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Designing and Maintaining Law Library Web Sites: Some Practical Considerations*

Kent Milunovich**

Mr. Milunovich explores the design and maintenance of law library Web sites, describing a number of general design principles and identifying elements that are typically included in such sites.

¶1 In recent years law library Web sites have become an increasing presence on the Internet. In a recent *Law Library Journal* article, Marie Stefanini Newman discussed criteria to use in evaluating law-oriented Internet sites.¹ This article will expand upon some of the principles she addressed by exploring the design and maintenance of law library Web sites.

¶2 Given that most law libraries now have at least a basic Web site, this article will not discuss HTML (HyperText Markup Language) and methods of using such Web-design tools as Microsoft FrontPage; such information changes over time. Instead the primary focus will be on specific, practical suggestions for designing and maintaining an effective law library Web site. To this end, I will consider various general library Web site design principles and place them in the context of law library Web sites. I will also review a number of elements that typically are incorporated in such sites. Appendixes A and B list resources and include tables that further explain the principles discussed in the article.

General Web Site Design Principles

¶3 There is no “correct” Web design that fits every site. Thomas A. Powell describes Web design as “a very user-centered multidisciplinary design pursuit that includes influences from visual arts, technology, content, and purpose.”² If a Web designer keeps the user in mind at all times, many of the most serious design errors can be avoided. The following general design principles should be considered when designing a law library Web site’s layout.

* © Kent Milunovich, 2002.

** Systems/Technical Services Librarian, Seattle University Law Library, Seattle, Washington. The author would like to thank Angelina Joseph of the Marquette University Law Library, Laura E. Ray of the Cleveland-Marshall College of Law Library, and Galen Fletcher of the Hunter Law Library at Brigham Young University for their helpful comments and suggestions in the preparation of this article.

1. Marie Stefanini Newman, *Evaluation Criteria and Quality Control for Legal Knowledge Systems on the Internet: A Case Study*, 91 LAW LIBR. J. 9 (1999).

2. THOMAS A. POWELL, WEB DESIGN: THE COMPLETE REFERENCE 21 (2000).

Use Consistent Layout

¶4 Ideally, a law library Web site should have a consistent layout throughout.³ The library's name should be displayed prominently on all interior pages because users may enter the site on any page, not just via the home page.⁴ If a specific banner, library logo, or background color is used on the home page, it is wise to use it on each page to facilitate a similar style.⁵ If buttons that link to other pages in the Web site are arranged vertically on the left side of the home page, for example, then other pages in the Web site should be designed similarly.

Use Home Page as Gateway to Site

¶5 The initial page that a user sees upon visiting a law library Web site should be one of the best pages in the entire site. In general, a home page should offer three features: a directory of the site's main content areas (i.e., navigation), a summary of the most important news, and a search feature. A law library home page should clearly indicate the contents of the site, be it policies, news, staff, or online catalog pages.⁶ The user should not have to scroll through the home page because all of the site section headings should be easy to see and understand. As Jakob Nielsen suggests, "The important point is to make the home page into a landmark that is accessible from any interior page on the site, no matter how people entered."⁷

Avoid Using Frames

¶6 Frames are multiple windows on any given page that usually require scrolling. The benefits of using frames can be great. Frames have some advantages, particularly with regard to allowing multiple documents to be shown in a window at once. Frames can save users navigation time, can make a site easier to navigate, and can make a site load more quickly. Ultimately, however, frames present several problems. For one, framed sites inhibit bookmarking. If a user bookmarks a page URL (i.e., Uniform Resource Locator or Web site address) that has frames, the user might not see the same page when accessing it at a later date.⁸ Second, URLs stop working. Address information shown at the top of the browser doesn't constitute a

3. Gregory Flynn, *7 Steps to Building a Great Web Site*, LEGAL TIMES, Oct. 11, 1999, at 29, 29 (indicating that layout for Web purposes "refers to the artful arrangement of graphics, copy, and content on the site"). See, e.g., Northwestern Univ. School of Law, *Welcome to the Pritzker Legal Research Center*, at www.law.nwu.edu/depts/library/index.htm (last modified Aug. 21, 2001) (utilizing same color scheme and banner throughout site).

4. The primary distinction between interior pages and the home page is that interior pages need to focus more on specific content and less on providing a general welcome statement or an overview of the site. These latter two goals should be reserved for the home page. JAKOB NIELSEN, *DESIGNING WEB USABILITY: THE PRACTICE OF SIMPLICITY* 178 (2000).

5. See, e.g., Law Library, Univ. of Ore. Law System, at <http://lawlibrary.uoregon.edu> (last modified July 3, 2001) (illustrating uniformity of layout throughout site).

6. See, e.g., Marian Gould Gallagher Law Library, Univ. of Wash. Sch. of Law, at <http://lib.law.washington.edu/> (last visited Mar. 11, 2002) (exemplifying a home page with a clean, easy-to-follow layout).

7. NIELSEN, *supra* note 4, at 178.

8. *Id.* at 86.

complete specification of the information shown in the window.⁹ A framed site doesn't follow the "one URL equals one document" model of the Web. Frames can also create problems in printing and saving as well as in returning back to the previous page viewed on the Web site.¹⁰ Regardless of whether frames are used, any page on a Web site should have content that is plainly visible and easy to navigate.¹¹

Minimize Remote Deep Linking

¶7 I define remote deep linking as requiring the user to access pages that are more than three links removed from the library's home page. Having remote deep links lessens the ability of the user to successfully navigate the Web site. Unless an interior page has a prominently displayed menu of primary site pages, users may lose awareness of where they are in the Web site. Ideally no page should be more than three links removed from the library's home page, and any deep-linked page should have a button or link leading the user directly to the library's home page.

Use Unobtrusive Background Color and Design

¶8 From time to time one encounters a Web site in which the text is hard to read because the content blends adversely with a dark-colored background or the site uses a design that interferes with the content. Try to refrain from using logos or garish designs; instead, select a neutral, light-colored background that makes documents more attractive and doesn't negatively affect reading comprehension. Avoid dark backgrounds with light text; medium-to-dark backgrounds obscure dark text and make reading difficult.¹² Using background images also is not recommended because they take extra time to download, a broken-image symbol will appear if a user is viewing pages with images turned off, and it is easier on the eyes to place page elements against a plain background than against a complex image.¹³ You want users to focus on the Web site's content and to do so, they need to be able to actually read it. Selecting a unified background color among the various Web pages minimizes a disjointed appearance.¹⁴ When in doubt, choose black text on a white background.

