ACHIEVING EQUITABLE ACCESS WITHIN LIBRARIES

Surprisingly few libraries are taking the initiative to make their libraries or Web sites accessible. Axel Schmetzke, librarian/assistant professor at the University of Wisconsin—Madison, recently studied the library Web sites of the nation's 24 most highly ranked schools of library and information science to determine their accessibility. Only one library school (Florida State University) Web site was 100% compliant with the guidelines that Bobby checks for, and only two others (Texas Woman's University, 94% compliant and University of South Carolina—Columbia, 83% compliant) received passing grades. Schmetzke's study gives cause for concern, as in some cases the university's other Web pages were more accessible.

Axel Schmetzke's complete study may be found and in "Web Accessibility at University Libraries and Library Schools." Library Hi Tech. Vol. 19, No. 1, 2001. 35-49. Additionally, Schmetzke maintains his own Web site on accessible Web design.

http://library.uwsp.edu/aschmetz/accessible/pub_resources.htm

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Providing equitable access to information is not a daunting task. Access takes some awareness, knowledge, determination, planning, cooperation, and additional money to work. With the exception of the money, all the resources are readily available.

Librarians and IT staff must work together

Within today's information community there are librarians and there are technophiles. Each brings different educational and attitudinal backgrounds when approaching information access. When the two work within their individual, specialized compartments little is achieved; however, when librarians and technophiles work together, organized and equitable access to information is achieved. Librarians and educators must work with the library's information technology (IT) staff when planning the long- and short-term goals of accessibility for patrons with different access needs within the physical building and the cyber-library.

Get to know the user

IT staff do not often have the pleasure of talking to or meeting with the patrons they serve, so they aren't always aware of their needs. Public service staffs on the other hand, talk and listen to patrons daily. Messages and concerns from users with impairments can be relayed, but for IT staff to meet with patrons who will be using adaptive technology to access the Web and databases is more helpful. Sitting next to a user who is blind and listens to the Web gives Web designers a new perspective.

In lieu of being able to sit with a user who is blind, staff may want to consider accessing the library's Web site using only the screen reader. Turning off the monitor is a great way to demonstrate how the Web site looks without graphics.

Develop policy and guidelines—and adhere to them

In his article on Web accessibility, Schmetzke points out how few universities are including accessibility guidelines in their Web design policies. He reports that guidelines that mention accessibility are the exception rather than the rule.

Often, advisory members of the library's cyber task force are so caught up with the potential of the Web site, they forget to look at the basic needs of the users. Library administrators and staff should start to immediately remedy the omission of accessibility. Since library Web sites are often the first visit that many new (or potential) residents make with the library, it is the library's chance to make a good impression.

The department within the library that is responsible for developing policy should work with staff to ensure the library's resources are accessible.

The following universities have policies pertaining to Web accessibility:

University of Berkeley: http://amber.berkeley.edu/index_text.html

University of Michigan Libraries: www.lib.umich.edu/libhome/rrs/nisc/ada/ada.html

Regis University: www.regis.edu/disability/webaccessibility.htm#accessibilitypolicy

Massachusetts Institute of Technology http://web.mit.edu/ada/waccess.html

California Community Colleges: http://htctu.fhda.edu/amguidelines/am33000.htm

University of Wisconsin—Madison: www.wisc.edu/wiscinfo/policy/disability.html

Yale University: www.library.yale.edu/Administration/SQIC/spd1.html

—Source: Schmetzke, Axel. "Web Accessibility at University Libraries and Library Schools." Library Hi Tech, Vol. 19, No. 1, 2001; p. 38.

Collaboration results in successful Web sites

Although most library Web sites do not follow good design rules, some do and serve as excellent examples.

Canadian National Institute for the Blind Library

www.cnib.ca/library

The Canadian National Library for the Blind's (CNIB) Web site is an excellent example of how libraries can create an aesthetically pleasing site that offers users of adaptive technology independent access to information. The site is one of the largest Web sites on the Internet and was designed "to build loyalty among its users."

The Web site meets Priority 1 Accessibility checks, does not have any browser compatibility errors, and downloads quickly. The site offers visitors a brief audio welcome. The CNIB has developed Web Accessibility Guidelines for its site, which are posted within it.

