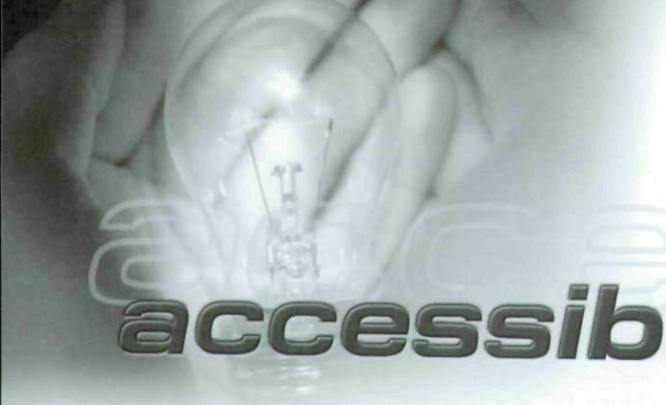

accessible IT

Virtual Reference Services for the Print Impaired: Separate, but Not Equal

"LIBRARIANS AND THE VENDORS ARE MAKING GREAT STRIDES TOWARD THE GOAL OF MAKING VIRTUAL REFERENCE SERVICES ACCESSIBLE TO ALL. BUT THE PROBLEMS HAVEN'T BEEN SOLVED YET."

by TOM PETERS and LORI BELL

Physical libraries and collections present a host of accessibility challenges for those patrons who are blind, have low vision, or have physical limitations. Unfortunately, library services and access are not automatically improved with the Internet, computers, or digital library services. Whenever a library collection or service becomes digitized and networked, a new set of accessibility challenges arises. Reference service, which began centered in physical libraries and has since branched out into telephone, snail mail, and computer-networked versions, is a good example of the accessibility challenges posed by online versions.

This column will address the accessibility challenges in offering virtual or Web-based reference services and specifically address a project called InfoEyes, which is a virtual reference (VR) service developed for the visually impaired. This service began after an Illinois statewide trial (led by the Illinois State Library) to test the accessibility of OCLC's QuestionPoint. The Illinois State Library Talking Book and Braille Service, directed by Sharon Ruda; the Mid-Illinois Talking Book Center, where Lori worked; and Southern Illinois Talking Book Center, directed by Diana Sussman, participated in the trial during the summer of 2003.

When the trial was over, the group started a new trial in spring 2004 to more directly address accessibility issues in the area of virtual reference. The second trial involved a number of state talking book center libraries and resulted in InfoEyes. Now that virtual reference services are becoming more prevalent in all types of libraries, it is critical for librarians and virtual reference software vendors to address accessibility issues. Here we'll provide an introduction to and an overview of virtual reference services in mainstream libraries, as well as discuss the InfoEyes project.

Background and History of Virtual Reference Services

The phrase "virtual reference" encompasses a wide variety of online communication and information transfer methods used by specific virtual reference systems. Some of these methods (such as e-mail) are asynchronous, but most are synchronous. They involve real-time communication between the reference provider and the patron, just like face-to-face and telephone reference. Although e-mail reference has existed for a number of years, true chat-based, real-time online interactive reference really started around 1999.

The accessibility challenges facing virtual reference services depend on the methods and specific software, hardware, and systems used by each particular VR service. Asynchronous

e-mail communication presents fairly straightforward accessibility challenges, regardless of the e-mail system used. The accessibility challenges are easily addressed, regardless of whether the e-mail is rendered as plain ASCII text, HTML, or some other format.

Synchronous text-chat VR and Web co-browsing present different accessibility challenges. When the text-chat interface uses forms or does not offer keystroke alternatives to drop-down menus and clickable buttons, there will be significant impediments to access for blind and low-vision patrons using screen reader software. The single greatest accessibility challenge presented by some VR systems that use live text chat is their reliance on Macromedia's Flash technology or certain JavaScript applications to periodically refresh the text-chat window. Often, the periodically refreshed screen gets interpreted and read by the screen reader software as a new Web page every time it is refreshed. The patrons can feel stuck in a broken record of text chat. A constantly refreshing computer screen means that the computer is continually communicating with a server and "reprinting" the whole screen, even if there are no changes. So the screen reader is continually going back to the beginning of the Web page to reread the page.

