

# SGG 3643 Computer Programming III

# **Images, Color, and Backgrounds**

Ivin Amri Musliman



Inspiring Creative and Innovative Minds

ocw.utm.my





- Placing images on your page and making them become clickable (adding a hyperlink).
- Specifying alternatives to images for non-graphical browsers.
- Using image dimensions and scaling.
- Setting background images/colors and text colors.ss







- Images are very important for Web design. They are used in several ways:
  - Usual graphic (i.e. images) as part of the presentation,
  - button for hyperlinks,
  - symbol for enumerations / lists
  - page background,
  - background for tables.





### **Images on the Web**

- Two types
  - Inline images loaded as part of the page
  - External images (i.e. tiff format) loaded only on request, additional viewer necessary (not discussed here).
- File formats accepted by browsers
  - \_\_\_\_\_\_.gif (accepted by more browsers)
  - \_ .jpeg (sometimes spelled .jpg)
  - .png
- Best if extensions are always lower case



Inspiring Creative and Innovative Minds





## File formats in the Internet

- gif (Graphic Interchange Format):
  - only 256 colors from color palette, »interlaced« or »noninterlaced«
  - transparent color supported animated gif, licensee problems
  - Could be called gif, gif87, or gif89
- jpg / JPEG (Joint Photographic Expert Group):
  - for larger images and photos
  - Compression algorithm, but lossy
  - 16 Million colors (TrueColor), progressive JPG
- png (Portable Network Graphics):
  - Lossless Compression
  - Well suited for lot of purposes





### Sources

- Commercial Sources
- Open Source
- Own images
- Scan: Resolution vs. File size:
  - 75 dpi sufficient, if not magnified
  - Store first in lossless format (i.e. TIFF)
- Manipulation:
  - Cropping, Optimizing, Scaling
  - Optimization: Color depth, color palette, transparency
- Test, publication





# Inline Images: <img .../> Tag

- Used for integration of inline images
- <img /> has no closing tag
- Use the src attribute to specify the filename

<img src= "lecture.gif" alt= "Lecture Web-Engineering" />

 You can add an textual alternative for non-graphical browsers (required in XHTML 1.0). The content of this tag is often presented as additional "fly out" text.







• Additional attribute for images size:

**OPENCOURSEWARE** 

..., width="200" height="300" ...

- Enhances performance for displaying page content in the browser.
- Can use graphics package or Netscape to determine actual picture size
  - Netscape: View/Document [Page] Info, then select the image



ocw.utm.m



• If specified dimensions **larger** than that of the picture, the picture is sized to fit.

Why is this good? Why take care?

Avoid specifying smaller dimensions.
 Why?





# **Inline Images (continued)**

- The <img> tag (an inline box) should normally be contained within another element-tag section, such as
   ... or ...
- Note that some users could have image display disabled in their browser
  - Netscape: Auto Load Images
  - Internet Explorer: Show Pictures
- Note that some users use text-only browsers or they could be blind.



ocw.utn



An image can be placed within a line of text

**OPENCOURSEWARE** 

love <img src="map.gif" alt="[Map of Johor Bahru]"> Johor Bahru!

- In the above case, the text is displayed aligned with the bottom of the picture
- <img> has an align attribute specifying image alignment
  - Values: "top", "middle", "bottom"
  - Other nonstandard values: "texttop", "absmiddle", "baseline", "absbottom"





# Wrapping Text Next to Images

- Starting in HTML v. 3.2, you could wrap several lines of text around or beside an image
- Added two new align values: "left" and "right"
- Any text following the image would be wrapped to right and left of the image, respectively
- Can align two images right & left w/text in between



ocw.utm



in favour of CSS

- To stop the text wrapping (and have it proceed to the line below the image)
   deprecated in HTML v. 4.0
  - Use the clear attribute on the <br> tag
  - <br clear="left" /> stops the wrapping, breaking to the left margin for left-aligned images
  - <br clear="right" /> analogous for right-aligned images
  - <br clear="all" /> breaks to a line clear to both margins





