

What the Text Is Happening?

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Abstract

Academic libraries are looking for ways to stay relevant to the Millennial/Internet generation. At the University of Nebraska at Omaha (UNO) Criss Library, we are conducting a pilot study on mobile computing to provide people to people (p2p) reference services. We will use smart phones and iPhones to interact with students who need information assistance. The study's objectives are the following:

1. Collect data to inform decisions about budgeting, reference services and staffing to re-tool for mobile computing.
2. Identify the audience for mobile computing.
3. Identify the skill sets needed by staff.
4. Create an action plan for redefining the delivery of reference services.
5. Establish Criss Library as an innovator for mobile technology on the UNO campus.

In our presentation, we will give a brief overview of mobile computing in academic libraries and report on the results of our study. In conclusion, we will offer ideas for the future of mobile computing in libraries.

Introduction

Access to scholarly information has changed radically in the last 25-30 years. In the past, a search for peer-reviewed articles usually began with paging through subject or author print indexes and seeking out one's colleagues for new materials through the social networking of the time—phone calls, letters, conferences, and email. As periodical indexes began converting to digital format, libraries bought bibliographic indexes on CD-ROMs or subscribed to databases through Dialog. Initially, these electronic services required a librarian to conduct the search and deliver the results to the user in a printed list, but quickly transitioned to public user work stations in the library. Maintenance of CD-ROMs and their monthly/quarterly updates shifted to web-based servers hosted by vendors. In the 1990s, the Internet transformed into a medium of choice for libraries, and users could access databases from work stations both inside and outside the library. In turn, vendors responded positively to the demand for databases with full-text journal articles, book chapters, e-books, e-dissertations, and e-newspapers.

Following the transformation of digital access to scholarly information, another major change is now on the library landscape: mobile computing. Our mobile society has adopted on-the-go preferences for communication and information access.

The Evolution of Library Services

The first century of the library science discipline saw a slow emergence of direct patron service. Initially, librarians concentrated on cataloging collections and the use of bibliographies and reference books for the patron to use on his or her own to find information. Patron assistance was casual and, over time, became more personal. Direct patron service was still seen as a supplement to printed aids. As the library's role in the educational process became more accepted in the twentieth century, reference service moved from the periphery to be the primary focus of interpreting library resources and services with trained personnel and separate department status (McElderry 408-420).

Declining library budgets and purchasing power in the 1980s and 1990s fueled the paradigm shift from ownership of resources to information access on the World Wide Web. The library moved from its traditional role of serving as a storehouse of scholarly publishing to becoming a gateway to digitized information: "Throughout the 1990s, libraries increased their holdings of computer-based resources, first with stand-alone CD-ROM databases, then local area networks, and finally a significant shift to Web-based databases" (Courtney 473-480). The explosion of resources on the Internet in the late 1990s became a "watershed in the way that libraries and their users 'connect'" (Miller 645-670). A shift from information management to knowledge management has led to a new focus "on maximizing online access from multiple remote locations (Miller 645-670). As search and retrieval has shifted from print to electronic, Internet access has evolved from hard-wired, networked desktop PCs to wireless-access laptops, to broadband mobile devices such as SmartPhones, iPhones, and netbooks. The year 2009 not only presents issues regarding remote access but also issues regarding multiple devices for access. The flow of scholarly information has become "inextricably intertwined with technology" (Miller 645-670).

Recent library literature issues a call to rethink assumptions about service delivery and to base service delivery decisions on research. A key issue facing reference service delivery is the deconstruction of the landscape of scholarly information. "Scholars can now publish without publishers, publishers can distribute without vendors, and end users can get access to the scholarly literature without going through the library" (Miller 645-670). This deconstruction, however, does not diminish the need for collection and reference services: "I start with the general principle that libraries and librarians are indispensable in providing access to a wide range of literature important for academic programs, especially at research universities. Not only do they have responsibility for acquiring massive amounts of material worldwide, but also are responsible for making available all of the scholarly activity they can possibly manage" (Holley 79-81).

Reference service, like CD-ROM indexes and databases, are no longer restricted to the physical building. "Often the library building was a major limiting factor to the adoption of a new pattern of service" (McElderry 408-420). The exponential development and availability of computing technology significantly impacts the ability to provide library services in the virtual space.

“Throughout U. S. history, libraries have changed in response to external influences”(Weiner 1-12). With the arrival of the mobile information society, libraries must address this changing environment, in respect to both collections and services.