What makes this an exceptional site, however, are the tips, navigational guides, and tutorials provided. Some items include:

- Tips for Using Netscape Navigator 3.x.
- Tips for Microsoft Internet Explorer 2.x.
- Guidelines and resources about Web accessibility.
- Tutorials on use of CNIB's VisuNet Canada, VisuText Digital Library including detailed steps on how to access newspapers and magazines using JAWS.
- Navigational guide and tutorial on the use of Britannica Online for those using screen readers.
- Navigational guide and tutorial on the use of Grove Dictionary of Music and Musicians.
- Navigational guide and tutorial on the use of the Oxford English Dictionary Online.

Although the guides are designed to aid visitors who have a visual disability to navigate the site, some of the guides enable new readers to independently learn about reference titles. Some users, who have been blind since birth, may have never heard of the Grove Dictionary of Music and Musicians, since there was never a way to easily access the content until the online edition was launched.

Cleveland Public Library

www.cpl.org

Text-Only Application: One of the tenets of the Cleveland Public Library (CPL) is to ensure all Web site visitors are able to cross the digital divide and reach their intellectual and recreational goals. When a new Web site was designed, the Automation Department contracted for a text-only interface for all levels of the Web site.

This additional interface increased the cost of the design by about 15%, but it assured that users of assistive technology and those with slower modems would be able to move throughout the site with little interference. The site doesn't have any Priority 1 violations and loads quickly. As of this writing, the text-only link is in the process of being moved to the top of the Web page to afford users with adaptive equipment and slower modems the ability to find it quickly.

The CPL site also supports a page of accessibility tips and is based on the groundwork laid by the CNIB. To enable visitors to access current information, such as is found in newspapers and magazines, navigational guides were developed. Of special note is the virtual tour of the sensory garden, supported by CPL. Each photo is described in as much detail as possible to allow remote visitors to receive a sense of the plantings and to encourage site visits.

Many of the innovations on the CPL site are a result of Web coordinator Tracy Strobel's meetings with patrons and staff of the Library for the Blind. She observed firsthand the problems a patron using a screen reader was having and immediately eliminated some of them. Her personal goal is to assure that CPL meets all priority levels of Bobby.

Staff from the Library for the Blind were invited to sit on the Digital Task Force that established policies for all digital projects to be posted on the CPL Web site. The task force determine all projects must be accessible to those using adaptive technology. This decision opens a wide array of mate-

rials to people with disabilities.

San Jose Public Library

www.sjpl.lib.ca.us/txt_default.htm

The city of San Jose is active in its approach to providing access to people with disabilities. The city of San Jose incorporates Web Page Disability Access Design Standards, developed by the Office of Equality Assurance, into all San Jose's civic Web sites. The public library is one of the sites that adheres to the standards.

The eBranch of the library supports a text-version of the site for all pages that cannot accommodate the standards. Visitors to the site immediately are greeted with the link for the text-only version of the page. Browsing the site, users find instructions clearly written and links clearly defined.

The page allows visitors to link to the Web Page Disability Access Design Standard and Access Instruction for Users with Disabilities. The Web site meets Priority 1 Bobby mandates.

Linda Dydo of Library Information Technology & eBranch Services estimates that the initial design and set up took five hours, and about one hour per month is spent to maintain it.

Libraries of the University of Wisconsin

Axel Schmetzke executed a survey of all University of Wisconsin Libraries and found they varied in the degree of accessibility.

View all libraries of the University of Wisconsin: http://library.uwsp.edu/aschmetz/Accessible/UW-Campuses/Survey2000/contents2000.htm

The University of Wisconsin—Madison Web site is maintained by the Division of Information Technology (DoIT), which is also home to the staff of accessibility masters of Equal Access to Software and Information (EASI). The text access meets Priority 1 guidelines mandated by Bobby and gives users swift movement throughout the site.

Utah State University Libraries

www.usu.edu/library/textonly.html

The text-only version of the Utah State University Web site does not contain any Priority 1 accessibility errors, loads quickly, and does not have any browser incompatibilities. The site is uncluttered and enables users to move through the top level pages quickly and efficiently.

