

Site Maps and Navigation

Using ASP.NET Navigation Controls and Site Maps

ASP.NET Web Forms
Telerik Software Academy
<http://academy.telerik.com>

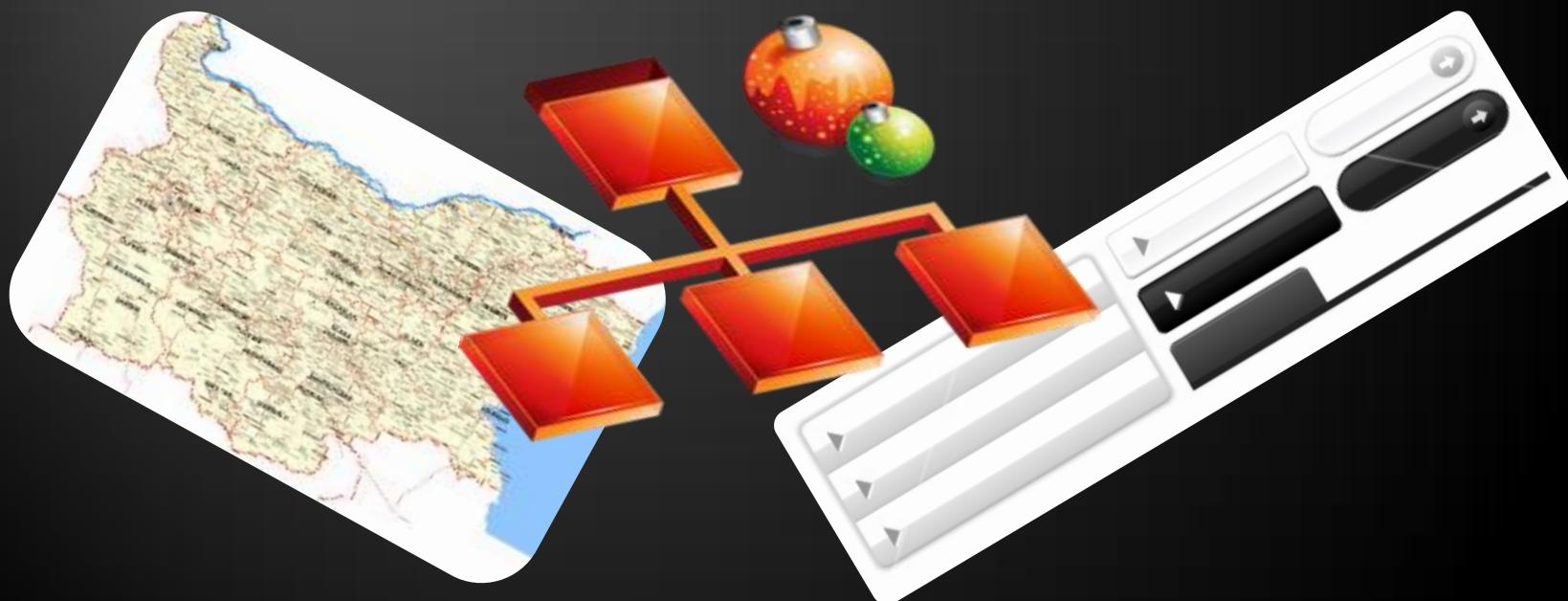


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Site Navigation



- ◆ Site maps and navigation controls provide an easy way to create navigation in ASP.NET
 - ◆ Site map
 - ◆ Describes the logical structure of a site
 - ◆ Built in support for XML Site Map
 - ◆ Object model
 - ◆ Programming API for accessing the Site Map
 - ◆ SiteMapDataSource
 - ◆ Used for data binding

What is Site Map?

- ◆ **Site Map**
 - ◆ A way to describe and store the logical structure of the site
 - ◆ A tree-like data structure
- ◆ Visual Studio and ASP.NET support Site Maps stored in XML files
- ◆ To use another storage mechanism you must use a custom SiteMapProvider

- ◆ Create an XML file named `Web.sitemap` in the application root
 - Automatically detected by the default ASP.NET `SiteMapProvider`
- ◆ Add a `siteMapNode` element for each page in your Web site
 - Nest `siteMapNode` elements to create a hierarchy
 - Should have only one root `siteMapNode` element