# **Adjusting the Space around Images**

- This concerns the amount of space between an image and the text around it
- HTML v. 3.2 introduced the vspace and hspace attributes of the <img> tag
  - Values are numeric (and in quotation marks)
  - Values represent number of pixels of space
  - Text alignment is based on the "expanded" image

<img src="x1.gif" alt="MyPic" vspace="10" hspace="2">





### **Images and Links**

 To make a hyperlinked, clickable image, simply embed the <img> tag within the <a>...</a> pair:

<a href="<u>http://www.utm.my</u>"><img src="utm\_logo.png" alt="[Logo of UTM]"></a>

- Border attribute of <img> lets you control width of border [deprecated in HTML 4.0]
  - Use number (pixels) in quotation marks
  - "0" means no border [Used mainly with graphical buttons]









<map name="Landkarte">

**OPENCOURSEWARE** 

<area shape="rect" coords="78,182,132,200"
href="http://www.karlsruhe.de/" alt="Karlsruhe">

<area shape="circle" coords="140,209,10"
href="http://www.stuttgart.de/" alt="Stuttgart">

```
<area shape="poly"
coords="48,311,105,248,96,210,75,205,38,234,8,310"
href="http://www.baden-aktuell.de/" alt="Baden"> </map>
```

```
<img src="karte.gif" width="345" height="312"
border="0" alt="Karte" usemap="#Landkarte">
```









### Rect

#### Upper left corner, lower right corner

# <area shape="rect" coords="78,182,132,200" href="http://www.karlsruhe.de/" alt="Karlsruhe">

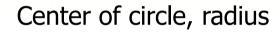


Inspiring Creative and Innovative Minds







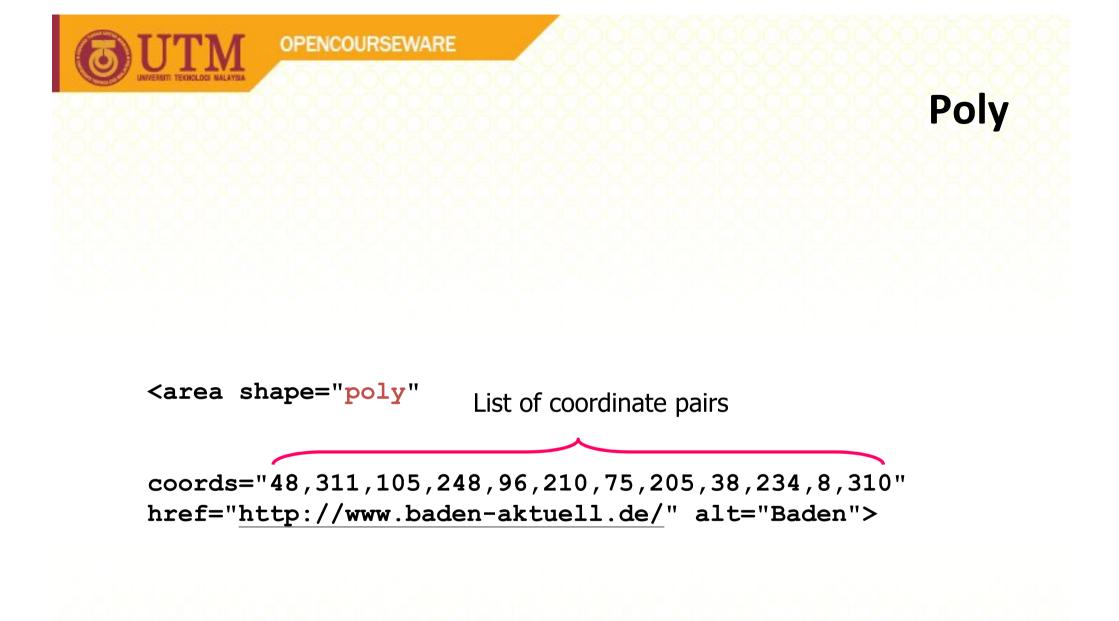


<area shape="circle" coords="140,209,10"
href="<u>http://www.stuttgart.de/</u>" alt="Stuttgart">



