

WEB PROGRAMMING QUICK START: XHTML – IMAGES AND LINKS*

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Abstract

This module discusses how to add images and links to your XHTML files. The tags discussed are the `` and `<a ...>` tags.

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†<http://creativecommons.org/licenses/by/2.0/>

¹<http://cnx.org/content/m14051/latest/#introduction>

²<http://cnx.org/content/m14051/latest/#images>

³<http://cnx.org/content/m14051/latest/#links>

⁴<http://cnx.org/content/m14051/latest/#linksabsolute>

⁵<http://cnx.org/content/m14051/latest/#linksabsoluteimages>

⁶<http://cnx.org/content/m14051/latest/#relativeaddresses>

⁷<http://cnx.org/content/m14051/latest/#namedanchors>

⁸<http://cnx.org/content/m14051/latest/#dreamweaver>

⁹<http://cnx.org/content/m14051/latest/#dwimages>

¹⁰<http://cnx.org/content/m14051/latest/#dwrelativeaddresses>

¹¹<http://cnx.org/content/m14051/latest/#dwnamedanchors>

¹²<http://cnx.org/content/m14051/latest/#dwimagemaps>

¹³<http://cnx.org/content/m14051/latest/#conclusion>

2 Introduction

The primary goal of this "Web Programming Quick Start" series is to get the reader to the point of doing something productive with a minimum of time and effort. It is not intended to be an exhaustive treatment/reference of any of the subjects discussed. This is also very much a work in progress. All comments, criticisms, suggestions, etc. are most welcome¹⁴.

In the series of modules¹⁵ on XHTML (eXtensible HyperText Markup Language) and CSS (Cascading Style Sheets), we will be following the "current wisdom" on web page construction and design as exemplified by the three excellent web-related books of Rachael Andrew¹⁶. Specifically, we will endeavor to keep the **content** and the **styling/formatting** of the web documents **separate**.

This module builds on material discussed in the XHTML module dealing with the creation of an initial XHTML file¹⁷ and XHTML – Headings and Lists¹⁸. A complete listing¹⁹ of the links to all XHTML and CSS modules is also available.

Segments of the XHTML source code are shown in this module as image files, but links are given to the XHTML files and the source is readily available from a browser via the menu bar using File/Save As... , View/Source or something comparable.

3 Images and the Tag

In this section we will show how to include images in your XHTML document. We will take an image from the images section of the Creative Commons²⁰ site. Here we assume that the image file is in the **same** folder/directory as the web/XHTML document. When we discuss links (below in Section 4 (Links and the <a ...> (anchor) Tag)) we will cover other options. Figure 1 shows the relevant segment of the XHTML code, and imagedemo1.html²¹ shows the complete XHTML file

```

 9 <body>
10 <h1>SpaceShipOne</h1>
11
12 <h3>by Bruce Damer (http://creativecommons.org/weblog/entry/4275) </h3>
13
14 <p></p>
15
16 </body>
17 </html>
18 |

