Internet Programming

Event Processing

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Handling Events

- Normally two steps:
  - Design/write function that will handle event(s)
  - When object (i.e. form element or link) is created
    - Indicate the code that is to be executed when some event occurs (which function(s) is to be called):
      - onClick="myFun1()"

Common Standard Events

onChange	text or textarea is altered
onBlur	focus is removed from object
onClick	object is clicked
onFocus	object receives focus
onLoad	page is loaded
onMouseOver	mouse is moved over object
onMouseOut	mouse is moved off object
onSelect	form element is selected
onSubmit	user submits a form
onUnload	uers exits a page

Events (con't)

- Any element can be "clickable", but the INPUT button type object is specially designed for this:
  - <INPUT TYPE="button" NAME="b1" VALUE="Click Here" ONCLICK = "alert('You clicked')">
- You can set up event handling at the script level also:
  - <SCRIPT LANGUAGE="JavaScript" FOR="p1" EVENT="ONCLICK">… </SCRIPT>
  - Here, when the tag named p1 was clicked (ie a paragraph), then the script would be executed
  - But, event processing is typically not handled this way

onLoad Event Example

```
<HTML>
<HEAD><TITLE>onLoad</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
     var visitorName;
     function start() {
          visitorName = prompt ("Please tell us your name:","");
          mesg1.innerText = "Thanks for visiting us, " + visitorName + "
!";
     }

// -->
</SCRIPT>
<BODY ONLOAD="start()">
<H1 ID="mesg1">Welcome to ABC Company</H1>
</BODY></HTML>
```

onClick Example with INPUT Tag

[clickEvents.html]

```
<HTML>
<HEAD><TITLE>Click Events</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function one() {
               alert("You pressed button 1");
      }
      function two() {
               alert("You pressed button 2");
      }

// -->
</SCRIPT>
<BODY>
<H1>Testing Click Events</H1>
<FORM Method="POST">
Press a button:<P>
<INPUT TYPE="BUTTON" VALUE="Button1" Name="Button1" ONCLICK="one();">
<INPUT TYPE="BUTTON" VALUE="Button2" Name="Button2" ONCLICK="two();">
</FORM></BODY></HTML>
```

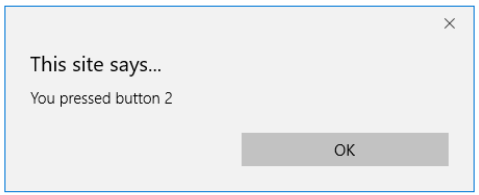
Try this !

Button Object

- The <button> tag defines a clickable button
- Inside a <button> element you can put content, like text or images
- This is the difference between this element and buttons created with the <input> element
- Always specify the type attribute for a <button> element; different browsers use different default types for the <button> element:
  - <button type="button">Click Me!</button>
- Button types: button, submit, reset

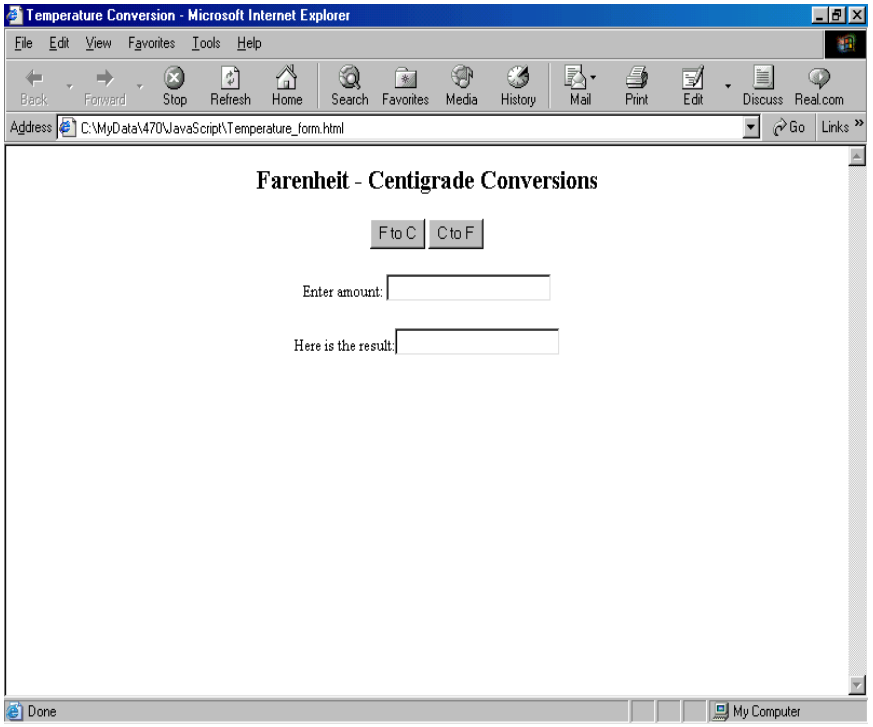
```
<HTML>
<HEAD><TITLE>Click Events</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function one() {
            alert("You pressed button 1");
      }
      function two() {
            alert("You pressed button 2");
      }

// -->
</SCRIPT>
<BODY>
<H1>Testing Click Events</P>
Press a button:
<P>
<BUTTON TYPE"Button" ONCLICK="one();"><H2>Button 1</H2></BUTTON>
<BR>
<BUTTON TYPE=Button" ONCLICK="two();"><H2>Button 2</H2></BUTTON>
</BODY></HTML>
```

Stand Alone Button



Class Exercise [Temperature_form.html]

- Extend your earlier homework on temperature conversion, to have input fields in a form for an “entry temperature” and “converted temperature”
- Provide a button to go from F to C, and another button to go from C to F
- Don’t do any input validation yet
- Hint follows ->



Hint…

- The value that is entered (or to be displayed) in a form field needs to be available to a function using that info:
  - function changeIt(…)
    - document.myForm.myFieldName.value = …
- Here you would have given the form a name:
  - `<FORM NAME="myForm">…</Form>`
- More help→

Hint…

- Do not try to write all the code at once, break into logical pieces, and debug each piece sequentially:
  - Upon hitting the C-to-F button and F-to-C button just put up an alert window saying that button was clicked
  - Upon hitting either button, use an alert window to show the value the user entered
  - Upon hitting either button, use an alert window to show the calculated temperature
  - Upon hitting either button, place the calculated value into the second text (or textarea) field on the form

