# Making Electronic Resources Accessible in Libraries

**Ensuring equal access to all patrons**
by Sheryl Burgstahler, Ph.D.

As a result of medical advancements, legislation, and changing attitudes, more individuals with disabilities are pursuing postsecondary studies, succeeding in careers, and participating in community life. Technology plays a role in their level of success. However, some individuals who have assistive technology do not have access to all Internet content and other electronic resources because of their inaccessible design. Inaccessible products include library websites, online catalogs, electronic books, indexes to literature, full-text journal articles, and electronic reserve services.

Early on, libraries recognized their role in providing information resources to everyone in the community. They have been leaders in accommodating individuals with disabilities within their physical spaces. Within these facilities it is usually easy for a librarian to identify individuals with disabilities who need assistance. They come only when the library is open to the public and therefore staff are available to help. When a person arrives at the library using a wheelchair or a white cane, the librarian has a sense of what types of accommodations he might need in order to access specific library holdings. When a person who is blind uses speech output technology within a library but cannot access certain resources because of their inaccessible design, library staff members can observe the patron having difficulty and make themselves available to read screen content.

Libraries now support patrons from all over the world via the Internet. As far as electronic resources are concerned, the library is "open" twenty-four hours a day, seven days a week. Librarians do not know how many of their electronic visitors have disabilities that impact access to resources. A new level of awareness regarding the accessibility of information technology (IT) is needed. Just as steps without a corresponding ramp or elevator can make a library's physical resources inaccessible to some patrons, poor design of electronic resources erects barriers for some online visitors.

This publication focuses on how libraries can ensure that everyone has access to their electronic resources. It discusses access, legal, and policy issues and presents recommendations for practice. The field of universal design provides a framework for this discussion.
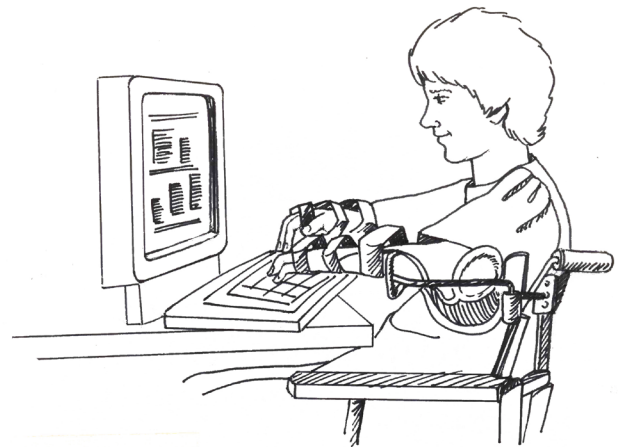


## Access Challenges and Solutions

Some electronic resources are inaccessible to people with disabilities, even those who have access to assistive technology. For example, people who are blind often use computers equipped with text-to-speech software. With a synthesized voice, these systems read aloud whatever text appears on the computer screen. When an image appears on the screen, the system may simply say "image." Text alternatives to content presented within graphic images need to be provided in order

for people who are blind to make sense of the content. Individuals whose visual impairment prevents them from seeing small images may use special software to enlarge screen images. Because they see only small parts of the website at a time, cluttered web pages and page layouts that are inconsistent from page to page can be difficult for them to navigate.

Students with some types of learning disabilities also benefit when pages are orderly and consistent from page to page. People who are colorblind can become lost when navigation choices require the ability to distinguish one color from another. Similarly, when websites include audio output without providing captions or transcriptions, individuals with hearing impairments cannot access the content. Health impairments can also affect web access. For example, web pages that include flashes at certain rates (between 2 to 55 hertz) can induce seizures for people who are susceptible to them.

## Legal Issues

Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act (ADA) of 1990 and its amendments mandate that qualified people with disabilities have access to public programs and services. According to these laws, no otherwise qualified individuals with disabilities shall, solely by reason of their disabilities, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in these programs and services, unless it would pose an undue burden to do so. Although Section 504 and the ADA do not specifically address access to technology, the United States Department of Justice and the U.S. Office of Civil Rights have clarified that the ADA accessibility requirements apply to electronic resources. Court cases and complaints about the accessibility of online content to the

Office of Civil Rights continue to increase. Dealing with complaints and litigation that result from inaccessible services can be unpleasant and costly.