```

Figure 1: XHTML Source Code for imagedemo1.html

¹⁴rs01@txstate.edu

¹⁵http://www.cs.txstate.edu/~rs01/web_programming/links.html

¹⁶<http://cnx.org/content/m12836/latest/#andrew01>

¹⁷<http://cnx.org/content/m14049/latest/>

¹⁸<http://cnx.org/content/m14050/latest/>

¹⁹http://www.cs.txstate.edu/~rs01/web_programming/links.html

²⁰<http://creativecommons.org/image/>

²¹<http://cnx.org/content/m14051/latest/imagedemo1.html>

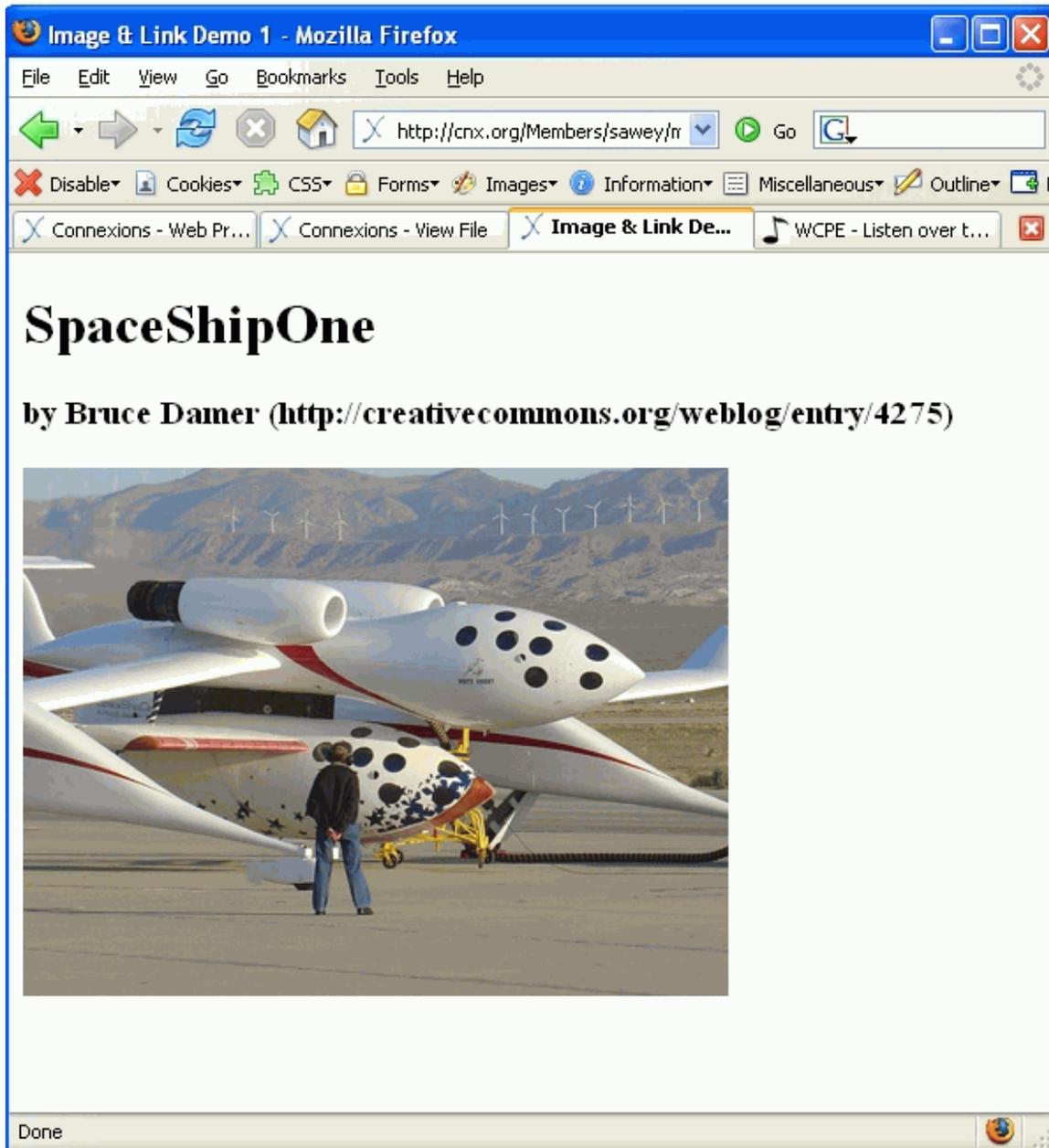


Figure 2: Firefox Browser view of imagedemo1.html

Figure 2 shows a Firefox browser view of imagedemo1.html²². There are several things worth noting:

- The syntax of the `<img...>` tag is different from those we have discussed so far. On line 14 we see that the `img` tag not only has the tag **name**, `img`, but is followed by `src="DSC07985.jpg"` `alt="Image`

²²<http://cnx.org/content/m14051/latest/imagedemo1.html>

from SpaceShipOne" width="400" height="300"> . Each of the items following is called and "attribute." Each attribute is comprised of an attribute **name**, e.g. "src" and an attribute **value**, e.g. "DSC07985.gif". Figure 3 shows this graphically. Note also that each value is contained within quotes, either single or double quotes, is acceptable. Although browsers are pretty forgiving, and will render the page as you would expect even if quotation marks are omitted, to meet XHTML standards, the quotes **must** be there.

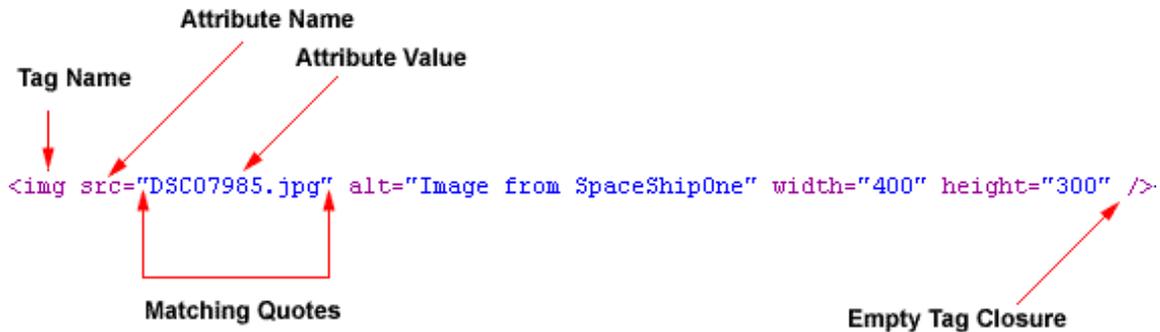


Figure 3: XHTML Tag Syntax

- The `img` tag is called an "empty" tag, in that it does not contain anything between the opening and closing tags, e.g. `` and ``. Instead the tag closure is indicated by a `/` at the end of the single/empty tag. As noted before browsers are pretty forgiving with respect to such lapses, but for this to be "well formed" XHTML, such closure of empty tags is required.
- The other attributes for this tag are pretty straightforward, but a few observations are in order:
 - `src`: The path to the image file.
 - `alt`: "Alternate" text, describing the image. This usually appears as a "pop up" or "tool tip" in a browser when the mouse moves across the image, but more importantly, it is read by reader programs used by those with visual disabilities.
 - `longdesc`: This attribute is not used in this example, but `imagelinkdemo2.html`²³ demonstrates this point with `longdesc = "piestats.html"`, where we are using `piestats.html`²⁴ to more fully describe the pie chart describing usage for August, 2006. Again, this can be very useful to those with visual difficulties, and is a means of addressing some "accessibility issues."
 - `width` and `height`: The dimensions of the image, given in pixels. Browsers usually display images if these attributes are omitted, but the pages load more quickly if this information is given.
- The image file, `DSC07985.gif`, is **not** part of the XHTML document, hence you need to make sure that **both** the XHTML file and the image file are on the web server. Those who are mostly familiar with the way word processors handle images, should take special note of this feature of XHTML. It is probably worth noting that beginning with Microsoft Word 2003, saving a Word document as an HTML file by default generates file with either the `.mht` or `.mhtml` extensions ("mime html"). These files contain the images encoded into the `.mhtml` file. However, at this writing, only Internet Explorer will render these web files correctly.

