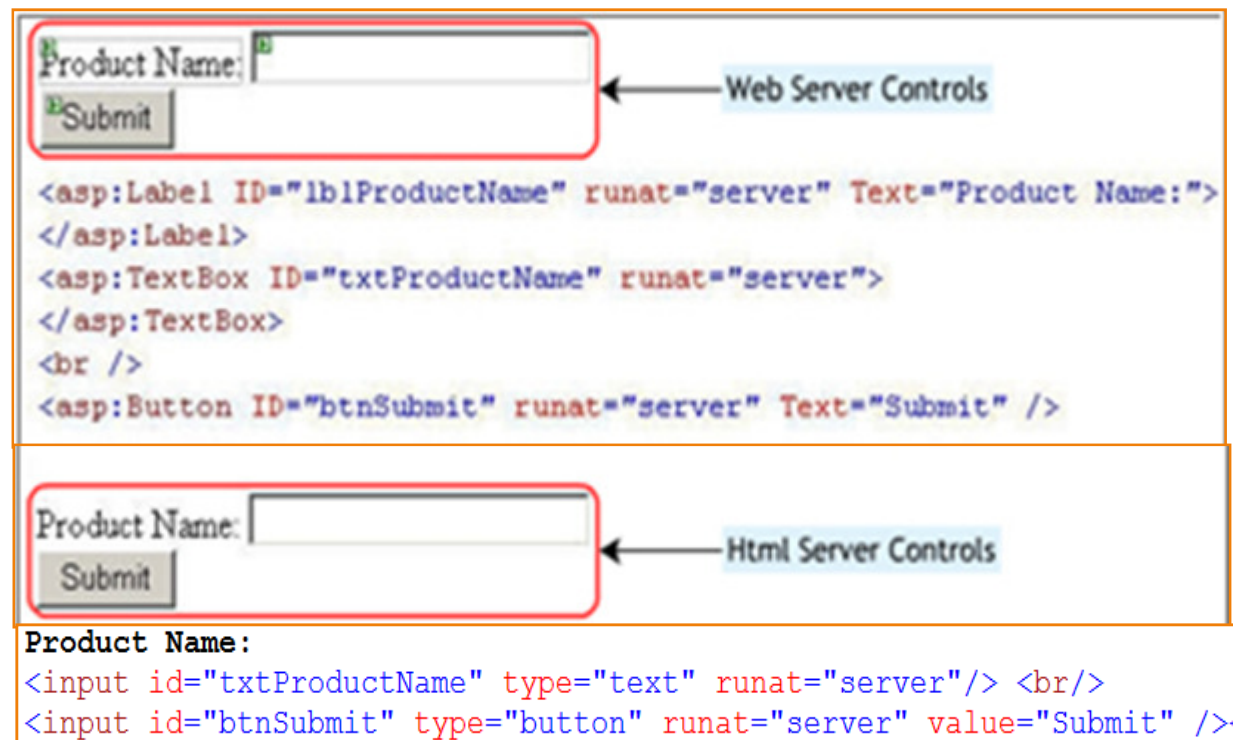
❑ HTML server controls are a set of controls that resemble the corresponding HTML tags.

❑ These controls are declared on the Web page by adding the **"runat = server"** attribute.

❑ The **"runat = server "** attribute specifies that the HTML control is a server control.

HTML Server Controls

☐ Some of the basic HTML server controls are:

- ❑ HtmlButton
- ❑ HtmlImage
- ❑ HtmlForm
- ❑ HtmlTable
- ❑ HtmlInputText
- ❑ HtmlInputButton
- ❑ HtmlSelects

Product Name: [   ]
Submit   ← Web Server Controls

```
<asp:Label ID="lblProductName" runat="server" Text="Product Name:">
</asp:Label>
<asp:TextBox ID="txtProductName" runat="server">
</asp:TextBox>
<br />
<asp:Button ID="btnSubmit" runat="server" Text="Submit" />
```