Don’t look ahead …

```
<HTML>
<HEAD>
<TITLE>Temperature Conversion</TITLE>
<SCRIPT LANGUAGE="JavaScript">
function FtoC ()  {
      var FTemp = parseFloat (document.Converter.temp.value) ;
      document.Converter.result.value = 5/9 * (FTemp - 32);
}

function CtoF ()  {
      var CTemp = parseFloat (document.Converter.temp.value);
      document.Converter.result.value = 9/5 * CTemp + 32;
}
</SCRIPT></HEAD>
<BODY BGCOLOR=WHITE>
<CENTER>
<H2>Farenheit - Centigrade Conversions</H2>
<FORM NAME="Converter">
      <INPUT TYPE="button" VALUE="F to C" ONCLICK="FtoC () ">
      <INPUT TYPE="button" VALUE="C to F" ONCLICK="CtoF () ">
      <P> Enter amount: <INPUT TYPE="text" NAME="temp" VALUE=""></P>
      <P> Here is the result:<INPUT TYPE="textarea" NAME="result" DEFAULTVALUE=""></P>
</FORM>
</CENTER>
</BODY>
</HTML>
```

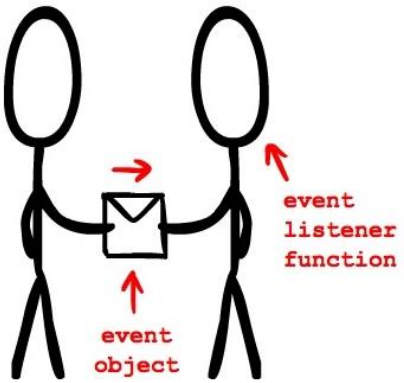
Note that the user input is not being validated; that will be covered later.

Using Radio Buttons

```
<html>
<head>
<Title> Temp Converter Form</title>
                <script>
    function convertTemp() {

      var r = document.getElementById("result");
      var val = document.getElementById("TempConvForm").val.value;

      if (document.getElementById("TempConvForm").op[0].checked){
        // Celsius to Fahrenheit
        var fahr = (val * 1.8) + 32;
        r.innerHTML="Temperature in Fahrenheit = " + fahr;
      }
      else {
        // Fahrenheit to Celsius
        var celc = (val - 32) * 5/9;
        r.innerHTML="Temperature in Celsius = " + celc;
      }
    }
  </script>
 </head>
 <body>
  <form id="TempConvForm" method="GET" action="#">
    Enter the temperature into the box:  
   <input type="number" name="val" size="10">
    <br>
   <input type="radio" name="op" value="c2f" checked> Celsius to Farenheit
    <br>
   <input type="radio" name="op" value="f2c"> Farenheit to Celsius
    <br><br>
   <input type="button" value="Convert" onClick="javascript:convertTemp()">
  </form>
  <br>
  <div id="result">
  </div>
 </body>
</html>
```

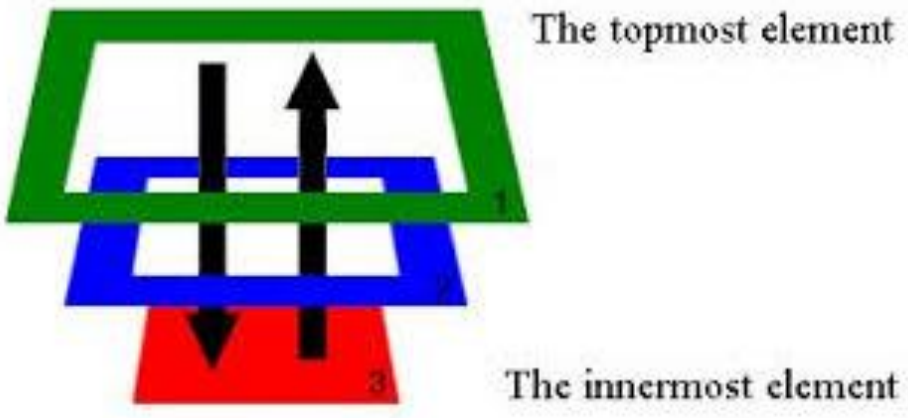
Event Object

- When an event occurs, an event object is created
- You can use or output the properties of this event object (event.property), including:
  - offsetX & offsetY pixel coordinates relative to the object containing the mouse
  - x & y – pixel coordinates relative to the parent of the containing object (i.e. the window)
  - srcElement – source object
  - type – name of event

