

WEB PAGE DESIGN CONSIDERATIONS CSC 105 HANDOUT

Overview

Design is an integral component of web page creation, and one that should be considered from the start of and throughout the creation process. This handout contains information and guidelines about web page design. You are encouraged to refer to the advice herein when designing your web pages to ensure successful, user-friendly design. The document is divided into three main sections on motivation, design principles, and design process, and closes with a list of top-ten mistakes in both old and new web pages.

Motivation

What makes a great web page? Why is it that we find some pages easy to use and follow, whereas others we skip before they've even finished loading? In a word: design. Across the billions of pages that comprise the web, the range of design is striking. Even sites containing similar content or performing similar functions can have vastly different designs. For example, compare the websites of Apple (www.apple.com) and Microsoft (www.microsoft.com) and notice how they differ. What elements about them do you like and/or dislike? Now compare the websites of Google (www.google.com) and Yahoo (www.yahoo.com). Although both are fundamentally search engines, their designs are entirely dissimilar. Which of the two do you prefer to use and why? While designs vary, the bottom line is that the most effective web pages – and the ones that users visit most frequently – have successfully integrated function/content and design to create pages that are both visually appealing and easily navigable.

The same can be true for the web pages you create as well. If you think you can just sit down, churn out some HTML or Javascript, and have a great web page, you are sorely mistaken. Before you even start tackling the code, you should think long and hard about the design of your web page(s). In this world of media overload, poorly designed pages will be skipped by the potential audience, rendering even the best technical efforts useless. Consider the following statistics from studies of web users:

- Surfers lose interest in pages taking longer than 6-8 seconds to load.
- They spend 30 seconds reading an average page.
- Most people skim for highlights rather than reading word-for-word.

Given these facts, it's essential that you create a design that conveys the page content to all readers in a simple, elegant, user-friendly way. Anything less, and you may lose viewers. Luckily, the task is not so hard. Follow the guidelines and considerations in the Design Principles and Design Process sections below and you'll be on your way. And your readers will thank you.

Design Principles

On the most basic level, the design of your web pages should be driven by purpose and audience. In other words, you should integrate the intended function/content with the characteristics of the viewer to develop the ultimate structure of the pages. These topics are addressed in greater detail below.

Purpose

Websites serve a whole host of purposes, and there are thus many different reasons for creating them. One type of website is informational, intended to provide textual or graphic content to the user. Examples of informational websites are course pages, such as those containing assignments or syllabi. Other websites fall into the functional category of sales/business, such as those that allow the user to make purchases online. Sometimes websites are more agenda-oriented or public relations themed, intended to convey a particular opinion or cause to the viewer. Still other websites are used for personal history, such as travel diaries or family photos. What other website purposes can you think of or have encountered on your web travels? What is the purpose of the website you are designing?

Audience

Since all web pages, regardless of function, are ultimately intended for viewing purposes, it is crucial that you consider the audience in design. As a first step, determine the wants and needs of the audience and decide why they will visit your site. In addition, consider their demographics, including age, language, disability, and culture. For example, if you are intending to reach an audience in France, you would be wise not to design the entire site with English text. Likewise, if a portion of your audience is visually impaired, you should be sure to put textual labels on all images, so they can be read by a text-based audio browser. Finally, do not forget to take into account the technical resources of your viewers. You may have high speed internet access, but that doesn't mean everyone in your audience does. Moreover, viewers may not have the appropriate software or browsers to run everything on your web page. If your page contains state-of-the-art technology, consider making available a simpler version as well, or at least note what the technical requirements are for best viewing.

Design Process

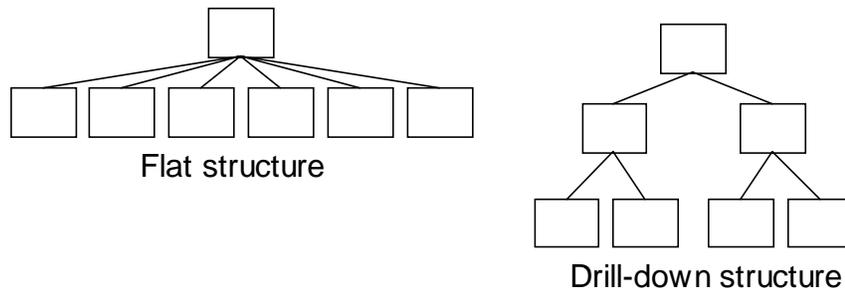
The key to a successful design process is to follow a thorough, logical path that addresses all important design elements. The sections below describe the components in such a design process; you are encouraged to follow the procedure whenever you create a new web page.

