



Designing a Website for Ease of Use AND Beauty

Then and Now

Back in the “old days” (☺), web surfing was a time-consuming and patient activity. Connection speeds were low, websites were slow and visitors had patience: sitting at their 15”

CRT monitors – which were all pretty alike -- waiting patiently for pictures and pages to load, oohing and aahing at the colors. To be found on search engines like Google and Yahoo, all you had to do was submit your page, along with a short description and some keywords. The pond was small and it was likely you’d show up if you just submitted the right keywords



under which you wanted to be found. There were only a couple of browsers and a couple of ways to create html pages and everybody did everything badly but nobody minded.

Forward to 2008: the Internet is a crowded sea of fast-loading, savvy sites. Web surfers have very little patience. What is valued most is accessibility – if the site doesn’t work in any way the visitor wants, they leave. If they can’t find something right away, they leave. If they can’t use features they’re used to, like back buttons or print features, they leave. If it’s hard to navigate or looks boring, they leave. Therefore, today, a website’s first and foremost challenge is to not annoy its intended audience. Make it well organized, standard and easy to view. Information, beauty and entertainment are secondary.

Word Processing & Print design vs. Web Design

Making an accessible webpage isn’t like making a brochure, flyer or printed document. You write computer code, a set of specific instructions which tells a browser where and how to place elements and text. Screen elements are referenced according to their file names and all -- colors, fonts and layout -- is

Designing a Website for Ease of Use AND Beauty



displayed according to code in a stylesheet. Any text editor can be used to write a webpage – you don't need any fancy programs, just the knowledge of how to do it.

Imagine you're creating a brochure for your business. You layout text, place pictures, and pick fonts and colors. Then, to "publish" your brochure, you print it on your printer on card stock paper, and fold it in thirds.

Now, imagine that you're not going to print that brochure yourself – you're not even going to have it printed professionally. Instead, you give the file to your audience and ask them to print their own brochures on their own equipment. You just provide the file. But your audience's equipment is all different from each other: some have printers that print in vivid color, some in muted colors, and some in black and white; some print on good paper, some print on newsprint, some make transparencies; some choose to fold the brochure half instead of thirds. Some can't print the font you've chosen and some people are saving ink and don't want their printers to print pictures. They're all different. Now imagine you have to design that brochure so that ALL those people can not only view your brochure, but can figure out how to contact you and buy your product. And if printing your brochure annoys any of those people, they'll just leave and never even look at the brochure.

Now, what if the file was in a huge room full of similar files and your audience had to physically go in the room and find the file amongst the others? What if some people knew exactly where it was in the room, but most people didn't know where it was and could only find it from a badly designed directory? How important is it to you that the people looking in the directory find it?

The best way to design your website is to try to make sure that it's found by the people you want to find it, that it looks the way you want it to on their computers. So the first



Designing a Website for Ease of Use AND Beauty



task is to figure out WHO you are designing for and what equipment they have, as well as how to list in the directory so they can find you.

Just as documents look different when printed on differing printers, websites look completely different to people with differing equipment. There are simply things that are not in the designer's control.

The most important variables affecting website viewing are:

Monitor: Flat panel or CRT, physical sizes (13" to 35"), and resolutions (800x600 to really big)

Browser: Internet Explorer, Mozilla, AOL, Safari, Opera, Netscape...they all view sites differently and they all have different versions which interpret type, positioning and colors differently.

Browsing options: Within those browsers, some people have pop-up blockers, some have Flash blockers, some have type set to LARGE, some have tabbed viewing, some have lots of menus and toolbars, some have open side panes like History or Bookmarks, etc.

Connection speed: Some are still on dial-up, some have the fastest T3 connections.

When you design a website, you design for the least common denominator. You try not to design using features that would annoy viewers with the least equipment.

HyersDesign's Basic 7 Commandments of Web Design.

Many designers have their own set of rules, which, when followed, in general terms ensure your viewers aren't annoyed. The following are guidelines HyersDesign follows when designing pages:

1. **Keep loading time small.** Try not to use graphics larger than 100KB as backgrounds or elements. Try not to use graphics for navigation (unless really necessary to design). Keep Flash files small, loading elements in stages. Keep total page size small.
2. **Keep navigation & layout consistent.** The first page of a website can be different from the others, but each subsequent page should follow the same or similar layout with identical navigation menus.