Web.sitemap – Example

```
<?xml version="1.0" encoding="utf-8" ?>

<siteMap>
    <siteMapNode title="Home" description="Home"
        url="~/Default.aspx">
        <siteMapNode title="Products" description=
            "Our products" url="~/Products.aspx" />
        <siteMapNode title="Hardware" description=
            "Hardware choices" url="~/Hardware.aspx" />
        <siteMapNode title="Software" description=
            "Software choices" url="~/Software.aspx" />
    </siteMapNode>
    ...
</siteMap>
```

siteMapNode Attributes

- ◆ **Title** – a friendly name of the node (page)
- ◆ **Description** – used as a tool tip description in Site Map controls
- ◆ **URL** – the URL of the page
 - ◆ Usually starting with "~/" meaning the application root

Site Map Controls

◆ Site Map Controls

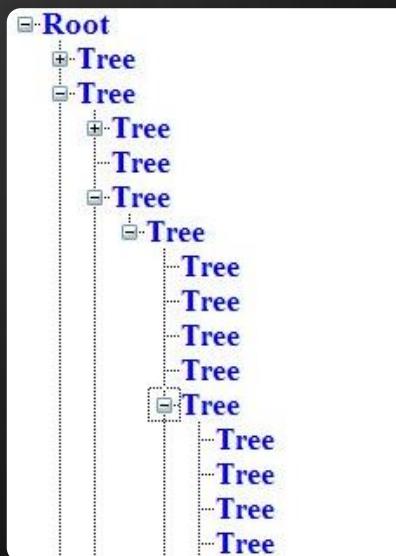
- ◆ Menu

- ◆ TreeView

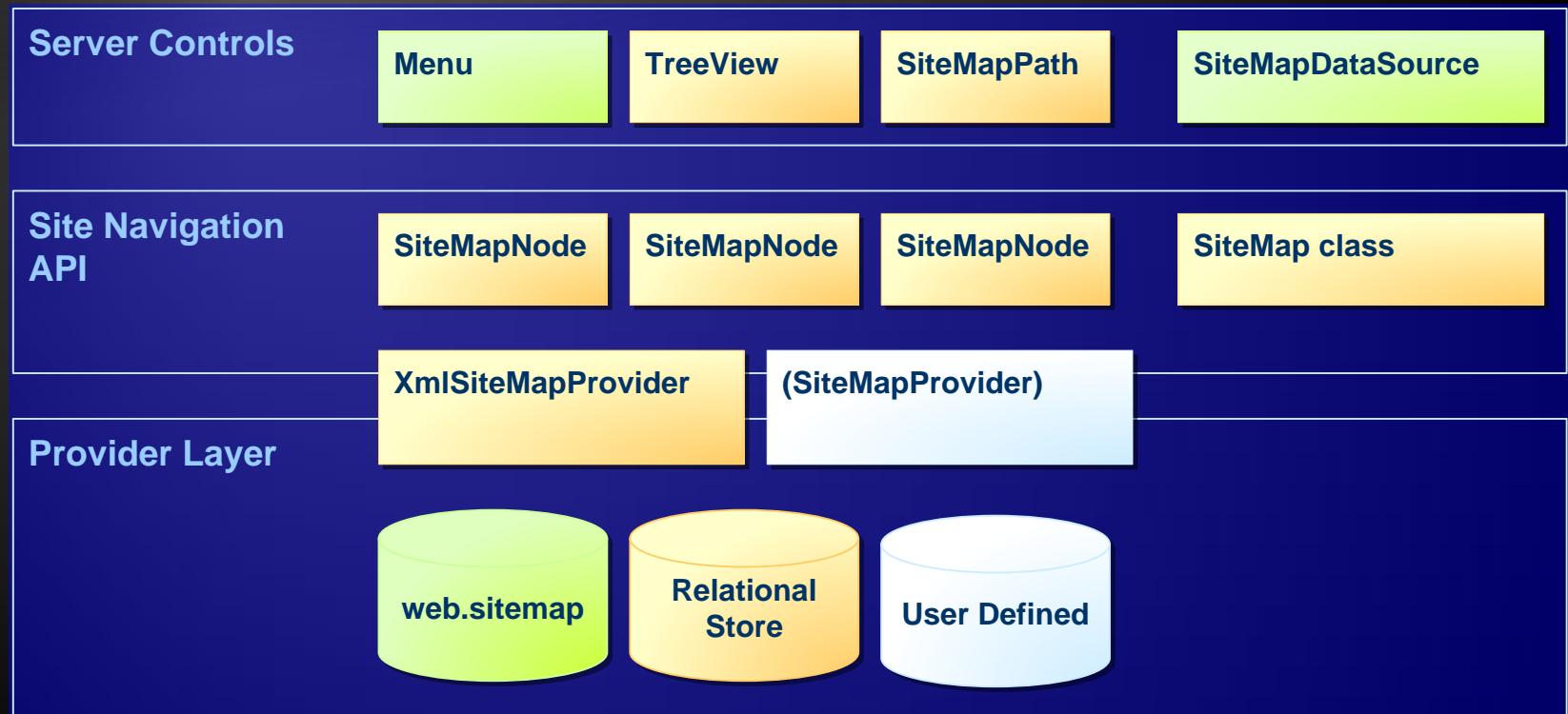
- ◆ SiteMapPath

Home ► Software
Hardware

New Item
New Item ►
New Item ► New Item
New Item New Item ► New Item
New Item New Item
New Item New Item



Site Navigation & Controls



- ◆ The `<asp:Menu>` is a fully functional menu
- ◆ Customizable visual styles
 - ◆ Images, effects, direction, ...
