**Imagemaps: IMG, MAP, and AREA tags**

It's time to look at the XHTML necessary to create a client-side imagemap.

There are two parts to a client-side imagemap: the **IMG**tag which displays the image on the XHTML page, and the **MAP**and **AREA**tags (invisible to the user) which contain all of the imagemap information. The **A**(anchor) tag is NOT involved in creating a client-side imagemap.

Because the actual imagemap information is coded only into **MAP**and **AREA**tags, the **IMG**tag needs to link to the **MAP**tag and its imagemap information using a special attribute, **USEMAP**; I'll talk about the **USEMAP**attribute and how it works at length in a moment.

Imagemap information is coded into XHTML using the **MAP**and **AREA**tags, as mentioned earlier. **MAP**opens and closes around the imagemap information, with one **AREA**tag for each clickable area on the imagemap. Here is an example of the basic structure (without attributes):

<map>

<area />

<area />

<area />

</map>

The **MAP**tag ALWAYS closes after the **AREA**statements.

The **MAP**tag has one attribute, **ID**, which is required for the imagemap to operate properly.

Tag: **MAP**  
Attribute: **NAME**  
Value: any valid name (based on the naming rules discussed in earlier modules)  
Description: the **NAME**attribute of the **MAP**tag provides an identifier which the **USEMAP**attribute of the **IMG**tag will use to connect itself to the imagemap information in the **MAP**.  
Example (abbreviated): **<map name="fred"></map>**

Note: In order for your XHTML pages to validate with the W3C standards, you need to insert an id attribute into your map statement. For example:  
  
<map name="fred" id="fred">

The **AREA**tag has three required attributes: **SHAPE**, **COORDS**, and **HREF**. The **HREF**attributes are identical to their **A**(anchor) tag counterparts except for the fact that they work within an imagemap.

Tag: **AREA**  
Attribute: **SHAPE**  
Value: **rect**, **circle**, **poly**  
Description: sets the shape of the clickable area which the individual **AREA**tag will define. Each **AREA**tag in a**MAP**may be a different **SHAPE**, or they may all be the same **SHAPE**.

Tag: **AREA**  
Attribute: **COORDS**  
Value: integer **x,y**(and **r**) coordinates separated by commas; the number of integers required depends entirely on the value of the **SHAPE**attribute for that **AREA**tag.  
Description: the **COORDS**attribute of the **AREA**tag defines the **x,y**(and **r**) coordinates for the shape defined by the **SHAPE**attribute of that particular **AREA**tag.

Tag: **AREA**  
Attribute: **HREF**  
Value: any URL, relative or absolute  
Description: the **HREF**attribute of the **AREA**tag defines the hyper-reference for that clickable area in the imagemap. Note that HTML5 does not require the area tag to self-close.

Example:

<map name="ethel" id="ethel">

<area shape="rect" coords="7,7,71,71" href="destination1.html" />

<area shape="circle" coords="127,202,25" href="destination2.html" />

<area shape="poly" coords="80,247,41,187,39,131,45,111,84,124" href="destination3.html" />

</map>

Once you've encoded your client-side imagemap information into an HTML page using the **MAP**and **AREA**tags, you are ready to add your **IMG**tag to that XHTML page.

An **IMG**tag used as an imagemap is coded identically to a regular **IMG**tag, with the addition of two attributes: **BORDER**and **USEMAP**.

Tag: **IMG**  
Attribute: **BORDER**  
Value: **0**(zero)  
Description: the **BORDER**attribute of the **IMG**tag must be set equal to **"0"**when that IMG is being used for an imagemap. Because an **IMG**tag used as an imagemap is considered to be a hyper-reference by a web browser, a blue hot-link border will appear around the image (in many browsers) unless the **BORDER**attribute is set equal to **"0"**. Imagemaps, by current conventions, should NOT exhibit a blue hot-link border.

Tag: **IMG**  
Attribute: **USEMAP**  
Value: the **#**(pound) sign followed by the **NAME**of the **MAP**tag to connect to, NO SPACES. For instance, if the NAME of the **MAP**tag desired was "ethel" (as in the example earlier), the value of the **USEMAP**attribute for the **IMG**tag would be **"#ethel"**. Note: this **"#thename"**syntax follows the convention established with the **A**(anchor) tag for hyper-referencing ID anchors within an XHTML page.  
Description: the **USEMAP**attribute of the **IMG**tag connects a **MAP**tag (and attendant **AREA**tags) to a given**IMG**tag, making it behave as an imagemap.

Example (including **MAP**and **AREA**tags):

<img src="demoMap.gif" width="200" height="100" alt="Demo Map" border="0" usemap="#ethel" />

<map name="ethel" id="ethel">

<area shape="rect" coords="7,7,71,71" href="destination1.html" />

<area shape="circle" coords="127,202,25" href="destination2.html" />

<area shape="poly" coords="80,247,41,187,39,131,45,111,84,124" href="destination3.html" />

</map>

It does not matter where on the HTML page the **MAP**and **AREA**tags are located. Ordinarily, web programmers will place the **MAP**tag immediately below the appropriate **IMG**tag, but the **MAP**tag could equally well be placed at the bottom or top of the XHTML page without affecting performance in any way. Try to place the **MAP**tag someplace on the page where it won't interfere with the readability of your code.

An XHTML page may have MANY different client-side imagemaps on it, as long as each one of the **MAP**tags involved is named a unique NAME. You may also place a particular imagemap on a page more than once; simply duplicate the **IMG**tag involved as often as you need, then have all of those **IMG**tags access the SAME**MAP**tag. DO NOT have TWO **MAP**tags of the SAME NAME on a single XHTML page; this is not only pointless, it is forbidden.