

Findings and Recommendations: Web Standards and Guidelines for University of Kentucky Websites

August 20, 2001

Members of the Web Standards Committee

Herman Collins
(advisory member)
herman@pop.uky.edu

Greg Franseth
(advisory member)
gfran2@email.uky.edu

Chuck Ham
cmham01@email.uky.edu

Donna Maupin
djmaup00@email.uky.edu

Matthew Morrison
mmmorr0@pop.uky.edu

Karen Pulliam
kpulliam@ca.uky.edu

Carol Ruthven
cruthven@kgs.mm.uky.edu

Joan Shropshire
jmshro2@pop.uky.edu

Amy Wellman
(advisory member)
ajwell2@email.uky.edu

Nathan Wilson
nwilson@ca.uky.edu

Mission

The mission of the Web Standards Committee is to evaluate and expand the current University of Kentucky Web standards and guidelines and to assure innovative application of information technology in

- academic programs
- research programs
- public service programs
- university business operations

Toward this end, the standards and guidelines for the University of Kentucky Web pages will be updated to reflect:

- enhanced appearance
- appropriate content
- ADA compliance
- e-commerce applications
- cultural programs
- athletic programs

History

In February 2001, a subcommittee of the Web Publishers Group was formed with the task of evaluating current University of Kentucky Web Standards and requirements and

recommending changes as needed. The committee began work by dividing the research into the following areas:

- a. 19 benchmark institutions' Web standards and guidelines;
- b. Select Fortune 500 companies' Web standards and guidelines (15 to 20);
- c. Generic markets and types of content required by each (who are the users);
- d. Graphic design of 19 benchmark institutions' Web sites;
- e. Usability requirements for university Web sites (content);
- f. Ease of use requirements for university Web sites (navigation);
- g. ADA compliance issues;
- h. Browser issues.

The goal of this committee's work is to make recommendation that will "give users more of what they need. And easier access to what they need."¹ Users will quickly leave our sites "if they can't figure it out. The abundance of choice and ease of going elsewhere puts a huge premium on making it extremely easy to enter a site."² **The committee believes these standards should be reviewed at least annually.** With these two thoughts as an overriding concern, and, as a result of our research, the following Standards and Guidelines are recommended.

University of Kentucky
Web Standards and Guidelines
(Draft 8/8/2001)

The Web Standards and Guidelines supplement the *Policy Governing Access To and Use of University of Kentucky Computing Resources* (<http://ukcc.uky.edu/%7Eukccinfo/policy.html>) and *University of Kentucky Policy Governing Creation and Use of World-Wide Web Materials* ([http://www.uky.edu/Regs/WebPolicy/.](http://www.uky.edu/Regs/WebPolicy/))

General Guidelines

1. Each page should be identifiable as a stand-alone page that is a component of the University (users will not always enter from the home page). To achieve this, on each page you should have:
 - * University of Kentucky (current official logo and/or text)
 - * Department or organization name (logo and/or text)
 - * The title (content identifier) of the page
 - * Contact information
 - * Date of last update
2. Each site should follow good hierarchical organization. Users are searching for something 96% of the time they are on the Web. Design the organization for your target audience. Your site does not have to mirror your organizational chart.
3. Pages should be designed to function correctly and to be aesthetically pleasing when viewed on a wide variety of sizes. Recent web surveys indicate that slightly more than half of all web users have their screens set for 800 x 600. Remember also that many users may have their browser windows set smaller than a full screen. *When this is not possible*, design for an 800 x 600 pixel screen unless you know that most of your target audience are using a different resolution.
4. Pages should be designed to be quickly downloaded. (Experts say you have six to eight seconds to keep users from leaving your site.) To quote Hillman Curtis "Eight is enough." Hillman Curtis never veers from his primary rule of online design: no download should take more than eight seconds, regardless of how slow a Net surfer's modem might be. "After waiting eight seconds for a download," he says, "people tend to move on." As a result, we find ourselves building 20k and 30k spots with interactivity."³ See Recommendations, Priority 1, Number 10.
5. Splash pages should be avoided. Splash pages add a level of complexity to the organization of a site without adding content. They actually move the user further

away from his/her intended target. Instead of a splash page, one should rely on a welcome page that is laid out logically and attractively

6. Be judicious about use of newer technologies. Newer technologies may be appropriate and add meaning to sub-level pages. However, they should not be used indiscriminately and should rarely be used on home pages. Many users will not bother to download the viewer. If newer technologies are used, alternate pages must be provided that use a standard technology. For example, Java applets may crash or lock-up some browsers and operating systems. Older screen readers (assistive devices) can not handle Javascript for navigation (ex. mouseover). If using Javascript for navigation, offer an alternative ADA compliant method of navigation such as text only. (See "Accessing the Internet Using Alternative Input and Output Devices and Software" at http://www.uky.edu/TLC/grants/uk_ed/webstandards/handout.html)
7. Keep it simple.