## Universal Design

Planning for access to electronic resources as they are being developed can be easier and therefore less expensive than developing accommodation strategies once a person with a disability needs access. When design decisions are made to ensure that electronic resources are accessible to people with a wide range of abilities, disabilities, and other characteristics, the process is called "universal design." Considered user characteristics include, but are not limited to, age, race/ ethnicity, size, gender, native language, and level of ability to move, hear, or see. Universal design is defined by the Center for Universal Design (CUD) at North Carolina State University as "the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design." At CUD, architects, product designers, engineers, and environmental design researchers established a set of principles that can be used to design environments, products, and information resources.

When the wide range of characteristics of potential visitors is considered in the design of electronic resources, they are accessible to a broad audience; just as when architects consider a wide range of characteristics of potential visitors, they design buildings that can be used by everyone, including guests who have difficulty walking, push baby strollers, and use wheelchairs. Designing inclusive environments that are accessible to everyone minimizes the need for individual accommodations.
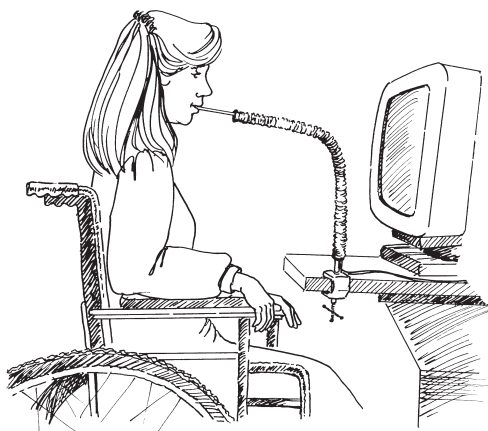
People who have situational limitations that are similar to limitations imposed by disabilities benefit from the accessible design of electronic resources. For example, the reading challenges faced by a student for whom English is a second language are similar to those experienced by people with specific learning disabilities; a student who participates in a class late at night and prefers to turn off the sound capabilities of her computer to avoid waking up sleeping children, has created a situation similar to that experienced by people who are deaf; a student who cannot access graphics because of Internet connection limitations faces challenges similar to those who are blind; and a person with a monochrome monitor experiences access challenges similar to a person who is colorblind.

## Steps to Accessible IT

Employing universal design principles in the development and procurement of electronic resources in libraries is a critical step towards ensuring that patrons with disabilities are provided with full access to library resources. Libraries and their professional organizations are well positioned to be leaders in the development and promotion of policies for the procurement, development, and use of accessible information technology. The following list of suggestions is adapted from

the article *Distance Learning: The Library's Role in Ensuring Access to Everyone* in Volume 20, Number 4, 2002, of *Library High Tech* and written by Sheryl Burgstahler.

**Involve stakeholders.**
Ensuring that electronic resources are accessible to people with disabilities requires the involvement of all stakeholders. These include people with disabilities, professional organizations, libraries, colleges and universities, funding agencies, and state governments. A library should make sure that all stakeholders are represented as accessibility policies, procedures, and guidelines are being developed. Distance learning instructors, librarians, technical support staff, Webmasters, and people with disabilities should be included.

**Assign responsibility and leadership and establish basic processes.**
Assign a person or a department within the library to coordinate the development of plans, the process for updating policies and guidelines, the promotion of accessibility, and the evaluation of progress. Put in place a system that ensures regular input from stakeholders and adjusts to technology developments. Seek high-level support within the library organization.

**Research the current situation.**
Consult with legal experts to fully understand the requirements for program, information, and service accessibility mandated by the ADA and other legislation relevant to libraries. Evaluate the accessibility of current electronic resources in the library, beginning with the library's web pages. Ask producers of electronic resources about the accessibility of their products, especially to individuals who are blind and using speech output systems that can only access text. Immediately notify producers of purchased resources of

accessibility barriers as library patrons identify them. Inquire about their plans to correct these problems, and make it clear that you expect these barriers to be removed in future versions of the products.

**Develop a policy statement.**
Develop an overall library policy statement that commits the library to making programs, services, and resources accessible to people with disabilities. Include accessibility considerations in library procedures, such as those for reference materials, website management, and electronic reserve. Commit to procuring, developing, and using accessible products and providing accommodations whenever products are inaccessible to patrons with disabilities. Prominently post an accessibility policy statement on the library website that documents commitment to accessibility as well as an interest in receiving feedback from site visitors about inaccessible materials. Offer assistance to anyone who cannot access the materials as they are presented.

