

## Lecture6

This lecture is a continuation of previous lecture. In the previous lecture, we studied about following window objects

- screen object.
- images object
- links object
- history object
- location object.

This lecture we will study about last window object which is navigator object.

Due to so many browsers available, there is a problem that arises of browser compatability. Browser compatability means, a CSS or Javascript code works perfectly in one browser doesnot seem to render the same effect on other browser. This creates a real headache for developers.

Every developer should make sure that web pages developed by him should work perfectly across all browsers Or he can display a message suggesting the user to upgrade his browser.

To display a message for the user, developer should be able to determine what sort of browser is being used by user? This is where navigator objects come for help.

Actually there are 2 ways to determine if our code will work in user browser, Two ways are

1. Checking browser by feature
2. Using Navigator object.

### Checking browser by feature

Lets take an example, if you have 3 guys in front of you, and you need to determine which country each guy belong to. You can do that by looking at the features of each guy.

For example: We have 2 guys, an american, chinese and south african

```
if (skin color == white)
{
    type = american and chinse.
    If (eyes = small)
        type = chinese;
    else
        type = american;
}
else
    type = south african;
```

The above code can determine if a guy is an american or chinese or south african.

We determine the user browser, by checking the properties. For example, document.all property is supported only by IE 4.0 and higher and not by netscape browser.

```
if (document.all)
{
    browser= "IE";
    version = "4.0";
}
```

But the above statement is true for IE 4.0, IE 5.0 and IE 6.0 but false for all Netscape browser.

There is one property which is not supported by IE 4.0 and it is `window.clipboardData`. Property `window.clipboardData` returns false on IE 4.0 browser but returns true on IE 5.0 and IE 6.0

```
if (document.all)
{
    browser= "IE";
    version = "4.0";

    if (window.clipboardData)
        version = "5.0";
}
```

Similarly, document.layers property is only supported by Netscape browser 4.0 and higher and not by IE browsers.

```
if (document.layers)
{
    browser = "NN";
    version = "4.0";
}
```

Property document.layers return false for IE browser, but returns true for all Netscape browser. To check further about the version number, we use property window.sidebar, which returns true for version 6.0 and returns false for version 4.0.

```
if (document.layers)
{
    browser = "NN";
    version = "4.0";
    if (window.sidebar)
        version = "6.0 +";
}
```

```
}
```

So, the complete code is

```
<html>
<body>

<script>
var browser = "Unknown";
var version = "0";

// NN4+
if (document.layers)
{
    browser = "NN";
    version = "4.0";

    if (window.sidebar)
    {
        version = "6+";
    }
}
else if (document.all)
{
    browser = "IE";
    version = "4";

    if (window.clipboardData)
    {
        browser = "IE"
        version = "5+"
    }
}
document.write(browser + " " + version);

</script>

</body>
</html>
```

### **Using Navigator Object**

Lets focus on the problem of finding the nationality. One way of finding nationality of a guy is by looking at his features. Another method can be by just looking at his passport. Each guy must have a passport and by looking inside passport we can find his nationality.

But there is one problem with this approach. Passport can be illegally made.

Similarly, We can use navigator object to know the type of browser being used by the user. But some browsers that are not popular, disguise themselves as IE or NN.

Remember that navigator object is a property of window object.

navigator.appName – this property returns the model of browser i.e. IE or NN etc.  
navigator.userAgent – this property returns lot of information such as the browser version, operating system, and browser model.

Code below finds the browser name, version.

```
<html>
<head>
<script language="JavaScript" type="text/JavaScript">

function getBrowserName()
{
    var IsBrowser = navigator.appName;
    if (IsBrowser.indexOf("Microsoft") >= 0)
    {
        IsBrowser = "MSIE";
    }
    else if (IsBrowser.indexOf("Netscape") >= 0)
    {
        IsBrowser = "NETSCAPE";
    }
    else
    {
        IsBrowser = "UNKNOWN";
    }
    return IsBrowser;
}

function getOS()
{
    var userPlat = "unknown";
    var navInfo = navigator.userAgent;
    if ((navInfo.indexOf("windows NT") != -1)
        || (navInfo.indexOf("windows 95") != -1 )
        || (navInfo.indexOf("windows 98") != -1 )
        || (navInfo.indexOf("WinNT") != -1 )
        || (navInfo.indexOf("Win95") != -1 )
        || (navInfo.indexOf("Win98") != -1 ))
    {
        userPlat = "Win32";
    }
    else if(navInfo.indexOf("Win16") != -1)
    {
```

```

    userPlat = "Win16";
}
else if(navInfo.indexOf("Macintosh") != -1)
{
    userPlat = "PPC";
}
else if(navInfo.indexOf("68K") != -1)
{
    userPlat = "68K";
}
return userPlat;
}
function getBrowserVersion()
{
    var findIndex;
    var browserVersion = 0;
    var browser = getBrowserName();
    if (browser == "MSIE")
    {
        browserVersion = navigator.userAgent;
        findIndex = browserVersion.indexOf(browser) + 5;
        browserVersion = parseInt(browserVersion.substring(findIndex,findIndex + 1));

    }
    else
    {
        browserVersion = parseInt(navigator.appVersion.substring(0,1));
    }
    return browserVersion;
}
</script>
</head>
<body>
<script language="JavaScript" type="text/JavaScript">
var userOS = getOS();
var browserName = getBrowserName();
var browserVersion = getBrowserVersion();
if (browserVersion < 4 || browserName == "UNKNOWN" || userOS == "Win16")
{
    document.write("<h2>Sorry this browser version is not supported</h2>")
}
else if (browserName == "NETSCAPE")
{
    location.replace("NetscapePage.htm");
}
else
{

```

```
location.replace("MSIEPage.htm");  
}  
  
</script>  
<noscript>  
  <h2>This website requires a browser supporting scripting</h2>  
</noscript>  
</body>  
</html>
```

The problem is that less known browsers disguise themselves as IE or NN but donot support full functionality of IE or NN. So this method of finding type of browser is not used. 1<sup>st</sup> metod is more popular.