

Fundamentals of Web Design

Purpose of Web Design

- Inform/Educate
- Persuade

Influences on Web Design

- Technology Used by Both Target Audience and Designer
- Nature of the Content
- Economy (Budget, Time, and Scale of the Project)
- Amount and Type of Visuals Included
- Meeting Usability Objectives

The Making of a Good Design

Content is important, but content alone will not make your site work.

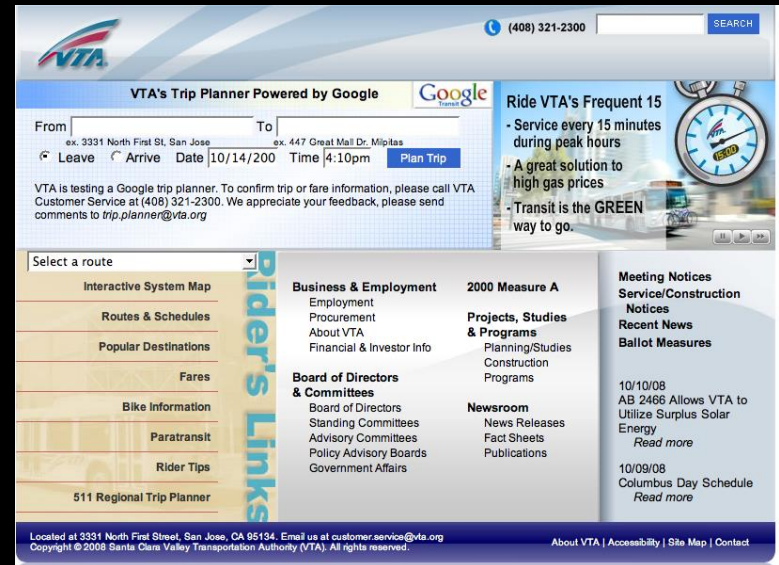
The screenshot displays the Stanford.com website with a focus on football. At the top, there is a banner for "DIG for the Cure" supporting breast cancer awareness, featuring a woman in a red shirt and a pink ribbon. Below the banner is a navigation bar with links for SPORTS, INSIDE ATHLETICS, FAN ZONE, WELCOME RECRUITS, MULTIMEDIA, GIVING TO ATHLETICS, TICKETS, CUSTOMER CARE, and HOME. The main content area is divided into several sections: "TOP STORIES" with a large photo of a football game and the headline "Stanford Heads to the Rose Bowl For Pac-10 Showdown Against UCLA"; "SPECIAL PROMOTIONS & EVENTS" for "STANFORD SOCCER INDIVIDUAL GAME TICKETS"; "HEADLINES" with a list of recent sports news items; and "OFFICIAL STORE" featuring a red Stanford t-shirt for \$12.00. The bottom of the page includes a "CARDINAL RED SPORTS" banner, a "CALENDAR OF EVENTS" table, and a "STANFORD RESULTS" section. The table shows a game on Tuesday, Oct 14: Field Hockey vs. Davidson / Stanford, Calif. at 3:00 PM PT, with a "Gametracker" link. To the right of the table is a "Gillette Fusion RAZOR" advertisement. The right sidebar contains various advertisements including "at&t", "StubHub!", "MUSCLE MILK Student-Athlete of the Week" featuring Mari Chun, "BIG GAME", "See Your Name in Lights!" at Mission Peak, "Ford", "AM860 KTRB", and "Inside Stanford Sports" with Jim Harbaugh.

The Making of a Good Design

Content is important, but content alone will not make your site work.

Good Design is:

- Understandable
- Interesting
- Easy to use
- Uniform in look and feel
- Done from a visitor's point of view:
WYSIWYW (What You See Is What You WANT)



Good Design Maxims

“Rules” are only guidelines -- no single model fits every situation, and there is no such thing as the “right” way to create a web site.

Remember WYSIWYW

- Web users want control over the online material -- they want to seamlessly obtain the information they need.
- Don’t force visitors down a specific path -- give them control.

Typical Website Evolution

Generation 1 -- replaces paper information

Generation 2 -- has flashy elements

Generation 3 -- is bleeding edge, causing content to suffer

Generation 4 -- content and technology are integrated

Ideally, try to skip the problems of Generations 1-3 by planning your web site carefully.