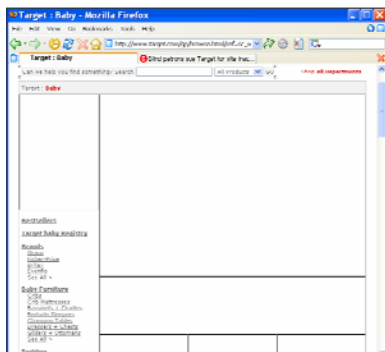
Designing a Website for Ease of Use AND Beauty



3. **No horizontal scrollbars.** Sites should always fit into the width of the screen without a scrollbar at the bottom of the window. People should never have to scroll left and right (unless it's some crazy design element and done completely on purpose, but even then, it's annoying). Vertical scrollbars on the right of the page are just fine. What does this mean to the designer? It means no graphics cannot be wider than 700px if you want your site visible by those with small screens. We'll see later that since each pixel = about 3 bytes, and most designers say you should keep page sizes under 100KB so you're limited in graphic size anyway.
4. **Don't knowingly (or unknowingly) disable browser features and buttons.** Make sure browser back and forward buttons, bookmarking features and enlarging/reducing type works. Ensure that if a visitor has an element turned off, they can still get relevant information from your site.
5. **Make it findable in Google and other search engines.** Build each page from the start with consideration for optimization in search engines. Build keywords into text, alt images, navigation and page titles, keep the site "search robot friendly."
6. **Use text that is printable, searchable and clean to read.** Don't use text as a Flash document or image unless it's critical to the design and understand it won't be found by search engines. Use text body fonts that exist on all machines and keep type scalable big and small.
7. **Keep animation small, don't make sounds unless activated by a button.** Never have introductory music unless activated by the viewer, have a way to mute all sounds, if applicable.

Technical considerations that affect the beauty of the design

So we've got some general rules, we know who we're designing for, but how do we lay the site out and not make our viewers leave?

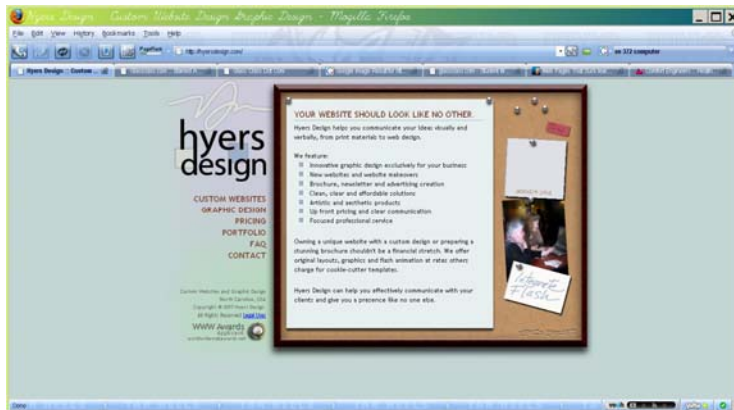


In the old days, websites were laid out according to a table that positioned each element by encasing it in a cell, like a spreadsheet. Changing an element consistently throughout a site required hours of combing through code to find each instance. Now, changes are made in a stylesheet and applied throughout the site. Browsers are being updated to

Designing a Website for Ease of Use AND Beauty



make old methodologies obsolete, but its slow going. During the transition, some design techniques that artists take for granted are very difficult to implement on websites. Layering and overlapping, as well as transparency, are examples of effects that are not yet completely standardized by the different browsers. Using these techniques is a gamble, since viewers with older or unusual equipment may be locked out. However, the designer should choose to use these effects where they are enjoyable add-ons and do not contain essential information.



On some sites, all the design elements stay the same size, no matter the size of the window. This is done with “fixed” layout design (for example, HyersDesign.com). When you drag the mouse and scale the window to make it smaller, the design elements do not change. The layout specifies a fixed

width of the page (usually not more than 750 pixels) and aligns that width either in the center, with adjusting margins on both sides, or justified to the left.

In contrast, a “fluid” layout the design elements will change according to the window size. Pictures are “floated” to the right or left of the text. Text then wraps to different column widths depending on space available. For example, I’m working on <http://ce.hyersdesign.com> which is a fluid three-column layout which fills 100% of the browser window. However, a fluid layout will not scale graphics or font-size.



The general text in the site – not text in graphics or in Flash elements – is already determined by the viewer’s browser to be “normal.” Each browser has its own

Designing a Website for Ease of Use AND Beauty



idea of “normal,” and most allow the viewer to change this to larger or smaller. A designer can choose to set the default font-size of a webpage two ways: either relative to the browser’s “normal,” or by a set pixel-size, like 14pt. This is another choice that depends on window-size: a font that is easily legible in a small window may seem tiny on a large window, and a large font may be unreadable in a small window.

