Web Page Design (Part One)

Two of the most popular “All Aboard the Internet” columns were “Making a World Wide Web Home Page” (October 1995) and “Adding Graphics to Your WWW Page” (November/December 1995). Those two columns have been printed and distributed in classrooms and workshops all over the world. I have received several e-mail notes asking me to talk about some basic elements of Web page design. This is a natural, evolutionary step. At first we put something up just to get a page on the Web, and then we decided that it should be more than just there: it should look nice and be a worthwhile addition to cyberspace.

Since it is so easy to create Web pages, it is no wonder that there are so many terrible ones out there. We have all come across Web sites that are confusing, overloaded, and just plain sloooootooowwv to load. My first Web page included two of the most common mistakes found on a novice Web designer's pages: it was two feet long and had every (different colored) button and line imaginable (even barbed wire...). Hey, I knew how to do it and I wanted others to see that I was “cool” and “knowledgeable.”

Let's take a look at some simple rules to follow as you design your Web site. These are not rigid rules, but suggestions that will make your pages more pleasing to view... and perhaps make you look “cool” and “knowledgeable”!

First, a Few Important Comments

Let’s talk about a major problem that all Web designers face: You have very little, if any, control over how your Web pages will look on another person’s computer. There are a number of reasons for this. First, each browser (Netscape, Internet Explorer, AOL, etc.) presents the pages a little bit differently (Netscape’s default font is Times Roman, but Mosaic’s default is Helvetica. Even the same browser may use different defaults across platforms!! Netscape Navigator’s Macintosh default width is 485 pixels. Its Windows default is 600 pixels! Second, each system (DOS, Mac) uses the color palette a little bit differently. (Sometime ask Dr. Gerald Viers from Cal State Pomona how difficult it was for him to find a yellow-back- Handy pages like this help Web weavers pick just the colors they want. Don’t forget to view your pages using several platforms.

Don E. Descy is an associate professor in the Library Media Education Department at Mankato State University in Minnesota, and welcomes your expertise, questions, and suggestions for topics to be discussed in future columns. He can be reached at the Internet address listed above or through the AECT National Office in Washington, D.C.

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ground on his Ed Tech pages <http://www.csu.pomona.edu/~grviers/ist/ist.html> that would look “just about” the same on any platform.) Third, different monitors on the same platform may display slightly different color renditions. Finally, visitors to your Web page can change the defaults on their own browser. This may completely change the look even though both you and they are using the same platform, same monitor, and same browser! (Didn’t I start this by saying that you had very little control?) There is a way to exercise some control across platforms. I will discuss this later.

General Design Decisions

There are several things that you should take into consideration as you are preplanning your Web site. (I am not going to talk about where to place your Web pages or how to do complicated HTML. Actually, editing HTML is almost a thing of the past.) These fall into two large categories: the audience and the content.

First, think about your audience. How sophisticated are their Internet skills and equipment? I have a Web site of Bedlington Terrier information. The people who access it are from all over the world, and therefore many different Web browsers are possible. So, I make sure that I view the pages using several browsers. I also cut down on the bells and whistles (i.e., Java, Shockwave, frames, etc.). They use a wide variety of means to access the pages, from T1 at work to AOL or third party dial-in (dial-in connections can be slow so I have limited the size and number of images; i.e., small, fewer or but from many.

EXHIBIT

Petitioner - Kyocera

PX 1042
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cated Internet users. (Imagemaps, thumbnails, and graphic buttons are out. Several have had trouble finding my second page of information! I have had to e-mail "...click on the underlined words "Copper Toxicosis" to get to the next page," to several of them.)

The second category is content. Don’t just develop a page for the sake of having something on the Web. How will your pages be unique? Do you really want to add another site of “Useful Web Sites for History” or another “Packers Web site”... gosh.... New content is what is in short supply on the Web. I am not saying that your unique Internet Technology Course should not be placed on the Web, or that you should not develop a page about yourself or your program. These pages are interesting and of value. However, be realistic. Take some time to make yours something of value that you can be proud of.

First Things First
You know your audience. You know the content. Now what?

Outline the Material
We tell our students to do this all of the time, and quite frankly, it does make the work much easier. On a pad of paper outline the material that you want to place on the site. Try to divide the information into 3 to 5 sections or pages. Try not to have more than 6 or 7 sections. Content-heavy sites like that of AECT will, of course, contain more sections. Organize the material in a logical order so that others can easily understand the order and flow.

Map out the Site
Now draw a map or sketch of your site showing the relationship of different pages to one another. Don’t forget links back to the index page. There should be no dead-ends. A toolbar or small clickable index on the top or bottom of each page is very useful. Outline the material that you will cover on each page on a separate (large) index card.

Once you have gotten this far you are now able to start developing your pages.

Developing Web Pages

Consistency
A well designed site has consistency. You don’t want your site to look like a group of unrelated pages. Decide on the general layout. Sketch out a template page. Decide if you will have a logo at the top (bottom, side) of each page. Backgrounds should be consistent. Many sites now use a vertical strip or graphic down the left side of the page. Placing a menu bar on the left (top or bottom) of each page makes for easier navigation and is appreciated by all. Many sites place the menu in a frame at the left of the page. Don’t forget to place the URL, copyright notice, and the name of the contact person/agency at the bottom of each page.