9. *Id.*

10. See World Wide Web Site Design and Management Considerations, program presented at 94th Annual Meeting of the American Association of Law Libraries, Minneapolis (July 18, 2001) (audiotape available from Mobiltape Co.).

11. See KRISTEN L. GARLOCK & SHERRY PIONTEK, DESIGNING WEB INTERFACES TO LIBRARY SERVICES AND RESOURCES 50 (1999). The authors suggest that if frames are being used simply for layout purposes, then a table may be used instead. As design tools, tables can (1) control the width of a page, (2) create columns of text and separate blocks of text, and (3) align images with text and align multiple images. *Id.* at 40.

12. *Id.* at 38.

13. *Id.*

14. *Id.* at 26.

Use Easy-to-Read Text

¶9 Except for such peripheral information as the date stamp or copyright information, text should be at least 12-point typeface. Text headings and subheadings should be at least 14- to 16-point bold typeface. Paragraphs should be short or have bulleted points. Sentences should be simple, concise, and articulated in active voice. Times New Roman is a good, conservative default font option. Consider minimizing the use of text set exclusively in capital letters; instead use boldface to highlight a word or phrase.¹⁵ Be mindful of considerations raised by the Americans with Disabilities Act, such as making a site accessible to the sight impaired.¹⁶

Make Banners, Headers, and Page Titles Readily Visible

¶10 The title of each page within the law library's Web site should have enough information in it to identify the library. For example, "Services" is not specific to any library; "Columbia Law Library—Services"¹⁷ leaves no doubt as to *who* is providing the services.

Minimize Need to Scroll

¶11 It is important to control the width and length of a page. Pages throughout the Web site should not be longer than the equivalent of three screens to minimize the need for the user to use the scroll bar. The requirement of extensive scrolling is often indicative of a page into which multiple (and perhaps dissimilar) topics have been crammed. A better option is to give each topic its own page. Inevitably, there may be situations (e.g., a periodicals list) in which it may be impossible to avoid a long link that requires the user to scroll. In such a case, consider adding anchors at the top of the page that, when clicked, will direct the user to a specific place on the page. Also, if a page must be more than three screens long, consider adding a "Top of Page" button at the bottom of the page.

Ensure Accuracy of Content

¶12 To become a respected resource, a law library Web site requires maintenance. New resources will be developed to which webmasters may wish to provide a hyperlink, and other resources that are already on the Web site may disappear. As network technology and standards change, the organization and layout of the site will need to be updated. A home page or Web site becomes useless if its content is

15. RAY E. METZ & GAIL JUNION-METZ, USING THE WORLD WIDE WEB AND CREATING HOME PAGES: A HOW-TO-DO-IT MANUAL 102 (1996).

16. See e-mail from Galen Fletcher, Government Documents/Microforms Librarian, Hunter Law Library, Brigham Young University, to Kent Milunovich (Mar. 4, 2002) (on file with author). Fletcher recommends using the Web site Bobby (www.cast.org/bobby/) to test for site accessibility. For example, the names of each graphic should be included so that the sight impaired can know what the pictures are when they "see" the library Web site using Dragon, JAWS, or other Web page reading software programs.

17. Columbia Law School, *Arthur W. Diamond Law Library—Services*, at <http://library.law.columbia.edu/services.html> (last visited Oct. 1, 2001) (illustrating effective use of page title).

not current, and visitors will not return if it is not refreshed periodically. Garlock and Piontek suggest four ways to maintain library Web sites: updating information routinely, checking hyperlinks, adding new or deleting dead Internet links and resources, and reorganizing or changing the site's design.¹⁸

Update Information Routinely

¶13 Keep a maintenance schedule. Updating should be done monthly or quarterly, depending upon availability of resources and staff time. Check spelling and grammar on each page by using the spell-check feature on a word processor as well as by proofreading text on a printout of the page. When adding a new section to the library's site, note how often that resource will require updating. Make sure to date the latest changes on the page.¹⁹

Check Hyperlinks

¶14 Dead hyperlinks are links that are invalid and yield an error message when accessed by the user. Invalid hyperlinks raise questions in the user's mind as to the quality and frequency of updating. To avoid them, use software to check links periodically.

Add New and Delete Old Internet Resources

¶15 Adding and removing resources will be a large part of the maintenance of most Web sites. Internet resource collections need to be current. Old Internet resources need to be deleted when the informational content is out-of-date or no longer applicable. Adding new Internet resources should occur continually.²⁰

Reorganizing and Changing Design

¶16 As Internet technology and styles change, reorganizing and changing the design of the library's Web site will become a regular maintenance task. Changes in browser technology will also affect the appearance of the site and make design changes necessary.

¶17 Ideally, a law library Web site's design and layout should be updated periodically as a means to encourage repeated visits to the site. Indeed, a large academic law library may have a full-time webmaster to update the design of the Web site. However, most librarians have a finite amount of time to allot to Web site design, and it usually isn't the only day-to-day task in which a librarian must engage. For librarians with additional duties, settling on a design that is desirable allows time to focus exclusively on maintaining content.²¹

18. KRISTEN L. GARLOCK & SHERRY PIONTEK, *BUILDING THE SERVICE-BASED LIBRARY WEB SITE: A STEP-BY-STEP GUIDE TO DESIGN AND OPTIONS* 68-69 (1996).

19. *Id.* at 72.

20. GARLOCK & PIONTEK, *supra* note 18, at 70.

21. State, court, and county law libraries in particular may be restricted by standards that limit improvisation with regard to Web site design. For example, a county's information technology department may require that each department adhere to a specific, home-page template to facilitate consistency and uniformity, regardless of its appropriateness for a law library.