Interactive virtual reference services, where a librarian and patron interact in real time, actually migrated into the library field in 1999 to 2000 through the use of commercial business customer service software called eGain that the consortium 24/7 (now part of OCLC) and LSSI (now tutor.com) modified for library purposes. The machine "overhead," or requirements for the use of this software, was high, requiring mid- to higher-end computers for both the librarian and the user. OCLC's QuestionPoint used its own chat product that had no co-browsing capabilities. OCLC also offered QuestionPoint Enhanced, a higher-end product with voice and video, but this service proved to be rather shaky and unreliable. When virtual reference service blossomed in libraries and library consortia over the next few years, accessibility did not appear to be a major concern for VR software vendors.

If a VR system uses Voice over IP (VoIP) technology, it should be fairly accessible to blind and low-vision users. VoIP, of course, will present a major accessibility challenge to the deaf and hard of hearing, unless they have access to a compatible speech-to-text software program that converts the speech quickly, accurately, and on-the-fly. For larger online events, some systems offer small Webcam windows for sign language signers, but that is not practical for a virtual reference service. From the beginning, and even now, most VR systems do not offer VoIP as an option.

Many instant messaging (IM) services and fully featured virtual reference systems now offer video capabilities. This could present a major accessibility challenge for users with print disabilities, but we continue to wonder how much value video will add to the overall networked digital reference interaction. Will information be conveyed visually through video, or will it only add the human element of a face-to-face conversation? This still needs to be evaluated.

True Virtual Reference

We could argue that much of what gets lumped under the phrase "virtual reference" is really wannabe VR. There is nothing virtual about e-mail communication, text chatting, co-browsing, etc., in the sense that the virtual thing aspires to be a close approximation of something from the real world. If anything, e-mail is virtual mail, but it seems silly now (and decidedly retro) to understand e-mail in that way. Better names for these types of reference services would be "networked, digital reference" or "Web-based reference," which would distinguish them from face-to-face, phone, and snail mail reference without making any grandiose claims to virtuality.

"VIRTUAL REFERENCE IN VIRTUAL WORLDS CREATES TREMENDOUS ACCESSIBILITY CHALLENGES AND OPPORTUNITIES."

Virtual reference is now possible in virtual worlds such as Second Life, Active Worlds, and in the forthcoming virtual reality application being developed by Google. Reference librarians involved in the Alliance Library System's Second Life Library 2.0 project have begun beta testing a "true" VR service. Patron and librarian avatars (digital personas created by individuals) can interact during the reference interview via text chatting, instant messaging, movements, gestures, and facial expressions. It is a true virtual reference service in the sense that it truly attempts to replicate and approximate what is arguably the most intense, most useful, but also most expensive reference mode ever developed and deployed—face-to-face reference.

Virtual reference in virtual worlds creates tremendous accessibility challenges and opportunities. On the opportunity side of the ledger, certain groups within a given population (such as people who have experienced strokes resulting in long-term or permanent mobility, speech, and facial expression challenges) are finding life in virtual worlds liberating. Within these virtual reality environments, we need to explore how virtual reference could evolve and ensure that the needs of visually impaired readers are being met.

»

On the challenges side of the ledger, the richness and variety of human-to-human (or, more precisely, avatar-to-avatar) interaction during reference interviews in virtual worlds make it difficult to ensure that each facet of the interaction is minimally accessible to everyone.

One hard lesson we have learned about making IT accessible is that most of the time, it is not going to happen unless someone deliberately makes it happen. Accessibility must be actively sought and achieved. It does not occur "naturally" in the IT realm. For example, it takes some thought, planning, testing, and retesting to make any virtual reference service minimally accessible to all. One of the mysteries of IT systems is that, if they are blithely designed and constructed without intentional planning to ensure accessibility, almost invariably, the resulting systems are largely inaccessible to a major segment of the potential user population. We have learned that most of the time, inaccessibility is not willful, but simply the result of a lack of awareness on the part of system developers and vendors.

The InfoEyes Service

Fortunately, many libraries, consortia, and VR vendors are working to make VR systems more accessible. For example, the 2004 trial with OCLC to test the accessibility of the QuestionPoint chat software and the higher-end software, QuestionPoint Enhanced, found both to be neither reliable nor accessible. At that time, there was no other virtual reference software with Voice over IP. For the visually impaired, hearing a friendly voice over the Internet to assist them in finding information and navigating cluttered Web sites was considered an important element. The sound of that voice humanized the online reference interview and made the whole process of seeking reference assistance online less intimidating.

The InfoEyes virtual reference service for blind and low-vision readers evolved from the OCLC trial as a multistate project involving a number of talking book libraries. The OCLC e-mail software, management systems, text chat, and enhanced systems were used during the trial. InfoEyes combined the e-mail and management system of QuestionPoint (which worked wonderfully) with Talking Communities, an accessible Web conferencing software for text chat, co-browsing, and Voice over IP services. This became a hybrid service using two separate software systems. During this time, the group also tested the 24/7 and LSSI/Tutor.com eGain software platform and found it was also not accessible for users of screen reader software.

