Simple Javascript for the Web

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Visit Joe's Javascript
Online Web Site at:
http://jastruss.public.iastate.edu/JS/

Setting Up For Class

For this class, you should have an editor open, editing the file js.html and a browser open that is pointed at the file js.html.

You can download the js.html and graphic files for this class (quips.gif, grandc.gif and drivein.gif) at the following location:

`http://jastruss.public.iastate.edu/JS/Data1/`

Simply edit the file in your editor, save the file then reload the browser window.

Basic HTML Editing
or stuff you should already know

HTML stands for Hypertext Markup Language. It is the markup language used to create a web page on the internet. HTML commands known as tags are enclosed in < > and normally come in pairs <H1>Topic</H1> which surround the area where the effect is to take place with a / preceding the ending tag name.

Try out each of the examples that follow in your own js.html file by editing the file, saving the js.html file and then reloading the window in your internet browser.

Simple JS: The Basics

What is Javascript and how does it differ from Java?

Javascript is a scripting language that can add interaction to an HTML Web page. Java is a object-oriented programming language this is most often implemented on a Web page through APPLET tags. Despite the names being similiar, Javascript is very different from Java and the two have almost nothing in common.

Having said that, Javascript is object-based and uses commands referred to as *event handlers* to add Web page interactivity. Some example event handlers are: onMouseOver, onMouseOut, OnClick, onSelect, onBlur and onLoad which all refer to events that might happen on a Web page.

Borrowing Javascript Code for use in class:

A complete set of Javascript codes for use in this class is located at:

`http://jastruss.public.iastate.edu/js.html`

Follow a link to the Javascript trick that we are doing in class. When you are on the correct page, in Safari pull down under **View** to **View Source**. This works for most javascripts.

Next highlight the javascript code that you would like to copy. Then enter <CTRL/C> (Windows) or <CMD/C> (Macintosh) to copy the selected text. Next go to your Web page and enter <CTRL/V> (Windows) or <CMD/V> (Macintosh) or use your editor's PASTE function and paste the text onto your Web page. Try extending the example by altering the code.

ERRORS: If you get an error, enter `javascript:` in the URL box to get the javascript error messages. **Remember** javascript is case sensitive and somewhat touchy. Try simplfying your code if you run into trouble.

How do I add Javascript to a Web page?

To put Javascript code onto a Web page, enter the following into the HEAD or BODY areas:

```
<SCRIPT LANGUAGE=JAVASCRIPT
  TYPE="TEXT/JAVASCRIPT">
<!--  Hides Javascript from old browsers
document.write("Put js code goes <b>here</b>.")
// Ends hiding of Javascript code -->
</SCRIPT>
```

Or you can create a filename**.js** file and put your javascript code in there:

```
<SCRIPT SRC="java.js" LANGUAGE=JAVASCRIPT
 TYPE="TEXT/JAVASCRIPT">
<!-- The following is a Javascript 1.0 fix
function imgOver() { }
function imgOut()  { }
// -->
</SCRIPT>
```

So the java.js file would contain:

```
document.write("Put js code <b>here</b>.")
```

Simple JS: Conditionals, Loops & Functions

If Conditional:

```
if (condition) {
  statement(s) to execute
  if condition is true
}
else {
  statement(s) to execute
  if condition is false
}
```

The *else* part is optional.

Loops:

```
for (counter; limit condition; imcrement} {
  stuff in the loop
}
```

Functions:

Functions usually occur in the HEAD area and then are used in the BODY area.

```
function nameoffunction(parameters){
  function stuff
}
```

Function Example- Put this function in the HEAD area as a javascript:

```
function speak(msg){
  alert(msg)
}
```

Put the call to the function in the BODY area in this case as standard HTML:

```
<FORM>
<INPUT TYPE=BUTTON VALUE="Don't push this!"
 onClick="speak('Do NOT push me again!')">
<INPUT TYPE=BUTTON VALUE="Don't push this either!"
 onClick="speak('You are PUSHING ME!')">
</FORM>
```

From here on in, this handout will just show the javascript code and **not** the code that goes around it. Try out the following in the **HEAD** portion of your Web page:

Comments and Alerts:

Comments:

`/*` starts a javascript comment

`*/` stops a javascript comment

```
/* Here is my comment */
```

Alerts:

```
alert("Put a Message here.")
```

pops up an alert window when a Web page is loaded.

Simple JS: Status Bar Messages

Changing the Status Bar:

You can change the status bar by altering the *window.status*. Try the following in the **BODY** portion of your page:

```
<A HREF="homepage.html"
 onMouseover="window.status='Click now!';
 return true"
 onMouseout="window.status='';
 return true">
 Return to my homepage</A>
```

Note that when you rollover the homepage link that the status bar changes using the *onMouseover* event handler. The *onMouseout* event handler blanks the status bar when you exit the rollover.