Adhere to Selected Web Page URLs

¶18 If users choose to bookmark pages from a site, the URLs should be valid to be accessed again over time.²² URLs should be brief and descriptive, possibly including the full or truncated name of the library or institution as appropriate coupled with lawlib or lawlibrary. Although brevity of URLs matters less for bookmarking purposes, it may be germane for transcribing and retyping purposes should others choose to provide a link to your site. For webmasters, Web page maintenance may be easier when consistency exists between the various page names and corresponding URLs.

Use Navigation Bars

¶19 A navigation bar is a collection of hypertext links grouped together on a page.²³ In a law library Web site, a navigation bar can provide links to pages from anywhere in the site, such as "Law School Home," "Law Library Home," "Online Catalog," and "Contact Us." The navigation bar's size, structure, colors, and graphics should be consistent throughout the site and should facilitate economizing the user's time in searching the site. It is often best to place the navigation bar towards the top or bottom of the page, rather than at the side. Placement at the top provides immediate access to the navigation system as well as an instant sense of context within the site.²⁴ Adding JavaScript²⁵ to the headings in the navigation bars will show the various pages included in those links once the cursor is moved over those bars.

Avoid Using "Under Construction" or "Coming Soon" Messages

¶20 An overarching purpose of a Web site is to attract users to information that is present on the site, not to information that isn't. If a page's content is particularly spare, cryptic, or simply nonexistent, keep it under wraps until the content is rich enough to be worthy of being published publicly.

22. See NIELSEN, *supra* note 4, at 248. Jakob Nielsen suggests four rules for easy-to-spell URLs: (1) Make the URL as short as possible (the longer the URL, the greater the possibilities for making errors); (2) Use common natural language words as much as possible because users normally know how to spell these words; (3) Use all lowercase characters. If you use MiXeD cAsE, some users are guaranteed to forget some of the caps and get errors; (4) Avoid special characters (anything but letters and digits) as far as possible. If punctuation is necessary, stick to a single character throughout all your URLs. Use all underlines or all hyphens, for example, but not a mix of the two. *Id.* at 248-49.
23. LOUIS ROSENFELD & PETER MORVILLE, INFORMATION ARCHITECTURE FOR THE WORLDWIDE WEB 58 (1998).
24. See *id.* at 59.
25. JavaScript is a scripting language originally developed by Netscape. Unlike Java and other languages that might be used on the Internet, JavaScript is relatively easy for a nonprogrammer to master. Users must enable JavaScript in order to see it, which may not be possible for all users. JavaScript works best for small jobs, such as adding small bits of HTML code on the fly or creating small embellishments (such as buttons) to a Web page.

Test Pages on Different Browsers

¶21 You will want to check your work on different browsers as you progress because they all have different interfaces and present text differently.²⁶ Do not design the page for any one browser but rather, develop a design that works on all of them. Also keep in mind that the next generation of browsers might render pages completely different, so keep checking as new software emerges.²⁷

Make Web Design a Participatory Process

¶22 Laura Ray suggests that problems can result when a single individual in an organization has the entire responsibility for developing a Web site.²⁸ Solitary webmasters may not know how to build Web sites, instead relying on authoring tools or creating static sites. A lack of staff investment in the site (and therefore reluctance to contribute content) can result if the Web development process is not participatory or interactive. Key staff from key departments should be consulted on site content—they should be asked what questions need to be answered and what services need to be offered—as well as encouraged to contribute content.²⁹

Typical Law Library Web Site Elements

¶23 Having established some fundamental principles to follow for effective Web site design, it is now time to consider the elements that are typically included in law library Web sites. The various elements described in the following sections were selected as the result of observing their presence while viewing the contents of fifty academic law library Web sites,³⁰ fifteen state, court and county law library Web sites,³¹ and twenty-five law firm Web

26. See GARLOCK & PIONTEK, *supra* note 18, at 56.

27. See *id.*

28. E-mail from Laura E. Ray, Educational Programming Librarian, Cleveland-Marshall College of Law Library, to Kent Milunovich (Sept. 25, 2001) (on file with author).

29. *Id.*

30. The fifty academic law library Web sites reviewed were from the following law schools: Akron, Albany–Union, American University, Arizona State, Boston University, California–Berkeley, California–Davis, Catholic University, Chicago, Colorado, Columbia, Connecticut, Cornell, Denver, Duke, Emory, Florida State, George Mason, George Washington, Georgetown, Harvard, Hastings, Iowa, Marquette, Minnesota, Missouri–Columbia, New York University, North Carolina, Northwestern, Notre Dame, Oregon, Pennsylvania, Pepperdine, San Francisco, Seattle, Southern Illinois, Southern Methodist, Stanford, Stetson, Suffolk, Texas, University of Southern California, Vanderbilt, Virginia, Washington, Washington University, Willamette, William and Mary, Wisconsin, and Yale. The Cornell and Texas Web sites earned awards from the American Association of Law Libraries for best nonprint law library publications in 1998 and 2000 respectively.

31. The fifteen state, court, and county law library Web sites reviewed were: Alameda County (California), Florida Supreme Court, Hennepin County (Minnesota), Idaho State, Jenkins County (Pennsylvania), King County (Washington), Los Angeles County, Maine State, Maricopa County (Arizona), Montana, Orange County (California), Sacramento County, San Diego County, San Francisco, and Wisconsin State.

sites.³² The elements are listed in sequence by approximate frequency of appearance in law library Web sites from most to least common.³³ My primary intent in listing them is to provide a suggested checklist for librarians who build or maintain law library Web sites.

Law Library Hours and Location

¶24 Hours and location constitute the most fundamental information that people want to know about any law library. Private academic law libraries in particular might indicate whether the library is open to the public. Hours and location ideally should be on the home page or otherwise available through a prominently displayed “Hours and Location” link. Law school library hours listings might include schedules for the academic year as well as summer and interim session hours. Information regarding driving directions and parking is also useful, particularly when the law library is located in an urban setting. Any library branch locations should also be noted on this page.

Online Public Access Catalog Link

¶25 A link to the library’s catalog should also be prominently displayed on the law library’s home page,³⁴ as it is likely a resource of great interest to visitors to the site. As demonstrated by the University of Washington Law Library’s MARIAN catalog page,³⁵ the online catalog should at least allow searching by title, author, author/title, subject, keyword, and call number. The online catalog page might also provide instructions as to how to use the catalog (within the library and via the Web) as well as how to obtain and install any required software.