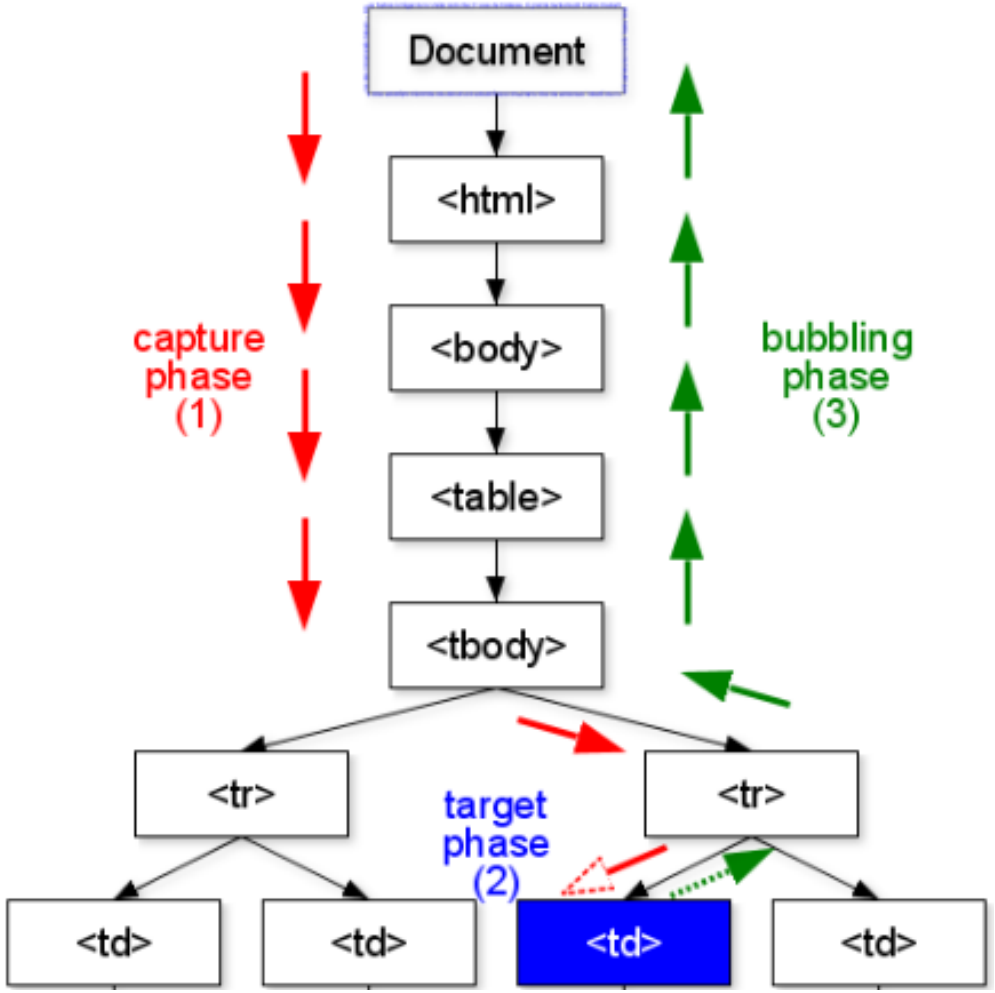


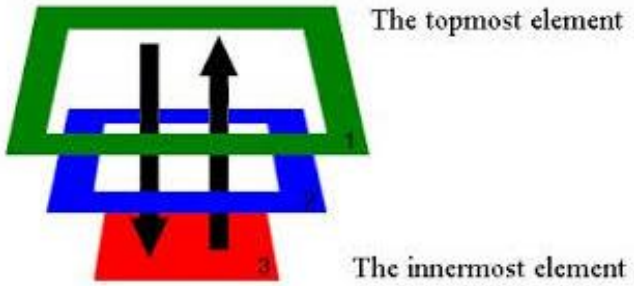
Event Bubbling

- Events move up the containment hierarchy
- Such as a click event moving from a text item, to its paragraph, to the document level



Capture, Target, Bubble





- To stop the “bubble up” process, set event.cancelBubble to true:
  - <SCRIPT LANGUAGE=“JavaScript”>
    - Document.onclick = docClick();
    - function paraClick() {alert(“Paragraph clicked”);
    - event.cancelBubble=true; /*without this
    - line, docClick would be called also*/}
    - function docClick() {alert(“Document clicked”);}
  - </SCRIPT></HEAD><BODY>
  - <P ONCLICK=“paraClick()”>…</P>…</BODY>

Dynamic Styles

- You can dynamically change the style and/or positioning of your content
- This is normally done in response to events, but can be coded to occur as needed such as a function of time
- The CSS property names are changed in the JS to eliminate the dashes and use camel notation
- For example: background-color becomes backgroundColor

Dynamic Color Example

[http://facstaff.cbu.edu/dbrandon/dynamicColor.html]

```
<HTML>
<HEAD><TITLE>Dynamic BG Color</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function start() {
                var color = prompt("What color would you like for the background
?");
                document.body.style.backgroundColor = color;
      }
// -->
</SCRIPT>
<BODY ONLOAD="start()">
<H1>Welcome to my page !</H1>
</BODY></HTML>
```

Try this !

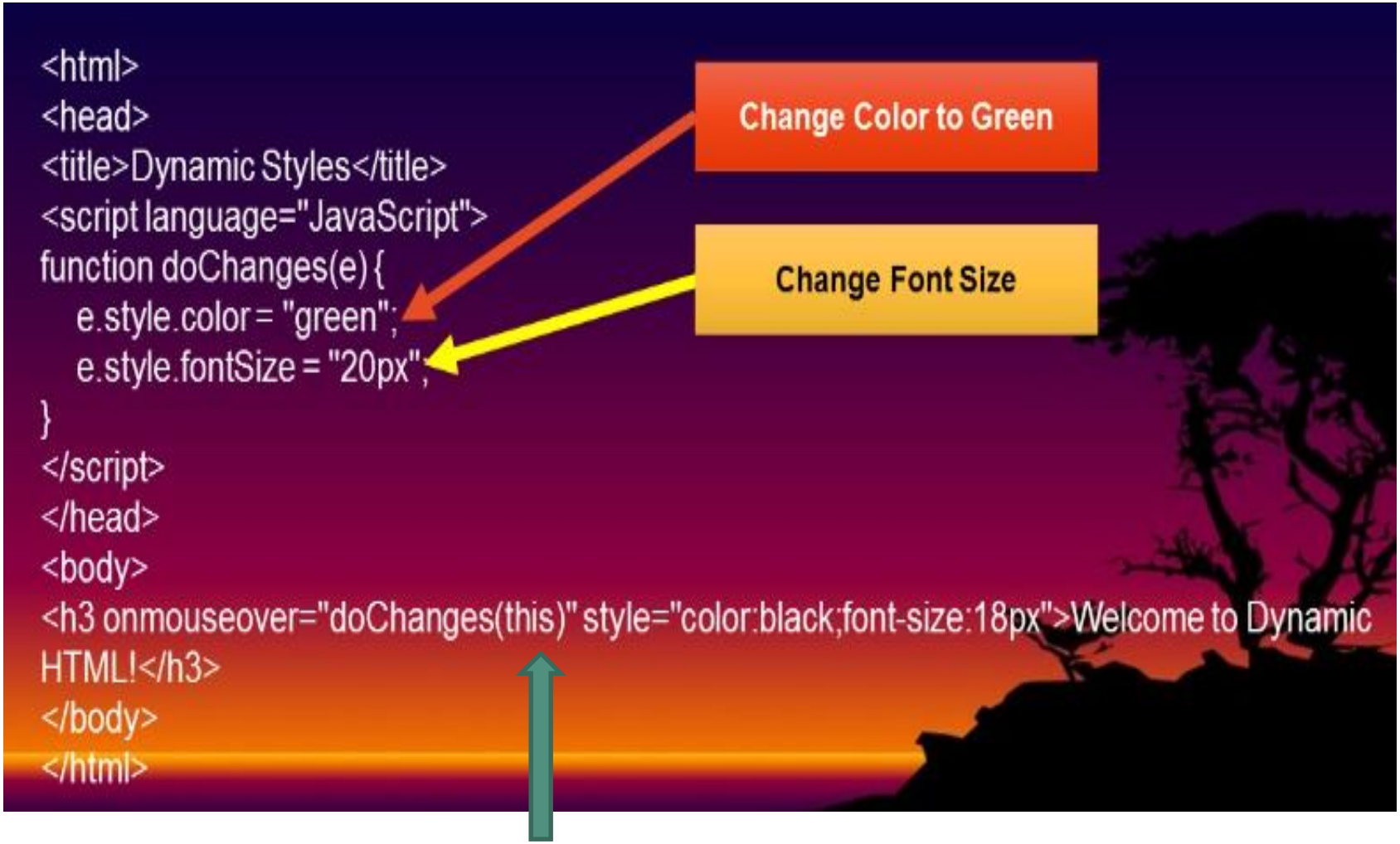
Dynamic Style Example

[facstaff.cbu.edu/dbrandon/dynamicStyles.html]

```
<HTML>
<HEAD><TITLE>Dynamic Style</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function start() {
               var ans = prompt("Would you like big text ?","");
               if (ans == "yes" || ans == "Yes" || ans == "YES")
                        p1.className = "big";
               else
                        p1.className = "small";
      }
// -->
</SCRIPT>
<STYLE>
      .big {font-size: 2em}
      .small {font-size: .5em}
</STYLE>
<BODY ONLOAD="start()">
<P ID="p1">Welcome to my page !</P>
</BODY></HTML>
```

Show this !