General Methods for Design

- “Ad-hoc” Process (“seat of the pants”)
 - Hastily put together
 - Created on the fly
 - “We need a web site TODAY”



- A methodical, well-thought process includes:
 - Planning
 - Quality-assurance testing



Pitfalls of Ad-hoc Process

- Many “under construction” banners
- Old content
- Dated design and techniques
- Errors (broken links, broken scripts)
- Convoluted logic results in a confusing site
- “Spaghetti code” in the CSS that only the original designer understands
- Difficult to update and maintain

Benefits of Ad-hoc Process

Sometimes “quick and dirty” is not only good enough, it’s the best way.

It’s useable for:

- Sites that will have a short lifespan
- Very small web sites
- Sites designed for a very specific purpose (a single survey, a single class, a specific event, etc.)

Why take the time to design and test before launching?

Although it takes a lot more time up front, a well-thought-out web site:

- Has fewer problems
- Is more effective
- Is more understandable
- Is easier to navigate

and may end up taking less time overall to create and maintain.

Pre-design Work

- Consider your organization's mission
- Define the target audience
- Set goals for the web site
 - Immediate
 - Long-term
- Gather content
 - Organize and establish hierarchy of content
 - “Chunk” content into logical information units

More Pre-design Work

- Create an outline or plan for content
- Create your web site on paper first
 - Use a flowchart to depict how visitors will go from one page to another
- Think about the actual HTML, PDF, graphic, sound, and other files you will need in the site
 - Where will they be placed?
 - How will visitors access them?
- Organize the files logically, so that the development team can understand the hierarchy of the web pages.

Influences of Technology on Design

- Browsers

Internet Explorer is the dominant browser

<http://www.w3schools.com/browsers/browsers_stats.asp>

<<http://www.e-janco.com/browser.htm>>

- Operating systems

Windows XP is the most popular operating system

- Connection speeds

75% access the Internet using broadband (DSL/T1/T3)

25% access it using narrowband (modem)

<<http://www.websiteoptimization.com/bw/0609/>>

- User screen sizes

80% of users are using a display with 1024x768 pixels or more and a color depth of at least 65000 colors

<http://www.w3schools.com/browsers/browsers_stats.asp>

Influences of Content on Design

- The content drives how the web site looks
 - Sites designed for students look different than sites designed for staff, which look different from sites designed for potential faculty
 - Sites designed for current employees look different than sites designed for potential clients
 - Sites designed to get people to purchase items look different than sites designed to provide information
- Use quality content from subject matter experts
- Have site reviewed PERIODICALLY by key members (CEOs, Department Heads, Supervisors, etc.) of the group the site supports
- Have non-affiliated people review content for clarity
- Have others proofread for grammar

Fresh eyes often see things you miss!

Economic Considerations

Budget concerns

- Staff time for creation
- Staff time for maintenance
- In-house vs. outsourcing

Usability

- Browsers don't use web sites -- people do. Don't design a site for a particular browser -- design a site for the user.
- There are no generic people. Try to envision a real person accessing your site.
 - Most users absorb data visually.
 - Most users will not expend effort to remember things about how your site works.

Visual items

- Compare:

Arbor Business Company, INC.

