91.113 Exploring the Internet, Fall 2011

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

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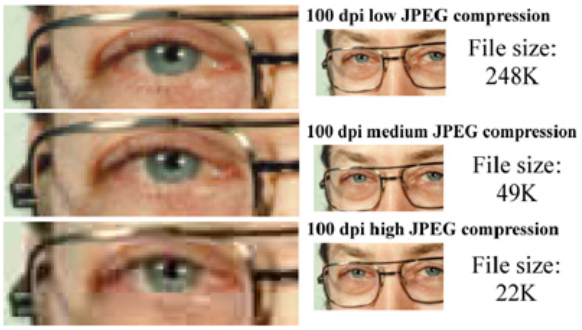
Learning Objectives

- 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

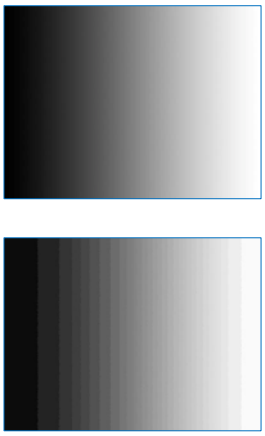
- PNG, JPEG, and GIF are the **most** common graphics formats on the Web.
- **JPEG/JPG** is better suited for high-resolution photographs and complex graphics.
- **GIF** is better suited for line drawings, cartoons and simple graphics.
- **PNG** was designed to replace the GIF format
  - Better lossless 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. A photo originally in a lossless format
b. When compressed to JPEG, the photo is 10% of its original file size, with little perceptible difference.
c. Simple images compress well in GIF
d. JPEG manages to attain a similar file size, but at the cost of some image artifacts.

Using Transparent GIFs

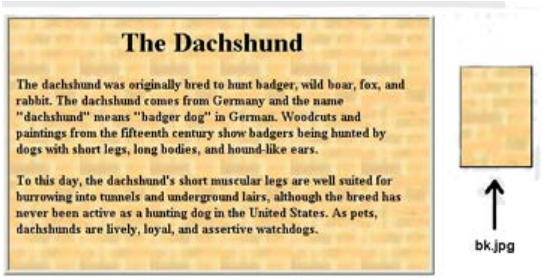
This image has no transparency - the background is white. As long as the image is on a white background there's no problem - it looks transparent anyway.

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

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 it’s 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:
  - `&`
  - `&#38;` (decimal)
  - `&#x26;` (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 xmlns = "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:deitel@deitel.com">here</a>
16          to open an email message addressed to
17          deitel@deitel.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).

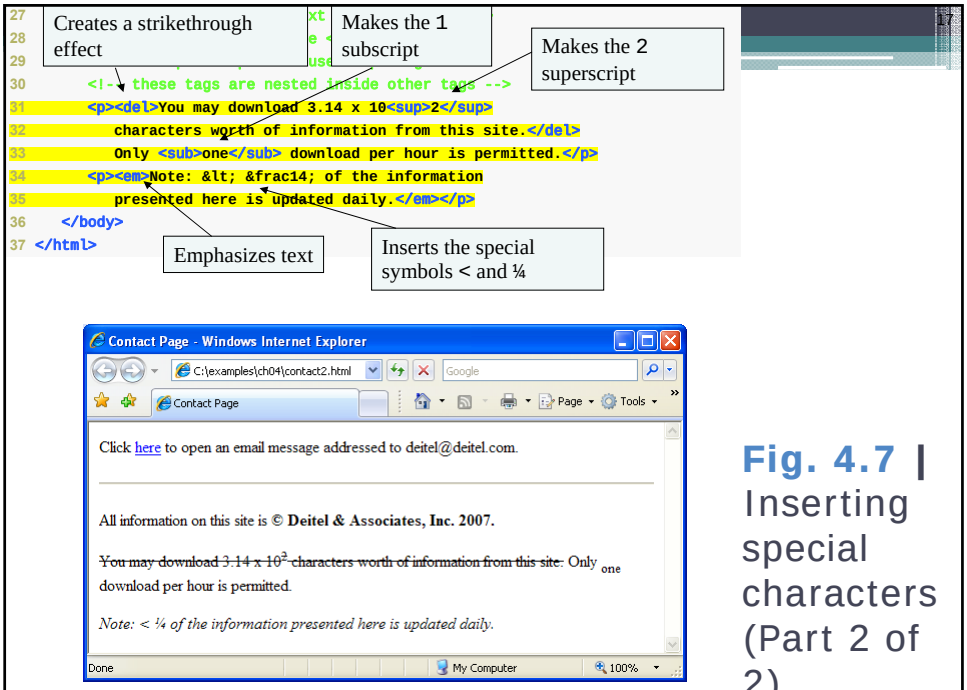


Fig. 4.7 | Inserting special characters (Part 2 of 2).

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 Iam

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

˜ Type this ; <A href=your.html>Your link </A>

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

˜ Type this ; <A href=Child/your.html>Your link </A>

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

˜ Type this ; <A href=../Sister/your.html>Your link </A>

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

˜ Type this ; <A href=../your.html>Your link </A>

How to specify Relative pathnames

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

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

☞ Type this ; <IMG SRC=dragonfly.gif>

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

☞ Type this ; <IMG SRC=Image/dragonfly.gif>

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

☞ Type this ; <IMG SRC=../Image/dragonfly.gif>

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

☞ Type this ; <IMG SRC=../dragonfly.gif>

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/htmcolor.htm
  - http://html-color-codes.info/
- HTML Tag Quick Reference Guide
  - http://www.devx.com/projectcool/Article/19816