

IIST 361 - Web Development

Class 1 - Lecture notes

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Introduction to Web Design

Planning

- What is the purpose of the site?
- Develop a site outline
 - file structure for web site/navigation
- Know your audience
- What information are you trying to present?
 - Text – static, dynamic
 - Graphics – images, animation
- Content Development
 - Organizing Information
 - Gathering Information

Site Structures

Basic Information Structures

Three essential structures can be used to build a Web site:

- Sequences
- Hierarchies
- Webs
- For more information visit
- <http://www.webstyleguide.com/wsg3/3-information-architecture/3-site-structure.html>

A Simple File and Directory Structure

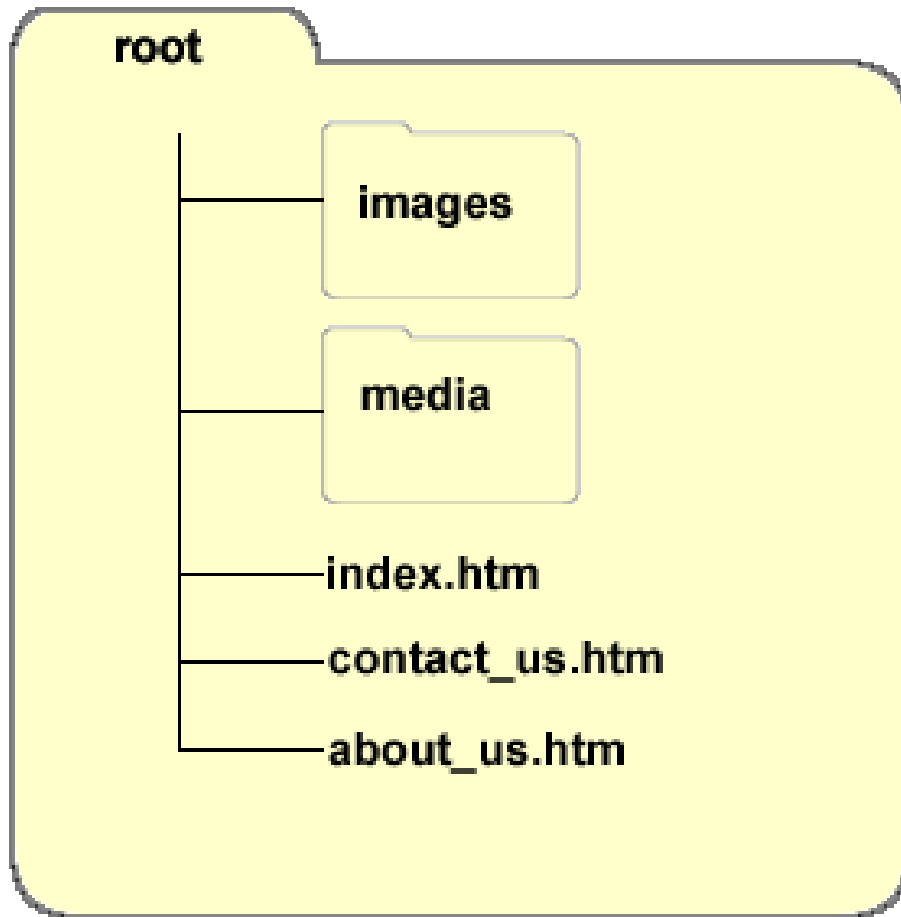


Image source: http://library.albany.edu/imc/html_tut/page2.html#getstart

Content Development

The most important step in planning your site is to **organize your information:**

- create outlines
- “**chunk**” your information into sections and subsections
 - Chunks of information are better suited to the computer screen, which provides a limited view of long documents. Long Web pages tend to disorient readers; they require users to scroll long distances and to remember what is off-screen (source: www.webstyleguide.com).
- think about how the sections **relate** to one another
- create a table of contents
 - a well-organized table of contents can be a major **navigation tool** in your Web site

Site Design

Major themes for information delivery:

- Training
- Teaching/Education
- Reference
- Entertainment and magazine sites
- News sites
- E-commerce (e.g. Amazon, eBay, Yahoo!)

Site Design Elements

Web sites vary enormously in their style, content, organization, and purpose, but all Web sites that are designed primarily to act as information resources share certain characteristics.

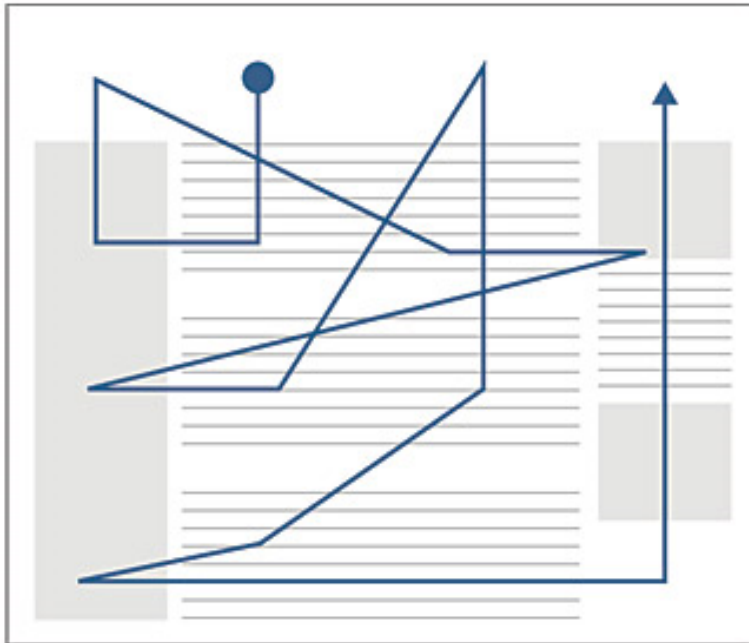
- Home pages
- Menus and sub sites
- Resource lists, related links pages
- Site guides, site indexes, site maps
- "What's new?" features
- Search features
- Browse features
- Contact information and user feedback
- FAQ pages

e.g. IKEA <http://www.ikea.com/us/en/>
www.geodata.gov

Where to put things, and why

Eye-tracking studies show that our page scanning patterns are dominated by top-left scanning for the most important words and links on a page (source: <http://www.webstyleguide.com/wsg3/3-information-architecture/4-presenting-information.html>).