 - ◆ But it puts inline CSS styles
- ◆ Two modes
 - ◆ Static – all of the menu is visible
 - ◆ Dynamic – visible only when the mouse pointer is over some of the `MenuItem`-s



- ◆ **StaticDisplayLevels**

- ◆ The number of statically displayed levels starting from the root

- ◆ **MaximumDynamicDisplay**

- ◆ The number of dynamically displayed levels after the last of the static ones

- ◆ **Element onclick() event**

- ◆ Navigation to another page
 - ◆ Postback to the same page

- ◆ TreeView is a control used to display data in a hierarchical view
- ◆ Supports settings for various images and visual adjustments
- ◆ Supports navigation and postback
- ◆ We can create nodes at design time or through code behind
 - ◆ We can fill the nodes on demand (when there is lots of data)
- ◆ Used together with SiteMapDataSource

SiteMapPath Control

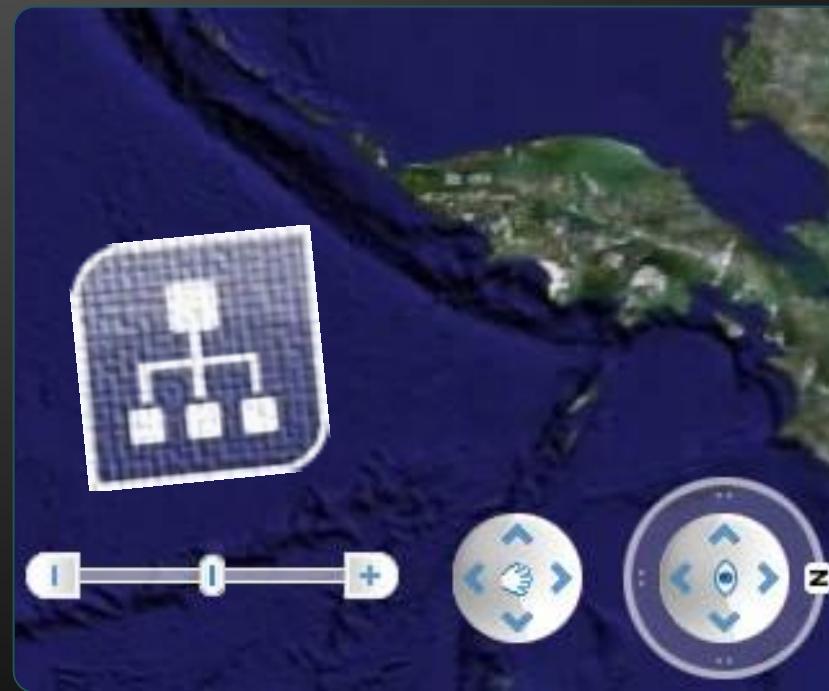
- ◆ Allows the user to see where he is in the site hierarchy
- ◆ Displayed in a straightforward fashion
- ◆ We can set:
 - ◆ PathDirection – RootToCurrent and CurrentToRoot
 - ◆ PathSeparator – a separator between the levels in the hierarchy
 - ◆ ParentLevelsDisplayed – how many parent elements to display