Kevin Brewer, Reference Librarian at the SciTech Library of the Utah State University, says the text-only version was mounted when the library redesigned the library's home page. Staff wanted to ensure that patrons with disabilities and those with slow connections could continue to use the site. Brewer attended a WebAim Accessibility workshop to learn what was needed. His goal was to assure all Web pages are Priority 1 compliant.

University of North Carolina Chapel Hill Libraries

www.lib.unc.edu/textonly.html

The text-only version of the Web site meets Priority 1 mandates of Bobby. The text is clearly laid out and presented in a manner that encourages browsing. The Web site demonstrates planning to ensure the proper use of HTML, which, in turn, ensures accessibility.

Tim Shearer, Web access librarian and chair of the Library Web Committee, says the university has always "considered it essential to maximize

access to their site for as many users as possible…staff are careful to create pages that use valid HTML and follow best practice for designing accessible pages…and strive to separate content from presentation." Web pages on the site are tested using the W3C HTML and CSS validators and Bobby.

Shearer says since the design goal of the Web has always been accessibility, the cost differential for designing the accessible interface was marginal. The real cost was in building HTML validation and best practice into the institution's infrastructure. The library offers six hours of HTML instruction to Web content producers each term. Courses include explicit examples of accessibility issues and pitfalls. The class helps designers understand why they must follow the "seemingly arbitrary rules of W3C, in as much as the pages appear to display just fine without following them."

The University plans to continue to maintain a high degree of technical utility and will attempt to reduce the reliance on tables as a page layout workaround.

Also on the horizon is the addition of disability access techniques such as the access-key attributes. Shearer hopes the Web site's organizational structure will be redesigned to improve intellectual access, and be based on user studies and focus groups.

Ohio Public Library Information Network

www.oplin.lib.oh.us

The editor chose to include the OPLIN Web site (text-only) due to the strides it has made to improve accessibility within the last 12 months. OPLIN is a statewide initiative, supported by the state of Ohio, to enable all libraries and residents to have access to informational databases regardless of their economic climate.

The former version of the site did not meet the Priority 1 Bobby requirements, but improvements were made and the present version does. One improvement to note is that in previous versions, the text-only button had been relegated to an indistinguishable location; it is now one of the first buttons site visitors find. Bobby does not require this placement, but it is valued by those using adaptive technology or slower modems.

Your library Web site here

Other Web sites are likely out there that are also accessible to users of screen readers or refreshable Braille displays. A quick way to test a library's Web site is to simply log onto Bobby, and then enter the library's URL. Within a minute, Bobby analyzes the site and points out every perceived violation, but it adds that a visual check may indicate the presentation is acceptable.

If compliance is achieved, consider adding the accessibility symbol; too few libraries do.

Cooperation among librarians, vendors, and patrons

Library staff should always be willing to talk with vendors to achieve a better product for their patrons. Access can be achieved when everyone states problems in a forthright manner and works together to achieve a solution.

Cleveland Public Library, Library for the Blind and Physically Handicapped, ProQuest, and Adaptive Computer Users

During the annual American Library Association meeting in July 2000, Barbara T. Mates, Head of the Cleveland Public Library for the Blind and Physically Handicapped (CPL, LBPH) was part of a panel that addressed the topic of accessible Internet access. Before her talk, a colleague relayed in hushed tones, "There are ProQuest people here!" The ProQuest people stayed, listened, and learned, and when a question arose at CPL on the subject of access, Mates did not hesitate to contact one of those in attendance at the presentation for help and advice. That e-mail was the beginning of a valuable working relationship.

To demonstrate how and why libraries and patrons can work together, Everyl Yankee, ProQuest product usability manager, was asked to answer a few questions to share information.

Why did ProQuest become interested in the accessibility of its databases?

In the summer of 2000, Bell & Howell began developing a Web accessibility interface for its ProQuest® online information service after staff members attended Barbara Mates' session on accessibility at the annual American Library Association meeting. We had created a text-based (Z39.50 Gateway) interface in 1996 for Lynx (text-only) browsers. This interface is still available today, as well as our graphical user interface. However, we are currently involved in building an improved accessible interface that will be more convenient and easy to use for all customers.