President: John Smith

VP Marketing: Susan Jones

Alice Johnson, Manager

Tim Moore, Manager

VP Sales: Rachel Parker

Michael Gross, Manager

Kim Dole, Manager

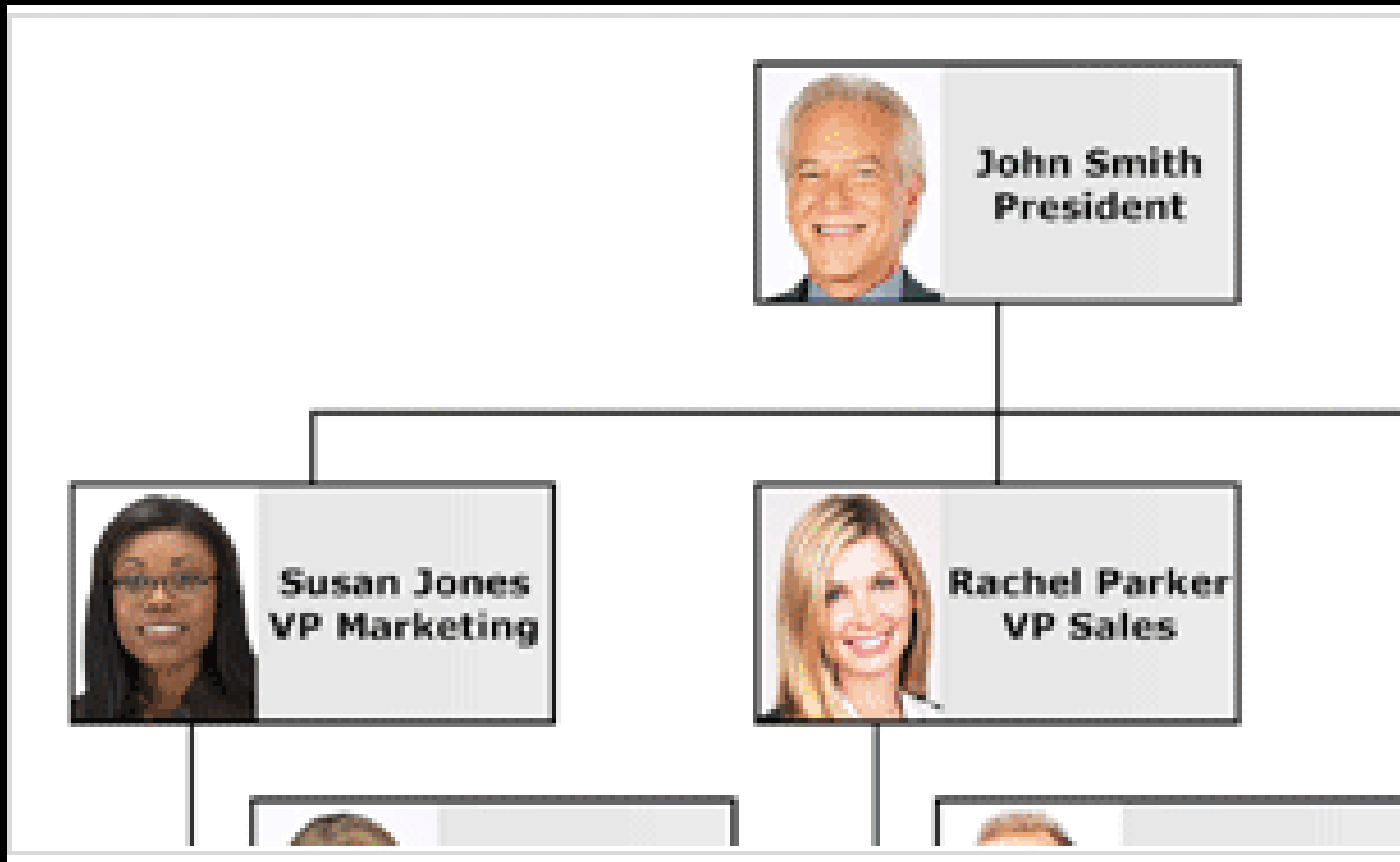
VP Production: Tom Allen

Kathy Roberts, Manager

Betsey Foster, Manager

Visual items

- Compare:



Usability -- Making It Easy To Read

- Factors that affect readability
 - Poor eyesight of users
 - Smaller, older computer monitors as displays
 - Poor color perception of users
 - “Cocktail-party” effect -- lots of information on a single web page
- Design fixes:
 - Use high contrast between text and background
 - Use lots of white space
 - Use larger fonts
 - Put key navigation buttons in the upper left
 - Don’t rely on color alone to distinguish between elements on a web page
 - Avoid busy graphics
 - Limit page noise -- ensure page elements don’t compete for a visitor’s attention

Usability -- User's Memory

- Don't force visitors to remember how to navigate/use the site
- Provide redundant, easily recognizable features
- Generally, have visited and unvisited links be different colors to make it easy for users to remember where they've been
- Limit the number of items in a group of choices

Usability -- Response Times

- The amount of time a user will wait is proportional to the payoff. If they know there is something they want to see, they will wait for it.
- Otherwise...
 - 1 second: no major potential for interrupt
 - 10 seconds: users become bored
 - More than 10 seconds: user may leave

Without a progress bar or other browser feedback, users generally will go about other business -- look at sites in other windows, talk on the phone, etc. Designers must provide some sort of indication as to how much longer the download will take, if the wait will be more than 10 seconds.

