ELECTRONIC REFERENCE SERVICES

The reference desk is also in transition from the traditional realm to the virtual. Many libraries are reporting trends of lower activity at the reference desks in the library. Given the higher amount of electronic content available, both that content provided by the library and what's freely available on the Web, no wonder more patrons are turning to those resources rather than visiting the library to ask a question at the reference desk.

Likewise, an increased amount of effort by reference staff is devoted to electronically providing services to remote users. Libraries have long offered reference support to their remote users through telephone-based services. Most librarians consider the telephoned question as a traditional reference service. Several methods of providing reference assistance using computers and networks are becoming more prevalent.

E-mail

Providing reference service through e-mail is common. E-mail can be implemented with a low threshold of technology, both for the library user who wants to ask a question and the librarian who answers it. E-mail is ubiquitous among computer users. The number of library users without access to e-mail is small.

To launch an e-mail reference service, the library merely needs to post the e-mail address prominently on the library's Web site and ensure the reference staff regularly monitors the mailbox. E-mail is well-suited for most reference questions, and the time taken to answer a question typically ranges from a few minutes to a few hours.

A disadvantage of using e-mail for reference service is the lack of specificity that might be provided in the initial question. Answering a request for reference service may take a series of subsequent e-mail exchanges before the reference provider understands the exact nature of the question. Given the possible intervals in turn-around time between e-mail messages, the iterative process of the reference interview can be slow.

Libraries track reference statistics for questions answered in the library, usually by counting the number of questions asked and the time spent in answering them. They should maintain similar counts for e-mail reference. To measure use, include the number of e-mails related to follow-up questions. The library needs to be consistent whether counting the total number of e-mail messages involved or the number of questions asked and answered.

Web forms

Another method used for electronic reference uses a Web form accessed through the library's Web site. The method is much like e-mail based reference. The user gains access to the form, is prompted for an e-mail address, and is likely asked to provide some information regarding status at the library (student, faculty, staff, citizen of county, and so on). One feature possible in the Web form is that text can be added to

improve the clarity of the question, potentially reducing the number of subsequent exchanges needed before the reference librarian can answer the question.

Web forms for reference also serve as a front-end for an e-mail service. Questions sent through the reference Web forms are, in most cases, channeled into an e-mail account monitored by reference staff. Responses are sent by e-mail to the address provided in the form. Given the similarities, no need exists to count reference questions submitted through Web forms differently—or even separately—from those submitted through e-mail.

Real-time virtual reference services

A recent innovation in reference services provides reference in real time using two-way chat and other related technologies. Many libraries have launched these real-time virtual reference services in response to declining in-library reference statistics and in an interest in providing additional support options for the increasing amounts of electronic content being used by growing numbers of remote patrons.

Many commercial virtual reference products are now available for libraries interested in providing this kind of service. This genre of software, called customer relationship management (CRM), emerged from the e-commerce realm. It was developed for the purpose of online help. Typical features of such a system include:

- **Two-way online chat.** The library client can initiate a conversation with a librarian using an online chat window. Online chat, or instant messaging, has become popular with home computer users, and many library users are comfortable with this style of communication.
- **Web push.** When providing reference assistance, librarians find helpful the ability to push a Web page onto the user's Web browser, rather than having the user type the URL. Most of the virtual reference applications include the capability to transfer the contents of the librarian's Web browser to the user's with a single button click.
- **Co-browsing.** Taking the simple Web push further, co-browsing allows any additional Web page navigation performed on the librarian's browser to be viewed on the client's as well. This option gives the client the ability to follow along as the librarian demonstrates how to use a particular electronic resource. In more advanced systems, co-browsing operates both ways, meaning that the client can also take control of the resource, with the results appearing in the librarian's browser.
- **Voice over IP.** A few virtual reference products offer the ability to add voice communications to the session, without the use of a telephone. If both the user and the librarian use computers equipped with speakers and microphones, they can talk to each other over the Internet, supported by software in the virtual reference application.

For information on purchasing virtual reference products, see "Establishing Live Online Reference Service," Library Technology Reports, July-August 2002, Vol. 38, No. 4.

These virtual reference systems generally include many monitoring and reporting capabilities. Given the e-commerce orientation of some of the products, some of the possible levels of monitoring may be more aggressive than is appropriate for library use. Most of the virtual reference services produce a transcript for each online session that takes place. The transcripts can be delivered to the end-user by e-mail at the end of the session and saved for the library for further study or statistical analysis.

Other statistics available for each session might include the class or category of the user, the length of the session, and its resolution status (resolved, unresolved, disconnected, pending, and so on). The system also provides measures of response time, such as the amount of time each customer had to wait and how many customers were waiting for service at any given time. The library might especially watch for patrons who gave up before reaching a librarian, and how many calls were lost due to technical difficulties.

The provision of a real-time virtual reference service requires a major investment by the library. Not only are the software tools that make them possible fairly expensive, but they require reference staff to be on duty to operate the service.

Libraries should track a comparison of the relative amount of reference support that is provided traditionally—through face-to-face contact—and how much is provided virtually.

Two of the key comparative statistics between traditional and virtual reference measure the number of hours per week the services are provided and the relative number of staff hours required to support them. Libraries also should record the number of questions per hour and the time spent in answering them.

Libraries that have begun virtual reference services find great benefit from the use statistics. Especially during any trial period or early phase of implementation, the level of use reported in the statistics can be used to make adjustments in the hours of service.

Libraries often struggle with how to organize the staffing of a virtual reference service. Should the service be operated by the staff at the in-house reference desk, or should it rely on a separate set of reference providers? Can virtual reference duty be combined with telephone reference? A careful study of the use levels reported in the statistics can help the library adjust the service to operate more efficiently.