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Library Home Page Design: A Comparison of Page Layout for Front Ends to ARL Library Web Sites

David L. King

The author examined the home pages of all 120 libraries in the Association of Research Libraries (ARL) in order to compare design similarities and differences. This was accomplished by first filling out a questionnaire on each home page and then tabulating the findings using simple averages and medians. Areas examined were: backgrounds, document headers, document footers, document body, page length, number of steps to library home page from parent institution Web site, and domain name servers. A typical home page is discussed using the averages of these results.



The World Wide Web, once used by a handful of researchers, now is used by everyone from university faculty members to their thirteen-year-old children. Home pages abound, with content ranging from how to cook a Butterball turkey (<http://www.butterball.com/>) to information on President Clinton's cat, Socks (<http://www.whitehouse.gov/WH/kids/html/pets.html>). And libraries are no exception. Many libraries have a Web site; the ones that do not probably have one in the planning stages.

What do these library home pages look like? More important, when a visitor finds a library's main, front-end home page for its Web site, what does he or she see? The purpose of this project is to examine the main, front-end home pages of libraries in the Association of Research Libraries (ARL) in order to note current trends in library Web page front-end design, and to create a

"typical" library home page design based on this project's findings.

Literature Review

Mark Stover and Steven D. Zink have written an article comparing the design of forty higher education library home pages, chosen through Yahoo!, a popular search directory.¹ Their research "was designed to measure the relative quality of a particular genre of home pages (university and college library home pages) in terms of design and organization."² To accomplish this goal, they assigned a twelve-point scale to various features found on library home pages, such as the number of links found or if the author/designer of the home page was identified. Their conclusion reflected that many library home pages are badly designed, possibly because of a "lack of knowledge of hypermedia and a sketchy, emerging literature pertaining to Web page design principles."³

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In 1995, Pieter A. van Brakel, Cerina Roeloffze, and Amanda van Heerden said that "not much has been published which could be of use to guide a person when creating a home page for a specific purpose."⁴ In just over one year, the field of home page design books and articles has taken off. Now, one can easily find articles and books that describe Web page design in general. Although these books and articles do not focus specifically on library Web pages, they are still useful for understanding design basics.

The goal of this project was to examine the main, front-end home page of all 120 ARL libraries in order to compare design similarities and differences.

A very helpful article on Web design is by Kathleen Falcigno and Tim Green.⁵ Both Lincoln D. Stein⁶ and Paul McFedries⁷ have written useful books on the subject, Stein focusing on information providers. Some Web sources that are useful are the *Web Style Manual*⁸ and the *Guide to Web Style*.⁹ In addition, some library sites have begun to publish their own Web page standards. One of these can be found under the library Web site at the University of Wisconsin-Madison.¹⁰

Methodology

According to Stover and Zink, "elements common to many home pages, whether by design, imitation, or default, are: a descriptive title, a header that names the organization or sponsoring body, a short paragraph describing the purpose of the Web site, link choices that often are combined with descriptive icons (roughly equivalent to a table of contents), and contact information identifying the author of the Web site."¹¹ Most Web home pages consist of four main parts:

1. The header describes what can be found at the Web site.

2. The body provides most of the information found on each Web page.

3. The footer gives contact information, copyright information, and tells when the page was last revised.

4. The design concept of the home page.

The goal of this project was to examine the main, front-end home page of all 120 ARL libraries in order to compare design similarities and differences. This was done by first creating a survey of forty-four questions pertaining to home page design. Next, each ARL library home page was examined and the survey filled out for each. Then, the data were tabulated using simple averages (and medians in two cases). This was done to establish a current state of the art in ARL library home pages. A "typical" home page is discussed using the averages of these results.

Results

The results can be categorized in seven sections:

1. Backgrounds
2. Document headers
3. Document footers
4. Document body
5. Page length
6. Number of steps to library home page from parent institution Web site
7. Domain name server

Backgrounds

In HTML, the background for a home page is "blank" by default and usually is rendered gray in popular graphical Web browsers such as Netscape. However, Netscape has popularized the idea of using other textures, colors, and designs for the background, which can "provide a strong thematic design element for a page."¹² Backgrounds in HTML currently consist of two primary types: a background image and a background color. A *background image* is an in-line graphic file, in either .jpg or .gif formats, that has been designated as a background to the home

page within the <BODY> tag. It can add color and/or texture to a home page. A *background color* consists of an extension to the <BODY> tag that specifies a certain color scheme and replaces the default color with another color chosen by the HTML author.