²³<http://cnx.org/content/m14051/latest/imagelinkdemo2.html>

²⁴<http://cnx.org/content/m14051/latest/piestats.html>

4 Links and the <a ...> (anchor) Tag

The XHTML tag used to specify links is the "anchor" tag. Not surprisingly it also has one attribute we will discuss. It is **not**, however, an empty tag as is the tag, discussed above. A significant part of this section on anchor tags will involve the specification of the files to which links are specified. The reason for not just stopping with specifying the complete URL (Uniform Resource Locator) is that this can greatly complicate the moving of your web site to another server, particularly when your links are referring to files on your site.

4.1 Absolute Addresses and Text Links

Using a file similar to `imagedemo1.html`²⁵ discussed in Section 3 (Images and the Tag), we add a link to the web site of the photographer, Bruce Damer. The file is `imageandlinkdemo1.html`²⁶. Figure 4 and Figure 5 show the XHTML code and a Firefox browser rendering.

```
1 <!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
2 "http://www.w3.org/TR/html4/loose.dtd">
3 <html>
4 <head>
5 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1">
6 <title>Image &amp; Link Demo 1</title>
7 </head>
8
9 <body>
10 <h1>SpaceShipOne</h1>
11
12 <h3>by <a href="http://www.damer.com/">Bruce Damer</a> (http://creativecommons.org/weblog/entry/4275) </h3>
13
14 <p></p>
15
16 </body>
17 </html>
18
```



Figure 4: XHTML Source Code for `imageandlinkdemo1.html`

²⁵<http://cnx.org/content/m14051/latest/imagedemo1.html>

²⁶<http://cnx.org/content/m14051/latest/imageandlinkdemo1.html>

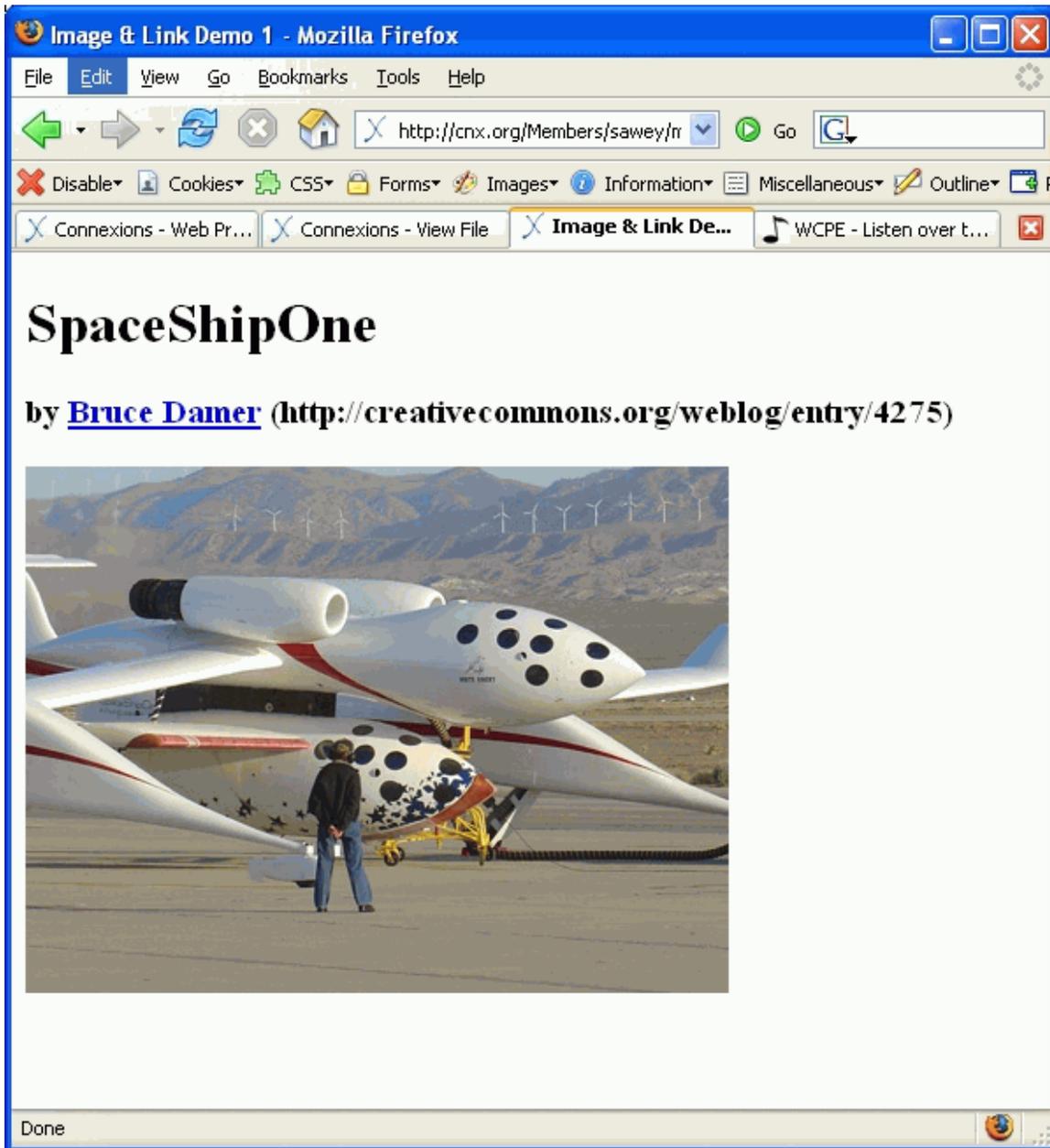


Figure 5: Firefox Browser view of imageandlinkdemo1.html

Line 12 of Figure 4 contains the anchor tag:

```
<a href="http://www.damer.com/">Bruce Damer</a>
```