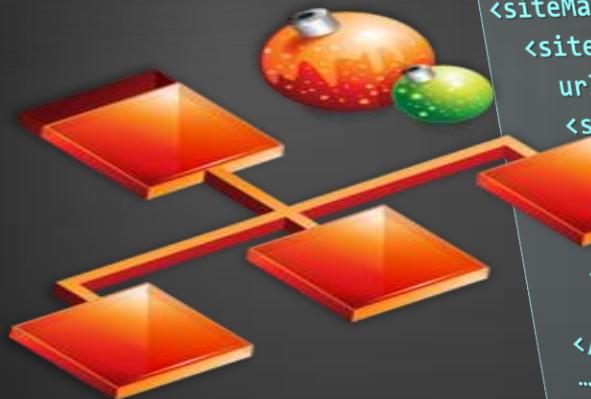
SiteMapDataSource

- ◆ SiteMapPath has integrated support for Site Map (it reads automatically Web.sitemap)
- ◆ A SiteMapDataSource object is used to bind the Web.sitemap to a navigation control
 - ◆ First drop one on the page
 - ◆ Set the DataSourceID property of the bound control to point to the SiteMapDataSource
 - ◆ ShowStartingNode – show hide the root

Navigation Controls

Live Demo





```
<?xml version="1.0" encoding="utf-8" ?>  
  
<siteMap>  
  <siteMapNode title="Home" description="Home"  
    url="~/Default.aspx">  
    <siteMapNode title="Products" description=  
      "products" url="~/Products.aspx" />  
    <siteMapNode title="Hardware" description=  
      "Hardware choices" url="~/Hardware.aspx" />  
    <siteMapNode title="Software" description=  
      "Software choices" url="~/Software.aspx" />  
  </siteMapNode>  
  ...  
</siteMap>
```



Site Maps and Security

Navigation based on Users and Roles

Navigation and Security

- ◆ To hide all restricted pages from the navigation menu put the following in Web.config:

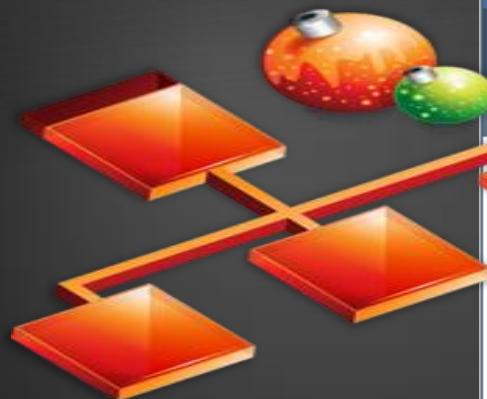
```
<siteMap defaultProvider="secureProvider">
  <providers>
    <add name="secureProvider"
        type="System.Web.XmlSiteMapProvider"
        siteMapFile="Web.sitemap"
        securityTrimmingEnabled="true" />
  </providers>
</siteMap>
```

- ◆ To filter menu items based on logged in user / role use the OnMenuItemDataBound event

Filtering the Menu Items

- ◆ Filtering the menu items loaded from `Web.sitemap` base on custom logic:

```
protected void NavigationMenu_MenuItemDataBound(  
    object sender, MenuEventArgs e)  
{  
    if (ShouldRemoveItem(e.Item.Text))  
    {  
        e.Item.Parent.ChildItems.Remove(e.Item);  
    }  
}  
  
private bool ShouldRemoveItem(string menuText)  
{  
    // Custom filtering logic ...  
}
```



SiteMap and Navigation - Demo

Home	Products	Login	Register	About
------	----------	-------	----------	-------

Home > Reg

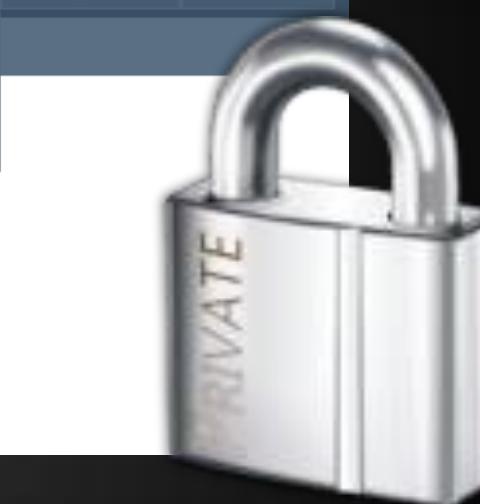
- Software
- Hardware
- Consumer electronics

Register Your Account

Username:

Password:

Role:



Site Maps and Security

Live Demo

Site Maps and Navigation

Questions?



1. Create a Web application with two-levels of site navigation with the following structure:

- Home
- Offices
 - Bulgaria
 - Sofia, Varna, Plovdiv
 - U.K.
 - London, Bristol, Manchester
- About
- Contacts

Use master pages, menus, breadcrumbs and site map.

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