Two items were examined in relation to background images/colors:

1. Was a body background used?
2. When backgrounds were used, was a background image or a background color used?

Fifty-five percent of the test group did not use a body background, opting, instead, for the default background. Of the 45 percent using body backgrounds, 19 percent used a background image in either a .gif or a .jpg extension, 24 percent used a solid background color, and 2 percent used a combination of the two. Of the 2 percent using combinations, one library used a solid white background image (rather than a white background color setting), and another used a combination of an image of a green bar, running vertically down the left margin, and a solid white background color.

Document Headers

"A consistent titling design at the top of WWW pages allows the reader to immediately know what the main point of the document is, and what (if any) relationship the page may have to other pages in a related group."¹³ This titling concept is also known as a header. "Nobody wants to scour a large chunk of a page to determine what it is all about. Instead, include a descriptive, large heading (<H1> or <H2>) at the top of the page to give your readers the instant feedback they need."¹⁴

A document header is placed at the top of a home page and gives the home page reader information about that page's content, similar to the function of a book or article title. Sometimes headers consist of in-line images displaying the name of the Web site, or they may simply be text.

Headers also may include graphic images or hypertext links.

Five items were examined in the document header:

1. Was the library's name included?
2. Did the name consist of text or an in-line image?
3. Did the header mention the university?
4. Was there any linked information included in the header?
5. Were any in-line images included in the header?

All 120 home pages included a title of some sort. Of these, 26 percent were text-based headers, 71 percent used some type of digital image, and 3 percent used a combination of the two.

The library's name was included in the header in 96 percent of the test group. Of the 4 percent that did not include a name, usually the word *library* was mentioned in a general sense, but the specific proper name of the library itself (i.e., University Libraries of the University of Southern Mississippi, Cook Memorial Library, etc.) was not included in the header information. Also, 83 percent of the document headers that were examined mentioned the library's parent institution (usually in this format—the University Libraries of the University of Southern Mississippi). Because some ARL libraries are not university libraries, this criterion did not apply to 9 percent of the test group.

Next, the inclusion of in-line images was noted. Graphical in-line images usually consisted of a drawing or a photograph. Sixty-one percent included a drawing with their name, usually an emblem (such as the university seal or the graphic images found on official library publications). Also included were decorative icons and bullets. Photographs were included in 12 percent of the test group, usually of the library building or portrayals of library life (i.e., students studying).

Hypertext links were included in 34 percent of the headers. Thirteen percent

of the headers included various other items, such as: two Common Gateway Interface (CGI) program links, information about Netscape, comments and disclaimer information, contact information, city and state of the library, an image map, a paragraph of text about the library, Web page version release notes, a counter program, home page creation comments, a photo credit, the modification date, and the abbreviation for the university.

Document Footers

"Footers, the elements at the bottom of WWW pages, are extremely important in identifying the origin, authorship, author information, legal status, and last revision date of the page . . ."¹⁵ Footers usually include many types of information, including author's name, author's institutional affiliation, hypertext links to related local pages, copyright dates, revision dates, contact e-mail addresses, official marks or logos, and institutional affiliations.¹⁶

Fifty-eight percent of the document footers examined included an author or author's name in a variety of formats. Of these, there were three varieties: individual's names, general names, and committee names. Of the individual's names, 22 percent listed a full name and 2 percent gave an abbreviation of the individual's name. Of the general names, Web master was used most frequently (12%); there were also variations on Web master (Web manager, Web administrator, Web editor) and original, cute names (Web housekeeper). Also, ten percent gave committee or departmental names such as the Reference Department, the Web Services Team, or the INFOMINE Development Team.

Some type of contact information was given in 70 percent of the document footers. Usually, this was an e-mail address (67.5%) and was linked to the hypertext <mailto:> tag. Three percent of the libraries included mailing addresses. In 43 percent of the document footers, the author's institutional affiliation was in-

cluded, usually by mentioning either the library or the university.

Only 33 percent of library footers did not include hypertext links. Of those that did include some type of link, ten percent were links to the university home page alone. Twenty-seven percent included a variety of links to things such as Library Hours, a University Welcome, or a What's New type of link, but not the university home page. Thirty percent of footers included both the university home page link and other local links.

A copyright statement was included in 17.5 percent of footers. Sixty-three percent included a revision date for the home page. Some type of official mark, seal, or logo graphic was included in 12.5 percent of the footers, and 19 percent of library home pages included the Uniform Resource Locator (URL) of the page in the footer.