The only attribute shown is named **href**. Notice that its value is the **complete** URL to Bruce Damer's site.

The text appearing in the browser window is contained **between** `<a ... >` and `` tags.

If the page to which you are linking is not in your web site, then the value of `href` needs to be the **complete** URL. This includes the protocol, `http:`. Pnly giving `www.damer.com` will not suffice in order for the link to work correctly.

4.2 Absolute Addresses and Image Links

Links, as well as text, can also be images. `imagelinkdemo1.html`²⁷ shows a simple example where the Google logo is used as a link to Google's web site. Figure 6 and Figure 7 show the XHTML code and a Firefox browser rendering.

```
1 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN" "http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
2 <html xmlns="http://www.w3.org/1999/xhtml">
3 <head>
4 <meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
5 <title>Image Link with Absolute Address</title>
6 </head>
7
8 <body>
9 <h2>Go to:</h2>
10
11 <p><a href="http://google.com"></a></p>
12
13 </body>
14 </html>
15
```

Anchor tag containing the image tag

Figure 6: XHTML Source Code for `imagelinkdemo1.html`

²⁷<http://cnx.org/content/m14051/latest/imagelinkdemo1.html>

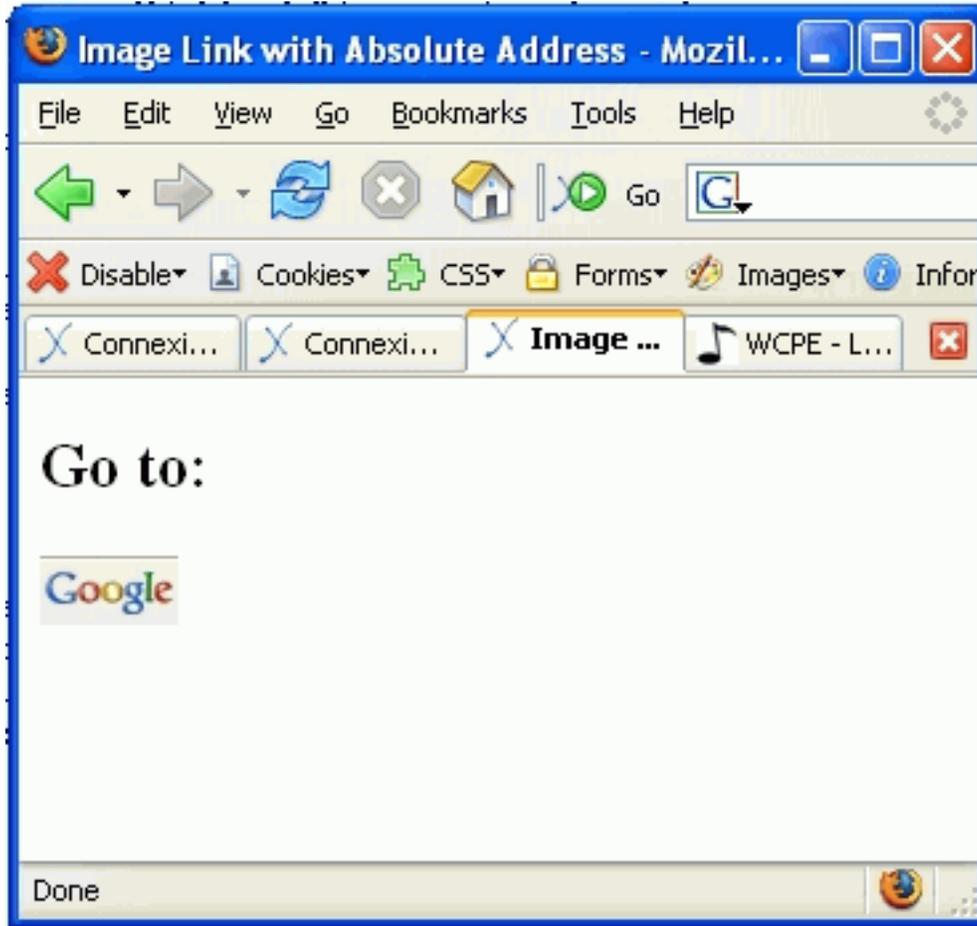


Figure 7: Firefox Browser view of imagelinkdemo1.html

imagelinkdemo2.html²⁸ is an additional example, where the image is a "thumbnail" (a smaller version) of the original image. The `img` tag also contains a `longdesc` attribute with the attribute value specifying a file `piestats.html`²⁹. All three files reside in the same folder/directory of the XHTML file. As noted above, this can be very useful to making the data in the figure **accessible** to those with visual difficulties.

4.3 Relative Addresses

We now move to this situation where you want to specify links to files on your own web site. In our example, Figure 8 shows the folder/directory structure we will be using.