Mobile Students

The traditional college student, ages 18-22, has often been referred as the “Net Gen.” Tapscott captured their characteristics in his book *Grown Up Digital*. These characteristics are freedom, customization, scrutiny, integrity, collaboration, entertainment, speed, and innovation (Tapscott 368).

The Internet is an integral part of the lives of Net Geners: “They actively use many different technologies for school, work, and recreation” (Salaway, Caruso and Nelson). Key findings relevant to libraries from the *ECAR Study of Undergraduate Students and Information Technology, 2008* include the following:

- Data shows that 66.1% of students own Internet-capable cell phones. Twenty-five percent of respondents who self-identified as early adopters of technology “access the Internet from handheld devices weekly or more often” (Salaway, Caruso and Nelson 5).
- Internet usage averages 19.6 hours per week. Social networking is heavily used by respondents. Facebook is used by 85.2%, text messaging by 83.6%, and instant messaging by 73.8%.
- Students rate their information literacy skills, as defined by the Association of College and Research Libraries at a much higher level (79.5%) than their professors and librarians.
- Students used different technologies to learn: Internet searches, text-based conversations, contributing to websites such as wikis and blogs, and video games/simulations (Salaway, Caruso and Nelson 5,11).

Data from the *University of Nebraska at Omaha (UNO) Student Technology Survey* show similar patterns. When surveyed on their use of technology, 77.7% of respondents use a personal laptop computer in daily life and 20.1% use a Smartphone daily (University of Nebraska at Omaha 3).

Furthermore, from the *UNO Student Technology Survey*, UNO student Smartphone users report daily usage rates of:

- Text messages = 84.8%;
- Email = 24.5%;
- Accessing websites = 24.5%;
- Taking photographs = 80.1% (7).

In relation to virtual communications within coursework at UNO: 78.9 % of respondents indicate that instant messaging is useful (62.0%) or essential (16.9%) in support of academic work. Twenty-five percent have experienced the use of IM in their courses, while 99.3% have used email (University of Nebraska at Omaha 21). Use of texting within the classroom environment was not included in the UNO survey.

Mobile Libraries

In the late twentieth century, the Online Public Access Catalog (OPAC) replaced the printed card catalog. The “virtual library” that began with computer based catalog search capabilities has shifted to electronic database searching, full-text periodical articles, eBooks, online citation management, downloadable audio books and music, interactive atlases, media files, and more. While specialized databases, indexes, reference publications, and monographic works continue to be available in print format, information searching has moved to web-based services and now the mobile web, often paired with other popular mobile services, such as geographical maps or contact points, such as email or telephone numbers. A perfect example of this paradigm shift is *WorldCat Mobile*. This catalog combines a library catalog search with mapping technology to enable a user to search for a particular book, enter the local zip code, and retrieve a list of libraries in the patron’s geographic area that have the book. Contact information and visual map directions to the library are included in the *WorldCat Mobile* search.

Traditional online library catalogs (OPAC) vendors such as SirsiDynix and Innovative Interfaces, Inc offer mobile OPACs (MOPACs). Liston’s tests of both of these MOPACs on BlackBerry, iPhone, and Windows Mobile platform returned mixed results across the various browsers and operating systems used by these devices, indicating that further development of MOPACs is needed.

Following upon the footsteps of commercial information providers and online search platforms such as Google and Yahoo, libraries are going beyond the MOPAC to create mobile websites to assist users on the go. Academic library mobile websites contain basic information such as location, maps, hours, and contact information as well as SMS text reference, audio tours and podcasts, database and library catalog searches, e-books, and research assistance (Kroski). Based on our examination of library mobile web sites, libraries are also instituting OPAC-based text message services for call numbers, due dates, hold information, and material availability.

Some library websites serve as a gateway to library content providers such as *WorldCat Mobile* and *EbscoHost*. Research assistance applications, such as *RefWorks* and *LibGuides*, are now designed with mobile computing interfaces. No comprehensive list of libraries with mobile websites exist, but *Library Success: A Best Practices Wiki* lists over 30 United States and international library mobile websites, as well as close to 20 libraries offering SMS text services such as reference or notification services (“M-Libraries”). These mobile services are likely to become critical service points for academic libraries. Horrigan reports that the cell phone went from the device that was the fourth “hardest to do without” in 2002 to the number one slot in 2007.