Other things that appeared included:

Only 33 percent of library footers did not include hypertext links.

CGI counter programs (six libraries), copyright statement for a photograph (one library), the library's telephone number (four libraries), the author's job title (two libraries), JavaScript at the bottom of the screen (two libraries), and an "Under Construction" statement (one library).

Document Body

The body of a Web page is similar to the body of a letter; it contains the primary content of the home page. This section can be divided into three areas: graphics, links, and text.

Graphics

Graphic in-line images were included on 98 percent of the home pages. Buttons and icons were found at 53 percent of the sites. Only three library home pages included photographs of the library, and one included a photograph of a book and a sign-

TABLE 1
Number of Links per Home Page

Links	No. of Libraries	Percentage
0-9	18	15%
10-19	45	37
20-29	36	30
30-39	10	8
40-49	4	3.5
50-59	4	3.5
60-69	1	1
70-79	1	1
80-89	1	1
Average	21.62 links	
Median	19 links	

post. Tables, which are sometimes digital images, were included on 24 percent of the home pages. Drawings/graphics that were not used as clickable buttons or icons were included in 34 percent of home pages. Image maps were found on 15 percent of the home pages.

Different types of divider lines also were used. Mostly, they were achieved by the <HR> (horizontal rule) tag, which produces a line across the page. It was used on 67.5 percent of the pages. A digital in-line image of a divider line, in .gif or .jpg formats, was used on 16 percent of the pages, and 7.5 percent of the pages used a combination of <HR> tag lines and .gif/.jpg lines. Only 9 percent of the test group chose not to use any type of divider line within the home page.

Other miscellaneous graphics found include: in-line images that say "New!" (used in 7.5% of the test group), blinking text (one library), HTML default bullets rather than bullet images (7.5%), and one Beta HTML 3.0 .gif in-line image.

Links

The average number of hypertext links per home page was about twenty-two, and the median was nineteen. Two pages had only five links, whereas one site included eighty-one links on its home page (see table 1). Ninety-eight percent of li-

brary home pages used typical, text-based links, whereas one library used only button-type links and one library used only an image map to link to information within the Web site. Of the text-based links, 26 percent provided only the link, with no description other than that found within it (i.e., Library Catalog), compared to 16.5 percent that provided a link and an explanation of where it went other than within the link itself, usually in a summary or paragraph format. Fifty-six percent used a combination of links with descriptive text and links with no descriptive text other than that found within the link text itself.

A great majority of ARL library Web sites (91%) used the default color (usually blue) as the text link color. Other colors found were: red (one library), dark red/maroon (one library), green (three libraries), dark blue (two libraries), yellow/tan (one library), dark purple (one library). Two libraries used no text-based links.

Graphic-based links were used at 63 percent of the Web sites. Button-style links were used in 55.5 percent of the test group. Of those, 4.5 percent used a button/icon with no text to describe what that button linked to, whereas 50 percent used a combination of button/icon and descriptive text. A combination of buttons with text and buttons with no text was used on one percent of the test group. Image map links were found at 16 percent of the libraries. All these used a combination of graphics and descriptive text that described the image map links.

Text

In this section, *text* refers to unlinked text. Text was included on 117 ARL library home pages. The font size of the main body of text was usually the default setting (91%). Three libraries used the <H3> tag for all the text, two used the <H2> tag, and four used Netscape font extensions (+1, -1, +4, 2). Of course, the two libraries that included no text-based links also used no unlinked text.

TABLE 2
Number of Lines of Text
per Home Page

Lines of Text	No. of Libraries	Percentage
0	13	11%
1-9	60	50
10-19	30	25
20-29	4	3
30-39	4	3
40-49	2	2
50-59	1	1
Average	10.31	
Median	8	

The amount of text on a home page varied from one line to fifty-one lines. The average number of lines was ten, and the median number of lines was eight (see table 2).

Text headers were used frequently within the body of the home page. Linked text headers were used in 27.5 percent of the test group, 27.5 percent used unlinked headers, 16 percent used a combination of linked and unlinked headers, one page used a graphic image header rather than a text-based header, and 28 percent used no headers on the home page.