**Inspiring Creative and Innovative Minds** 

ocw.utm.my





Inspiring Creative and Innovative Minds



## **Tool support for image maps**

Phase 5, <u>http://www.qhaut.de/</u>

**OPENCOURSEWARE** 



**Inspiring Creative and Innovative Minds** 

ocw.utm.my



### **Color** [HTML 3.2, deprecated in 4.0]

- Colors as attribute values can be named or numbered
- Predefined color names
  - Black White Green Maroon Olive Navy Purple Gray Red Yellow Blue Teal Lime Aqua Fuchsia Silver
  - Supported by Netscape/IE--not always by other browsers
  - Much more color names are available in CSS!





### **Color numbers**

- better supported & more flexible
- Color picker programs helpful here
- # followed by 6 hex digits [RGB] <u>www.lne.com/rgb.html</u>





Inspiring Creative and Innovative Minds



## **Color: Changing the Background Color**

• Add an attribute called bgcolor to the <body> tag:

<body bgcolor="#800000"><body bgcolor="Fuchsia">

• Recommendation: Use CSS!





# **Color: Changing the Text Color**

- Add any of the following attributes to the <body> tag
  - text=... All of the page's text (other than hyperlinks)
  - link=... All of the page's unvisited hyperlinks
  - vlink=... All of the page's visited hyperlinks
  - alink=... "Activated links," i.e., those links that the mouse button is being pressed over (but not released)
- Example (Halloween):

<body bgcolor="#ff9933" text="#000000" link="#800000">





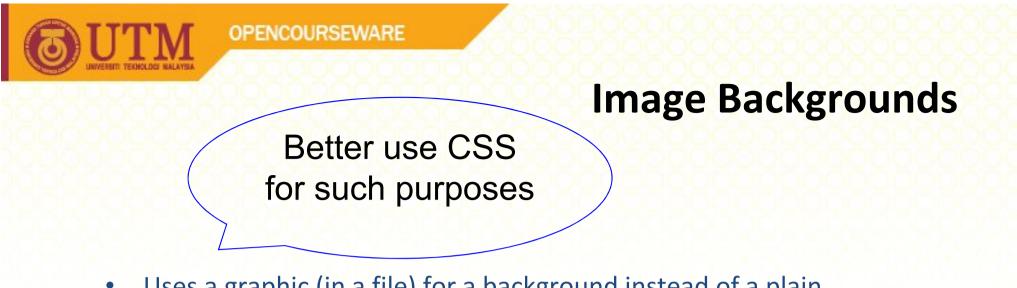


# **Color: Spot Changes to the Text Color**

- You can add a color attribute to a <font> tag
- Example

"You're just<font color="#FFF00"> yellow</font>," he said to McFly.





- Uses a graphic (in a file) for a background instead of a plain color...will be tiled
- Make sure the image flows smoothly when tiled, i.e., avoid "seams"
  - You can get clip art designed for backgrounds
- Simply put a filename in the background attribute of the <body> tag

<body background="bglines.gif">



ocw.utm.mv



# **Responsible Use of Color**

- You should always have a color scheme for any page that you design for other humans to view
- Use <u>http://www.ColorSchemer.com/online</u> for a quick, effective color scheme (complementary, monochromatic, split-complementary, or triadic)
- Use no more than 3 main colors (<7 total variants) on your page (+ white/black)





### Wise Image Use: Hints

- Do you really need this image?
  - Want a balance of efficiency and fun!
  - Avoid animated images!
  - Remember handicapped people!
- Keep your images small
  - One way is to reduce the number of colors
  - Try to keep each inline image to <20K</li>
    - 20K file takes 10 seconds to download at 28.8Kbps
- Reuse images as much as possible the browser keeps them in the cache!
- Provide alternatives to images (... alt="MyPhoto"...)
  - Alternative: Create alternate text-only pages

