Spring 2009
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Image Maps

- Can link shapes in an image to different URLs
- Each shape is an **area** tag
- Area tags are inside a **map** tag
- Shapes can be rectangle (rect), circle (circ), or polygon (poly)
- **rect** `coords="left, top, right, bottom"
- **circ** `coords="center-x, center-y, radius"
- **poly** `coords="x1,y1, x2,y2, ..., xn,yn"`
Examples

shape="rect" coords="20,50,120,100"

shape="circ" coords="10,200,50"

shape="poly" coords="8,350, 24,300, 40,350"
<p><img src="team-photo.jpg" alt="Team photo" usemap="#members" /></p>

<map id="members" name="members">
  <area shape="poly"
       alt="goalie"
       title="goalie"
       coords="82,232, 75,250, 70,260, 85,240"
       href="goalie-bio.html" />
  <area shape="circ"
       alt="Puck, the mascot"
       title="Puck, the mascot"
       coords="332,100,30"
       href="puck-bio.html" />
</map>
<p><img src="team-photo.jpg" alt="Team photo" usemap="#members" />
<map id="members" name="members">
  <area shape="poly"
       alt="goalie"
       title="goalie"
       coords="82,232, 75,250, 70,260, 85,240"
       href="goalie-bio.html" />
  <area shape="circ"
       alt="Puck, the mascot"
       title="Puck, the mascot"
       coords="332,100,30"
       href="puck-bio.html" />
</map></p>
Use a photo editor

- Defining the coordinates (coords) for your areas is difficult without photo editing software.
- The GIMP is a free application similar to Photoshop.
- The GIMP and Photoshop both provide tools for creating image maps.
- **CAUTION**: Both create image maps that are non-validating. You will need to make minor adjustments to make them validate correctly.
Valid image maps

- All parts must be inside a block element (for example, inside `<p>...</p>`)  
- `<area />` tags are self-closing (no matching end tag) and appear inside `<map>...</map>` tags.
- `<area />` requires `shape=`, `coord=`, `alt=`, and `href=` attributes.
- `id=` in `<map>` should match `usemap=` in `<img />`
- General structure:
  ```html
  <p><img ... usemap="unique-identifier" />
  <map id="unique-identifier">
  <area .../>
  <area .../>
  <area .../>
  </map></p>
  ```
Web Design I

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- Area tags are inside a map tag
- Shapes can be rectangle (rect), circle (circ), or polygon (poly)
  - rect    coords="left, top, right, bottom"
  - circ    coords="center-x, center-y, radius"
  - poly    coords="x1,y1, x2,y2, ..., xn,yn"

Rectangles require two x,y coordinates: The first pair are the upper left corner of the rectangle, and the second pair are the lower right corner.

Circles require an x,y for the center of the circle, and a radius.

Polygons are more complicated: They are defined by a series of x,y points. A line from the last point in the list back to the first point closes the polygon.
For the example rectangle, the upper left corner is 20 pixels from the left side of the image, and 400 pixels from the top. The lower right corner is 120 pixels from the left and 100 pixels from the top.

For the example circle, the center is 10 pixels from the left of the image and 200 pixels from the top. It has a radius of 50 pixels.

For the example polygon (a triangle in this example), the three points are shown. In the coords attribute, you can start with any x,y pair, but then they must go in order. A line is drawn from each pair to the next pair in the list. Then one additional line is drawn from the last pair back to the first in the list.
Suppose you had a hockey team photo, and you wanted to create a link from each person in the photo, to a page that has their biography or game statistics.

The example shows a polygon that outlines the goalie in the picture, and a circle that shows where Puck, the mascot is. (He's a giant puck. So, he's very circular.) 😒
Your page can have many images and many maps.

The usemap= attribute in the <img /> tag identifies which map applies to this image. It finds the map by looking at the id= attribute or name= attribute in the <map> tags.

The id= attribute for <map> is required for validation. The name= attribute is optional. However, some broken web browsers try to use a name= attribute in <map> with the usemap= in <img /> instead of using the id= attribute. So it is safer to include both id= and name=, until all browsers are working right. **Be sure that they both have the same value.** (In this example, both are set to "members".)
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Tutorials for creating image maps with Photoshop. These appear as links you can click at the bottom of the image map example page.

http://graphicdesign.spokanefalls.edu/tutorials/tech/imagemapexample/imagemap.htm
http://www.depiction.net/tutorials/photoshop/imagemapdrawingtools.php
Valid image maps

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- `<area />` requires `shape=`, `coord=`, `alt=`, and `href=` attributes.
- id= in `<map>` should match `usemap=` in `<img />`
- General structure:

  ```html
  <p><img ... usemap="unique-identifier" />
  <map id="unique-identifier">
  <area .../><area .../><area .../>
  </map></p>
  ```

An optional attribute `title="..."` can be used on `<a>`, `<img />`, and `<area />` tags. I think it can be used on many others also. Try it on some other tags.

(Attributes can only appear in start tags or self-closing tags. NOT end tags.)

The `title="something"` attribute is like a mouse-over effect: When the mouse is hovering over the image or area, a small pop-up window with the text "something" will appear. These are small windows are often used for "tips" to the user.

You can have as many `<area>` tags as you want – one for each shape in your image.

If you have several images, you can create a separate map with a different id for each one.