¶26 The catalog page might also have a help page that details how patrons can view their own library circulation record, how patrons can request a specific library item, as well as which databases (e.g., *LegalTrac*, *Current Index to Legal Periodicals*) can be accessed and by whom.

32. The twenty-five law firm Web sites reviewed were: Akin, Gump, Strauss, Hauer & Feld; Baker & McKenzie; Dorsey & Whitney; Foley & Lardner; Fulbright & Jaworski; Gibson, Dunn & Crutcher; Holland & Knight; Jones, Day, Reavis & Pogue; Kirkland & Ellis; Latham & Watkins; LeBoeuf, Lamb, Greene & MacRae; Mayer, Brown, Rowe & Maw; McDermott, Will & Emery; Morgan Lewis; Morrison & Foerster; O’Melveny & Myers; Piper, Marbury, Rudnick & Wolfe; Sidley, Austin, Brown & Wood; Skadden, Arps, Slate, Meagher & Flom; Sonnenschein; Squire Sanders; Vinson & Elkins; Weil, Gotshal & Manges; Wilson, Sonsini, Goodrich & Rosati; and Winston & Strawn. Only seven of the twenty-five sites have library links and none have Web-based catalogs to which the public has access. Law firm catalogs tend to exist in the context of intranets. Given that this article is about suggested standards regarding Web content that anyone can see, such intranets are beyond its scope.

33. See *infra* Appendix B for tables that list the frequency of appearance of twenty-seven elements in the ninety Web sites reviewed during the course of preparing this article.

34. See, e.g., Kresge Law Library, Univ. of Notre Dame Law Sch., at www.nd.edu/~lawlib/ (last visited Oct. 1, 2001) (exemplifying clearly-marked link to library’s online catalog).

35. Marian Gould Gallagher Law Library, Univ. of Wash. Sch. of Law, *MARIAN—Gallagher Law Library Catalog*, at <http://marian.law.washington.edu/> (last visited Mar. 1, 2002) [hereinafter *MARIAN*] (representing a good example of a law library catalog page as to quality of content, layout, and use of background color).

Law Library Guide

¶27 A law library can include a guide on its Web site to serve as an introduction to the resources and services the library provides to users.³⁶ One section might encompass policies regarding circulation, fines, photocopying, and whether food or drinks are permitted. Another section might discuss the library's services with regard to faxing and interlibrary loans. Yet another might note the location of the materials in the library, describing, for instance, where the periodicals, reference collection, and archives are located in the library. A guide may also include a miscellaneous section that addresses such issues as location of telephones, how to handle an evacuation or emergency, and so on.

¶28 Yet another page in the guide may encompass links to various library research guides and pathfinders.³⁷ Guides may note how to use the library catalog, how to find particular collections, and how the library is used for purposes of legal research.

¶29 A computer-assisted legal research page might outline which databases (e.g., LexisNexis and Westlaw) can be used by faculty and students and which may be accessed by visitors. Consider including Web-based subscriptions, such as AccessUN or QuickLaw America, along with site descriptions and URLs.

Law Library Staff List

¶30 A staff list should include librarians' names in boldface with job titles as well as physical and e-mail addresses. The list of names might be grouped alphabetically by department and should be routinely updated, particularly with regard to e-mail addresses and telephone number extensions. Though less common, such staff lists could be accompanied by biographies.

Link to the Law Library Home Page

¶31 Any interior page should allow the user to go directly back to the home page of the library's Web site at any time. A readily apparent link to the home page has practical utility for the user in terms of navigation (except when placed on the home page itself, for which a self-referential link serves no purpose). For long pages that require scrolling, include multiple links to the home page and place them at the top and bottom of the page to facilitate the user's movement and sense of place in the Web site.

Link to the Parent Institution's Home Page

¶32 When creating a link to a law school home page or a state, court, or county

36. See, e.g., Stetson Univ. Coll. of Law, *Law Library Guide*, at www.law.stetson.edu/lawlib/guide.htm (last modified Feb. 11, 2002) (exemplifying law library guide/resources page).

37. See, e.g., Albany Law Sch.—Union Univ., *Schaffer Law Library Research Guides*, at www.als.edu/lib/als_find.html (last modified Mar. 13, 2001) (providing links to legal research guides prepared by the law library on wide variety of subjects).

government home page, it is helpful to use meaningful words and phrases.³⁸ On various law library Web sites for example, “Home” can refer to either the law library home page or the law school home page. Using “Law School” or “Law School Home” is more precise and avoids confusion for the user.³⁹

Links to Other Libraries

¶33 Such links may be to other campus libraries or state and local libraries. The libraries so linked should be ones that are likely to be meaningful to users; they should supplement the law library’s purpose. For example, the government documents collection at an undergraduate library that is located near a law school might supplement the law school library’s holdings, and thus a link to that collection would make sense.

Links to Other Library Catalogs

¶34 A page may provide links to local nonlegal library catalogs, selected academic law library catalogs, or national libraries, such as the Library of Congress.⁴⁰ These links are particularly helpful if the law library itself lacks a specific title that other community law libraries might have. Any list of catalog links should serve to facilitate the library user’s research needs.

Date Stamp and Copyright Information

¶35 A date stamp is a “last updated” notice in smaller type at the bottom of any page on the Web site that lets the user know how current the information is on the page. Any page with meaningful content that will change over time should have a date stamp. A copyright notice might also be included, as in this example:

©2001 Valparaiso University Law Library
Valparaiso, Indiana
All rights reserved
Last revised October 6, 2001

The institution should copyright the “look and feel” of its Web site in addition to all appropriate content. Even if a Web designer is hired on a contractual basis to design the site, this can be done on a work-for-hire basis, thereby retaining copyright with the organization.⁴¹

Library Images and Pictures

¶36 Combining library images with text provides a more complete method of com-

38. See GARLOCK & PIONTEK, *supra* note 11, at 65.

39. See, e.g., Jacob Burns Law Library, George Washington Univ. Law Sch., at www.law.gwu.edu/burns/ (last visited Mar. 4, 2002) (providing a good example of successful integration with links and resources available on the law school Web site).