Part of the incentive to make an accessible interface was, of course, the ADA. However, another aspect that affects both customers as well as vendors is the notion of universal design or an interface that works for all users under all conditions. (The most-cited example of a cross-functional device is the cell telephone, which has design and use issues like a tiny keypad, nearly invisible visual interface, auditory cues, etc.) The issues inherent in "accessible interfaces" extend beyond the immediate and offer potential for vastly improved interface access for all.

Why did ProQuest choose to work with library staff and patrons?

We have been asked how to achieve buy-in from techies and vendors to do this. We believe the best way to get buy-in from the technical world is to build a bridge between the user and the vendor.

Software developers are generally highly intelligent, intellectually curious, and unusually intense people who love to solve complex problems. They typically work in an isolated environment and that isolation helps them concentrate on their necessarily solitary work. One of their biggest challenges is being certain that they are preparing software to genuinely meet their customers' needs. They rarely meet, much less interact with, customers. So they try to guess what it is that customers want, exactly how they might go about it, how they do it, and whether or not they succeed.

Nothing challenges a software developer more than solving a real-world problem. The notion of a nonvisual interface that quickly and easily works for users motivates them when they work with actual users in a team environment.

How did the ProQuest development team get motivated?

First, we put the development team in the user's shoes. Developers must use JAWS or another reader and try to use ProQuest in this environment first. Then they are introduced to an actual user.

We started with a conference call with Barbara Mates, Will Reed, and ProQuest staff in October 2000. We discussed the dilemma of Max, a 72-year-old blind person who wished to search ProQuest for the *New York Times*. We made that one of our goals—to make Max's search easy.

Why did you visit the CPL site, and what did you learn from the visit?

As the ProQuest usability product manager, I came to Cleveland in November to meet the CPL staff and users, including Max, to put a human face on the problem and witness, step-by-step, the problems encountered.

Will Reed, adaptive technology librarian, led Max through a sample JAWS session as we searched the ProQuest graphical interface for specific information Max wished to find. The usability manager noted problems inherent to this process, including audio clutter, navigation or instructions that were unclear unless visually perceived, and many other areas that would not be apparent to a sighted person.

What did you do with the data you collected?

Max's scenario (a blind user who wishes to search the *NYT* information about the Holocaust Museum within the last five years), the issues he encountered in searching ProQuest, and a photograph of Max and his companion dog, Silas, became part of the analysis materials collected and subsequently used by the team for new interface design, development, and evaluation.

Was this enough data? Were further meetings required?

ProQuest product managers met blind users invited to a breakfast at the midwinter meeting of the American Library Association, where they observed how text readers were used. This was the first time management had met and talked at length with blind users, and it reinforced their commitment to our initiative.

How did the meeting help ProQuest?

As the development team works on the interface, they think of Max and other customers. They think, "How would Max do this? At this point in the interface, what choices would he have to make?" Max's need becomes the objective for the development team. The team acquires the rare privilege of trying to understand the complexity of Max's thought process when he uses the interface. Simply put, we work to make these complex decisions as simple as possible for him by removing barriers that we, as developers, did not realize were there. We have attempted to act on his behalf and then rely on other blind users to evaluate our success.

What does the librarian-patron-ProQuest partnership mean for future product accessibility?

Team involvement means the active participation of actual users, developers trained in usability, universal access, and accessibility issues, librarians, and technical staff who work with the blind.

As of this writing, we have been gathering a team from Bell & Howell, CPL, and blind users both in academic and public libraries throughout the

United States. The users are assisting us in implementing standard usability, accessibility and software development practices. Other topics include user evaluation/testing, quality assurance testing, and preparing the best documentation for new users of this interface. Our users, as always, provide the best indicators of whether the interface is doing what is needed.

If each of us reaches out, access will be the standard, not the exception

The CPL/ProQuest/patron working relationship took little effort and no money. It did, however, take the effort to write an e-mail message to ask why a patron could not access a ProQuest document with JAWS. It also took a responsive company to say, "Yes, we admit there is a problem; let's try to solve it."

If all database librarians take the time to reach out to other vendors and form similar working teams, then the barriers to information access disappear.