a. Poynter eye-tracking study



b. "F" pattern and the "golden triangle"



Designing for a Variety of Displays

- Graphic Safe Area
 - the minimum screen size in common use and the width of paper used to print Web pages
 - most display screens used in academia and business are seventeen to nineteen inches in size, and most are set to display an 800 x 600-pixel screen (Source: <http://www.webstyleguide.com/page/dimensions.html>)
 - a common mistake in Web design is spreading the width of page graphics beyond the area most viewers can see on their seventeen- or nineteen-inch display screens.

Designing for a Variety of Displays

Graphic "safe area" dimensions for layouts designed for 800 x 600 screens:

Maximum width = 760 pixels

Maximum height = 410 pixels (visible without scrolling)

Image source <http://www.webstyleguide.com/index.html>



Designing for a Variety of Displays

HTML was originally designed to provide a way to describe structural information about a document, not a tool to determine a document's appearance.

Once the real world started to work on the Web, graphic designers began adapting the primitive tools of HTML to produce documents that looked more like their print counterparts (source: <http://www.webstyleguide.com/wsg3/index.html>).

- Tables and frames
- **Fixed vs. Flexible web page design**
 - Web pages are ***flexible*** by default. The text and elements in HTML file flow into the browser window filling all available space, regardless of the monitor size.
 - Logical sections, relative measurements (%)
 - Page layout has ***fixed*** width that will stay the same regardless of the monitor size or how the window is resized.
 - Structural table with absolute measurements (pixels)
- e.g. Dreamweaver (elastic, fixed, liquid)

Designing Accessible Pages

- One of the defining principles of the Web is that it should provide all people, regardless of physical or technological readiness, with access to information.
- Web Accessibility Initiative (WAI) of the World Wide Web Consortium (**W3C**) <http://www.w3.org/WAI/>
- It is the responsibility of Web designers to understand and support the needs of disabled users.

- **What is Web Accessibility?**

The underlying principle of Web accessibility guidelines is simple: if you provide information in any medium besides plain text, you should always provide an alternate, or *fallback*, version.

- e.g. "alternate" text descriptions for images ("ALT" attributes in HTML)
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Color on the Web

- Web-safe palette – 216 colors, RGB (Red, Green, Blue)
 - Firefox, Netscape, Internet Explorer, and Mosaic each use a palette consisting of the same 256 colors. However, 40 of those colors are slightly different on PCs and Macintosh computers. The 216 colors are those that are the same on both PCs and Macintosh.
- Browser Safe Color Chart by Interactive Media Center
 - <http://library.albany.edu/imc/webcolors.htm>
- Online utilities allow you to chose color combinations from the Web Palette and see a sample page with chosen colors
 - www.bagism.com/colormaker

Typography on the Web

Good typography depends on the visual contrast between one font and another and between text blocks, headlines, and the surrounding white space. Nothing attracts the eye and brain of the reader like strong contrast and distinctive patterns.

- Legibility
 - Alignment – margins, justified text, centered text etc.
 - Line length - the lines of text on most Web pages are far too long for easy reading compared to magazines & books
 - White space – indenting paragraphs
 - Typefaces (font-family), and type size
 - Emphasis – bold, italic, underlined, colored etc.
 - Caution - boldface fonts quickly become monotonous, because if everything is bold then nothing stands out “boldly.”
- Background Colors and Legibility

Graphics on the Web

- Graphic file formats – **GIF & JPEG**, most browsers support both
 - Advantages of GIF files
 - GIF is the most widely supported graphics format on the Web
 - GIFs of diagrammatic images look better than JPEGs
 - GIF supports transparency and interlacing
 - Advantages of JPEG images
 - Huge compression ratios mean faster download speeds
 - produces excellent results for most photographs and complex images
 - JPEG supports full-color (24-bit, "true color") images
- Screen Resolution & Image Resolution
 - refers to the number of pixels a screen can display within a given area
 - is usually expressed in pixels per linear inch of screen
 - most displays have resolution that vary from 72 to 96 pixels per inch (ppi)
 - images for Web pages are limited by the resolution of the computer screen
 - network bandwidth
- Designing for a Variety of Browsers – <http://browsershots.org/>

Multimedia on the Web

A very powerful aspect of computing technology is the ability to combine text, graphics, sounds, and moving images in meaningful ways.

- Audio
- Slide shows
 - synchronized audio with still images are great for training web pages
- Video, the most challenging multimedia content to deliver via the web
 - File compression and storage issues
 - Network bandwidth issues
- Animation
 - Most Web animation requires special plug-ins for viewing. The exception is the animated GIF format, which is by far the most prevalent animation format on the Web, followed closely by Flash format.

Do's and Don'ts

- Do be consistent with look and feel in your site
- Do use subtle colors
- Do provide alternate text (using the 'alt' attribute of the image tag) for all your major images
- Do have several people review your site before you show client/go production
- Do check to ensure all links are valid
- Do reduce number of clicks to get to information that is needed
- Don't have excessively lengthy pages
- Don't use background music on your pages
- Don't use busy backgrounds on your pages
- Don't use too many colors in your web site
- Don't have dead-end pages

Assignment 1 – evaluating web sites

Due next class.

See course homepage for more details.