40. See, e.g., MARIAN, *supra* note 35 (showing links to other Washington State library catalogs).

41. See E-mail from Laura E. Ray, *supra* note 28.

munication than either one could by itself.⁴² Nevertheless, images shouldn't be used without carefully considering such design principles as those on the following suggested list:

1. Pictures must be completely relevant to the text around them;
2. When in doubt about the quality of a picture, don't use it;
3. Pictures invite you to look at a page, but at the same time they are barriers to reading. Each time you stop to look at a picture, you have to find where you left off reading, and many times you decide not to continue reading;
4. Use pictures sparingly and consistently throughout your series of documents;
5. Color pictures get more attention than black-and-white pictures;
6. Large pictures get more attention than small ones;
7. A sequence of pictures that tells a story get more attention than single pictures scattered throughout; and
8. People and action pictures get more attention than "thing" pictures.⁴³

¶37 The primary Web-oriented image-based formats are GIF (Graphics Interchange Format) and JPEG (Joint Photographic Experts Group). GIF images are probably the most widely supported image on the Web; JPEG is a lossy image format (one in which some of the image's quality is lost every time a GIF image is converted to a JPEG and vice versa) that offers some trade-off between image quality and file size. However, the JPEG format stores high-quality 24-bit color images in a significantly smaller amount of space than GIF, thus saving precious disk space or download time on the Web.⁴⁴ With either format, be aware of load time for the user; strive for ten seconds maximum, otherwise the user may lose interest.

¶38 Law libraries often have interior or exterior library images on the Web site's main page. Such pictures should have sharp definition with good lighting and be large enough to show the library but not so large as to crowd content that might be most meaningful for users.

¶39 Any page with multiple pictures, such as library tour pictures, should have small enough images to save loading time, but it should also have thumbnail links to facilitate better viewing.⁴⁵ If there are topical or geographical distinctions among the various types of pictures (main reading area, computer room), each set of pictures might have its own link on a general law library pictures page.

Related Legal Internet Sites

¶40 A list of legal-related Web sites including such sites as Findlaw, GPO Access, or THOMAS is often useful to users. It may link to search engine sites, statutes

42. See METZ & JUNION-METZ, *supra* note 15, at 103.

43. *Id.*

44. See POWELL, *supra* note 2, at 464.

45. Thumbnails are used to give the user a chance to see a large image, but without forcing the user to wait until it downloads.

and laws for the state in which the library is located, and national, state, or local government sites.⁴⁶ Each list should have an intended audience; a list for students and faculty may be less germane for public patrons who might have separate needs and interests, such as how to find free legal advice. In addition, a separate list might include recommended general search engines (not everyone has used Google, for instance). Such lists should present the Web sites in a coherent sequence, whether topical or alphabetical; should provide comments or annotations about the sites; and should be updated routinely. If the hyperlinks cannot be updated, it may be best to not have them at all.⁴⁷ The existence of multiple dead links on a site raises questions as to the quality and validity of the rest of the library's Web site.

Webmaster E-Mail Address

¶41 Make contact information easy to find. Affix the name and e-mail address of the site's webmaster in small type at the bottom of every page or just the home page. This makes it easy for users to give feedback and responses.⁴⁸ Consider using an e-mail address such as the following: webmaster@libraryname.edu. The webmaster e-mail address is different from the "Contact Us" link for general reference or library-related questions.

Welcome Page

¶42 The welcome page can serve as an introduction to the library that describes the size of the collection, the community served, and the services offered. It may be couched in the form of a general, anonymous statement or a message from the library director⁴⁹ that could be accompanied by a photograph. It is important, however, that this statement be kept up-to-date since it is likely to be the first part of the library's site seen by a new visitor.⁵⁰ It may explain how the collection supports the law school curriculum or describe the library's facilities and architecture. The Web site of the Morgan Lewis law firm, for example, commingles descriptions of each of its libraries located in various cities with local Internet sites of interest.⁵¹

46. See e.g., Stetson Univ. Coll. of Law, *Legal Resources*, at www.law.stetson.edu/law/default.htm (last modified Nov. 20, 2001) (providing comprehensive list of links to legal Internet sites in clear, easy-to-use format).

47. Hyperlinks might not work because of a typing error in the URL or in the tagging, or because the address has changed. To monitor possible changes and avoid errors, have other team members check your work and the links periodically, or investigate the use of an automated link-checker to make the work easier. GARLOCK & PIONTEK, *supra* note 18, at 56.

48. *Id.* at 57.

49. See, e.g., Jacob Burns Law Library, George Washington Univ. Law Sch., *Welcome*, at www.law.gwu.edu/burns/welcome.htm (last visited Mar. 4, 2002) (illustrating introduction to library Web site by director).

50. See e-mail from Angelina Joseph, Cataloging Librarian, Marquette University Law Library, to Kent Milunovich (Mar. 12, 2001) (on file with author) (suggesting that library director's welcome statement should be updated promptly upon arrival of a new director).

51. Morgan Lewis Counselors at Law, *Library Resources*, at www.morganlewis.com/libraryset.html (last visited Mar. 4, 2002).

Mission Statement

¶43 What is the library's purpose? What services does it offer and to what intended patron base does it offer them? Was the library's existence created by state statute?⁵² Consider including a library mission statement to answer such questions, although alternatively such information can be provided in the director's message on the welcome page. Brevity is important with the mission statement as users to the site are not likely to be interested in reading a long essay.

Law Library News or Information

¶44 This page appears most commonly on academic law library Web sites but is appropriate for other law library sites as well. The home page is a desirable place to list library news, particularly if the page is brief. Links can be used to lead the user to a more detailed page with a chronologically arranged list of library newsletters.⁵³ Law firms with library links sometimes include press releases, publications by firm attorneys, as well as a calendar of events and conferences.⁵⁴

Site Map or Index

¶45 A good site map or index may include law library page links exclusively or the institution's Web site as well. Novice users might infer erroneously that "site map" refers to either a map of the library itself or the location of the building itself. To label more accurately what the page represents, consider a page title such as "Web site map." An index might have mutually exclusive lists of resources for students (e.g., exams), faculty, and public (e.g., suggested books for nonlawyers). Alternatively, a comprehensive menu of the site's primary pages can be listed on the home page in lieu of a site map or index page.

