

CS 312

Internet Concepts

Developing Web Content: Website Design

Dr. Michele Weigle

Department of Computer Science

Old Dominion University

mweigle@cs.odu.edu

<http://www.cs.odu.edu/~mweigle/CS312-F09/>

1

Website Design

◆ What separates good websites from bad ones?

◆ Appeal to target audience

» examples: www.nasa.gov, www.bls.gov

❖ NASA vs. Bureau of Labor Statistics

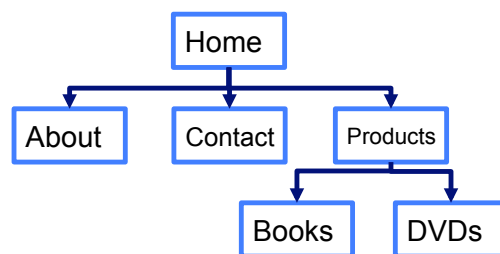
Outline

- ◆ Web Site Organization
- ◆ Web Site Navigation – Best Practices
- ◆ Design Principles
- ◆ Web Page Design – Best Practices
- ◆ Page Layout Design Techniques
- ◆ Text Design – Best Practices
- ◆ Graphic Design – Best Practices

3

Website Organization

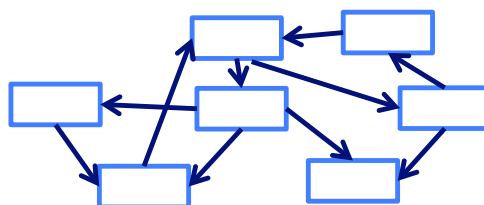
- ◆ Hierarchical



- ◆ Linear



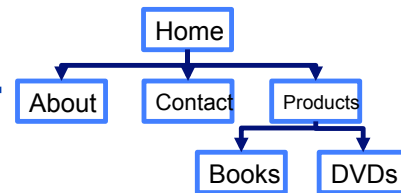
- ◆ Random



4

Website Organization

Hierarchical



- ◆ Clearly defined home page
- ◆ Links to major site sections
- ◆ Break down site into small, easily managed topics (chunking)
 - » Humans can store only 5-9 chunks of information at a time in short-term memory
 - » Try not to place more than 9 major navigation links on a page
 - ❖ or group links into no more than 9 sections
- ◆ Avoid too deep
 - » three click rule – visitor should be able to get from any page on your site to any other page on your site with a max of three links
- ◆ Main section content pages should have same look and feel

<http://memory.loc.gov/ammem/gmdhtml/gmdhome.html>

5

Website Organization

Linear



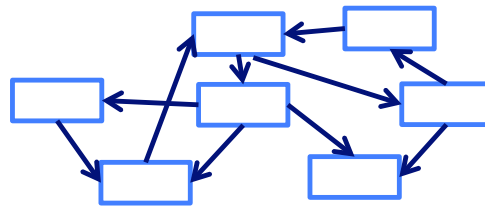
- ◆ Pages are viewed sequentially (one after another)
 - » often have 'next' and 'previous' buttons
- ◆ Often used for tutorial webpages

<http://www.w3schools.com/html/>

6

Website Organization

Random



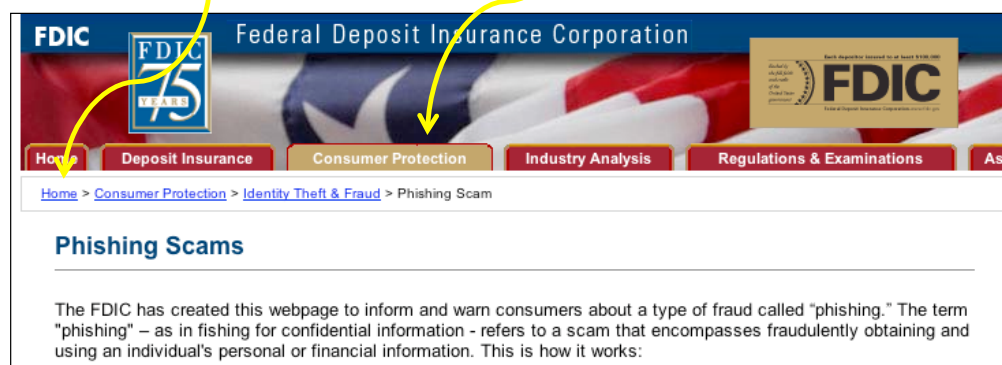
- ◆ Offers no clear path through the pages
- ◆ Usually found on sites that try to be different
- ◆ Not used for commercial websites
 - » why not??

7

Website Navigation

Best Practices

- ◆ Ease of Navigation
 - » clearly labeled navigation links
 - » breadcrumb trails
- ◆ Navigation Bars
 - » make it clear where user is and where they can go next



<http://www.genome.gov/>

<http://www.loc.gov/wiseguide/jun09/index-flash.html>

<http://www.grants.gov/index.jsp>

8

Website Navigation

Best Practices

- ◆ Short Pages
 - » less than three or more screen lengths
 - » break long pages into multiple short pages
- ◆ Table of Contents
 - » http://www.grants.gov/help/general_faqs.jsp
- ◆ Site Map and Site Search
 - » site map – allows user to scan the options available over the entire website
 - » <http://www.grants.gov/sitemap/sitemap.jsp>

9

Design Principles

- ◆ Repetition
 - » repeat visual elements throughout design
 - » ties the work together
- ◆ Contrast
 - » add visual excitement and draw attention
 - » good contrast between background color and text
- ◆ Proximity
 - » group related items physically close together
 - » unrelated items should have space between them
- ◆ Alignment
 - » align elements to create visual unity

<http://www.hfcfinancecorp.com/>

10

Web Page Design

Best Practices

◆ Load Time

- » want pages to load as quickly as possible
- » good practice to limit total file size of web page and all associated images to under 60 KB
 - ❖ how long would it take a browser to download this?