Product Name: [   ]
Submit   ← Html Server Controls

```
Product Name:
<input id="txtProductName" type="text" runat="server"/> <br/>
<input id="btnSubmit" type="button" runat="server" value="Submit" />
```
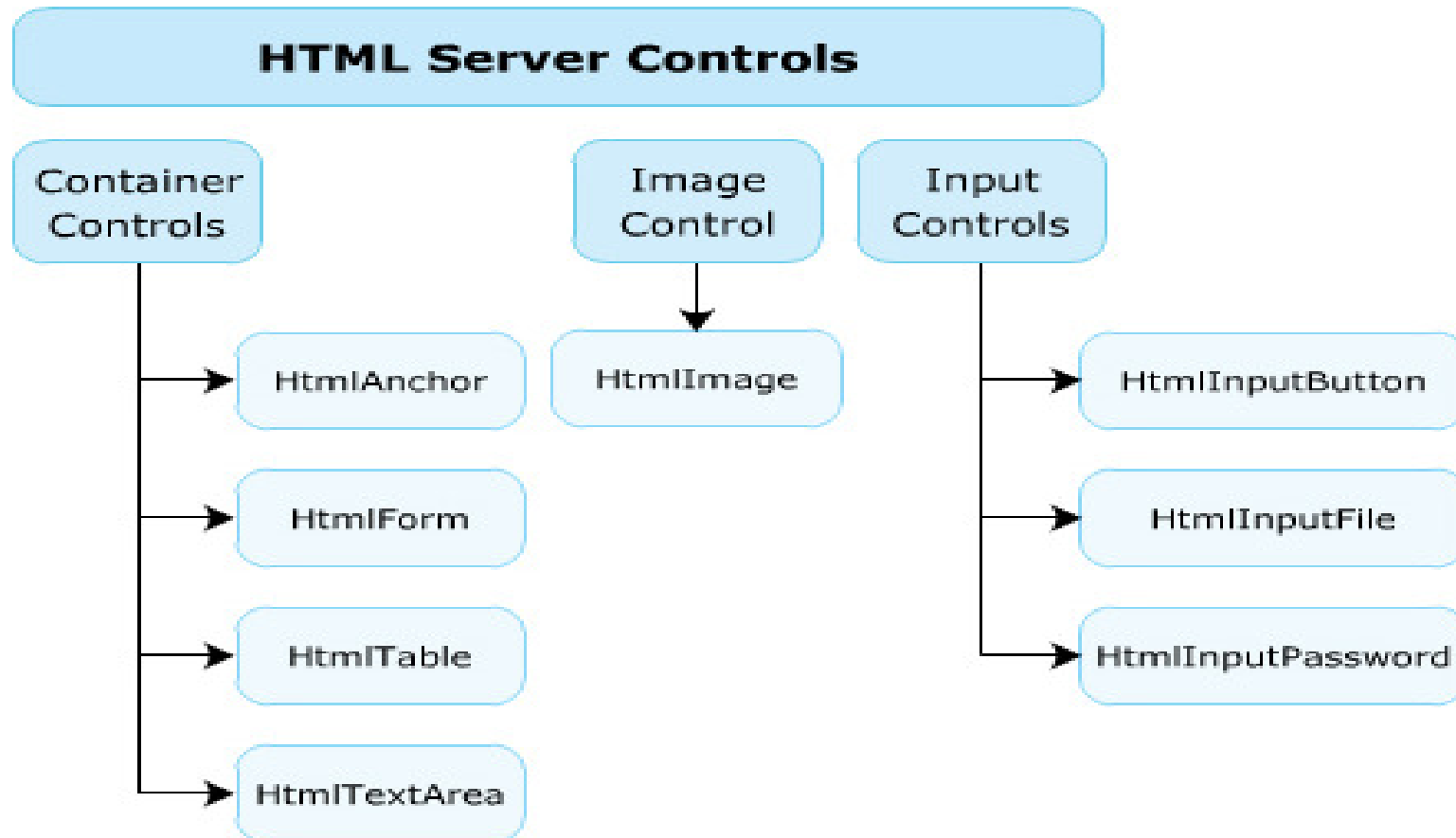
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HTML Controls vs. Web Server Controls

Web Server Controls	HTML Server Controls
ASP.NET Web server controls can be used only for server-side scripting.	HTML server controls can be used for client-side scripting as well as server-side scripting depending on the code.
ASP.NET Web server controls can be directly used for server-side scripting.	HTML server controls can be used for server-side scripting by adding `runat= "server"` attribute in the HTML tag.
ASP.NET Web server controls can detect the client browser and render themselves accordingly.	HTML server controls are unable to identify the client browser.
ASP.NET Web server controls have a higher level of abstraction. A Web server control can be a result of many HTML tags that combine to create the control and its events.	HTML server controls have similar abstraction with the corresponding HTML tags and offer no abstraction with other controls.
`Calendar`, `AdRotator`, **and** `ListBox` are examples of Web server controls.	`HtmlImage`, `HtmlInputButton`, **and** `HtmlSelect` are examples of HTML server controls.

Classification of Controls

All controls in the System.Web.UI.HtmlControls namespace share some common properties, methods, and events.