Site Search Link

¶46 Site search boxes are not a common element of law library Web site design, but they do constitute another way to access pages. Any such link should be configured so that a search yields a finite number of meaningful "hits" if possible.

Library Maps

¶47 A library map may represent either the physical location of the building itself

52. See, e.g., Marian Gould Gallagher Law Library, Univ. of Wash. Sch. of Law, *Law Library Mission Statement*, at <http://lib.law.washington.edu/dir/mission.html> (last visited Mar. 4, 2002) (illustrating concise statement of library's mission that identifies main purpose of library and clientele it serves).

53. See, e.g., LAW LIBRARY NEWS, Marian Gould Gallagher Law Library, Univ. of Wash. Sch. of Law, at <http://lib.law.washington.edu/news/LawLibNews.html> (last visited Mar. 4, 2002) (illustrating archive of column about the library that appears in weekly law school newsletter); Seattle Univ. Law Library, *Info*, at www.law.seattleu.edu/information/newsletter/previous.html (last updated Jan. 2002) (illustrating archive of law library newsletters).

54. See, e.g., Akin Gump Strauss Hauer & Feld, *Library*, at www.akingump.com/library/index.html (last visited Mar. 4, 2002) (including press releases, publications, and calendar of events).

or an internal map with a list of general categories and departments that indicate physical location of books by floor.⁵⁵ A map page might have links to color maps for each floor of the library. One primary consideration with regard to the inclusion of any maps is whether visitors to the site will actually print and use these maps.

“What’s New on This Site?” Link

¶48 Having such a link precludes the possibility of the user looking for updated information to the Web site that may not exist. Using a “last updated” note at the bottom of a page, while useful, does not indicate what specifically has changed on the page. A “What’s New” page will alert return users to specific changes in the Web site.

New Acquisitions List

¶49 Quarterly or monthly library acquisitions lists may have their own page on the library site. They should be arranged chronologically and then grouped alphabetically by title or Library of Congress subject heading.⁵⁶

Periodicals List

¶50 When listing a library’s serial titles, the webmaster might include alphabetically arranged links at the top of the site (e.g., A–C, D–F, G–I, etc.) to minimize the need for the user to scroll *ad infinitum*.⁵⁷

Collection Development Policy

¶51 Although collection development policies are rarely found on law library Web sites, they can serve as a means to ascertain how the library acquires books and what criteria are used in the selection process. These purposes are demonstrated by the Notre Dame Law Library’s collection development policy.⁵⁸

Law Library History

¶52 A library with a rich, storied history can use a page on its Web site to briefly share that story with site visitors. For example, the Harvard Law School Library’s

55. See, e.g., Tarlton Law Library, Univ. of Tex. Sch. of Law, *Library Building Maps*, at www.law.utexas.edu/maps/ (updated May 19, 1999) (providing maps of each floor of the library); Underwood Law Library, Southern Methodist Univ., *Maps of Underwood Law Library*, at <http://library.law.smu.edu/maps.htm> (last visited Mar. 4, 2002) (providing library floor maps in PDF format).

56. See, e.g., Hastings Law Library, Univ. of Calif. Hastings Coll. of Law, at www.uchastings.edu/library/ (last visited Mar. 4, 2002) (selecting “New Books” link on “Library Collections” menu leads to recent issues of monthly new books list); NEW TITLES RECEIVED IN THE LAW LIBRARY, Law Library, Washington and Lee Univ. Sch. of Law, at www.wlu.edu/law/lib/newtitles/ (last visited Mar. 4, 2002) (containing links to monthly lists of new books acquired by the library).

57. See, e.g., LAW LIBRARY PERIODICALS, Law Library, Boston Univ. Sch. of Law, at www.bu.edu/law/library/periodicals/index.htm (updated through acquisitions Nov. 2001) (exemplifying periodicals list with links by first letter of title).

58. KRESGE LAW LIBRARY, UNIV. OF NOTRE DAME LAW SCH., COLLECTION DEVELOPMENT GOALS, at www.nd.edu/~lawlib/about/policy.html (rev. Jan. 1998).

history page traces its history, the growth of its various collections, and the various buildings in which the collections have been housed during the last 280 years.⁵⁹

Forms

¶53 Various forms are appropriate for placing on a law library Web site. Forms can provide an alternative for remote users to send more richly detailed requests and suggestions that might not otherwise be elicited via an e-mail address link. If fill-out forms are used, make sure to ask questions that will elicit desired information.⁶⁰ Do not ask open-ended questions if you want specific answers. For example, when seeking information regarding an interlibrary loan request, do not ask for “Information about the item.” Instead, ask for “author’s last name,” “author’s first name,” “ISBN,” and so on. Circulation card-application forms requesting name and address may also be made available via the Internet on the forms page. Forms for books that a patron suggests that the library acquire may be made available with boxes for title, author, publisher, and date of publication. Photocopy request forms might have boxes for name, firm, address and phone number, citation, and quantity of copies. Finally, a new acquisitions list could include a simple online form for faculty to request that new items be routed to them.

Frequently Asked Questions (FAQs)

¶54 A frequently asked questions page provides answers to common questions such as library hours, location, photocopying policy; as well as who can use the library and check out its books.⁶¹ A separate questions and answers page that is more tailored to public patrons might note how to find an attorney or how to obtain free legal advice.

Staff Openings

¶55 In addition to posting law library job openings on various electronic discussion lists, why not post full-time and part-time position openings on the law library Web site as well? Job openings could be listed prominently on the home page or otherwise be incorporated into the law library staff page with a job description linked to a “Vacant” listing on the staff page.

59. Harvard Law Sch. Library, *History of the Harvard Law School Library*, at www.law.harvard.edu/library/facts/special_history.htm (last reviewed July 2001). See also Jenkins Law Library, *History of Jenkins Law Library*, at www.jenkinslaw.org/about/history/index.shtml (last updated June 2, 2001) (example of brief statement of a law library’s history).