◆ Perceived Load Time

- » amount of time user is aware of waiting while loading the page
- » break large page into smaller pages
- » divide large images into smaller component images
 - ❖ each will display as it is loaded

11

Web Page Design

Best Practices

◆ Above the Fold

- » place important information near the top of the page
- » common screen resolution is 800x600, so amount of screen above the fold is about 410 pixels
 - ❖ accounting for web browser menus and controls

◆ Web Page "Real Estate"

- » location of banners, headings, and navigation is important
- » eyes are most often drawn to the upper-left of the page, then go left to right
- » most valuable web real estate is upper-left corner and top center

12

Web Page Design

Best Practices

◆ Horizontal Scrolling

- » avoid it!
- » for 800x600 resolution, amount of viewable screen is about 760 pixels

◆ Adequate White Space

- » blank space in areas around blocks of text increases readability

◆ Target Audience

- » use of color <http://www.usmint.gov/kids/>
- » reading level <http://cnccz.com/>
- » animation <http://www.drs.wa.gov/>
 - ❖ don't use an animated GIF just because you have one!

<http://vischeck.com/vischeck/vischeckURL.php> - check for color blindness

13

Web Page Design

Best Practices

◆ Browser-Friendly

- » design for browser most likely to be used by your target audience
 - ❖ <http://www.thecounter.com/stats>
- » test pages in various browsers
 - ❖ <http://browsershots.org/>

◆ Common Screen Resolutions

- » 1024x768
- » 1280x1024
- » 800x600

14

Web Page Design

Components

- ◆ Page layout design
- ◆ Text design
- ◆ Graphic design

15

Page Layout Design Techniques

- ◆ Ice Design
 - » solid or fixed design
 - » page hugs the left margin
 - » fixed-width block-level element used to format the page
 - » right-hand side of page will often contain lots of empty space

<http://www.students.gov>

<http://www.cabelas.com>

16

Page Layout Design Techniques

◆ Jello Design

- » content is centered
- » may be of fixed width or 80% of page
- » typically more pleasing than Ice at higher resolutions
- » even margins on both sides

<http://www.energy.gov/>

<http://www.officedepot.com/>

<http://www.pbs.org/>

17

Page Layout Design Techniques

◆ Liquid Design

- » fluid web page
- » content takes up 100% of window regardless of screen resolution
- » no blank margin on either side
- » often designed using CSS instead of tables

<http://www.illinois.gov/tech/>

<http://www.amazon.com/>

<http://moodle.org>

18

Page Layout Design Techniques

Differences

- ◆ Ice and Jello give the designer more control over layout than Liquid
 - » but result in large empty areas when viewed at higher resolutions
- ◆ Liquid uses entire window no matter the resolution
 - » important to test site with various resolutions

<http://www.nps.gov/> - Ice

<http://www.census.gov/> - Liquid

19

Text Design

Best Practices

- ◆ Long blocks of text and long paragraphs are hard to read
- ◆ Use short sentences and bulleted lists
- ◆ Use common fonts (Arial, Verdana, Times New Roman)
 - » if visitor doesn't have an unusual font, a default will be displayed
- ◆ Sans serif fonts are easier to read on screen than serif fonts
- ◆ Be careful with font sizes
 - » 12 point font is "medium" and 1 em

20

Text Design

Best Practices


- ◆ Use appropriate color combinations
 - » contrast and look good together
 - » <http://www.colorcombos.com/>
 - » <http://www.colorschemer.com/online.html>
- ◆ Be aware of line length and alignment
 - » use white space and multiple columns
- ◆ **Bold** or *emphasize* important text
- ◆ Hyperlink phrases or words, not entire sentences
- ◆ Avoid the use of "click here"
- ◆ Check spelling and grammar


21

Graphic Design

Best Practices

- ◆ Choose colors on the web color palette
 - » 216 colors available
 - » http://www.w3schools.com/Html/html_colors.asp
- ◆ Use antialiased text in images
 - » smoothes jagged edges
- ◆ Use only necessary images
 - » faster load times
- ◆ Keep images as small as possible
 - » faster load times

 Alias

 Anti-aliased

22

Graphic Design

Best Practices for Accessibility

- ◆ Some users access webpages through screen readers
 - » can't handle images
- ◆ Make sure site is usable even if images are not displayed
- ◆ Use alternate text for images
- ◆ Consider a text-only version of the page
 - » means double maintenance
- ◆ Limit the use of animation
- ◆ Provide a method to skip repetitive navigation links
<http://www.ahrq.gov/>

23

Copyright and Fair Use

- ◆ We cannot arbitrarily copy others' text and images
- ◆ Copyright and fair use overview
 - » http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/
- ◆ Website permissions
 - » http://fairuse.stanford.edu/Copyright_and_Fair_Use_Overview/chapter6
 - ❖ Ways to stay out of trouble
 - ❖ Transferring information to and from a website
 - ❖ Connecting to other websites

24

Summary

- ◆ Web Site Organization
- ◆ Web Site Navigation – Best Practices
- ◆ Design Principles
- ◆ Web Page Design – Best Practices
- ◆ Page Layout Design Techniques
- ◆ Text Design – Best Practices
- ◆ Graphic Design – Best Practices