How to Make an Image Map

An image map allows you to code two or more links into a single image by using pixel coordinates the HTML *map* element. In other words, different parts of a single image can be linked to different pages.

An image map can be used in many ways. For example, you might have a map of your county with each town linked to its own page or web site. On the personal side, it might be a group picture of your family with a link from each family member's head going to a page about or created by that family member.

Coordinates on image maps serve as reference points that specify the boundaries of "hot spots" that link to other pages or files. Hot spots are simply the areas of the image that are clickable. The entire image doesn't have to be clickable.

You can make three types of shapes on an image map: rectangular, circular, and polygonal, but first you need to know how to find image coordinates.

While there are several ways to find image coordinates, not everyone will have the software needed for most of them. Most people do have Internet Explorer though, so we'll use that browser to find our map coordinates.

The idea is to make Internet Explorer display the image as an image map. With an image map, the cursor becomes a hand pointer as you place it on the image, and along with showing the hand pointer, the status bar of the browser will reveal the exact coordinates where the index finger of the hand pointer is pointing.

To make the browser treat the image as an image map we need to do two things. The first is to add ***ismap*** to the image tag. By adding the part in bold red:

```
<img src="map.jpg" ismap>
```

…to the image tag the browser will treat it as an image map.

To activate the browser into showing the coordinates, we have to place a link around the image. The image isn't really an image map because there are no map coordinates yet, but we've tricked Internet Explorer into treating it as an image map.

Here's the image code with the link code added around it:

```
<a href="#null">
<img src="map.jpg" ismap>
</a>
```

With that little snippet of code surrounding the image you're ready to determine the coordinates.

Let's say that Joe Bumblebonker writes articles about gardening. He needs four hot spots, one for each: *Home*, *Bio*, *Contact*, and *Articles* as shown in the image to the right.

It's our job to find the coordinates and create the code for the map. I've added arrows to the image to show you the two coordinates we need for the first hot spot.

Each coordinate point, the upper-left corner and the lower-right corner, for a rectangular shape has two measurements.

The first measurement is the distance in pixels measured from the left edge of the image toward the opposite edge.

The second measurement is the distance in pixels measured from the top edge of the image toward the bottom edge, thus forming a single coordinate point.

Place the pointer where you want the top left corner of the hot spot to be and you'll easily have your first coordinate.

In the image to the above you can see where I have placed the hand pointer, and I included a shot of the status bar in the screen shot showing the first coordinate. It is 52 pixels from the left side of the image and 16 pixels from the top of the image.

Note that it doesn't matter where the image is in relation to the side or top of the browser window because the coordinates are measured from the top and left side of the image, not the browser.

Now you know how to find coordinates. For a rectangular hot spot you only need one other coordinate, so after jotting down the coordinates for the top left corner of the hot spot you'd move your cursor so the index finger is pointing to the bottom right corner of the hot spot and jot those coordinates down.

For the "Home" hot spot, the upper-left corner coordinate is: 52 and 16. The lower-right corner coordinate is: 118 and 42. The Contact link will be a rectangular hot spot as well. The first coordinate for that hot spot is: 20 and 58; the second coordinate is: 96 and 88.
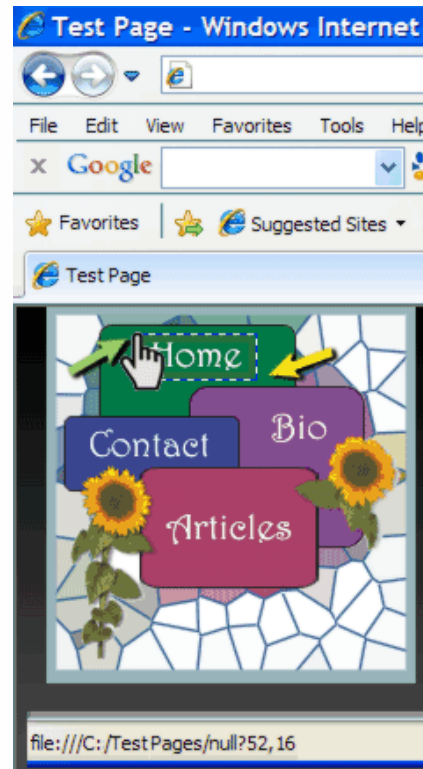
We'll use those coordinates to code the image map, but first we need to find the other two hot spots. The next hot spot will be a polygon shape for the Bio link, and the final hot spot will be a circular shape for the Articles link. A polygon is a closed plane figure bounded by straight lines on each side. It may have as few as three sides (a triangle) or as many as is practical. The lines should not cross each other.

When creating a polygon shaped hot spot, I like to start with the upper-left coordinate and work my way around clockwise. With the polygon, we need the coordinates for each point where the line angle changes, not just the coordinates for the upper-left and lower-right corners.

Figure 2 shows the shape of the polygon. I numbered each coordinate we need to create the polygon shape. It's really just another square with the lower-right corner cut off to miss the sunflower.

Here are the coordinates for each corner:

1. 117 and 48
2. 167 and 48
3. 167 and 77
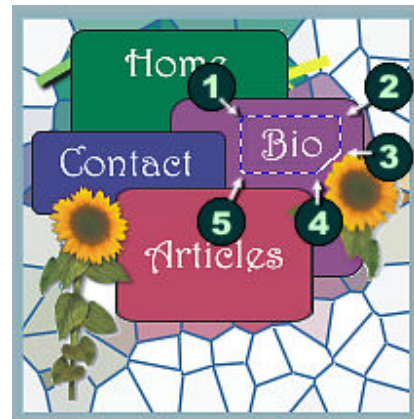4. 155 and 87
5. 117 and 87

Figure 2

Next, we'll find the coordinates for the circular hot spot. A circular area has three coordinates for an image map. The first two coordinates plot the center of the circle. The third coordinate is simply the radius of the circle. It's not a true coordinate, it's a simply a *length* value to define the size of the circle, but it's coded with the coordinates and treated as such.

