Web Site Design: Tips for Success

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Property Line

History

In the early days of Web design, designers were very limited in the visual presentation of Web sites. The average site was text with a gray background, followed by a center picture. As the browsers evolved, they allowed new visual attributes. Designers could change text color and make it blink.

History

Some browsers allowed features that others didn’t, and the code started to splinter to compensate for the competing browsers. One site would have different set of code for each browser. If there wasn’t a natural way to create a look, there were ways to hack things together to get it to work. After hack upon hack upon hack, some sites started to struggle on all the code and new, cleaner ways to design emerged, including the creation of Web standards. While not all browsers are currently standards-complaint, visually striking, clean-coded sites are now possible.

Technology Rundown

The structural languages

- **HTML**: The most basic core language of the Web.
- **XHTML**: An offshoot of HTML (the most common Web language) and XML (a language for transmitting data), XHTML is generally considered the modern foundation language for a Web site while HTML is the original core language.

- *My preference:* **XHTML**: While keeping HTML's basic functionality, XHTML allows for further adaptation and will continue to be refined, while HTML 4 (the current version) is probably its last version.

Technology Rundown

The processing languages

- **ASP**: Active Server Pages is a Microsoft-owner language that, when working with Microsoft's web server, allows dynamic web pages that use enhanced features.
- **PHP**: Hypertext Preprocessor is an HTML-embedded scripting language. It is an open-source language.

- *My preference:* **PHP**: As an open-source language, using PHP requires little as far as licensing goes and has a huge community behind it. It works very well with other open-source products so that the entire technology backbone of a Web site can be essentially license-free. ASP generally requires Microsoft's IIS Web server to operate.

Technology Rundown

The database languages

- **SQL**: Structured Query Language allows communication between a user and a database. It also provides a means of creating databases.
- **MySQL**: An open-source database server language, commonly used with PHP. It is similar in nature to SQL.

- *My preference:* **MySQL**: As an open-source language, MySQL benefits from a SQL base but without licensing payments. Additionally, there is a strong community behind MySQL with great technological cooperation between other opens-source languages.

The Browser Wars

- In the early days of Web development, different companies competed to be the dominant Web browser. If a company was the universal browser for viewing Web sites, it was thought that that company would then have an amazing amount of power through the services bundled with browser. To get dominance, companies gave away the browsers and added features to their specific browse. To active these features, designers and programmers had to include special code on their Web pages.

The Browser Wars

- The browser war left two major browsers and Web designers had to create two sets of Web site code, one set of code for Microsoft's Internet Explorer's use, another set of code for Netscape's Communicator's use. Eventually, Microsoft's browser gained dominance and the language of the Web was standardized (or at least streamlined). Currently, Microsoft's Internet Explorer has the largest market share although there are still alternatives.

The Browser Wars

What does this mean to me?

- Be sure to test your Web site in Internet Explorer 6, the most poplar browser. But, as more security problems are discovered in IE 6 and people continue to switch to new browsers, make sure your site also works in the free alternative browsers such as:
  - Mozilla's Foxfire (http://www.mozilla.org/products/firefox/)
  - Netscape's Communicator (http://channels.netscape.com/ns/browsers/default.jsp)
  - Opera if you have many international customers (http://www.opera.com/)

The Browser Wars

- Additionally, you should be aware that it is becoming more common to view a Web site using a non-traditional device, such as a phone or handheld planner. These devices obviously have much smaller screen space so it may be helpful to be ahead of the curve and at least have a “wireless device” friendly page with your contact information.

Images

The common format for Web images are **JPG** and **GIF.**

- **JPG**
  - Generally used on photos and images that require many different colors and shades
  - Cannot have transparency
- **GIF**
  - Generally used on images with limited colors and distinct lines, such as logos or text
  - Can have transparency and can be animated

- If you require only very limited movement, you consider using an animated gif image. If you require complex animation, consider using Flash.

Flash

- Flash is a commercial product that was initially designed for animation but has evolved into a full-scale website alternative. Generally, the Flash viewer is installed in the Web browser and no action is required by the viewer to see the Flash animation. The use of Flash often increases the production cost of a site.

Flash

The Good:

- Allows for almost complete control of how an entire site, including text, looks
- Integrated animation and visual effects (good “wow” factor)
- It can easily be put onto CD/DVDs for non-Internet distribution

Flash

The Bad:

- It requires a special “plugin” to be viewed (most browsers have the player but…)
- It can be difficult for search engines to catalog
- It requires a specific program to be created or edited

Flash

The Ugly:

- Bandwidth: a website done in Flash can become very bandwidth intensive and slow

Flash Options

If you do choose to use Flash, you can either create the entire site in Flash or just use Flash in small areas of the Web site.