Size
Size can be a serious problem. The slower the connection and/or the larger your pages, the slower your pages will load. Since many of us will be making pages for our students to access and many of these students may be accessing them from home or dorm through a modem, size is something that must be taken into consideration. Several designers use a formula for calculating download time. For each full page they estimate two seconds per graphic plus one second per “K” of graphic size. This is a very rough estimate. Using this formula, a 30K graphic would take 32 seconds to download. A typical 30-35K graphic may download in less than a second on a 56K or T1 line but it would take over a minute to download using a typical 14.4 kbps modem. Larger graphics take much longer. I try to keep the maximum size of my graphics to under 30K. After
you have put your pages together, total the size of your text and graphics. Try to keep the total size down. Remember: size=life!

**Information Placement**
The most important part of your page is the top 300 pixels. This is the part that people see first so this must be the part of the page that will grab and hold their attention. Why do you think that advertising graphics are placed at the top of the page? This is especially important if you have a page that people may come across as they surf the net, e.g., your department home page. Many people glance at this part of the page on their browser and won't bother to scroll any further down unless something catches their eye.

**A Word about Color**
Color... hummm... it is possible for a monitor with 24-bit color display to display 16,777,216 colors. (Well, OK, there is a new 30-bit monitor that will display about 1.1 billion.) The human eye only can distinguish about 32,000 colors. So, how many colors should we use when we save an image? Not many — or, to put it another way — as few as possible. GIF images are limited to 256 colors, JPEG have up to 16 million (more on GIFs and JPEGs later). The Netscape color palette though contains only 216 colors — why use more? (See <http://www.adobe.com/newsfeatures/palette/ palettesanddithering> for a full discussion of this point.) Netscape will often substitute colors it does have for those that it does not. More colors make for a larger file size and more band width to move the file from one place to another. This slows down transmission and the extra information (colors) is not used anyway. Experiment — many graphics look fine using as few as 16 colors! (We will talk about dithering later.)

**Backgrounds**
A well tailored page has a background. These are very easy to put on a page. The simplest background is just a solid color. This is added by the browser and does not use any extra KS. To add a background to a page one simply expands the `<BODY>` tag by adding `<BG COLOR=#` and an RGB code. For example, the code for white is `#FFFFFF`, red is `#FF0000`, and Baker's chocolate is `#5C3317`. The tag `<BODY BG COLOR= #5C3317>` will produce a page with a solid Baker's chocolate background. A good place to view different backgrounds with their RGB codes is <http://www.qinf.net/wwwimages/colorindex.html>. Another resource is ColorMaker <http://www.missouri.edu/~wwrtools/ colormaker/>. It is also possible to have an image as your background. This is sometimes called wallpaper. One way to do this is to have a huge image that covers the whole background. This takes up many KS and really slows down the loading process. It is far easier to send one small graphic and have it tiled across the background of the page for a seamless effect. Many background graphics are very small and take just seconds to load. In either case BACKGROUND= and the location of the graphic must be added to the `<BODY>` tag. `<BODY BACKGROUND= "bg/stars.gif">` lets my server know that it must send the file "stars.gif" found in my "bg" folder (directory) to the client as a background image. Even though "stars.gif" fills the entire background of my page, it is only 3K! Texture Land at <http://www.meat.com/textures/> contains almost 200 textures free for non-profit use.

More information on buttons, backgrounds, and wallpaper can be found at <http://home.mankato. msus.edu/ded/3sv.html>. Please remember: View all your pages on many different browsers, platforms, and monitors!! What you see is not necessarily what they get!

And in the future... Next time we will continue our Web design discussion. Some things we will cover will include: how many words per page? what are and when to use GIFs and JPEGs, animated GIFs? what about file compression? useful software, typography, dithering, image resolution, The Pixel Problem, and more.

Here's your homework: Find something to settle your stomach then point your browser to <http://www.webpagesatsucks.com>

**New on the Net**
- Tricks on designing Web pages so they can be easily handled by search engines and tidbits on disaster recovery planning and testing, network design, installation and troubleshooting, and design hints are found at <http://www.digital-cafe.com/~webmaster/norweb01.htm> Produced by Northern Webs of Sagle, Idaho.
- FAQ Finder allows you to search directly or by category for a FAQ. Over 1,800 links to FAQs around the world! <http://ps.superb.net/FAQ/>.
- Computer Industry Database contains articles and reviews on software, information technology, and networking topics. Over 20 technical magazines, thousands of pieces of vendor literature and the DBMS Magazine Buyers Guide can be found here. <http://www.inquiry.com/search/>
- Virtual Elvis® in virtual Grace-land®. What more can I say? "Please expand your browser window to its maximum size..." <http://www.elvispresley.com/> (Elvis Presley is a Registered Trademark of Elvis Presley Enterprises, Inc. ©1996 E.P.E.)
- Want to see a map of where you are going (in the USA)? Or a printout of the shortest route between two points? Try MapQuest and TrippQuest at <http://www.mapquest.com>.
- "Guys make living vacuuming up prairie dogs," The National Enquirer on-line: <http://www.nationalenquirer.com/> (Sorry, www.the.star.com is the Toronto Star!)