²⁸<http://cnx.org/content/m14051/latest/imagelinkdemo2.html>

²⁹<http://cnx.org/content/m14051/latest/piestats.html>

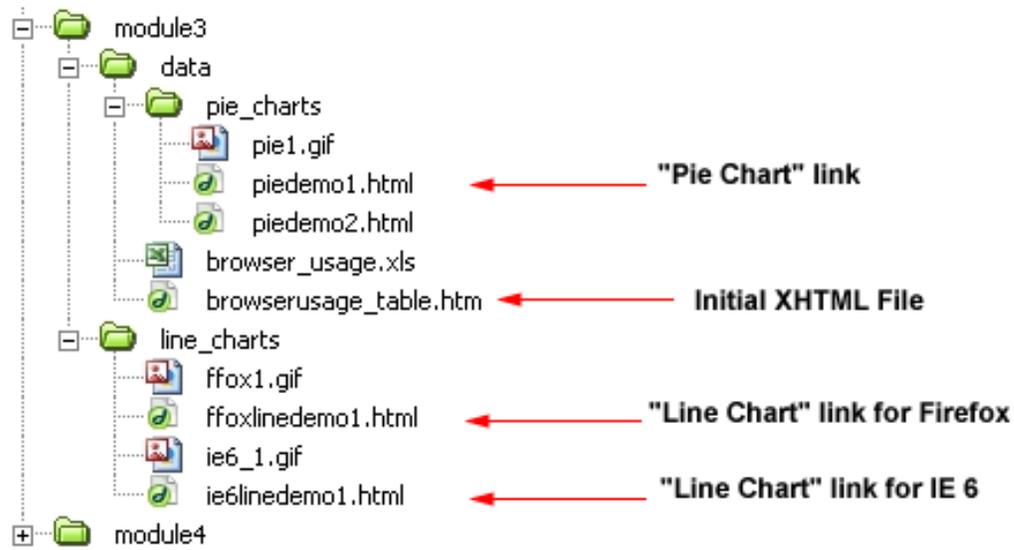


Figure 8: Folder/Directory Structure for Relative Addressing Examples

The initial file, `browserusage_table.htm`³⁰ is in the data folder and contains a summary of data related to browser usage from January, 2006 to August, 2006. It contains links to:

- A pie chart contained in an XHTML file (below the data folder in the pie_chart folder), `piedemo1.html`³¹. This chart summarizes the data in the table for August, 2006.
- Line charts contained in XHTML files (at the same level as the data folder, but in the line_charts folder), `ie6linedemo1.html`³² and `ffoxlinedemo1.html`³³. These line charts show six month trends of usage for the Internet Explorer 6 and Firefox browsers.

Since Connexions does not allow for folders (as far as I can tell), these files are contained on another server where the directory structure can be created.

Figure 9 shows the relevant segment of XHTML source code for `browserusage_table.htm`.

³⁰http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/data/browserusage_table.htm

³¹http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/data/pie_charts/piedemo1.html

³²http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/line_charts/ie6linedemo1.html

³³http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/line_charts/ffoxlinedemo1.html

```

103 <p>Source: <a href="http://www.w3schools.com/browsers/browsers_stats.asp">W3Schools.com</a> </p>
104 <h2>Three Charts, using this <a href="browser_usage.xls">Excel File</a>: </h2>
105 <ul>
106 <li><a href="pie_charts/piedemol.html">Pie Chart </a>of browser usage for August, 2006. </li>
107 <li><a href="../line_charts/ie6linedemol.html">Line Chart</a> of usage trend for Internet
108 Explorer 6 from January, 2006 to August 2006. </li>
109 <li><a href="../line_charts/ffoxlinedemol.html">Line Chart</a> of usage trend for Firefox
110 from January, 2006 to August 2006.</li>
111 </ul>
112 </body>
113 </html>

```

Figure 9: Segment of XHTML code for browserusage_table.htm

For those familiar with file and directory specification in Linux operating systems, the following notes will be familiar. Recall, that our initial file is in the data folder and note:

- Line 106: Shows that since the piedemol.html file is directly below the data folder in the pie_charts folder, the value for the href attribute is pie_charts/piedemol.html, simply giving the name of the folder directly below the data folder, containing our initial file.
- Lines 107 and 108: Show that in order to get to the line_charts folder, we must first move "up" one level (".." does this), then back "down" to the to the line_charts folder ("/line_charts), and finally to the files themselves (e.g. /ie6linedemol.html). The segment of code from line 107, ../line_charts/ie6linedemol.html, demonstrates this.

4.4 Named Anchors

We have now discussed the following:

- Specifying links that reside on a server different from the one holding the file containing the links we are constructing (absolute addressing).
- Specifying links that are either text or images. In our examples, we provided the complete URL for the link, although as we saw later this is not necessary if we are constructing links within the current web site.
- Specifying links to files that reside on the same server holding the file containing the links being constructing (relative addressing).

We now move to the situation where we want to specify a link to a location **within** the same file, e.g. a file that is relatively long, containing a considerable amount of information. The links could be a kind of "table of contents" for the file, or if the file is a set of "frequently asked questions" (FAQ), the links might be to the answers to those questions.

Our example is a snippet from William Shakespeare's Julius Caesar³⁴, taken from Project Gutenberg³⁵. Let's say that we wish to place a link at the top of the file that takes the user directly to the beginning of Mark Antony's oration, the familiar, "Friends, Romans, countrymen, lend me your ears!...". caesar_snippet.html³⁶ shows the finished result.

