

91.113 Exploring the Internet, Fall 2011

Lecture 15. A Very Brief Introduction to HTML and XHTML, part IV



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Learning Objectives

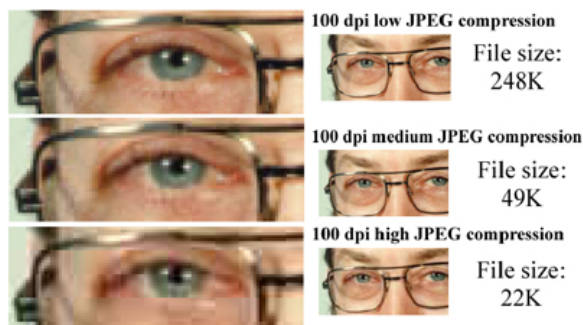
- Learn the different formats of pictures
- Find out how to use tables to format your Web pages.
- How to add special characters to your webpage
- How to embed audio/video files to your page
- Absolute and relative paths of files
- Learn how to publish a Web page.



Image File Formats

- PNG, JPEG, and GIF are the **most** common graphics formats on the Web.
- **JPEG/JPG** is better suited for high-resolution photographs and complex graphics.
- **GIF** is better suited for line drawings, cartoons and simple graphics.
- **PNG** was designed to replace the GIF format
 - Better lossless compression, allows variable transparency, image scaling information for different resolutions, and brightness data
 - Not support animations
- Other formats include: BMP, TIFF but not recommended for the web. **Why?**

Lossy Compression

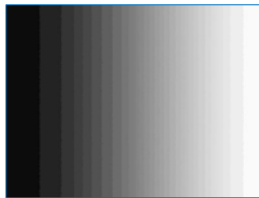


- × The JPG format is good for the Web because JPG images can be compressed using **lossy compression** techniques.
- × Lossy compression techniques reduce the amount of memory required by an image in exchange for some degradation in the image quality.

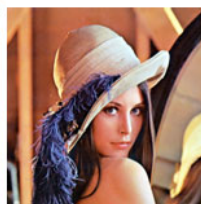
Color Gradient



- ✘ JPG images (top) and GIF images (bottom) handle color gradients differently.



(a)



(b)



(c)



(d)

- A photo originally in a lossless format
- When compressed to JPEG, the photo is 10% of its original file size, with little perceptible difference.
- Simple images compress well in GIF
- JPEG manages to attain a similar file size, but at the cost of some image artifacts.

Using Transparent GIFs

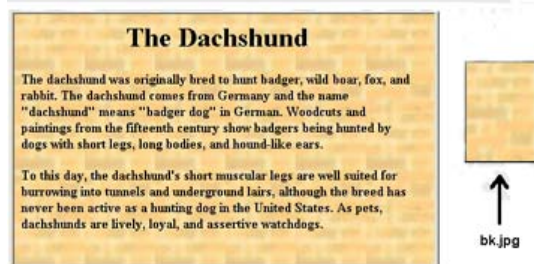
A This image has no transparency - the background is white. As long as the image is on a white background there's no problem - it looks transparent anyway.

A The image is placed on a colored background. The lack of transparency becomes obvious.

A A If the white background is made transparent, the image will blend nicely into (almost) any colored background.

Background Patterns

- You can use any PNG, JPEG or GIF file as a background for a Web page.
- The browser will place the image in the upper-left corner and will tile it left to right.



Graphics for Web Pages

- Acquire your image files in advance.
- Portable Network Graphics (.png) files are recommended for drawn images.
- Joint Photographic Expert Group (.jpg) for photographs.
- GIF (graphics interchange format) works too, supports animation.
- Keep the image size as small as possible - ideally less than 40 KB.

- Put all images files in the same folder as the Web page that displays them *before* placing onto the page.
- Inserted images are **not** actually placed into the Web page file.
- Only the name of the file to be displayed is actually inserted.
- When publishing your Web page, you must also “publish” all the image files too.

Page Layouts Using Tables

- Tables can be used to control the position of Web page elements relative to each other.
- Tables are also used to show tabular information!

- You can put anything inside a table data element (a cell), even another table.
- You can create borders on your Web page.
- Tables can be used to give Web pages a margin.
- Each cell, row, or column can have its own background color or pattern.
- You can extend a cell across multiple columns.
- You can extend a cell across multiple rows.

Creating a Navigation Bar

- A table can be used to create a graphical navigation bar.
- Use a general-purpose image-splitting utility (like Splitz) to split an image into rectangular sections.
- Insert each section into a single row table with zero border, spacing, and padding.
- Convert each image section into a link.

Special characters

- XHTML provides special characters or entity references (in the form `&code;`) for representing characters that cannot be rendered otherwise
- The code can be:
 - Word abbreviations
 - Numbers
 - Decimal
 - Hexadecimal
- Example: & character represented by:
 - `&`
 - `&` (decimal)
 - `&` (hexadecimal)

- Some special HTML character codes:

Character	HTML Decimal Code	HTML Character Code
Quotes "	"	"
Ampersand &	&	&
Less than <	<	<
Greater than >	>	>
Nonbreaking space character	 	
Inverted exclamation point ¡	¡	¡
Cent sign ¢	¢	¢
Pound sign (currency) £	£	£
Yen sign ¥	¥	¥
Plus/minus ±	±	±
Micro sign—(Greek) μ	µ	µ
One-fourth 1/4	¼	¼
One-half 1/2	½	½
Three quarters 3/4	¾	¾
Inverted question mark ¿	¿	¿
Euro sign €	€	€

Frequently used

HTML character codes are preferred because they are easier to remember than the decimal codes