Flash Options

- *Entire Site in Flash*
  - If most of your customers have modern Internet connections and high bandwidth, you can reasonably create your Web site using Flash. This will allow your almost complete control over how it looks in the viewer's browser and allow for interesting transitions between information. A Flash site is generally for corporate introduction (a "brochure" site) and not as a full-scale e-commerce site. A Flash site can also easily be turned into a executable program that can be put on a CD or DVD. Put the CD or DVD into a computer and your site automatically appears in its built-in player.

Flash Options

Flash in Small Areas

- Flash can be used in small areas on a Web site to enhance regular content. The seamless viewer is still required but the Flash area will be ignored or blank if the viewer is not installed. Flash is often used in banner ads that show movement.

- For more information on Flash, take a look at Macromedia.com

Tables vs. Stylesheets

- When presenting data on a Web site, the data is placed in tables.
- **Tables**:
  - Made up of rows and columns, tables hold and identify data.
- Years ago, designers discovered that using these tables like a grid, they could control the layout and design of a site. While the tables were originally intended to do nothing more than display data, they were now an integral part of creating the look of a site. Eventually, the table structures became very complex and the code for a page became bloated and hard to edit.

Tables vs. Stylesheets

- To try to clean up the code and truly separate the style from the content, Cascading Style Sheets were developed.
- **CSS**:
  - Pages that help control the look of a site. The style information can be in the code of the Web page itself or linked from an external file.
- Stylesheets allow for cleaner coding and smaller (thus, faster loading) Web pages. The use of a separate stylesheet often allows changes to happen easily – if you change the background color on a site using the stylesheet, the change would be reflected on every page that uses that stylesheet.

Tables vs. Stylesheets

- Unfortunately, the way that the stylesheet directions were processed varied from Web browser to Web browser. Some did what was directed, some did what they thought you wanted, and some ignored the directions. The result was unreliable: a beautiful site in one browser, a disaster in another browser.
- Some designers advocate a table-based design because it is reliable.
- Some designers advocate stylesheet-based design because it separates style from content and allows easy site-wide changes.
- I advocate a combination of both tables and stylesheets. Use tables for the basic structure and style sheets for the overall look

Usability

More important than just looking good, a Web site has to be usable. It requires:

- Ease of use
- Short learning curve
- Consistent branding

Usability

- A user should almost instinctively know how to use your site. Don’t deviate from the norm unless you have a good reason. Very basic suggestions include grouping navigation together, using text (not images) when possible, and making sure that the tools of the site are in a consistent location.

Usability

- The best way to check for site usability is to test for it. Try your site out on a few of your fellow employees. As them to do a task that a customer would do (“From the homepage, find a replacement toner for a Brand X printer”). See how long it takes them to complete the task and watch the area of the screen they tend to go. Solicit comments and see what can be done to streamline the site. A user should be able to use a site without much thought to navigational scheme or color patterns.

Usability

- It is also important to know that not all your uses will have traditional browsers and some may use screen readers. Screen readers allow visually impaired users to use your site by reading aloud the text. When a screen reader comes to an image, it describes the image using the “alt” tag in the code. Making sure that your images have “alt” tags and a good description of the image will help all users on your site.

Legal Usability

- In 1998, Congress amended the Rehabilitation Act to require Federal agencies to make their electronic and information technology accessible to people with disabilities. (section508.gov)
- This includes companies that sell or work with Federal agencies. If you have any business with a Federal agency, you are required to follow Section 508.

Legal Usability

- You can test your site for Section 508 compliance at:
  - http://www.usablenet.com
  - http://bobby.watchfire.com
- For more information, check out http://www.section508.gov

PDF

- Adobe’s “Portable Document Format” allows for a document to be viewed and printed with all its layout attributes intact and uniform. It is often used for cross-purposed documents (such as product instructions) where the specific document layout is essential. To view a PDF on a Web site, it requires a special PDF viewer (standard in most browsers).

PDF

- Most kinds of documents can be converted into a PDF using free or inexpensive utilities. The PDF is often created through a PostScript process. Rather than print to an actual printer, a PDF distiller is selected from the printer list and the PDF is saved.
- Some utilities include:
  - http://www.adobe.com/products/acrobat/main.html
  - http://www.pdf995.com/
  - http://www.primopdf.com/

PDF

- A great aspect of a PDF is that maintains its design on screen and print. Complex instructions with diagrams can be viewed on screen or printed out. When using a PDF on your Web site, keep in mind that it uses a special viewer that generally opens in the browser. The first time in opens, there is a delay as the reader program is launched.

Measure of Success

- Web servers keep track of access information in logs. Looking at those files can give you a good idea of what kinds of activity your site is getting but it can be hard to make sense of the raw files. Luckily, there are tools that present the information in easy to understand reports. If your site is hosted by a commercial hosting service, you probably won’t be able to access the log files directly, but there is probably a system set up for you to view an analysis of the logs.