Dynamically Changing Style
[current object – "this"]



Scaling Content

- Certain content may not show up well with different screen resolutions and different window sizes (not full window)
- You can find the document size in pixels:
  - document.body.clientWidth
- Then you can change the sizing of text and images if necessary (see next slide)

Scaling Content (con't)

- <SCRIPT …
  - window.onload="change()";
  - window.onresize="change()";
  - function change() {
    - If (document.body.clientWidth < 640) {
      - // resize titles and images
    - } else
      - // set titles and images to full size
    - }
  - }
- </SCRIPT>

JS Event Handling

- Rollovers
- Checkbox
- Options
- Status Bar
- History
- Prompting
- Confirmation
- Submit & Reset buttons
- Form Field Validation
- Timeouts

Simple Rollovers

[facstaff.cbu.edu/dbrandon/mouseOver1.html]

```
<HTML><HEAD>
<TITLE>Simple Mouseover</TITLE>
<BODY>
<H1>CBU Schools</H1>
<H2><UL>
     <LI ONMOUSEOVER="this.style.color='red'"
         ONMOUSEOUT="this.style.color='black'">
         School of Arts
     <LI ONMOUSEOVER="this.style.color='red'"
         ONMOUSEOUT="this.style.color='black'">
         School of Business
     <LI ONMOUSEOVER="this.style.color='red'"
         ONMOUSEOUT="this.style.color='black'">
         School of Engineering
     <LI ONMOUSEOVER="this.style.color='red'"
         ONMOUSEOUT="this.style.color='black'">
         School of Science
</UL></H2>
</BODY></HTML>
```

MouseOver using Functions

[facstaff.cbu.edu/dbrandon/mouseOver2.html]]

```
<HTML>
<HEAD><TITLE>MouseOver</TITLE>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function over() {
              p1.style.color = "red";
              p1.style.fontStyle = "italic";
      }
      function out() {
              p1.style.color = "black";
              p1.style.fontStyle = "normal";
      }
// -->
</SCRIPT>
</HEAD>
<BODY>
<H1>Mouse Overs</H1>
<H2 id="p1" ONMOUSEOVER="over()" ONMOUSEOUT="out()">
      SOME TEXT
</H2>
</BODY></HTML>
```

Mouseovers in a Form

[facstaff.cbu.edu/dbrandon/mouseOver.html]

```
<HTML>
<HEAD><TITLE>MouseOver</TITLE></HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function over() {
                event.srcElement.className = "red";
      }
      function out() {
                event.srcElement.className = "blue";
      }
// -->
</SCRIPT>
<STYLE>
      .blue {color: blue}
      .red {color:red}
</STYLE>
<BODY>
<H1>Testing Click Events</H1>
<FORM Method="POST">
Press a button:<P>
<INPUT class = "blue" TYPE="BUTTON" VALUE="Button1"
       Name="Button1" ONMOUSEOVER="over()" ONMOUSEOUT="out()">
<INPUT class = "blue" TYPE="BUTTON" VALUE="Button2"
       Name="Button2" ONMOUSEOVER="over()" ONMOUSEOUT="out()">
</FORM></BODY></HTML>
```

Class Exercise

- Write an HTML page and use JS so that when the mouse goes over an image, the image changes to another image.
- As a first try, it only has to work in IE, as a challenge try to get it to work in the other browsers.
- Hint follows →

Hints…

- Hint modify the “src” property of the image
- Do not try to write the entire program at once
  - As a first attempt, just use alerts in the “over” and “out” functions
  - <SCRIPT LANGUAGE = "JavaScript">
  - function over() {
  - alert("mouse over image");
  - }
  - function out() {
  - alert("mouse left image");
  - }
  - </SCRIPT>

Don’t look ahead …

Exercise…

```
<HTML><HEAD>
<TITLE>Image Selection</TITLE>
<SCRIPT LANGUAGE = "JavaScript">
     function over() {
            myImg.src = "sea.gif";
     }
     function out() {
            myImg.src = "beach.gif";
     }
</SCRIPT>
<STYLE>
</STYLE></HEAD>
<BODY>
<H1>Image Changes on Mouse Over</H1>
<IMG Name = "myImg" SRC = "beach.gif"
      ONMOUSEOVER="over()"
      ONMOUSEOUT="out()">
</BODY></HTML>
```

Newer browsers only !

Still Another Way

(New browsers only)

```
<HTML><HEAD>
<TITLE>Image Selection</TITLE>
<SCRIPT LANGUAGE = "JavaScript">

</SCRIPT>
<STYLE>

</STYLE></HEAD>
<BODY>
<H1>Image Changes on Mouse Over</H1>
<IMG ONMOUSEOVER="document.images(0).src='sea.gif'"
     ONMOUSEOUT="document.images(0).src='beach.gif'"
     SRC = "beach.gif">
</BODY></HTML>
```

Version that works in all Browsers [facstaff.cbu.edu/dbrandon/imageOver3.html]

```
<HTML><HEAD>
<TITLE>Image Selection</TITLE>
<SCRIPT LANGUAGE = "JavaScript">
      function over() {
               document.myImg.src = "sea.gif";
      }
      function out() {
               document.myImg.src = "beach.gif";
      }
</SCRIPT>
<STYLE>

</STYLE></HEAD>
<BODY>
<H1>Image Changes on Mouse Over</H1>
<A HREF = "#NoWhere" ONMOUSEOVER="over()"  ONMOUSEOUT="out()">
      <IMG SRC = "beach.gif" Name="myImg">
</A>
</BODY></HTML>
```