- For more exotic characters, check out
- <http://www.tntluoma.com/sidebars/codes/>

```

1 <?xml version = "1.0" encoding = "utf-8"?>
2 <!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Strict//EN"
3   "http://www.w3.org/TR/xhtml1/DTD/xhtml1-strict.dtd">
4
5 <!-- Fig. 4.7: contact2.html -->
6 <!-- Inserting special characters. -->
7 <html xml ns = "http://www.w3.org/1999/xhtml">
8   <head>
9     <title>Contact Page</title>
10  </head>
11
12  <body>
13    <p>
14      Click
15      <a href = "mailto:del tel@del tel . com">here</a>
16      to open an email message addressed to
17      del tel@del tel . com.
18    </p>
19
20    <hr /> <!-- Inserts a horizontal rule -->
21
22    <!-- special characters are entered -->
23    <!-- using the form &code; -->
24    <p>all information on this site is <strong>©copy;
25      Deitel &amp; Associates, Inc. 2007.</strong></p>
26

```

Inserts a horizontal rule, with a line break before and after

Inserts the special characters © and &

Fig. 4.7 | Inserting special characters (Part 1 of 2).

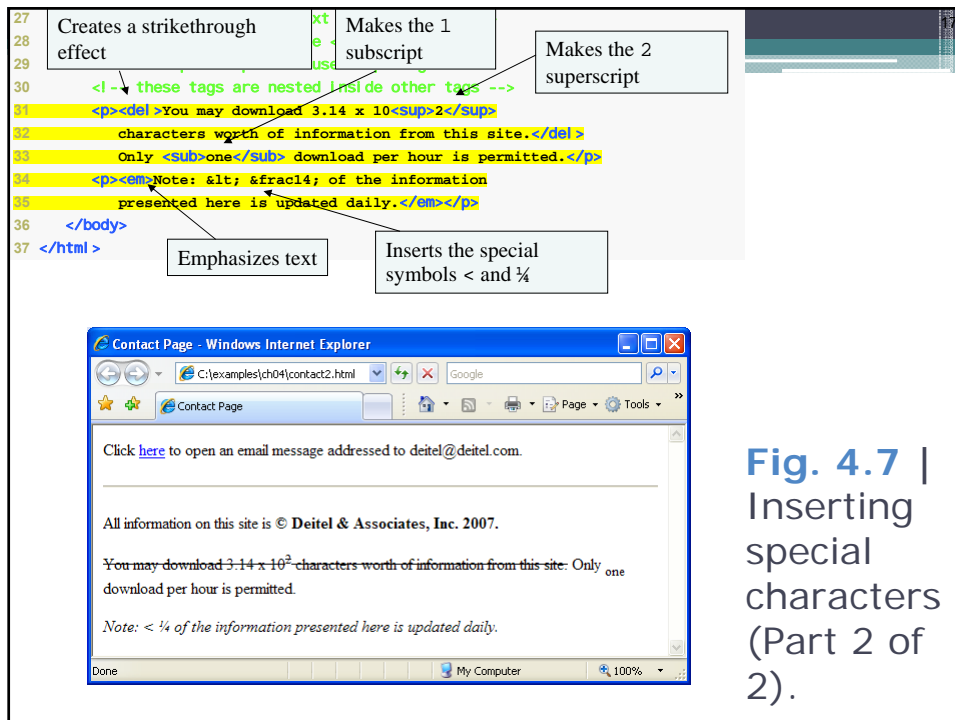


Fig. 4.7 | Inserting special characters (Part 2 of 2).

Add audio/video files

- Provide a link to the file
 - Have to store the file on the server too
- Embed a video into the webpage
 - Embed your own video file
 - Embed an absolute file on the Internet with more attributes
 - Embed a youtube file

How to specify Relative pathnames

The current HTML document is my.html and the current directory is lam

C:\-  lam -my.html
-your.html

Type this ; Your link

C:\-  lam -my.html
 Child -your.html

Type this ; Your link

C:\-  lam -my.html
 Sister -your.html


Type this ; Your link

C:\-  Mother -your.html
 lam -my.html



Type this ; Your link

How to specify Relative pathnames



The HTML document is my.html and the image file is dragonfly.gif

C:\-  lam -my.html
-dragonfly.gif



Type this ;

C:\-  lam -my.html
 Image
-dragonfly.gif

Type this ;

C:\-  lam -my.html
 Image
-dragonfly.gif

Type this ;

C:\-  Image -dragonfly.gif
 lam
-my.html

Type this ;

Publishing Your Web Page

- In order to make your Web page visible to the world, it must be uploaded to a Web server - this is *publishing*.
- You must also upload any files (images, sounds, videos) that you use on your page.
- The particular method used depends on your Internet Service Provider (ISP) or your Web page host service provider.

- To publish your page you must
 - Acquire access to a Web server.
 - Determine the DNS address of your Web server.
 - Determine the pathname needed when you upload files to the server.
 - Upload your Web files to the Web server.

- Determine the URL to use to view your home page.
- Fix any file protection codes that need fixing - contact your ISP for help if access to your Web page is forbidden!
- You can upload files with an FTP client or an HTML construction kit that has an upload function.

Further Reading

- Wikipedia's explanation of HTML:
 - <http://en.wikipedia.org/wiki/HTML>
- W3schools.com XHTML Tutorial
 - <http://www.w3schools.com/xhtml/>
- W3schools.com CSS Tutorial
 - <http://www.w3schools.com/css/default.asp>
- W3schools.com JavaScript Tutorial
 - <http://www.w3schools.com/js/default.asp>
- HTML Color Codes:
 - <http://www.computerhope.com/htmlcolor.htm>
 - <http://html-color-codes.info/>
- HTML Tag Quick Reference Guide
 - <http://www.devx.com/projectcool/Article/19816>