60. See GARLOCK & PIONTEK, *supra* note 18, at 58.

61. See, e.g., Marion Gould Gallagher Law Library, Univ. of Wash. Sch. of Law, *FAQs, Frequently Asked Questions About the Gallagher Law Library*, at <http://lib.law.washington.edu/faq.html> (last updated June 11, 2001) (illustrating the types of information that can be provided through use of frequently asked questions page).

Management Committees

¶56 State, court, and county law library Web sites occasionally have a page listing the names and addresses of their boards of trustees. Analogous information tends not to be present on academic law library Web sites because information on the law school administration is on the school's site instead. Likewise, information regarding law firm partners, including biographical sketches and areas of practice, may be found on the general law firm Web site instead of the library link.

Other Resources

¶57 Law library Web sites have utility in providing information that may be found in few other places. The Law-Lib Archive⁶² at the University California, Davis Law Library Web site is one example of rare, value-added Web site content, and the Marquette University Law Library Technical Services Home Page⁶³ is another. A law library annual report listing noteworthy achievements might also have its own page. Law-related electronic discussion lists could be included as well as law library-related electronic discussion lists (such as LAWACQ and TS-SIS).

Conclusion

¶58 The purpose of this article was to explore the design and maintenance of law library Web sites. Numerous law school libraries have already incorporated many of the design elements discussed here, but fewer nonacademic law libraries have done so, whether because of a dearth of staff time or resources. Libraries in the latter predicament might explore outsourcing Web site development. Regardless of who designs or modifies the library Web site, it is best to lay out the Web site's structure on paper before beginning construction or overhauling the Web design. This ensures having a logical, coherent strategic direction for the Web site.

62. Law Library, Univ. of Calif. Davis, *Archive of the Law-Lib Electronic Discussion List*, at <http://lawlibrary.ucdavis.edu/LAWLIB/lawlib.html> (last visited Mar. 5, 2002).

63. Law Library, Marquette Univ., *Marquette University Law Library Technical Services*, at www.mu.edu/law/library/tshmpage.html (last modified Mar. 21, 2001).

Appendix A

Suggested Resources⁶⁴

Staying abreast of technological advances and developments is important inasmuch as it affects the layout and content of the Web site. Although few resources exist in print or on the Internet that specifically apply to law library Web sites, the items listed here are resources with content of interest to law library webmasters. Finally, when designing (or redesigning) a Web site, solicit input from webmasters of law library Web sites whose work you respect.

Web-Based Resources

Berner-Lee, Tim, *Style Guide for Online Hypertext*, at <http://www.w3.org/Provider/Style>.

Builder.com: Solutions for Site Builders, at <http://builder.cnet.com>.

Campbell, Nicole, *Usability Testing Resources*. Human-Machine Interface Interest Group, Library and Information Technology Association, American Library Association, 2000, at <http://www.vancouver.wsu.edu/fac/campbell/hmiig/usabres2.htm>.

Lynch, Patrick, *Yale C/AIM Web Style Guide* (1997), at <http://info.med.yale.edu/caim/manual/contents.html>.

Schnell, Eric H., *Writing for the Web: A Primer for Librarians*, at <http://bones.med.ohio-state.edu/eric/papers/primer/webdocs.html>.

Useit.com: Jakob Nielsen's Website, at <http://www.useit.com>.
Subtitled "Usable Information Technology," this site examines Web usability issues.

Web Developer's Journal, at <http://www.webdevelopersjournal.com>.

Web Developer's Virtual Library, at <http://wdvl.com>.

Webmonkey: The Web Developer's Resource, at <http://hotwired.lycos.com/webmonkey>.

Web Page Design for Designers, at <http://www.wpdfd.com/wpdhome.htm>.
Discusses general Web site design.

Webreview.com: Cross-Training for Web Teams, at <http://www.webreview.com>.
A weekly site, Webreview.com has articles on the application of graphic design issues to the Web. Contains a track specifically aimed at Web designers (<http://webreview.com/designers.shtml>).

64. The list of suggested resources for general Web site design and maintenance was gleaned in part from a program presented by Dominick J. Grillo and Laura E. Ray at the 2001 AALL Annual Meeting. World Wide Web Site Design and Management Considerations, *supra* note 10.

Webtrends.network: The Portal Site for Internet and Intranet Professionals, at <http://webtrends.net>.

Articles

Evans, Beth, "The Authors of Academic Library Home Pages: Their Identity, Training and Dissemination of Web Construction Skills," *Internet Research: Electronic Networking Applications and Policy* 9 (1999): 309–19.

Nielsen, Jacob, "Top Ten Mistakes in Web Design," *Alertbox* (May 1996), at <http://www.useit.com/alertbox/9605.html>.

Nielsen, Jacob, "'Top Ten Mistakes' Revisited Three Years Later," *Alertbox* (May 2, 1999), at <http://www.useit.com/alertbox/990502.html>.

Books⁶⁵

Andres, Clay. *Great Web Architecture*. Foster City, Calif.: IDG Books Worldwide, 1999.

Cohen, Jonathan. *Communication and Design with the Internet*. New York: W. W. Norton, 2000.

Greenspun, Philip. *Philip and Alex's Guide to Web Publishing*. San Francisco, Calif.: Morgan Kaufman Publishers, 1999. Also available at <http://www.arsdigita.com/books/panda/index.html> (rev. Nov. 1999).

Lynch, Patrick J., and Sarah Horton. *Web Style Guide: Basic Design Principles for Creating Web Site*. New Haven, Conn.: Yale Univ. Pr., 1999.

Mena, Jesus. *Data Mining Your Website*. Boston, Mass.: Digital Pr., 1999.

Niedherst, Jennifer. *Learning Web Design: A Beginner's Guide to HTML, Graphics, and Beyond*. Sebastopol, Calif.: O'Reilly and Assoc., 2001.

Niedherst, Jennifer. *Web Design in a Nutshell: A Desktop Quick Reference*. Sebastopol, Calif.: O'Reilly & Assoc., 1999.

Schmeiser, Lisa. *The Complete Website Upgrade and Maintenance Guide*. San Francisco, Calif.: SYBEX, 1999.

65. In addition to the items listed here, consider obtaining the most recent treatises available on library Web site design and maintenance from the American Library Association, Neal-Schuman, and other library-oriented publishers.