Browser Rollovers

- As shown in the last exercise, one way for image rollovers to work in all browsers, is to be set up in a link (<A> tag)
- This is commonly done using images as in the previous example
- Simple text rollovers can also be set up to work in most browsers, but requires more complex coding
  - One way to do it is to use CSS, and dynamically modify the text

Dynamic Navigation Bars

- You can create dynamic navigation bars by placing images (with hyperlinks) in a table and having the image change when the mouse is over the image:
  - Make or obtain two images for each link (different color text or backgrounds typically)
  - Create a JS function for the “Over and Out” events; and a “swap” function
  - Use a JS function to preload the images (for efficiency reasons)
  - Create a table to hold the row (or column) of images
- This is how wysiwyg editors (ie Dreamweaver) perform these “dynamic effects” using stock images or dynamically created images

Table Cell Contents

- <TD><A HREF="pro.htm" TARGET="_top“
- ONMOUSEOUT="swap('promo_pic','pro_w.gif') ; displayMsg(''); return true"
- ONMOUSEOVER="swap('promo_pic','pro_p.gif'); displayMsg('promote your writing online'); return true" >
- <IMG NAME="promo_pic" SRC="pro_w.gif" WIDTH="81" HEIGHT="12" BORDER="0">
- </A></TD>

“return true” may be necessary for IE prior to 5 and NAV prior to 6

Demo - rollover.html [rollover directory]

(works in all browsers)

```
<HTML>
<HEAD><TITLE>Rollover Image Bar</TITLE>
<SCRIPT LANGUAGE="JavaScript">
<!--
        function displayMsg(message) {
                window.status=message
        }
        function preloadImages() { // not necessary, but speeds it up
                if (document.images) {
                        // get arguments to this function call
                        var imgFiles = preloadImages.arguments;
                        var preloadArray = new Array();
                        for (var i=0; i < imgFiles.length; i++) {
                                preloadArray[i] = new Image;
                                preloadArray[i].src = imgFiles[i];
                        }
                }
        }
        function swap(id, newsrc) {
                var theImage = locateImage(id);
                if (theImage) {
                theImage.src = newsrc;
                }
        }
        function locateImage(name) {
                var theImage = false;
                if (document.images) {
                theImage = document.images[name];
                }
                if (theImage) {
                return theImage;
                }
                return (false);
        }
// --></SCRIPT></HEAD>
```

```
    <BODY BGCOLOR="#000000" TEXT="#FFFFFF" LINK="#FFFFFF" VLINK="#CCCCFFF" ALINK="#CCCCFFF">
    <SCRIPT LANGUAGE="JavaScript">
    <!--
    // Preload all the images used in this file, 'p' is purple & 'w' is white
    preloadImages('logo.jpg',
                                'pro_p.gif',
                                'pub_p.gif',
                                'mkt_p.gif',
                                'crs_p.gif',
                                'res_p.gif',
                                'who_p.gif',
                                'pro_w.gif',
                                'pub_w.gif',
                                'mkt_w.gif',
                                'crs_w.gif',
                                'res_w.gif',
                                'who_w.gif');
    //-->
    </SCRIPT>
    <TABLE BORDER="0" CELLPADDING="0" CELLSPACING="0">
    <TR>
    <TD VALIGN="TOP" ALIGN="LEFT">
    <TABLE BORDER="0" CELLPADDING="0" CELLSPACING="0" WIDTH="125">
    <TR><TD>
    <A HREF="index.htm" TARGET="_top" onMouseOver = "displayMsg('emilyv.com home'); return true"
              onMouseOut = "displayMsg(''); return true">
    <IMG SRC="logo.jpg" WIDTH="92" HEIGHT="18" BORDER="0"></A>
    </TD></TR>
    </TABLE>
    </TD>

    <TD VALIGN="CENTER" ALIGN="RIGHT">
    <TABLE BORDER="0" CELLPADDING="0" CELLSPACING="0" WIDTH="486">

      <TR><!-- Shim row, HEIGHT 1. -->
       <TD><IMG SRC="shim.gif" WIDTH="81" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="6" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="81" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="6" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="72" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="4" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="67" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="7" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="65" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="6" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="89" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="2" HEIGHT="1" BORDER="0"></TD>
       <TD><IMG SRC="shim.gif" WIDTH="1" HEIGHT="1" BORDER="0"></TD>
      </TR>
```

Dynamic Rollovers (con't)

```
<TR><!-- row 1 -->
   <TD><A HREF="pro.htm" TARGET="_top" onMouseOut="swap('promo_pic','pro_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('promo_pic','pro_p.gif'); displayMsg('promote your writing online'); return true" >
          <IMG NAME="promo_pic" SRC="pro_w.gif" WIDTH="81" HEIGHT="12" BORDER="0"></A></TD>
   <TD><IMG NAME="r1_c02" SRC="r1_c02.gif" WIDTH="6" HEIGHT="12" BORDER="0"></TD>
   <TD><A HREF="pub.htm" TARGET="_top" onMouseOut="swap('pub_pic','pub_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('pub_pic','pub_p.gif'); displayMsg('is electronic publishing right for you?'); return true" >
          <IMG NAME="pub_pic" SRC="pub_w.gif" WIDTH="81" HEIGHT="12" BORDER="0"></A></TD>
   <TD><IMG NAME="r1_c04" SRC="r1_c04.gif" WIDTH="6" HEIGHT="12" BORDER="0"></TD>
   <TD><A HREF="mkt.htm" TARGET="_top" onMouseOut="swap('mkt_pic','mkt_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('mkt_pic','mkt_p.gif'); displayMsg('find paying online markets for your work'); return true" >
          <IMG NAME="mkt_pic" SRC="mkt_w.gif" WIDTH="72" HEIGHT="12" BORDER="0"></a></TD>
   <TD><IMG NAME="r1_c06" SRC="r1_c06.gif" WIDTH="4" HEIGHT="12" BORDER="0"></TD>
   <TD><A HREF="crs.htm" TARGET="_top" onMouseOut="swap('course_pic','crs_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('course_pic','crs_p.gif'); displayMsg('take an online writing course'); return true" >
          <IMG NAME="course_pic" SRC="crs_w.gif" WIDTH="67" HEIGHT="12" BORDER="0"></A></TD>
   <TD><IMG NAME="r1_c08" SRC="r1_c08.gif" WIDTH="7" HEIGHT="12" BORDER="0"></TD>
   <TD><A HREF="res.htm" TARGET="_top" onMouseOut="swap('res_pic','res_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('res_pic','res_p.gif'); displayMsg('writing-related resources'); return true" >
          <IMG NAME="res_pic" SRC="res_w.gif" WIDTH="65" HEIGHT="12" BORDER="0"></a></TD>
   <TD><IMG NAME="r1_c10" SRC="r1_c10.gif" WIDTH="6" HEIGHT="12" BORDER="0"></TD>
   <TD><A HREF="who.htm" TARGET="_top" onMouseOut="swap('who_pic','who_w.gif'); displayMsg(''); return true"
          onMouseOver="swap('who_pic','who_p.gif'); displayMsg('who is emilyv?'); return true" >
          <IMG NAME="who_pic" SRC="who_w.gif" WIDTH="89" HEIGHT="12" BORDER="0"></a></TD>
   <TD><IMG NAME="r1_c12" SRC="r1_c12.gif" WIDTH="2" HEIGHT="12" BORDER="0"></TD>
   <TD><img SRC="shim.gif" WIDTH="1" HEIGHT="12" BORDER="0"></TD>
  </TR>
</TABLE></TD>
</TR>
</TABLE>
</BODY>
</HTML>
```