First, we need to place a marker at the location to which we wish our link to go. Next, we need to specify the link to that marker. This marker is often called a "named anchor." Some HTML generators will also call it a "bookmark."

³⁴<http://www.gutenberg.org/catalog/world/results>

³⁵<http://www.gutenberg.org>

³⁶http://cnx.org/content/m14051/latest/caesar_snippet.html

The code shown on line 49 of Figure 10 shows the XHTML code associated with specifying the marker/named anchor.

```

47 <br /> ALL. Peace, ho! Let us hear him.
48
49 <br /> <a name="start" id="start"></a>ANTONY. Friends, Romans, countrymen, lend me your ears!
50
51 <br />

```

Figure 10: Specifying a Named Anchor

Notice the `name` and `id` attributes, both with the same values. The older versions of this tag use the `name` attribute and later versions use the `id` attribute. If you use only one, the `id` attribute is recommended.

You might notice that line 49 also contains one other XHTML tag about which we have not talked, `
`. This "break" tag (and empty tag, note the `/` at the end) produces a new line in your browser window. The difference between the break tag, `
`, and paragraph tags, `<p> ... </p>` is that the default settings of most browsers display paragraph breaks with a blank line between paragraphs, whereas the break tag only displays as a new line without a blank line between the lines where the tag appears.

All that remains is to move to the top of the file and place the link to the named anchor specified in line 49. Line 14 of Figure 11 show the link specification.

```

8 <body>
9
10 <p>Source:<a href="http://www.gutenberg.org/dirs/etext97/lws2410.txt"> http://www.gutenberg.org/dirs/etext97/lws2410.txt</a>
11 from
12 <a href="http://www.gutenberg.org/">Project Gutenberg</a>.</p>
13
14 <p>The beginning of <a href="#start">Antony's oration</a>. </p>
15
16 <br />FIRST CITIZEN. Bring him with triumph home unto his house.

```

Figure 11: Specifying a Link to a Named Anchor

Notice the value for the `href` attribute is `"#start"`. Thus we see that all we need to do to specify such a link is to precede the `id/name` that we specified earlier with a `"#"`. Again, `caesar_snippet.html`³⁷ shows the finished result. Notice what is displayed on the status bar of the browser when the cursor is moved over the link. It shows the full URL and the file name is followed by `"#start"` indicating the named anchor.

5 Dreamweaver with Images and Links

Inserting images and links using Dreamweaver is a relatively simple matter and the sections below will describe this process.

5.1 Images

To insert an image using Dreamweaver, you can use the menu bar and Insert/Image and then provide the image name and path when the "Select Image Source" dialog (see Figure 12) box appears.

³⁷http://cnx.org/content/m14051/latest/caesar_snippet.html

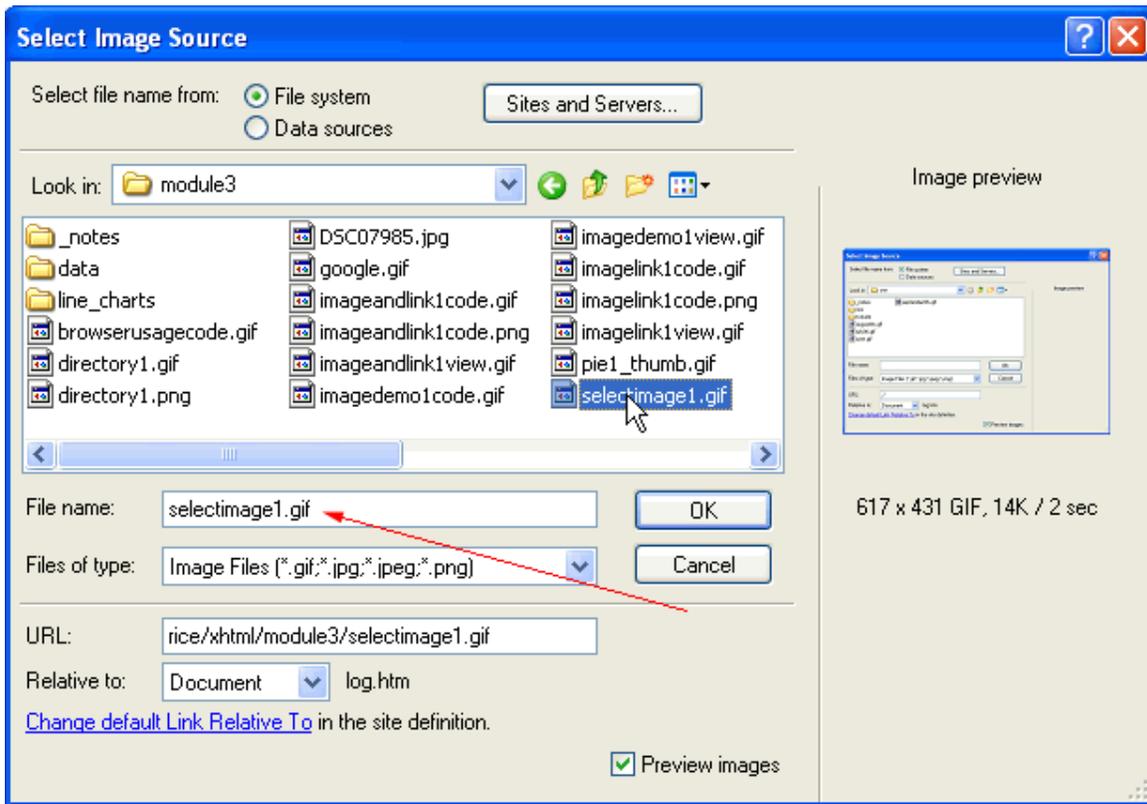
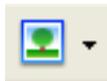