Let’s say you want to make a website with a picture of the woods as a background. Now, remember that each pixel of that graphic is approximately 3 bytes of data. Suppose you want a background on your website to cover the whole screen. If the screen is 1280x1024, the background .jpg file would be about 1.5MB. Somebody with a standard cable high-speed Internet connection can load about 150KB per second. That means he will wait 10 full seconds for your background to load, whether he has a large or small screen. And the person with DSL is likely to give up. And all because you wanted a big pretty picture, like you could have in a brochure.



So you can’t use one big detailed file of the woods as the background...what can you do? One technique is to slice the graphic into smaller files and arrange them so they look like one big graphic. The problem here is that all the browsers do things differently, and what looks right in one browser will have gaps and spaces in another. Another

technique is to make the picture smaller and use Flash to scale it to 100% of the screen. The problem here, is that a small bitmap spread on a big screen is seen as “pixilated,” like a photograph that’s been blown up too large. You see it is made up of tiny squares. A final technique is to simplify the colors and detail in the large file and save compressed to a manageable size. But you’ve lost most of the color and detail. Even with the loss of color and detail, the graphic will not be seen on a small screen anyway, which needs all the screen area possible to view content, not background.

Designing a Website for Ease of Use AND Beauty



So why not just scale the whole page in Flash?

Flash is a program made by Macromedia (now owned by Adobe) that can add interactivity to web pages. You can design an entire site in Flash, or you can use pieces of it around a page to add parts that animate, have buttons, make sounds, play music, etc. Flash allows the designer to use graphics and type that is not bitmap-based, and that enlarge without jagged edges. Therefore, you can tell Flash to scale a screen element to a percentage of the width of the screen and the element will make itself bigger or smaller to fill the space. Scaling in Flash still doesn't work with bitmap graphics, such as .jpg or .gif or graphics made with pixels because the resolution of the element depends on its screen size.

An example of the scalability of Flash is the current homepage of glassclass.com. When the window is big, the type is big. When the window is small, the type is small. The size of the graphic of the stained glass window gets bigger and smaller also. Note that the size of that graphic is about 250KB, which is near the upper limit for graphic size. When you scale the window large on a very big monitor, the graphic is pixilated. The designer made the choice to look worse on monitors larger than a certain size.

So why do you rarely find a site done completely in Flash?



1. Today's search engines (Google, Yahoo, MSN, etc.) HATE Flash. They cannot index text, keywords or images inside of Flash, figure out the structure of pages, nor navigate the site inside Flash. Consequently, Flash websites are virtually ignored by today's search engines, unless the designer has gone to the trouble of creating a separate HTML version of them (which many are forced to do which is more than twice the work).

2. Flash disables many normal features used in browsers. Because Flash can load "pages" that are not pages according to the browser, the back and forward buttons on the browser toolbar don't work. Likewise, these pages cannot be bookmarked by the browser. As a result, only the root or homepage can be bookmarked.

Designing a Website for Ease of Use AND Beauty



3. Many, if not most, browsers cannot print Flash pages. An exception to this are browsers which do not print the page, but print a “screenshot” of the page. For these browsers, now the designer must worry about saving ink cartridges – for example, a white type on black page, when printed by a screenshot-printing browser will use the black cartridge to cover the page with black, whereas Mozilla will ignore the background and print just the type as black.

4. Many pop-up blockers will block links to files from within Flash, breaking the buttons and preventing visitors from loading files and pages.

5. Since the majority of web advertisements are made using Flash, more and more people are surfing the web with Flash capability turned off. When they visit a Flash site, they see nothing but a big circled “F,” an arrow and a blank page.

6. Pages made in Flash are very difficult for the designer to maintain. Every “timeline” is different and changes to one small portion can’t be easily duplicated throughout the site. Dealing with these problems uses designer time that could be applied to the function of the site itself.

7. Flash is a specialized proprietary software – expensive for the designer to purchase and update. Flash design knowledge is specialized and expensive.

In summary, the best use of Flash, without enuring some intensive coding, is to add animations, movies and multimedia, but to maintain the basic html structure of each page. I enjoy adding Flash elements to sites but get a migraine when I contemplate coding an entire site in Flash.

Compromises lead to success.



You can’t always get what you want, but you sure can get what you need. Understanding when accessibility is in conflict with appearance, and then interpreting the target audience to know which is a need a which is a want, is vital to creating effective websites. Sometimes, the simplest solution is the most beautiful.