

---

# Mobile Academic Libraries

## *A Snapshot*

### Rebecca Jackson, Guest Columnist

**Rebecca Jackson** ([rjackson@iastate.edu](mailto:rjackson@iastate.edu)) is Associate Professor and Head, Social Sciences and Humanities Department, Iowa State University.

Correspondence for Reference & User Services Quarterly should be addressed to Editor **Barry Trott**, Williamsburg Regional Library, 7770 Croaker Rd., Williamsburg, VA, 23188; email: [btrott@wrl.org](mailto:btrott@wrl.org).

This article describes a moment in time. The author surveyed ninety-nine ARL websites to determine whether the library had a mobile website, how that mobile website was accessible, and what the mobile website included. Examined also were the database lists of the regular library websites to determine whether those lists indicated databases that have mobile websites. Finally, the author looked at all the parent ARL institutions to see if they have mobile websites, and if their mobile websites link to their libraries. With all the interest in the development of mobile websites for both institutions and their libraries, a current snapshot provides benchmarks for further development of mobile websites in academic libraries.

**A**t this point in our technological world, it seems trite to start a paper by talking about the enormous changes taking place in libraries. They are endemic, they are everlasting, and they keep one continually wondering what new things are on the horizon. Every now and then, however, it is important to step back and take a snapshot of the present, just to get some perspective. This paper takes such a snapshot of mobile applications (such as mobile websites and mobile applications for databases) found on academic libraries' websites. This writer discusses libraries with mobile websites, whether or not those websites display automatically when using a mobile device such as a smartphone, what functions are included on those websites, whether database lists on regular websites link to or indicate mobile applications for the appropriate databases, as well as issues related to libraries' use or nonuse of mobile applications.

Librarians everywhere express concern about the future role of the library in this era of e-books and e-journals and even e-reference resources. Even more, librarians wonder what they themselves can do to maintain their relevance when no one has to come into the library to do their research, and when students who are technologically savvy express confidence in their own research skills. In one study, "eight out of ten (80%) students considered themselves expert or very skilled in searching the internet effectively and efficiently."<sup>1</sup>

Add to these concerns the ubiquity of mobile technology. As librarians debate how far to go to make their collections available online, now there are concerns about making all of their resources usable on mobile devices such as smartphones and tablets. These are totally different venues compared to traditional computer screens because of their sizes and interface functionalities. In fact, one author maintained that "mobile is not a small PC. This fascinating media needs to be considered as a whole ecosystem with its own set of rules."<sup>2</sup> In a short EDUCAUSE article, the author stated, "the challenge

of creating a consistent, reliable experience for all users, not to mention maintaining that experience as the tools evolve, might make any institution feel like it is trying to catch a train that has left the station.<sup>3</sup> Given the differing requirements for mobile applications, librarians need to become more aware of what the demand for mobile is on their campuses. Are students and faculty using these devices for their research? If so, how are they using them? And how can libraries and librarians adapt to this new interface? A snapshot of what is happening in ARL academic libraries may help put some of these questions and concerns into perspective for planning.

In 2010, Joan Lippincott wrote an article in which she discussed the “mobile future for academic libraries,”<sup>4</sup> focusing on smartphones and e-book readers. She used Wikipedia’s definition of smartphones, which still today includes functions such as “portable media players, low-end compact digital cameras, pocket video cameras, and GPS navigation units. Modern smartphones typically also include high-resolution touchscreens, web browsers that can access and properly display standard web pages rather than just mobile-optimized sites, and high-speed data access via Wi-Fi and mobile broadband.”<sup>5</sup> This is the definition that will be used in this article, and this is the type of device, along with tablets, that will be explored. This paper also will review how these devices are used.

There are a few studies that recommend features that libraries should incorporate into mobile websites. For instance, in a 2011 study done at Kent State University, students expressed great interest in being able to connect with the library’s databases from their mobile phone, but they were more interested in having access to a few major databases (such as EBSCO), to course reserves, to a reference librarian (through chat or texting), to their library accounts, and to alerts, such as when a requested resource is available for pickup or when materials are due back to the library.<sup>6</sup> Kent State students were interested not so much in information about the library as they were in content for beginning their research.