Figure 12: Select Image Source Dialog Box

Alternatively, you can also use the Insert Toolbar by clicking on the drop-down menu button next to the



button, as shown in

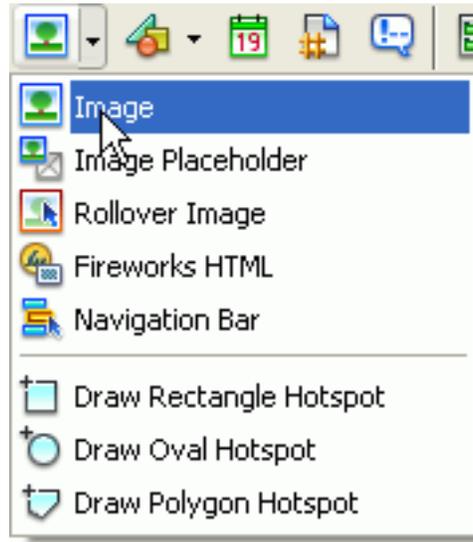


Figure 13: Inserting an Image from the Insert Toolbar

5.2 Relative and Absolute Addresses/Text and Image Links

Specifying links using Dreamweaver is simply a matter of selecting the text or image you wish to make a link and completing the "Link" field in the Properties Panel. Since the Properties Panel differs depending on context, there is one for the text selection as shown in Figure 14 and one for the image selection as shown in Figure 15.

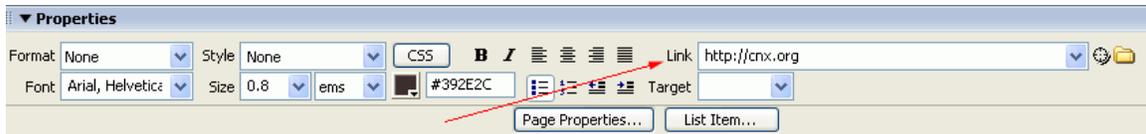


Figure 14: Inserting Text Link from the Properties Panel



Figure 15: Inserting an Image Link from the Properties Panel

5.3 Named Anchors

Once the "named anchor" is specified as discussed in Section 4.4 (Named Anchors), the link specification is done as noted in the previous section. Once the cursor is at the place where the named anchor is to be

placed, you can use Insert/Named Anchor from the menu bar or the  button on the Insert Toolbar as show in Figure 16

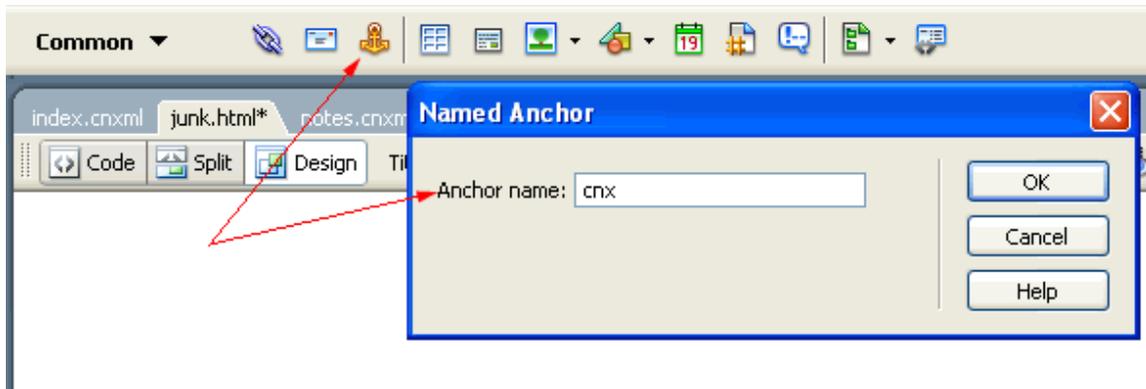


Figure 16: Inserting an Image Link from the Properties Panel

5.4 Image Maps

We will begin with the pie chart, [piedemo1.html](http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/data/pie_charts/piedemo1.html)³⁸, we discussed earlier when we were demonstrating relative addressing of links in Section 4.3 (Relative Addresses), using the directory structure shown in Figure 8.

In this case, however, we will construct links such that when the mouse is moved over the slices of the pie chart corresponding to IEt and Ffox, there will be a link to the corresponding line chart for the January, 2006 to August, 2006 usage for a particular browser.

In order to do this, while in Dreamweaver, select the image and select then click on the "irregular polygon hotspot" on the Properties Panel as indicated in Figure 17.