In the era of library resources available online, full-text, and with 24/7 availability, the academic library is seeing a decline in the use of physical library collections and services, and significant increases in electronic and virtual access. In respect to library reference services, two trends are significant:

- **There is an overall decline in the number of reference queries to the librarian from academic library users.** The Academic Library Survey (ALS) reports a 25% decline in national reference statistics from 1996 to 2004 (Martell 400-407). At the University of

Nebraska at Omaha's Criss Library, reference transactions follow the national trend. Between 1995 and 2005, on-site requests decreased by over 60%. In 2003, the library instituted the Ask-A-Librarian email reference service, which has had steady use of 600-700 questions per year. Fall 2009 saw implementation of web-based instant messaging reference, which is on track to reach 100 questions in a 9 month period.

- **Increasing use of virtual reference services in libraries** that utilize email (asynchronous) and instant messaging (synchronous). The addition of mobile phone-based text-messaging reference services continues the synchronous mode of virtual reference and communications.

Just as computing has moved from desktop to laptop, reference services, too are going mobile.

Text Reference Services

As of July 2009, the World Wide Web currently has a number of text message question-and-answer-services: Mosio, KGB, ChaCha, and Google SMS. Google SMS is an automated answer return service, while ChaCha, KGB, and Mosio are live question-and-answer-services, free with the exception of text-message charges dependent on the user's cell phone plan.

Libraries, too, are starting to offer text-based reference service. Stahr outlines four current options available to libraries for text reference:

- **Dedicated cell phone Short Message System (SMS).** A library purchases a cell phone with a texting plan and uses it to receive and send texts to patrons.
- **SMS to IM.** Converts SMS texts to an instant messaging platform.
- **SMS gateways.** Converts SMS texts to email
- **Commercial Vendor Services.** Provide multiple (text, email, IM, web dashboard) access points to SMS texts (Stahr 13-15).

Currently, there are two commercial vendors providing texting services to libraries: Mosio's Text-A-Librarian and Altarama Information Systems (AIS). Altarama is collaborating with the Alliance Library System in Illinois to power, *My Info Quest*, a collaborative text messaging reference project. Criss Library, along with over 40 academic, public, school, and special libraries in the United States, is a participant in the 6 month pilot project running from July to December 2009 ("My Info Quest").

Criss Library Text Reference Research Study

Existing research on the use of mobile computing tends to focus on uses outside the academic library environment. Current research in the use of mobile technology to deliver reference and information services in academic libraries is just now being conducted and therefore the first major research study relevant to libraries is *Informing Innovation; Tracking Student Interest in Emerging Technologies at Ohio State University*, published in spring 2009 (Booth 1-i). Booth urges librarians to "...better understand the communities we serve in order to inform an ongoing cycle of innovation" (Booth 1-i). Booth's study of the technology and student cultures at Ohio State serves as a model for the analysis of the student-library connections at the University of

Nebraska at Omaha. As a first step in meeting the challenges of service development, the Criss Library will conduct a study of mobile computing technology used by the UNO community. The purpose of the study is to assess the viability of using text messaging to provide reference/information services to UNO students and faculty.

The specific aims are the following:

- Identify types of mobile computing devices that Criss Library users utilize and how they use them to communicate and to access web resources;
- Learn about users' assistance-seeking behavior at Criss Library and their communication preferences in regard to reference assistance;
- Identify the target UNO community population for text messaging library services;
- Use the accumulated data to inform the plan for defining the delivery of reference/information services to Criss Library users.

The results of the study will inform decisions about how to customize reference and information services based on empirical data. Research is to be conducted in early fall 2009 and results will be presented and discussed at the Brick and Click Symposium on November 6, 2009.

Conclusion

According to Granfield and Robertson, "Virtual reference users do not perceive virtual reference as a novelty or as a marginal service, but see it as a significant service option" (44-53). In a 2008 study of synchronous reference and the help-seeking preferences of students at the Ryerson and York Universities in Toronto indicate that virtual reference services may have special appeal to graduate students and distance learners as they are more likely to perform research activities outside the physical library (Granfield and Robertson 44-53).

With participation in the My Info Quest project, as well as the research study on the texting behavior and reference communication preferences of Criss Library users, we intend to add to the expanding literature on mobile applications in the academic library, as well as increase our understanding of our local users in the rapidly changing mobile environment.

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