Requirements

1. The University of Kentucky Master Navigation Bar is required at the top of ALL homepages for colleges, departments, and units. This helps to create a consistent look and navigation feel to the pages as well as to identify the page and organization as part of the University of Kentucky. The Master Navigation Bar may be any of the three approved versions and must be mounted as directed at *How to Mount the Master Navigation Bar* (<http://www.uky.edu/newhome/submain/passcheck.html>) E-mail webmaster@www.uky.edu for a password.

Failure to display an *approved* version of the University of Kentucky Master Navigation Bar will result in the Web site creator being asked to make the necessary corrections. Failing this, notification will be sent to the person who has administrative oversight over the area the Web site represents or his/her designee and continue up the branches of management until the situation is resolved.

2. All pages must be clearly identified. All official Web material must include the following elements in a clear and obvious form:
 - a. Identification of the materials as being from the University of Kentucky. If the UK logo is included on any Web material, it *must* be the official logo with the correct design and color. (Copies of the official logo are available online at <http://www.uky.edu/parts/> for use in the creation of Web materials.)
 - b. The name of the individual or department responsible for the content.
 - c. Contact information. On the home page, that information should include minimally an e-mail address of the person responsible for the site. The e-mail address should

be in the form of: email_id@xxx.uky.edu (example: webmaster@www.uky.edu). This will allow people who have a printed copy of your page or who do not have an e-mail enabled browser to e-mail you later from his/her regular e-mail application.

- d. The date when the materials were last updated. It is important to keep material on the Web updated. Web sites that contain out-of-date information and/or outdated UK logos may be unlinked by a University of Kentucky Webmaster and/or the person who has administrative oversight over the area the Web site represents or by his/her designee.
3. No broken "Back" buttons. No page should deliberately block the user from "backing" to a previous page. This frustrates the user and will likely dissuade him/her from returning to the site.
 4. No site should deliberately block the user from going to other sites while being caught in the frame of the home site. This is very frustrating for the user who doesn't care about your home page once they have been there.
 5. Fonts, if specified, should be selected for clarity and ease of reading. The combination of different type faces, monitor resolutions, and type rendering may make your pages illegible.
 - A. Font size should be legible without being overwhelming.
 - B. Avoid blinking text since it is annoying and difficult to read.
 - C. Avoid underlined text since it can be mistaken for hyperlinks.
 6. Your site should be navigable without your design elements and should be accessible for those using assistive methods and/or alternative methods to access the Web.
 - A. Users should be able to access your links without using your mouse, i.e., <TAB> through your links. How does your page look if someone is overriding your colors or is color blind?
 - B. If you cannot provide access with your page design, you must provide a text version for each page in that is not accessible. Links to the text version should be at the top of the page so users can access the text version easily.
 7. Consistent page layout and use of links should be used. A consistent layout identifies your pages as belonging together. Inconsistent page layout and inconsistent use of links confuse those with cognitive disabilities.⁴ Additionally, "if users don't understand a certain design element, they don't spend time learning it - instead, they ignore it and continue the hunt for their own goal."⁵

Recommendations

The recommended guidelines are prioritized and all sites are strongly urged to meet the Priority 1 Recommendations.

Priority 1

1. Have a good hierarchical organization of the site. Users “often arrive at pages through search or other means that bypass the higher-level navigation pages; it is necessary to provide a path back to these higher levels. In particular, it is useful to link to a page that provides an overview of the current subsite or region.”⁶
2. Include links to “higher level” Web materials. For example, a department should link to its college.
3. Have a meaningful title. This will not only help the user know where he/she is, it will help with searches.
4. Be ADA compliant on your home page and the first sub-level pages. ADA compliance can be tested with “Bobby.” Bobby Priority 1 compliance (minimum) would meet this requirement. Bobby is available for free from the Center for Applied Special Technology, CAST, at <http://www.cast.org/bobby/>
5. Pop-Up Windows should be used rarely, if at all. If a new browser window is launched, the user should be notified about the new browser and how to return to the page he/she left. The user should be able to turn off the Pop-Up Window immediately. “Users often don't notice that a new window has opened, especially if they are using a small monitor where the windows are maximized to fill up the screen. So a user who tries to return to the origin will be confused by a grayed out Back button.”⁷

A good example of how pop-up windows can be used is to display a slide show, such as the “Summary of the President’s Tobacco Commission Report” launched from <http://www.uky.edu/Ag/TobaccoEcon/policy.html>. The user is told that if he/she selects this link, a new window will be opened. On every slide of the slide show, the user is told that he/she may return to the Tobacco Econ Policy page by closing the slide show window. The user is able to return to the Tobacco Econ Policy at the end of the slide show without having to back all the way out.