Figure 3 shows the center point of the circle and the radius. The center is: 105 and 127. For the radius, I decided 38 pixels will create a circle that just encloses "Articles" without intruding into the coordinates for the Contact hot spot.
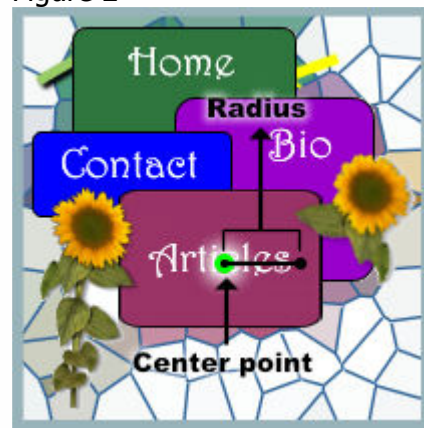

Figure 3

Note: Generally, I would use a rectangle for the Articles hot spot, but I needed to show you how to make a circular hot spot, so the circle wins the square. ☺

Now that we have our hot spot coordinates, all that is left is to code the image map and place the image on the page. An image map starts off with the map declaration:

```
<map name="navigation" id="navigation">
```

The *id* attribute is only needed if you want the page to be XHTML compliant. If so, just give it the same name as the *name* attribute; in this case, the name and id attributes are both named "navigation."

While the name you give the map can be anything, I like to use logical naming conventions. Since this image map is for navigation, that's what I called it. I was tempted to call it *Lumpy Pudding on Opposite Mondays*, but I thought you might think me a little strange if I did. ;)

After the map declaration, we can start adding the area tags. An area tag consists of the shape, the pixel coordinates, and the link. The area tag tells the browser which areas of the map are hot spots, and which file each hot spot links to. Here are our image coordinates once again:

Rectangular Areas

      Home: 52, 16 / 118, 42
      Contact: 20, 58 / 96, 88

Polygon Area

      Bio: 117, 48 / 167, 48 / 167, 77 / 155, 87 / 117, 87

Circular Area

      Articles: 105, 127, 38

Now that we've gathered all the information we need, let's code the image map for good old Mr. Bottledonker.

```
<map name="navigation" id="navigation">
<area shape="rect" coords="52, 16, 118, 42" href="home.html">
<area shape="rect" coords="20, 58, 96, 88" href="contact.html">
<area shape="poly" coords="117, 48, 167, 48, 167, 77, 155, 87, 117, 87" href="bio.html">
<area shape="circle" coords="105, 127, 38" href="articles.html">
</map>
```

The shape for an area is either *rect* for rectangle, *poly* for polygon, or *circle* for…you guessed it, a square . . . oops, I mean a circle. The *coords* part is short for coordinates.

As you may have noticed, the coordinate pairs aren't separated into pairs—all the coordinates are strung together and the browser sorts them out. However, you still need to input them in the correct order for it to come out right.

The browser pairs the first two numbers to plot the first coordinate, the next two numbers to plot the next coordinate, and so forth. With the circle coordinates, you must put in the two coordinates for the center point of the circle first, followed by the radius. There is no closing tag for an <area> tag, so add a space and forward slash to the end of each tag if you want to make them self-closing for XHTML compliance. Example:

```
<area shape="rect" coords="52, 16, 118, 42" href="home.html" />
```

The image should be placed in the code at the point where it will display on the page where you want it, just like you'd do with any other image. The image doesn't have to be near the map code, but it does make sense to keep them together—after all, if you need to edit one or both of them, it just makes sense not to have to hunt for them in two different places in the code. I'm all about making sense . . . except when I'm not. ☺

Personally, I usually code the image just above the map code. Here's the image code:

```
<img src="images/map.jpg" usemap="#navigation"
 alt="Click the hot spots." width="210" height="214">
```

As you can see, it's just an ordinary image tag with alt text, width and height coded into it, plus the code that tells the browser the name of the map to use. The code in red text is the part that connects the image to the map code for the browser, so you need to use the same name after the hash mark that you used for the *name* value in the map code.

In some browsers, the entire image map used to be surrounded by a blue border. I don't think it's a problem anymore, but it may still be in an odd browser or two. If you want to ensure no one sees a border, use CSS (shown in red) to remove the border:

```
<img src="images/map.jpg" usemap="#navigation"
 alt="Click the hot spots." width="210" height="214"
 style="border: none;">
```

There you have it—the no cost, easy way to create an image map.

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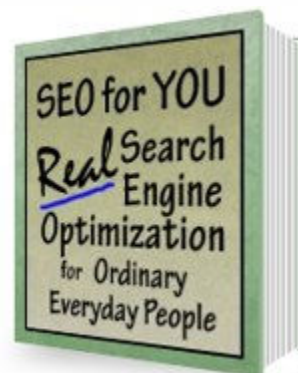
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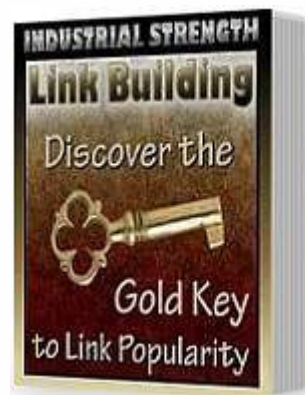
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Dennis