Page Length

There are differing views on optimal page length for individual home pages. According to Stein, "A good rule of thumb is to make a page at least as long as a screen, and not longer than ten screens,"¹⁷ whereas McFedries says "nobody likes scrolling through endless screens of text. Pages with more than three or four screenfuls of text are hard to navigate and tend to be confusing to the reader."¹⁸

For this study, page length was determined by using the Print Preview command in Netscape. Sixty-eight percent of home pages were one page in length, and 29 percent were two pages. Two sites were three pages in length, and one site was four pages long.

Number of Steps to Library Home Page from Parent Institution Web Site

When browsing the Web for library sites, one notices differences in placement of the library site on the parent institution's Web site. Sometimes the library home page can be found easily, and other times one must literally hunt for it for five to ten minutes.

Forty-four percent of library home pages could be found in one step, and 37.5 percent could be found in two steps. Ten percent could be found in three steps, and one was buried under four steps. Nine library home pages had no parent institution and were thus excluded from this criterion.

Domain Name Server

Whether the library home page is located on the library's domain name server was determined by the URL address of the site. Usually, if the library has its own system, the URL follows the style of "http://www.lib.name of university.edu/." If the library has an address such as "http://www.university of blah.edu/library.html" or "http://www.university of blah.edu/academic/services/site_1/buildings/Smith library/library.html," this usually indicates that its home page is stored somewhere other than at the library. At the least, the tunnel to access the library's page is supplied by someone else. Sixty-four percent used the format that indicated their own server, whereas 36 percent used another server to store and/or provide access to the library's home page.

The Typical ARL Library Home Page

Using the statistics taken from this survey, a clear picture of a typical ARL library home page emerges:

- *Backgrounds:* The typical ARL library home page has a 50/50 chance of some type of background image or color because nearly 50 percent of libraries used this design format. If a background is used, it is most likely a solid color, probably white or tan, but it is equally possible to find a page using default colors.

- *Document headers:* The name of the library is displayed, most likely in a graphical, in-line image file format (.gif or .jpg). The image mentions the names of the library and the university, probably using this format—University Libraries at the University of Michigan. The header probably does not include any hypertext links, but there is possibly some type of graphic image along with the name of the library, such as a symbol used on the library's stationary or a university seal.

The findings presented here are not meant to show what is being done right in library Web pages, but simply what is being done.

- *Document footer:* Probably some type of author/maintainer of the Web site is listed. This most likely appears as a general name, such as Web master, and this name is linked to a <mailto:> tag, which acts as an e-mail link. The author/maintainer lists his or her institutional affiliation. Some hypertext links are included in the footer area, such as a link to the mother institution's home page. A revision date for the home page is given.

- *Graphics:* In the body of the Web page, some type of graphics are employed, mainly <HR> lines used for dividers between sections of the document and buttons used to link to important places, such as the library catalog. Image maps and tables probably are not used.

- *Hypertext links:* Links included are mostly text based, and the link text uses the default color (the default in Netscape and other popular graphical Web browsers is blue). Some links include a brief description of content for that link, and others provide no explanation other than that found within the link text, such as Library Catalog. The graphical links found most likely appear as clickable

buttons, which have some type of description located on them, usually a word or phrase. The average home page has approximately twenty-two hypertext links.

- *Unlinked text:* Unlinked text is included on the typical ARL library home page. There are approximately ten lines of unlinked text, and the default size is used for the text. The text consists of brief welcome messages and/or descriptions of hypertext links. Some type of text header is used to separate different sections of the home page, and these headers can be linked text, as well.

- *Additional highlights:* The typical ARL library home page is approximately one printed page long, and can be found from the parent institution's main home page in one or two steps. The library most likely houses the server for the home page within the library.

Conclusion

The purpose of this study was to examine current trends in library Web page front-end design and to describe a typical library home page design based on that examination. The findings presented here are not meant to show what is being done right in library Web pages, but simply what is being done.

Through close examination of the library home page standard and consideration of deviations from that standard, Web masters can create or improve their own library home pages, combining uniformity with originality so that visitors to library home pages can quickly find the information they seek.

Notes

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13. Lynch, *Web Style Manual*, available at <http://info.med.yale.edu/caim/stylemanual/M_II_9.html>.
14. McFedries, *The Complete Idiot's Guide to Creating an HTML Web Page*, 167.
15. Lynch, *Web Style Manual*, available at <http://info.med.yale.edu/caim/sylemanual/M_II_12.html>.
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17. Stein, *How to Set Up and Maintain a World Wide Web Site*, 267.
18. McFedries, *The Complete Idiot's Guide to Creating an HTML Web Page*, 164.