A bad example of pop-up windows can be found at About.com. Upon entering the site, an ad window opens. The user is not given a choice and is not told the new window is open. Because pop-up windows are often used for advertising, many users close the windows before the window is completely loaded and never look at the content.

6. Before using Cascading Style Sheets (CSS), review browser compatibility. Many browsers do not fully support the most current W3C standards, including CSS.
7. Use the default file (ex. “welcome.html”) as specified by your Web Server’s specifications as the ending address for your department’s or unit’s homepage (please

consult your Web server administrator) This saves viewers from typing 10 extra characters (not to mention saving ink and space on letterhead and business cards). It looks cleaner and saves space. For example, www.uky.edu/ equals www.uky.edu/welcome.html/.

Dave Elbon adds, "The web server (www.uky.edu) looks first for welcome.html as the default file in a directory, so a URL like **www.uky.edu/xyz/** is looking for **www.uky.edu/xyz/welcome.html**. If it doesn't find welcome.html it looks for index.html and some others, but we recommend welcome.html. Also, the search index spider follows links, so it gets whatever the link points to. If a link points to www.uky.edu, the server's behavior described previously can come into play."

John Soward adds, "First to expand on Dave's comments, the browser doesn't figure into this equation at all. The browser doesn't know to add anything after a "/" {forward slash}, it's the server which does this. This is an important difference, partly because what types of files to look for (or if it will look at all), for example www.uky.edu doesn't look for 'default.html' or any permutation thereof. Additionally it may seem like you could save an extra character by leaving off the trailing "/", and you can, but at the expense of adding an additional client-server transaction, the browser will ask for something/something and be told to try something/something/, this adds load to the server and can add a significant startup delay for modem users. Lastly the server does search for files in a particular order, on www.uky.edu specifically it currently is:

***welcome.html index.cgi index.html Index.html Welcome.html
index.htm welcome.htm Index.htm Welcome.htm***

Thus you can sometimes get caught debugging a 'mysterious' page, when really you've just put up a new 'Index.html' (upper case "I") to replace an old 'index.html' (lower case "i") or similar.

8. For all urls, use lower case and avoid spaces. In lieu of spaces, use underscores. **This will reduce the server load.**
9. When adding, redesigning or reconfiguring a site please contact the University webmasters and give them the new URL's. This will allow for proper listing in the Master Site Index. A note to the UK Web Publishers Group listserv will also alert others that may need to know about the changes so they can make corrections to their sites.
10. Pages should load quickly and easily for the largest number of users possible. To achieve this, avoid an excessive number of graphics or images that are extremely large file sizes. Also avoid the use of newer technologies that require the downloading additional software (plugins, viewers, etc.) or use a large amount of the user's computer resources unless absolutely necessary. If newer technologies or excessive

graphics are used, offer alternatives such as text-only versions. If additional software is required, provide a link to it.

11. Avoid the use of background images unless absolutely necessary. While these images can certainly add to the aesthetics of a page, the balance should tip in favor of accessibility. If the graphic is overwhelming or compromises the ease of use of the page (increases the time the page takes to load, makes the text difficult to read), then do not use it. The background image should subtly enhance the aesthetic appeal of the page; if it does not do this, then avoid it.

Priority 2

1. Use standard web colors for links. It is what the users expect and therefore makes navigation easier.
2. Bobby Priority Level 1 compliance on all pages.
3. Avoid frames. Frames create issues affecting the layout and aesthetic appeal of a page. It is easier for a designer to control the look and feel of a page when the page is not broken into one or more frames. Users may enter your pages in a different way than what you intended.
4. Avoid splash pages. These graphics pages may interfere with the use of a web site by slowing load time and by creating an obstacle that adds nothing to content. Instead of a splash page, one should rely on a welcome page that is laid out logically and attractively.
5. Avoid orphan pages. Make sure that each page of a website *clearly* identifies the unit or department to which it belongs and includes appropriate navigation. Many users may access lower pages without going through your home page.
6. Link names should be concise and clear. The name for the link should be meaningful and help the user know what type of information can be accessed if the link is followed. Additionally, "*less is more*: having a small number of standard links on every page makes it more likely that users will notice those links they do need."⁸

Priority 3

1. Pages should be designed to function correctly, to be aesthetically pleasing, and to be viewed on a wide variety of screen sizes. If needed, indicate the resolution at which the page is best viewed. The overall presentation of all the elements of the page are dramatically affected by the resolution. Keep in mind that an effective design should not be sacrificed in an attempt to accommodate every possible screen resolution.
2. Minimize scrolling on pages intended primarily for navigation.
3. Avoid broken links.