CSS Navigation Buttons

Button Rollovers with CSS

```
.navigationbuttons
{
        font-family: verdana, arial, helvetica, sans-serif;
        font-weight:bold;
        font-variant: small-caps;
        font-size: 75%;
        cursor: hand;
        padding:2px;
        border-style: outset;
        border-color: #ffffff;
        padding-left:6px;
        background-color: #eeeeee;
        text-align: left;
        color: #000066;
}
.navigationbuttons A:visited
{
        text-decoration:none;
    color: #000066;
}
.navigationbuttons A:hover
{
        color: #40B54D;
}

.navigationbuttons A:link
{
        text-decoration:none;
        color: #000066;
}
```

```
<tr>
    <td class="navigationButtons">
        <a title="Button Help"
          href="some_url"
          target="_top"
          style="width:100%;">
          Button Text
        </a>
    </td>
</tr>
```

Dynamically Changing Elements

- We looked at dynamically changing HTML elements previously
- One way for this to work in most browsers is to set up a DIV
  - <DIV ID="zzz" STYLE="position: absolute;">…some stuff…</DIV>
- The ID attribute is used to reference the element in JavaScript:
  - Use the DOM function:
    - document.getElementById(zzz);

“Rotating Text Banners”

[as used in Banner Ad’s & the like]

- HTML provides a simple “marquee” tag for scrolling:
  - <FONT SIZE="4" FACE="courier" COLOR=blue><MARQUEE WIDTH=100% BEHAVIOR=ALTERNATE BGColor=yellow>This is an example of an alternating marquee...</MARQUEE></FONT>
  - There are many other property options
- With JS and DHTML more complex marquees can be set up; simply invoke a “display” function using a DIV/SPAN ID:
  - display(“zzz”, “new text here”);
- Set up a timer, and an array of the text to be rotated (or read the text from a file, see server side processing later in course)

[facstaff.cbu.edu/dbrandon/RotatingBanner2.html]

```
<HTML><HEAD><TITLE>Rotating Banner</TITLE>
<SCRIPT LANGUAGE="JavaScript">
<!--
var ar = new Array();
ar[0] = "<STRONG>Business Departments:</STRONG> <A HREF='http://www.cbu.edu/business/itm/'> --> ITM Department</A>";
ar[1] = "<STRONG>Business Departments:</STRONG> <A HREF='http://www.cbu.edu/business/accounting/'> --> Accounting Department</A>";
ar[2] = "<STRONG>Business Departments:</STRONG> <A HREF='http://www.cbu.edu/business/econfin/'> --> Econ/Finance Department</A>";
ar[3] = "<STRONG>Business Departments:</STRONG> <A HREF='http://www.cbu.edu/business/mgmtmktg/'> --> Management/marketing Department</A>";
var num = 0;
var NS4 = (document.layers) ? 1 : 0; var IE4 = (document.all) ? 1 : 0; var isDOM = (document.getElementById) ? 1 : 0;
function start() {
  setInterval("update()", 2000);
}
function update() {
  display("banner", ar[num]);
  num++;
  if (num == ar.length) num = 0;
}
function display(id, str) {
  if (isDOM) {
    document.getElementById(id).innerHTML = str;
  }
  else if (NS4) {
    with (document[id].document) {
      open();      write(str);      close();
    }
  } else {
    document.all[id].innerHTML = str;
  }
}
// -->
</SCRIPT>
</HEAD>
<BODY onload = "start()">
<DIV ID="banner" STYLE="position: absolute;">...</DIV>
</BODY></HTML>
```

Dynamic Image Rotation

```
<html><head>
<title>Rotating Images</title>
<script type="text/javascript">
        var count=1;
        function setup(){
                setInterval(rotate, 3000);
        }
        function rotate() {
                count++;
                if(count>3) count=1;
                var image = document.getElementById("myImage");
                if(count==1) image.src = "image1.gif";
                if(count==2) image.src = "image2.gif";
                if(count==3) image.src = "image3.gif";
        }
</script></head>
<body onload=setup()>
<p align="center">
        <img id="myImage" width=400 src="image1.gif">
</p>
</body></html>
```

CheckBox

- <html><head>
- <title>My Document</title>
- <script language="JavaScript">
- <!-- start of script --
- function checkB() {
  - if (document.myForm.cb1.checked)
    - alert("This is a work number !");
  - else
    - alert('This a home number !");
- }
- <!-- end of script --></head>

See next slide first !

CheckBox (con’t)

- <body>
- <form name = “myForm” method=“post”>
- Enter Data:<p>
- Tele: <input type=“text” name=“tele” size = 10>
- Work Number<input type=“checkbox” name=“cb1”>
- <input type=“button” value=“Submit” onClick=“checkB();”>
- </form>
- </body></html>