Preliminary

To start, determine a mission statement for your web page(s) that clearly describes their function. Then, make a list of the required elements or objectives to include in the page(s). If you actually take the time to write down the list, when you finish the design you can easily check that all items were included. For example, if you were to design a course web page for CSC 105, the mission might be to "convey course information", and the required elements would include course description, syllabus, assignments, grading guidelines, links to additional resources, etc.

Diagram Site and Links

The next step in the design process is to diagram – on paper – the structure of the page(s). This structure should illustrate how different pages are linked and what content is contained on each of the pages. There is no right way to structure a web page or set of pages; the important criteria is that the flow be logical and make sense for the content of the page and the intended audience. Two types of structures, flat and drill-down, are shown in the illustration below. As is clear from the diagram, flat structure contains a large number of links on the main page, but only few levels of depth. Drill-down structure, on the other hand, requires the user to navigate a number of levels to reach the desired content, but has fewer links on any given page.



To help the user easily access the content, consider including navigation aids throughout the pages. Navigation bars, which have links to specific pages, are often included horizontally along the top or bottom of a page, or vertically down the left or right edge. For long pages, you can intersperse links to “top” or “home” throughout the text. Or, consider splitting the text into two or more pages, and linking them sequentially with “next” and “previous” links. If you have a large set of pages, you might consider creating a link to a “site map” that clearly illustrates the site layout, or include a table of contents on the main page. And, you might also want to include a “search” window, allowing the user to interactively search through your network of pages for a particular word or phrase.

Elements and Features

There are any number of design elements and features you may want to include in your web pages. For best results, however, be sure to consider how they will enhance your pages and increase user appeal. The following list addresses some of the more common design elements and suggestions for how best to address/include them.

Look/Style: Maintain a consistent look and style in all your pages to tie them together.

Colors: Use colors that are complementary and easy to read. Keep in mind that contrasting colors are easiest on the eye; for example, dark text on a black background is not easily discernable.

Images: To minimize download time, use images sparingly, and keep them small whenever possible. If larger images are important, consider creating a small “thumbnail” image that links to an optional larger image. Re-use images where possible since they have already been loaded.

Icons: When including icons, select or create ones that have a logical association between the icon and its intended function.

Extras: Consider adding some of the following tools, if appropriate: last updated information, webmaster contact, counters, recent changes information, guest book, feedback, chat. Do not let the extras interfere with the main content or navigability of the site, however.

In-Page Organization: To supplement the navigation aids and make the web pages even easier for the reader to view, consider adding headers, graphics, rules (i.e., horizontal and vertical lines), and “pull quotes”.

Personalization: Some sites allow users to choose how the site will be displayed for them, through preferences and history. Consider which aspects of the design should be under user control, and how the user’s choices will interact with the fixed design elements. Can the user make the text invisible by choosing the text color as background, for example?

Accessibility: Ensure that your website is accessible for different demographics, such as alternate browsers, disabled viewers, and international audiences. For example, will your web pages make sense on a text-only browser? Can they be clearly viewed by someone who is color blind?

Bandwidth: Aim for web pages that uses as little bandwidth as possible without sacrificing content or design. Several approaches you can take to reduce bandwidth include minimizing the number and size of graphics, linking to content rather than including it all on a single page, using thumbnails images that link to an optional larger image, and pre-fetching images before loading the page that contains them.

Copyright: Make sure your web pages do not violate any copyright regulations, either in included or linked content.

Maintenance

A final, yet no less important, step in the design process is the consideration of maintenance. When designing your web pages, think about the following questions about maintenance. How often will the pages need to be maintained? Do they contain information that might become out of date? Do they link to pages that may become obsolete or non-existent? How extensive is the necessary maintenance? Then, when designing your web pages, aim to minimize the need for and extent of maintenance that you must complete. Successfully designed web pages can be maintained with little effort so as to be easily and always up-to-date.

Top-Ten Mistakes

While there is no right way to design web pages, there are a number of mistakes that even experienced web designers make. Jakob Nielsen writes a column on web page design, and has compiled a list of top-ten design mistakes. You can, and should, view these at

<http://www.useit.com/alertbox/9605.html> – the article is over 6 year old and still applicable, which is immortality by web standards. (He revisited the list three year later at <http://www.useit.com/alertbox/990502.html> and created a revised list, but the original is still more applicable for beginning web designers.

Conclusion

Creating web pages is both an art and a science. Design considerations are a vital component of the creation process. If you take the time to integrate design, content, and technical aspects, you will be rewarded with a successful web page appreciated by a wide range of viewers.