Measure of Success

- **Webalizer:** This free tool for the Apache server uses the raw files and puts the information into an easy-to-understand Web-based report.
  - Information broken down by month, day, and hour
  - Visited pages ranked
  - Number of hits
  - Entry and exit pages
  - Visitor browser types

Measure of Success

- Among the most helpful information in the Webalizer report is the referrers and search information. The referral information tells you what outside sites have linked to your site and caused a visit to your site. The value of business-to-business relationships can easily be quantified with the hard numbers presented.

- http://www.mrunix.net/webalizer/

Measure of Success

- **Sawmill** is a similar product for Microsoft severs.
- http://www.sawmill.ne

Design Ideas

Splashpage

- A splashpage is a “cover page” for a Web site. It can follow the design motif but has limited navigation (usually just an “enter” button) and possible a Flash-animated movie. Splashpages should be avoided because they are just a slow-to-download barrier between the viewer and content.

Design Ideas

Navigation

- Navigation appears on every page
- It is clear and easy to find
- If it looks fancy and image-based, make sure that there is additional redundant navigation that is text-based

Design Ideas

Frames

- Frames (popular in the 1990s) allows the browser to be divided so that one division (or frame) controls the content in the other division. Clicking link “A” in one frame brings up content “B” in the other frame. While good in concept (the navigation only has to be downloaded once, as the content frame is the only thing downloaded each time), it is rarely used today and should be avoided. It can be difficult to bookmark or note page location information and search engines don’t always catalog frame-based sites properly.

Search Engines

- Once your site is ready, it is important that it be indexed by search engines so that potential customers can find your site. Popular search engines include:
  - Yahoo
  - MSN Search
  - Ask Jeeves
  - Google

Google

- The most popular search engine is Google.
- How Google works:
  - Googlebot finds sites through linking or submission
  - An indexer sorts every word on every page and stores the results in a database
  - A query processor compares a search query to the index and recommends the pages it considers most relevant

Google

- Google is somewhat secretive about how they rank pages but it is generally done though the text on the page, the links, and the number of outside pages linked to a page. The higher the score on each of these three aspects, the higher on the list your site will appear.
- Unfortunately, it is very difficult to discover the perfect combination that can get you on top and keep you there based on normal search patterns. A competitive market, such as the imaging supplies industry, makes the number-one spot difficult to attain. Even the number 100 spot can be hard to get when there are over two million results (such as with a Google search for “printer toner”).

Google

- The number of external links to your site, the higher your ranking.
- Your ranking on Google can be increased if your page is linked by a page that is already ranked highly. For example, if the top ranked site includes a link to your site, your ranking should go up.
- Be sure that all your pages “backlink” to your home page. That will tell Google that your homepage is the most important page.

Google

- “Make it worth other people’s while to use your content or tools. If your give-away is good enough, other site admins will gladly give you a link back.”
- “It is probably better to get lots of links from sites with [lower page rankings] than to spend any time or money desperately trying to get just the one link from a [highly ranked page].”

  – http://www.iprcom.com/papers/pagerank/

Search Engines

Raising Your Ranking:

- Concise Text
- META Tags
- Links
- Free Registration
- Paid Advertising

Search Engines

Concise Text

- Clearly state what you do and use customer familiar terms

META Tags

- Informational tags about your site
- Not used as much as previously it does not hurt to include them on your homepage

Search Engines

Links

- Internal to create hierarchy
- External to create ranking relationships

Free Registration

- Most search engines provide free registration of your site so you do not have to wait until it is automatically found
- Google: http:// www.google.com/addurl.html
  Yahoo: http://docs.yahoo.com/info/suggest/

Search Engines

Paid Advertising

- Allows your site to quickly appear with the top results for the key words you selected
- Very successful, very competitive
- Ads can be redistributed by Google/Yahoo through a search engine advertising network to non-search but relevant sites

Search Engines

Google AdWords

- Ads appear to the right of search results
- Ads appear on keyword-related sites via the Google Network
- $5 activation fee, then pay per click
- Bid $.01 to $100 per click payment
- The higher the bid, the higher the AdWord listing

Search Engines

Overture (Yahoo)

- Ads appear on top of the search results
- Ads appear on other search sites (MSN)
- $30 initial deposit, $20 minimum monthly spend on pay per click payouts
- Bid based on cost per keyword
- The higher the cost, the more keywords and ranking

Search Engines

Search Engine Optimization (SEO)

- Industry based on increasing your ranking
- While there is value to their service, be leery of companies that promise number one rankings in all popular search results. Often, the results are short lived and damage can be done your long term ranking

Everything For a Reason

- Everything on a Web site should be there for a reason. Nothing appears without a cost, be it bandwidth, usability, or design. Look at your site objectively and remove anything that doesn’t deserve to be on the site. If the page has extensive text, logically divide the page into numerous pages. The more things on a page, the longer it takes to download, the longer it takes to understand, and the longer it takes to make a sale.