Appendix B

Elements Present in Law Library Web Sites

The following tables indicate the frequency in which various elements appear on the law library Web sites that were reviewed in the course of preparing this article. Twenty-seven elements were considered—the tables indicate the number of times (and the percentage of the total sites) each element was visible on the sites reviewed, arranged from most to least frequent.

Table 1
All Law Libraries Surveyed

Design Element	Academic (50)	State, Court, and County (15)	Law Firm (25)	Total (90)
Link to law library home page	49 (98%)	13 (87%)	6 (24%)	68 (76%)
Law library guide	50 (100%)	14 (93%)	4 (16%)	68 (76%)
Law library hours/location	50 (100%)	15 (100%)	3 (12%)	68 (76%)
Related legal Internet sites	44 (88%)	14 (93%)	7 (28%)	65 (72%)
Online public access catalog link	50 (100%)	12 (80%)	0 (0%)	62 (69%)
Law library staff list	50 (100%)	10 (67%)	1 (4%)	61 (68%)
Link to parent institution's home page	49 (98%)	5 (33%)	6 (24%)	60 (67%)
Links to other library catalogs	49 (98%)	8 (53%)	0 (0%)	57 (63%)
Library images/pictures	43 (86%)	10 (67%)	1 (4%)	54 (60%)
Date stamp and copyright info.	43 (86%)	9 (60%)	1 (4%)	53 (59%)
Site map or index	36 (72%)	8 (53%)	6 (24%)	50 (56%)
Links to other libraries	45 (90%)	4 (27%)	0 (0%)	49 (54%)
Webmaster e-mail address	39 (78%)	7 (47%)	2 (8%)	48 (53%)
Law library news/information	32 (64%)	7 (47%)	3 (12%)	42 (47%)
Library maps	36 (72%)	5 (33%)	0 (0%)	41 (46%)
New acquisitions list	27 (54%)	6 (40%)	0 (0%)	33 (37%)
Site search link	23 (45%)	5 (33%)	2 (8%)	30 (33%)
Forms	21 (42%)	6 (40%)	0 (0%)	27 (30%)
Welcome page	13 (26%)	2 (13%)	0 (0%)	15 (17%)
Mission statement	9 (18%)	6 (40%)	0 (0%)	15 (17%)
Staff openings	10 (20%)	5 (33%)	0 (0%)	15 (17%)
"What's new on this site?" link	12 (24%)	2 (13%)	0 (0%)	14 (16%)
Frequently asked questions (FAQs)	9 (18%)	2 (13%)	0 (0%)	11 (12%)
Law library history	5 (10%)	5 (33%)	0 (0%)	10 (11%)
Management committees	0 (0%)	6 (40%)	0 (0%)	6 (7%)
Periodicals list	3 (6%)	1 (7%)	0 (0%)	4 (4%)
Collection development policy	2 (4%)	0 (0%)	0 (0%)	2 (2%)

Table 2
Academic Law Libraries Surveyed

Design Element	Academic Law Libraries (50)
Law library guide	50 (100%)
Law library hours/location	50 (100%)
Online public access catalog link	50 (100%)
Law library staff list	50 (100%)
Link to law library home page	49 (98%)
Link to parent institution's home page	49 (98%)
Links to other library catalogs	49 (98%)
Links to other libraries	45 (90%)
Related legal Internet sites	44 (88%)
Date stamp and copyright information	43 (86%)
Library images/pictures	43 (86%)
Webmaster e-mail address	39 (78%)
Site map or index	36 (72%)
Library maps	36 (72%)
Law library news/information	32 (64%)
New acquisitions list	27 (54%)
Site search link	23 (45%)
Forms	21 (42%)
Welcome page	13 (26%)
"What's new on this site?" link	12 (24%)
Staff openings	10 (20%)
Frequently asked questions (FAQs)	9 (18%)
Mission statement	9 (18%)
Law library history	5 (10%)
Periodicals list	3 (6%)
Collection development policy	2 (4%)
Management committees	0 (0%)

Table 3
State, Court, and County Law Libraries Surveyed

Design Element	State, Court, and County Law Libraries (15)
Law library hours/location	15 (100%)
Law library guide	14 (93%)
Related legal Internet sites	14 (93%)
Link to law library home page	13 (87%)
Online public access catalog link	12 (80%)
Library images/pictures	10 (67%)
Law library staff list	10 (67%)
Date stamp and copyright information	9 (60%)
Links to other library catalogs	8 (53%)
Site map or index	8 (53%)
Law library news/information	7 (47%)
Webmaster e-mail address	7 (47%)
Mission statement	6 (40%)
Forms	6 (40%)
New acquisitions list	6 (40%)
Management committees	6 (40%)
Site search link	5 (33%)
Library maps	5 (33%)
Staff openings	5 (33%)
Law library history	5 (33%)
Link to parent institution's home page	5 (33%)
Links to other libraries	4 (27%)
Frequently asked questions (FAQs)	2 (13%)
Welcome page	2 (13%)
"What's new on this site?" link	2 (13%)
Periodicals list	1 (7%)
Collection development policy	0 (0%)

Table 4
Law Firm Libraries Surveyed

Design Element	Law Firm Libraries (25)
Related legal Internet sites	7 (28%)
Site map or index	6 (24%)
Link to law library home page	6 (24%)
Link to parent institution's home page	6 (24%)
Law library guide	4 (16%)
Law library hours/location	3 (12%)
Law library news/information	3 (12%)
Webmaster e-mail address	2 (8%)
Site search link	2 (8%)
Law library staff list	1 (4%)
Date stamp and copyright information	1 (4%)
Library images/pictures	1 (4%)
Online public access catalog link	0 (0%)
Links to other library catalogs	0 (0%)
Links to other libraries	0 (0%)
Library maps	0 (0%)
New acquisitions list	0 (0%)
Forms	0 (0%)
Welcome page	0 (0%)
Mission statement	0 (0%)
Staff openings	0 (0%)
"What's new on this site?" link	0 (0%)
Frequently asked questions (FAQs)	0 (0%)
Law library history	0 (0%)
Management committees	0 (0%)
Periodicals list	0 (0%)
Collection development policy	0 (0%)