Using Cutting-Edge Tools

- Poor reasons:
 - To look cool
 - To prove you can
- Good reasons:
 - To look cool!
 - To draw attention
 - To maintain attention
 - To enhance information
 - To inform or educate

Accessibility Issues

- Section 508 of the 1986 Federal Rehabilitation Act requires that entities doing business with the federal government must include solutions for employees with disabilities when awarding contract proposals.
- The 1992 American with Disabilities Act states that firms with 15 or more employees must provide reasonable accommodation for employees with disabilities.

(see next slide for accessibility examples and fixes)

Accessibility in Web Design

- Make the navigation clear and simple
- Use a clean visual layout with ample white space
- Use descriptive link texts (avoid using "click here" without more information)
- Provide text equivalents for non-text elements
- Don't rely solely on color to indicate links
- Don't make the screen flicker
- Use plain, understandable English
- Don't rely completely on high-tech solutions
- Use markup and style sheets -- HTML for structure and CSS for presentation. Don't use visual markup (for example, to make text bold, use *strong* instead of *b*; to italicize, use *em* instead of *i*)
- Don't use header tags for visual formatting
- Add "skip to" links to main navigation and page content
- If PDF files are used, provide alternate formats for the information

Approvals/Proofing (again!)

- Get feedback on the entire web design from:
 - Other web designers (for design)
 - Subject matter experts (for content)
 - All represented parties, including department heads, managers, deans, etc. (for final approval)
 - Non-affiliated people (for clarity)
- Proofread for grammar -- fresh eyes may catch things you miss!
- Validate for accessibility and compliance with W3C guidelines
 - <http://wave.webaim.org/>
 - <http://validator.w3.org/>
 - <http://cynthiasays.com/>

Maintenance/Improvement

- Set a maintenance schedule for the site.
 - Who will do the maintenance?
 - What to do if emergency problems occur?
 - Where will backup copies of the site be located?
- Schedule a quarterly review of the site.
 - Does the content need updating?
 - Is the design still working?
 - Are there newer, cutting-edge tools we should be using?

Resources - Web Sites

- **Web Style Guide**
A thorough and accessible guide to Web design
<http://www.webstyleguide.com/>
- **Jacob Nielsen's Use It**
A web site devoted to accessibility issues
<http://www.useit.com/>
- **Cool HomePages.com**
A listing of the "coolest" home pages
<http://www.coolhomepages.com/>
- **Vincent Flander's Web Pages That Suck**
Learn good design by looking at poorly designed web sites
<http://www.webpagesthatsuck.com/>
- **disABILITY Information and Resources**
A listing of web sites to help make web pages more accessible
<http://www.makoa.org/>
- **Web Site Optimization Analyzer**
Analyze time it takes for web site to load
<http://www.websiteoptimization.com/services/analyze/>
- **Web Browser Statistics**
<http://www.w3schools.com/browsers/browserstats.asp>
- **Lynx Viewer**
Emulations of lynx (text web browser)
<http://www.delorie.com/web/lynxview.html>
http://www.yellowpipe.com/yis/tools/lynx/lynx_viewer.php
- **WebTV Viewer**
An emulation of the WebTV browser
<http://developer.msntv.com/Tools/WebTVVwr.asp>
- **HTML Validator**
Validates HTML code
<http://validator.w3.org/>
- **Bobby Accessibility Validator**
Validates web sites for accessibility issues
<http://bobby.watchfire.com/>
- **August 2005 Connection Speed Statistics:**
<http://www.websiteoptimization.com/bw/0508/>
- **World Wide Web Consortium**
The organization responsible for creating official web standards
<http://www.w3c.org/>
- **W3Schools**
Online web tutorials (also contains web statistics)
<http://www.w3schools.com/>

Resources - Books

- HTML & XHTML: The Complete Reference
Author: Thomas Powell
ISBN: 0-07-222942-X
- Web Design: The Complete Reference
Author: Thomas Powell
ISBN: 0-07-222442-8
- Designing With Web Standards
Author: Jeffrey Zeldman
ISBN: 0-73-571201-8
- HTML for the World Wide Web
Author: Elizabeth Castro
ISBN: 0-32-113007-3
- Integrated Web Design
Author: Molly Holzschlag
ISBN: 0-73-571233-6