HTML Server Controls
System.Web.UI.HtmlControls

Class	Description
HtmlButton	Allows the developer to programmatically use the HTML `<button>` tag on the server.
HtmlForm	Enables the developer to programmatically use the HTML `<form>` tag on the server.
HtmlImage	Allows the developer to programmatically use the HTML `<img>` tag on the server.
HtmlInputButton	Allows the developer to programmatically use the HTML `<input type= button>`, `<input type= submit>`, and `<input type= reset>` tags on the server.
HtmlInputText	Allows the developer to programmatically use the HTML `<input type= text>` and `<input type= password>` tags on the server.
HtmlTable	Allows the developer to programmatically use the HTML `<table>` tag on the server.
HtmlSelect	Allows the developer to programmatically use the HTML `<select>` tag on the server.

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HTML Server Controls in ASP.Net

Properties

- **Attributes**
- **DefaultButton**
- **DefaultFocus**
- **Method**
- **Name**

"HtmlForm" Control

```
HtmlForm hfrmInvoiceDetails = new HtmlForm();
HtmlInputText hintxtFirstName = new HtmlInputText();
hintxtFirstName.ID = "hintxtFirstName";
hfrmInvoiceDetails.Attributes["runat"] = "server";
hfrmInvoiceDetails.DefaultFocus = "hintxtFirstName";
hfrmInvoiceDetails.Method = "POST";
hfrmInvoiceDetails.Name = "frmInvoiceDetails";
hfrmInvoiceDetails.Controls.Add(hintxtFirstName);
Page.Controls.Add(hfrmInvoiceDetails);
```

HTML Server Controls in ASP.Net

"HtmlInputText"	"HtmlInputCheckBox"	"HtmlInputImage"	"HtmlInputButton"
Property	**Name**	**Name**	**Name**
ID	Checked property	Align property	Attributes property
MaxLength	Name property	Alt property	
Name	Value property	ID property	ValidationGroup property
Size	Visible property	Src property	Value property
Visible	ServerClick event	ServerClick event	ServerClick event

HTML Server Controls : HtmlImage

Mustang Car

- □ The HtmlImage control maps the <img> tag on the server.

- □ *Properties*
  - ❑ Align
  - ❑ Alt
  - ❑ ID
  - ❑ Height
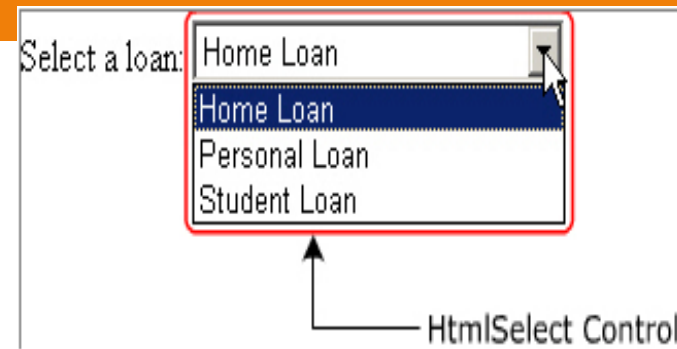 - ❑ SRC
  - ❑ *Width*

```
protected void Page_Load(object sender, EventArgs e)
{
    HtmlForm hfrmProductDetails = new HtmlForm();
    HtmlImage himgLogo = new HtmlImage();
    himgLogo.Align = "Right";
    himgLogo.Alt = "Company logo";
    himgLogo.Width = 100;
    himgLogo.Height = 175;
    himgLogo.Src = "Logo.jpg";
    hfrmProductDetails.Controls.Add(himgLogo);
    Page.Controls.Add(hfrmProductDetails);
}
```

HTML Server Controls: HtmlSelect

- The HtmlSelect server control is a server-side control that maps to the \<select\> tag of the HTML element.

- *Properties*
  - ID
  - Items
  - Multiple
  - SelectedIndex
  - Value

```
public partial class _Default : System.Web.UI.Page
{

    HtmlSelect htmlSelect = new HtmlSelect();
    protected void Page_Load(object sender, EventArgs e)
    {
        htmlSelect.ID = "SelectLoan";
        htmlSelect.Items.Add("Home Loan");
        htmlSelect.Items.Add("Personal Loan");
        htmlSelect.Items.Add("Student Loan");
        htmlSelect.Multiple = false;
        htmlSelect.Value = "Go";
        Page.Controls.Add(htmlSelect);
    }
}
```

Summary – Workshop Activities

- ❖ Navigation Web Controls : Menu,TreeView, SiteMap,…

- ❖ ImageMap Control and HotSpot classes

- ❖ Advanced Web server controls : View, MultiView

- ❖ HTML Server Controls in ASP.Net : HTMLButton, HTML Form, HTML Image.