4. Add Site Maps when needed to help users find your content quickly.

Tips and Tricks to Achieve the Requirements and Standards

1. Test your design in more than one browser. Test your pages in as many different browsers as possible. Web pages appear differently depending on the user's platform, screen, font size, and more.
2. Have other people test your website before making it public. Usability testing can be accomplished with as few as five people.⁹ Give them tasks to do and watch how they accomplish them.
3. Select a font for clarity and ease of reading. Arial and Times New Roman are established reader-friendly fonts. San Serif fonts: Arial and Helvetica offer the reader a sharper screen image. Serif fonts: Times New Roman, Bookman, or Palatino are best used for headers or titles. Font size should be legible without being overwhelming; large font sizes are difficult to read. Avoid blinking or underlined text and other special effects as they annoy visitors and make text difficult to read. The only underlined text should be hyperlinks.
4. Keep pages clean. Do not overwhelm users with cluttered links/text/images. A clean page requires judicious use of images and scripts. Welcome pages and pages designed primarily for navigation should not scroll endlessly. Remember that the welcome page is like the cover of a brochure or a table of contents of a book—keep it clear, simple, and functional
5. Be selective about what is prioritized. “It is the job of the designer to **advise the user** and guide them to the most important or most promising choices (while ensuring their freedom to go anywhere they please).”¹⁰ **Highlight important information.** Not everything is important.
6. The upper left-hand corner is an important position on the page. Most cultures read from left to right, top to bottom and thus look at the upper left-hand corner first. Place important, relevant information here such as significant identifying information.
7. Do not obscure information with excessive images or the use of trendy scripts; users are typically looking for specific information.
8. Be careful with your choice of colors and color combinations. Bold colors may turn off some users and may make a page difficult to view. Colors also have different meanings in different cultures. Color choices should be more conservative as the target audience becomes broader. Use contrasting colors for page background and text. Dark text on a light background is easy to read. Additionally, some colors, such

as green and red, appear the same in gray scale and would be a poor choice to use together since that is a common type of color blindness. How does your page print on a monochrome printer? Plan your color family and color theme in advance and stick to it throughout your site.

9. “Division of threes” can be used to create a pleasing design. Dividing a page into thirds and placing elements accordingly is usually an aesthetically pleasing arrangement.
10. To aid searches, repeat your keywords and their synonyms throughout your copy, particularly in headers and subheaders.

Notes

- ¹ Nielsen, Jakob. "Prioritize: Good Content Bubbles to the Top". *Alertbox* October 17, 1999: <http://www.useit.com/alertbox/991017.html>
- ² Nielsen, Jakob. "Novice vs. Expert Users". *Alertbox*, February 6, 2000: <http://www.useit.com/alertbox/20000206.html>.
- ³ Kaplan, Michael. "Minimalist to the Max, Web designer Hillman Curtis exploits the limitations of the Internet". *Adobe Magazine*, Nov/Dec 2000, page 30.
- ⁴ Gassaway, ___ and Kristina Krampke. "Accessing the Internet Using Alternative Input and Output Devices and Software". 2001: http://www.uky.edu/TLC/grants/uk_ed/webstandards/handout.html
- ⁵ Nielsen, Jakob. "Is Navigation Useful?". *Alertbox*, January 9, 2000: <http://www.useit.com/alertbox/20000109.html>
- ⁶ Nielsen, Jakob. "Is Navigation Useful?". *Alertbox*, January 9, 2000: <http://www.useit.com/alertbox/20000109.html>
- ⁷ Nielsen, Jakob. "The Top Ten New Mistakes of Web Design". *Alertbox*, May 30, 1999: <http://www.useit.com/alertbox/990530.html>
- ⁸ Bos, Bert. "What Are Style Sheets?" W3C, June 13, 2001, <http://www.w3.org/Style/>

Resources

“Accessible web design”, Royal National Institute for the Blind (RNIB), April 9, 2001, <http://www.rnib.org.uk/digital/hints.htm/>.