³⁸http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/data/pie_charts/piedemo1.html

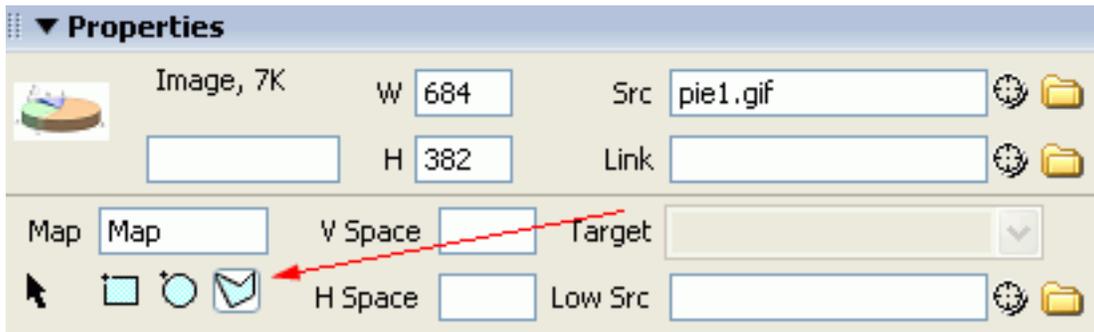


Figure 17: Selecting the "Irregular Polygon Hotspot" in the Properties Inspector

Next click around the edges of the slice of the pie for which you wish to define the link, as shown in Figure 18

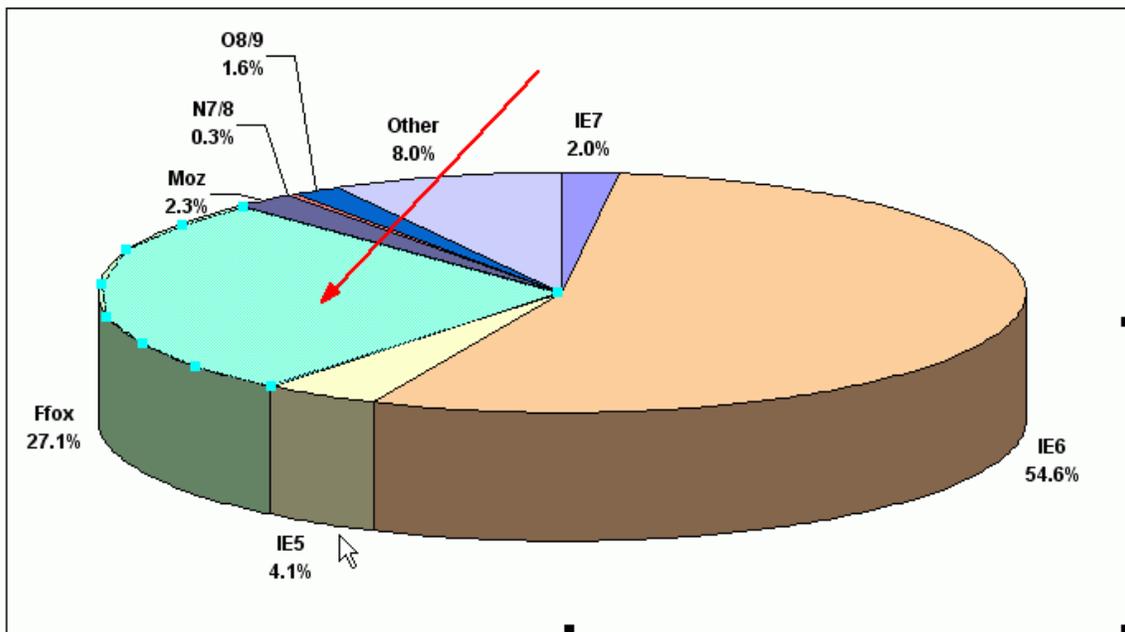


Figure 18: Selecting the "Irregular Polygon Hotspot" on the Image

and then complete the Link field in the Properties Panel as shown in Figure 19.

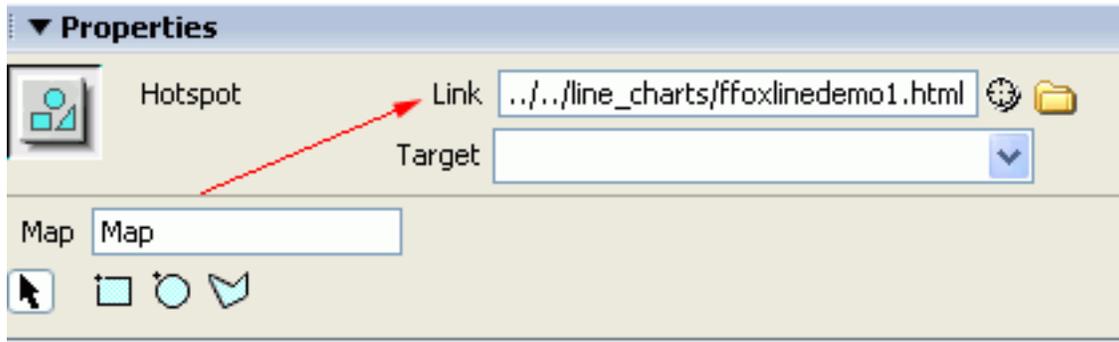


Figure 19: Completing the Link for the Pie "Hotspot"

pedemo2.html³⁹ shows the result of specifying both the IE6 and Ffox slices of the pie chart.

6 Conclusion

The following might also be helpful:

- Links⁴⁰ to the other modules in this "Web Programming Quick Start" series are available
- Links⁴¹ to other screen recordings for these modules are also available (time permitting).

³⁹http://www.cs.txstate.edu/~rs01/cnx/rice/xhtml/module3/data/pie_charts/piedemo2.html

⁴⁰http://www.cs.txstate.edu/~rs01/web_programming/links.html

⁴¹<http://apollo.cs.txstate.edu/rs01/media/cnx/links.html>