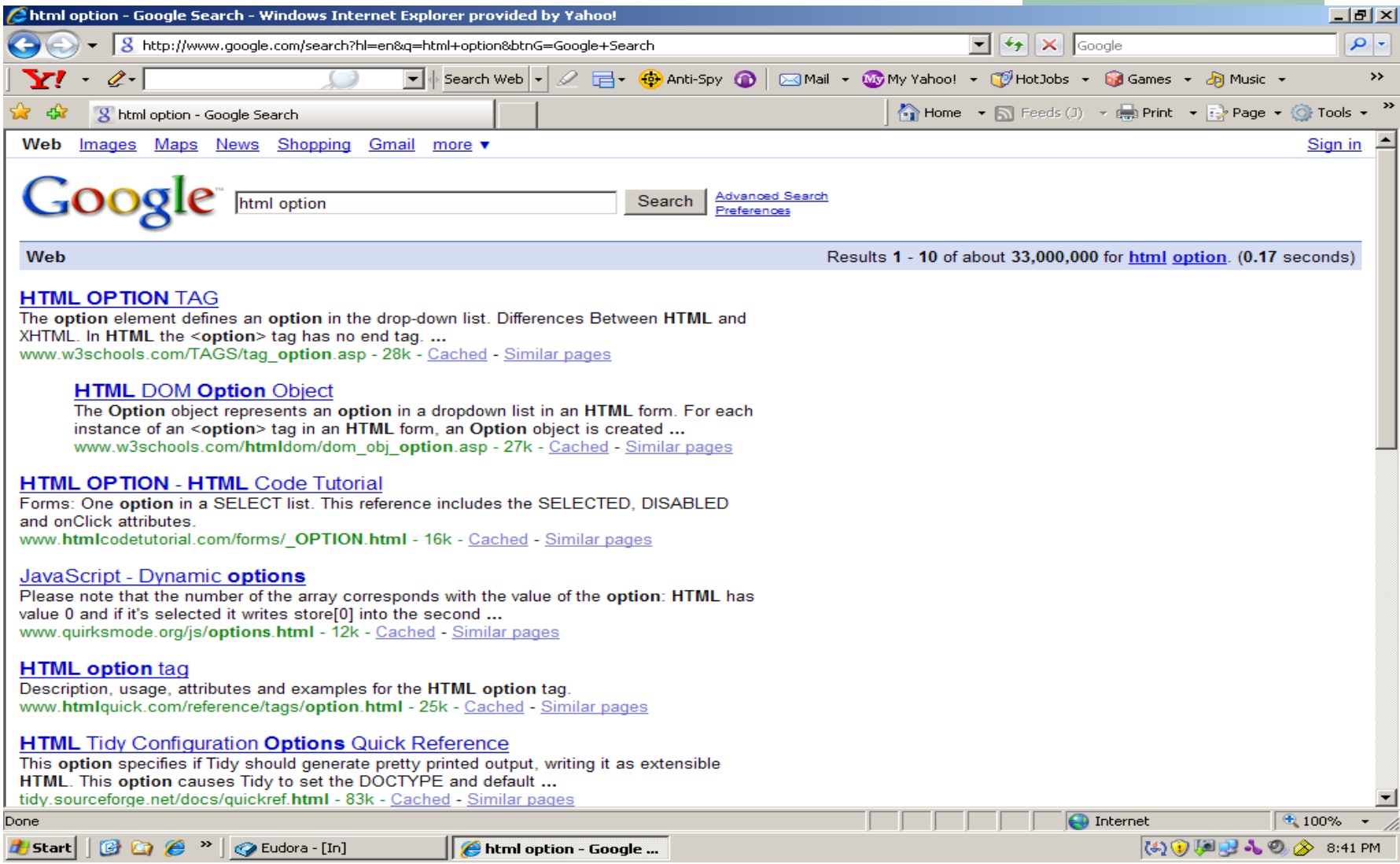
Options (Dropdowns)

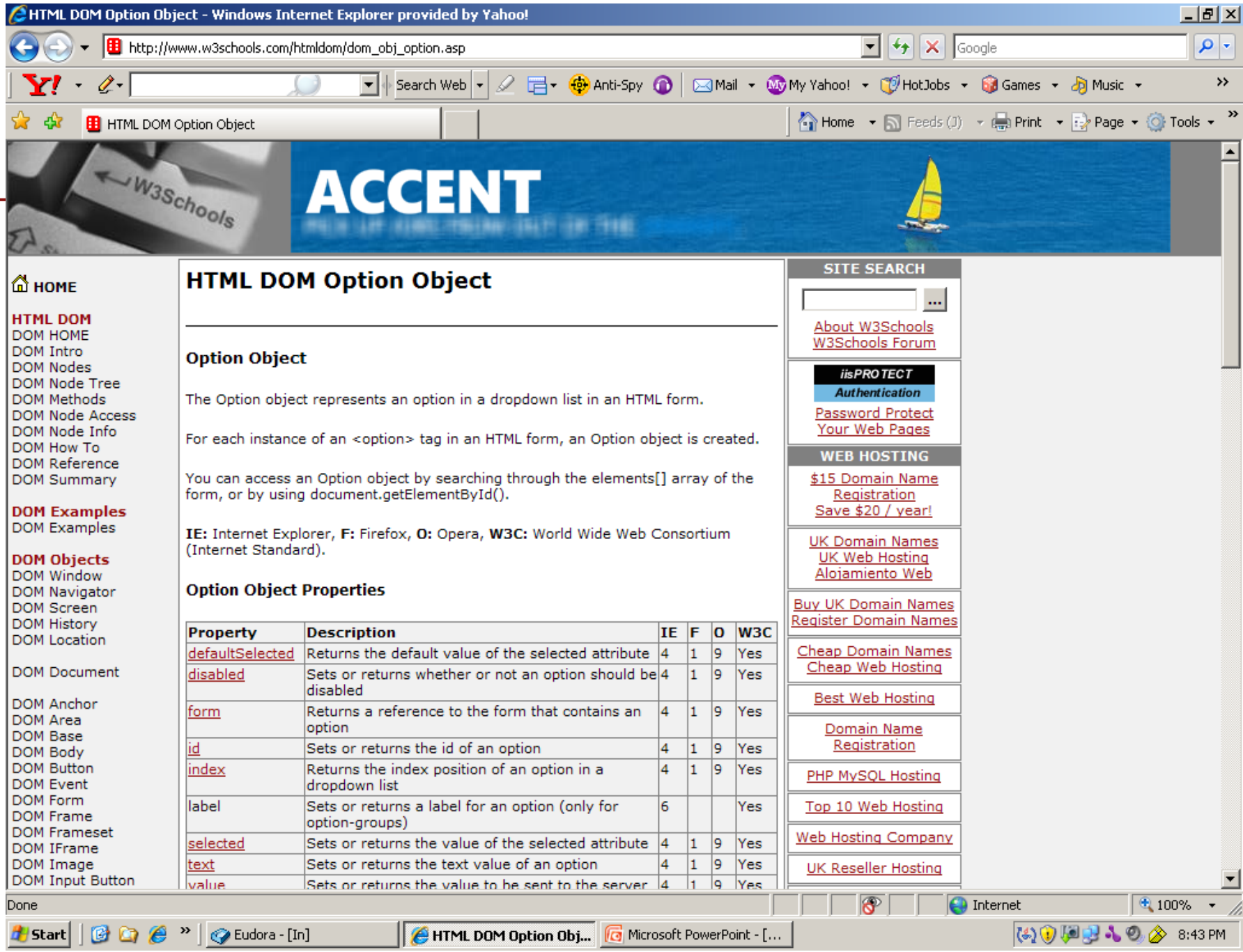
{can also trigger using “onChange” of drop down}