Adams, Katherine. *Copyright Basics for Web Course Developers and Distance Learning Projects*. Handout distributed at January 16, 2001 meeting of the Web Publishers Group.

Argus Associates. “Major Tom, Is Your Dashboard Usable?“, The Web Developer's Virtual Library, <http://www.wdvl.com/WebRef/Navigation/Stars.com/Dashboard.html>.

Bos, Bert. “What Are Style Sheets?” W3C, June 13, 2001, <http://www.w3.org/Style/>

Gassaway, ___ and Kristina Krampke. *Accessing the Internet Using Alternative Input and Output Devices and Software*, http://www.uky.edu/TLC/grants/uk_ed/webstandards/handout.html

Kaplan, Michael. “Minimalist to the Max, Web designer Hillman Curtis exploits the limitations of the Internet”. *Adobe Magazine*, Nov/Dec 2000, page 30.

Kirsanov, Dmitry. “Designing Site Navigation”. <http://www.webreference.com/dlab/9705/index.html>, Dmitry’s Design Lab, May 1997.

Letourneau, Chuck, Gregg Vanderheiden, et.al. “Web Content Accessibility Guidelines 1.0: W3C Recommendation 5-May-1999”, W3C, <http://www.w3.org/TR/WAI-WEBCONTENT/>

Morris, Charlie. “Navigation 101: Basic Principles of Web Site Navigation” <http://www.webdevelopersjournal.com/articles/navigation.html>, *Web Developer’s Journal*, <http://www.webdevelopersjournal.com/index.html>.

Muehlbauer, Jen. “The Navigation and Usability Guide”, http://www.webreview.com/1998/05_15/designers/05_15_98_2.shtml, *Webreview: Cross-training for Web Teams*, May 15, 1998.

NetMechanic “Splash Pages May Drown Your Site” *Webmaster Tips Newsletter* http://www.netmechanic.com/news/vol3/promo_no13.htm.

Nielsen, Jakob. *Alertbox*: <http://www.useit.com/alertbox>

“The 3Cs of Critical Web Use: Collect, Compare, Choose”, April 15, 2001; <http://www.useit.com/alertbox/20010415.html>

“Are Users Stupid?”, February 4, 2001, <http://www.useit.com/alertbox/20010204.html>

“Flash: 99% Bad”, October 29, 2000, <http://www.useit.com/alertbox/20001029.html>

“Why You Only Need to Test With 5 Users”. March 19, 2000:
<http://www.useit.com/alertbox/20000319.html>

“Novice vs. Expert Users”, February 6, 2000, <http://www.useit.com/alertbox/20000206.html>.

“Is Navigation Useful?”, January 9, 2000, <http://www.useit.com/alertbox/20000109.html>

“Usability as Barrier to Entry,” November 28, 1999, <http://www.useit.com/alertbox/991128.html>

“When Bad Design Elements Become the Standard,” November 14, 1999,
<http://www.useit.com/alertbox/991114.html>

“Prioritize: Good Content Bubbles to the Top”, October 17, 1999,
<http://www.useit.com/alertbox/991017.html>

“The Top Ten New Mistakes of Web Design”, May 30, 1999,
<http://www.useit.com/alertbox/990530.html>

“Search and You May Find”, July 15, 1997, <http://www.useit.com/alertbox/9707b.html>

“Effective Use of Style Sheets”, July 1, 1997, <http://www.useit.com/alertbox/9707a.html>

“Top Ten Mistakes in Web Design”, May 1996; <http://www.useit.com/alertbox/9605.html>

Royal National Institute for the Blind (RNIB), Accessible web design
<http://www.rnib.org.uk/digital/hints.htm>

Tungare, Manas. “Handy Hints for Web Designers”, WebReference Update Newsletter,
July 13, 2000, <http://webreference.com/new/handyhints.html>.

W3C: List of Checkpoints for Web Content Accessibility Guidelines 1.0
<http://www.w3.org/TR/WAI-WEBCONTENT/checkpoint-list.html>

Web Standards from Other Universities

Colorado State University (<http://www.colostate.edu/info/webgd.html>)

University of California at Berkeley (<http://amber.berkeley.edu:5014/index.html#guide>)

University of Illinois at Urbana-Champaign (<http://www.uiuc.edu/help/recommend.html>)

University of Maryland

(<http://www.inform.umd.edu/CampusInfo/Departments/InstAdv/UnivPub/sg/>)

Ohio State University (http://cio.ohio-state.edu/policies/web_policy.html)