**Adopt guidelines for accessible electronic and information technology.**
Develop accessibility guidelines or standards for the procurement, development, and use of IT in the library. Build on the expertise and experiences of others. The two most widely accepted standards were developed by the World Wide Web Consortium (W3C) and the U.S. federal government. The W3C is an industry group that develops common protocols that enhance interoperability and guide the evolution of the World Wide Web. W3C's Web Accessibility Initiative (WAI) developed Web Content Accessibility Guidelines for web pages. These guidelines have been widely accepted worldwide.

In 1986, Section 508 was added to the Rehabilitation Act of 1973, requiring that the IT that federal agencies procure, develop, maintain, and use is accessible to employees and members of the public with disabilities, unless it would pose an undue burden to do so. The Rehabilitation Act Amendments of 1998 charged the U.S. Architectural and Transportation Barriers Compliance Board (Access Board) to develop IT accessibility standards to which federal agencies must comply. The Section 508 accessibility standards developed for the federal government can serve as a model even for libraries that are not covered entities under the legislation. Unlike the WAI guidelines that apply only to websites, Section 508 standards cover all information technology.

**Evaluate progress.**
Establish evaluation criteria and a process. Regularly evaluate the library's progress in reaching accessibility goals. Develop plans for removing access barriers as they are discovered.

**Disseminate information.**
Disseminate accessibility policies, guidelines, and procedures to library staff. When possible, show that there is high-level support for accessibility policies and enforcement.

**Provide training and support.**
Few individuals who maintain websites have access to training and support in the area of accessible and usable design. There are many useful resources available on the Internet, however. Collect a set of accessibility online tutorials and other resources for appropriate staff. Create an area on staff web pages where training and resources can be easily accessed.

**Procure accessible products.**
Libraries can promote the development of accessible products by considering accessibility in the procurement of all information technology. Demand that accessible products be created in any development contracts for web pages or other technology. When the library purchases videos and other multimedia products, inquire about captioning, audio description, and alternate formats. If an accessible product cannot be located, at least ask vendors about their plans for making future versions of their products accessible, putting them on notice that you will consider accessibility in all purchase decisions and that you expect them to solve their accessibility problems in a timely manner.

**Respond to specific needs.**
Besides taking proactive steps to ensure accessibility, develop procedures for responding quickly to requests for disability-related accommodations.

**Promote accessibility through professional organizations.**
Encourage professional organizations to take a leadership role in promoting the accessibility of library resources. These organizations include the American Library Association and its divisions (e.g., the American Association of School Librarians, the Association of College and Research Libraries, the Library and Information Technology Association and the Public Library Association). Professional organizations should develop accessibility policies and standards for the accessibility of information technology for their organizations, provide examples of policy statements to share with their members, identify and promote best practices, and encourage vendors to develop accessible products. They should make explicit on their websites that they are committed to accessibility and encourage feedback from visitors. They should make sure that their conferences include content on legislation, policies, guidelines, and design regarding accessible electronic products.

The American Library Association's (ALA) *Library Services for People with Disabilities Policy*, states that "Libraries must not discriminate against individuals with disabilities and shall ensure that individuals with disabilities have equal access to library resources." This policy includes "remote electronic access to library resources." Further, it states that "all graduate programs in library and information studies should require students to learn about accessibility issues, assistive technology, the needs of people with disabilities both as users and employees, and laws applicable to the rights of people with disabilities as they impact library services." It recommends that libraries provide training opportunities for all library employees and volunteers in order to sensitize them to issues affecting people with disabilities and to effectively provide services to people with disabilities. This is a good start, however, more focused efforts made by the ALA to promote the purchase, development, and use of accessible information resources to its members could have a significant impact on libraries nationwide.

For example, the ACRL could set a positive example by assigning a committee to revise its *Guidelines for Distance Learning Library Services* to include a commitment to accessibility; to adopt standards for accessibility; and for the procurement, development and use of accessible electronic and information technology; to review its web pages to make sure they are models of accessibility; include disability-related content in their conferences; and to develop sample accessibility policies, standards and procedures for its members.

## Conclusion

Providing access to information technology helps libraries comply with legal mandates as well as address concerns related to equity and marginalization. Libraries can provide a model of accessibility in policies and practices, encourage professional organizations to promote accessibility, and pressure producers of electronic products to provide accessible formats.

## Additional Resources

To learn more about accessible information technology, consult DO-IT's *Technology and Universal Design* page at *www.uw.edu/doit/ Resources/technology.html*. For more information about applications of universal design, consult *The Center for Universal Design in Education* at *www.uw.edu/doit/CUDE/*.

## About DO-IT

DO-IT (Disabilities, Opportunities, Internetworking, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs and careers such as those in science, engineering, mathematics, and technology.

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