A Scrolling Status Bar:

To do a scrolling status bar, you just need to alter the window.status on a rotating basis. Place the following as a javascript into the **HEAD** area of your Web page:

```
msg = "  Visit the Internet Drive-In!  "
i = 0
function scrollIt(){
 window.status = msg.substring(i,msg.length)
   + msg.substring(0,i-1)
 if (i < msg.length) { i++ }
  else { i=0 }
 setTimeout("scrollIt()",150)
}
```

Call the function by altering the **BODY** tag:

```
<BODY onLoad="scrollIt()">
```

Warning- Scrolling status bar messages are currently considered to be in bad taste.

Simple JS: Rollovers

A Simple Rollover:

This simple rollover uses the onMouseover and onMouseout event handlers to produce a rollover effect when the user rolls over the image. Try this out in the **BODY** part of your page:

```
<A HREF="homepage.html"
  onMouseover="document.bldg.src='quips.gif'"
  onMouseout="document.bldg.src='drivein.gif'">
 <IMG SRC='drivein.gif' WIDTH=184 HEIGHT=119
  BORDER=0 NAME="bldg"></A>
```

Simply put, when the image is rolled over- onMouseover switches in the new image; and when the image is rolled off of- onMouseout puts the image back to its original form. It's normally a good idea to use two images that are about the same size for a rollover.

Now this effect is o.k. but it takes some time for the second image to load when the rollover begins. So it would be nice to pre-load the rollover image.

A Better Rollover:

You can preload images in a javascript in the **HEAD** area of your Web page:

```
/* document.images cond used for older browsers */
if (document.images){
  quips = new Image
  drivein = new Image
  quips.src = "quips.gif"
  drivein.src = "drivein.gif"}
else { quips = ""
  drivein = ""
  document.blck = ""}
```

Then create the rollover with your preloaded images in the **BODY** portion of your page:

```
<A HREF="homepage.html"
  onMouseover="document.blck.src=quips.src"
  onMouseout="document.blck.src=drivein.src">
 <IMG SRC='drivein.gif' WIDTH=184 HEIGHT=119
  BORDER=0 NAME="blck"></A>
```

Try moving the IMG tag below the anchor tag and put a word in for the link. Neat effect if the first image is invisible.

Simple JS: Cycling Banners

Many pages use animated gifs for cycling banners but you can also create them using javascript. Put this portion of the example as a javascript into the **HEAD** portion of your page:

```
adimgs = new Array
  ("quips.gif","grandc.gif","drivein.gif")
adv = -1
advct = adimgs.length
function switchit(){
if (document.images) {
  adv++
  if (adv == advct) {
   adv = 0 }
  document.cycle.src = adimgs[adv]
  setTimeout("switchit()", 5*1000) } }
```

Then in the **BODY** part of your page, alter the BODY tag and put in the initial image:

```
<BODY onLoad="switchit()">
<IMG SRC='quips.gif' WIDTH=184 HEIGHT=119
 BORDER=0 NAME="cycle">
```

Adding a Link to a Cycling Banner:

Add the following in the **HEAD** area after the `adimgs` line:

```
adhttp = new Array
 ("quips.html","grand.html","drivein.html")
```

and add the following newloc function after the switchit function:

```
function newloc() {
  document.location.href =
   "http://css.ait.iastate.edu/Midland/"
   + adhttp[adv] }
```

Then in the **BODY** portion, use the following image link:

```
<A HREF="javascript:newloc()">
<IMG SRC='quips.gif' WIDTH=184 HEIGHT=119
 BORDER=0 NAME="cycle"></A>
```

Automatically Changing a Background Color:

You can automatically change your background color with a javascript. Just place the following javascript into the HEAD portion of your Web page:

```
bcolors = new Array("red","green","blue","orange")
bgit = -1
bgout = bcolors.length
function colorit(){
 if (document.images) {
   bgit++
   if (bgit == bgout) {
    bgit = 0}
   document.bgColor=bcolors[bgit]
   setTimeout("colorit()", 5 * 1000) }  }
```

Then alter your BODY tag as follows:

```
<BODY BGCOLOR=RED onLoad="colorit()">
```

I'm not exactly sure why you would want to do this but it is kind of fun. **Note:** You can combine this with the previous example by using:

```
onLoad="switchit();colorit()"
```

Simple JS: References

The Javascript Source is a great online source for a diverse set of javascript examples:
`http://javascript.internet.com/`

Javascript Kit also has a fine selection of free Javascripts and some javascript tutorials:
`http://www.javascriptkit.com/`

Javascript.Com is a great javascript resource and includes an free e-mail javascript Newsletter to which you can subscribe:
`http://www.javascript.com/`

Also *EchoEcho.Com* has a fine set of javascript related tutorials:
`http://www.echoecho.com/javascript.htm`

Currently recommended Javascript text:
Javascript For The World Wide Web by Tom Negrino & Dori Smith.