[http://facstaff.cbu.edu/dbrandon/options.html]

```
<HTML>
<HEAD><TITLE>Options</TITLE></HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
      function showSelection() {
                var i = document.myForm.s1.selectedIndex;
                alert("Selection was: " + document.myForm.s1.options[i].text);
      }
// -->
</SCRIPT>
<BODY>
<H1>Options Example</H1>
<FORM Name="myForm">
<H3>Pick a color</H3><BR>
<SELECT Name="s1">
<OPTION SELECTED>Red
<OPTION>Green
<OPTION>Blue
<OPTION>Yellow
</SELECT>
<INPUT TYPE="BUTTON" VALUE="Submit" ONCLICK="showSelection()">
</FORM></BODY></HTML>
```

Search for “html option”




HTML DOM Option Object - Windows Internet Explorer provided by Yahoo!
http://www.w3schools.com/htmldom/dom_obj_option.asp
Google
Search Web
Anti-Spy
Mail
My Yahoo!
HotJobs
Games
Music
HTML DOM Option Object
Home
Feeds (J)
Print
Page
Tools
W3Schools
ACCENT
HOME
HTML DOM
DOM HOME
DOM Intro
DOM Nodes
DOM Node Tree
DOM Methods
DOM Node Access
DOM Node Info
DOM How To
DOM Reference
DOM Summary
DOM Examples
DOM Examples
DOM Objects
DOM Window
DOM Navigator
DOM Screen
DOM History
DOM Location
DOM Document
DOM Anchor
DOM Area
DOM Base
DOM Body
DOM Button
DOM Event
DOM Form
DOM Frame
DOM Frameset
DOM IFrame
DOM Image
DOM Input Button
HTML DOM Option Object
Option Object
The Option object represents an option in a dropdown list in an HTML form.
For each instance of an <option> tag in an HTML form, an Option object is created.
You can access an Option object by searching through the elements[] array of the form, or by using document.getElementById().
IE: Internet Explorer, F: Firefox, O: Opera, W3C: World Wide Web Consortium (Internet Standard).
Option Object Properties
Property
Description
IE
F
O
W3C
defaultSelected
Returns the default value of the selected attribute
4
1
9
Yes
disabled
Sets or returns whether or not an option should be disabled
4
1
9
Yes
form
Returns a reference to the form that contains an option
4
1
9
Yes
id
Sets or returns the id of an option
4
1
9
Yes
index
Returns the index position of an option in a dropdown list
4
1
9
Yes
label
Sets or returns a label for an option (only for option-groups)
6
Yes
selected
Sets or returns the value of the selected attribute
4
1
9
Yes
text
Sets or returns the text value of an option
4
1
9
Yes
value
Sets or returns the value to be sent to the server
4
1
9
Yes
SITE SEARCH
About W3Schools
W3Schools Forum
iisPROTECT
Authentication
Password Protect Your Web Pages
WEB HOSTING
$15 Domain Name Registration
Save $20 / year!
UK Domain Names
UK Web Hosting
Alojamiento Web
Buy UK Domain Names
Register Domain Names
Cheap Domain Names
Cheap Web Hosting
Best Web Hosting
Domain Name Registration
PHP MySQL Hosting
Top 10 Web Hosting
Web Hosting Company
UK Reseller Hosting
Done
Internet
100%
Start
Eudora - [In]
HTML DOM Option Obj...
Microsoft PowerPoint - [...
8:43 PM

Window Status Bar

- <html><head>
- <title>My Document</title>
- <script language="JavaScript">
- <!-- start of script --
- function message(s) {
  - if (s == 1)
    - window.status = "Full picture of Bevis";
  - else
  - window.status = "Full picture of Butthead";
- }
- <!-- end of script --></head>

See next slide first !

Status Bar (con’t)

- body>
-
- <img border=1 src=“BevisIcon.gif”>
-
-
- <img border=1 src=“ButtheadIcon.gif”>
-
- </body></html>

Status Bar (con’t)

- Or:
  - <body>
  -
  - <img border=1 src=“BevisIcon.gif”>
  -

Select OnChange [facstaff.cbu.edu/dbrandon/options2.html]

```
<HTML>
<HEAD><TITLE>Options</TITLE>
</HEAD>
<SCRIPT LANGUAGE="JavaScript">
<!--
        function showSelection() {
                var i = document.myForm.s1.selectedIndex;
                window.status = "Selection was: " + document.myForm.s1.options[i].text;
        }
// -->
</SCRIPT>
<BODY ONLOAD="document.forms[0].elements[0].focus();">
<H1>Options Example</H1>
<FORM Name="myForm">
<H3>Pick a color</H3><BR>
<SELECT Name="s1" onChange="showSelection();">
        <OPTION SELECTED>Red
        <OPTION>Green
        <OPTION>Blue
        <OPTION>Yellow
</SELECT>
</FORM>
</BODY></HTML>
```

Window.status in New Browsers

- The status property does not work in the default configuration of IE, Firefox, Chrome, Safari or Opera 15 and newer
- To allow scripts to change the text of the status, the user must set the dom.disable_window_status_change preference to false in the about:config screen
  - or in Firefox: "Tools - Options - Content -Enable JavaScript / Advanced - Allow scripts to change status bar text"

History

- <body>
- <form>
- <input type="button" value="Back" onClick="history.back();">
- <input type="button" value="Forward" onClick="history.forward();">
- </form>

Confirm

- The confirm function presents a modal dialog box with Ok and Cancel Buttons
- Usage:
  - var ans = confirm(“Are you sure about that?”);
  - if (ans == true)
    - ...
  - else
    - ...

References

- JavaScript The Complete Reference by Thomas Powell and Fritz Schneider
- Get Programming with JavaScript by John Larsen
- Professional JavaScript: Fast-track your web development career using the powerful features of advanced JavaScript by Hugo Di Francesco , Siyuan Gao , et al.

Homework

- Create a web page which shows pictures of your last break/vacation, things about your home, things about your work, your family, or some other similar theme
  - The web page should have a drop down options list (or other type of selection mechanism) to pick a picture
  - Then using events and JS, display the selected image on the screen (do not link out to a separate document)