"PATRONS WHO MADE USE OF INFOEYES WERE EXTREMELY ENTHUSIASTIC ABOUT THE SERVICE."

During the trial, a blind programmer was hired to write scripts that would make the QuestionPoint Enhanced software accessible for screen readers, but this would have required a number of downloads for users. The InfoEyes librarians decided the best service could be offered using the hybrid system of QuestionPoint and Talking Communities.

Patrons who made use of InfoEyes were extremely enthusiastic about the service. They appreciated the opportunity to have a cutting-edge service at about the same time as other virtual reference users. The difference was and is that InfoEyes is a distinctly separate virtual reference service for those with print impairments. Instead of having the ability to use one of many statewide services or large consortial services on the Web to chat with a librarian, visually impaired patrons are forced to use InfoEyes, a separate, but not equal, VR service.

In addition to the difference in software, another drawback is that many librarians working in talking book centers are not trained in reference or have not used their reference skills in years. In mainstream libraries, staff members working on virtual reference are often reference librarians with specialized skills. To assist talking book librarians involved in the project, Joe Thompson from the Maryland Ask Us Now VR project, which is participating in InfoEyes, provided training to help the librarians refresh their skills. Although the Talking Communities Web conferencing software works well for enhanced virtual reference, it was not designed to serve that purpose and it does not have an administrative module as the other virtual reference platforms do for tracking statistics, the status of questions, and other management information.

Steps Toward Better VR

Most of the major VR vendors have produced new versions of their software since the InfoEyes trial in 2004, but they still don't offer disabled users the same quality of reference service as the sighted population has. Although blind and low-vision users are pleased with the InfoEyes service, their information needs would be better served through having access to statewide mainstream services rather than a separate service staffed by librarians not specifically trained in reference. VR vendors are aware, through numerous articles, presentations, and conversations, of the need for software accessibility so that visually impaired individuals can have the same and equal service. They also say they are working to make their products more accessible.

Barry Levine is a blind library advocate involved in library services for both the print impaired and the sighted in

Resources for More Information

Second Life: http://secondlife.com

Active Worlds: http://www.activeworlds.com

InfoEyes: http://www.infoeyes.org

Talking Communities: http://www.talkingcommunities.com

QuestionPoint: http://questionpoint.org

Tutor.com: http://www.tutor.com

Illinois. In addition to serving on the Illinois State Library Talking Book and Braille Service advisory board, he also serves on his local library board, a regional library system advisory board, and the Illinois State Library Advisory Committee. He has repeated this concept over and over again at a number of meetings and letters to vendors about the InfoEyes service:

> The bottom line is that blindness is a very tough nut to crack.
>
> Despite some among the so-called "organized blind" claiming that it can be a simple nuisance, inconvenience, or even a mere characteristic, it isn't. Blindness is a disability. And, it's a bad one. Trite as it might sound, the disability is one of information access ... information about our physical environs, our social and recreational lives, and our information needs about the larger society and culture in which we find ourselves. Simply put, blind people are starved for meaningful information. Librarians, such as yourself, are part of a tiny minority attempting to do something, anything, about this. I can't help but admire you.

Many VR projects are statewide and are mandated by government to be accessible. If a company providing a virtual reference platform can tackle the issue of accessibility, its product would undoubtedly be the virtual reference platform of choice. In many instances, its product would be the only choice a library could legally make. The Web sites and services of government libraries and other governmental entities are required by the Americans with Disabilities Act's Section 508 to be accessible. Many other librarians have written policies requiring their organizations to purchase the most accessible Web-based products available on the market. It is entirely in each provider's best interest to make this issue a high priority.

Librarians and the vendors are making great strides toward the goal of making virtual reference services accessible to all. But the problems haven't been solved yet. Making these services accessible costs time and money, but as we have seen over and over again in a number of similar projects, efforts to improve accessibility result in better services and features for all. ■

Lori Bell is director of innovation at Alliance Library System, where she writes grants and coordinates special projects. Her e-mail address is lbell927@yahoo.com. Tom Peters is the founder of TAP Information Services in Blue Springs, Mo., which provides project development, management, and evaluation services to libraries and other information-intensive organizations. For example, he coordinates Unabridged .info, a downloadable digital audio book service for blind and visually impaired library users in five states. His e-mail address is tpeters@tapinformation.com.