---

## METHOD

Contemplating the development of a mobile library website at her own library, the author decided in 2012 to check websites of ARL academic libraries in the United States (a total of ninety-nine sites) to find out what the practices were. For each site, information was gathered about

- whether the library had a mobile website;
- whether the regular website linked to the mobile website;
- whether the mobile website linked to searchable databases, and if the databases listed were only web-enabled databases;
- whether the regular website’s database listing indicated the availability of the database’s mobile application;
- what other information the regular website’s database listing included;

- whether the library had a subject (research) guide for mobile applications;
- whether the library’s institution had a mobile website; and
- whether the institution’s website linked to the library’s mobile website.

A separate spreadsheet was developed that listed the functionalities available on the mobile websites for those libraries that had them.

The author used a PC, an iPad, and an iPhone to complete the examination of library and institution websites. In many cases, it was difficult to discern the existence of a mobile site for a library or a particular institution. They could be discovered in several ways. In some cases, typing in a URL on the iPhone automatically brought up the mobile website. In other cases, typing in a URL triggered a message from the website indicating that the site could tell the user was accessing the site from a mobile device and asked if the user wanted to view the website in its mobile version. In many cases, there were links from the regular website to the mobile website; this was helpful for examining the mobile website from a PC or from an iPad. However, finding a tiny link to a mobile site from a regular library website proved almost impossible on an iPhone.

In many cases, the author had to alter the URL, either replacing the “www.” with “m.” or adding “/mobile” at the end of the URL. Several of the sites were actual native applications that had to be downloaded, depending on the mobile device being used. In some of those cases, the regular site provided a preview of the downloadable site, but in many cases the author did have to download a library’s mobile application to analyze the functions on the mobile website. Because of the confusing methods for discovering whether a mobile site actually existed, there were probably some cases when a site that had a mobile counterpart could not be found. However, those instances were rare. In a 2012 presentation, Bohyun Kim demonstrated the various ways that mobile websites were accessed and stressed that the mobile site must be easy to find.<sup>7</sup>

---

## RESULTS AND DISCUSSION

Alan Aldrich studied ARL library websites in 2010, looking at all the English-speaking members of ARL.<sup>8</sup> Of those 111 libraries, only 24 (22 percent) had mobile websites for their libraries. In this study of 99 libraries, 83 libraries (84 percent) had a mobile website. That is a significant increase in the two or three years since Aldrich’s study, and indicates that libraries are aware of the importance of mobile device use by their populations. Aldrich also looked at the number of university mobile websites and found that 25 (23 percent) institutions out of the 111 had mobile website for their institutions. In the present study, there were more libraries with mobile websites than there were institutional websites. Seventy-nine (80 percent) of the parent ARL institutions had mobile websites, as

## FOR YOUR ENRICHMENT

opposed to the 83 libraries with mobile websites. Of those 79 institutional websites, 42 (53 percent) provided a link to the library; 37 (47 percent) did not. It appears that libraries need to promote themselves more actively within their institutions and be included on those websites. It also is possible that an institution will develop its mobile website in stages, and that the library has yet to be added.

Of the libraries with mobile websites, 58 (70 percent) included links to databases, while 25 (30 percent) of them did not provide links to databases. Of those 58 libraries that did provide links to databases, 51 (88 percent) linked only to databases that are mobile-enabled (e.g., EBSCO, Lexis/Nexis, and others). For the 7 (12 percent) libraries that did not link to only mobile-enabled websites, in most cases clicking on the link for databases led the user to the regular list of databases that were on the library's regular website. With tablets, such as iPads, such lists are negotiable; with an iPhone, it is quite difficult not only to link to a particular database, but also to search the database.

Trying to locate those databases that have mobile apps from a library's regular website list of databases did not seem to be important to most libraries. From the standard library website, using a regular computer, the author found four libraries that did not allow outside access to their regular database list without a password, so it was impossible to determine what information was available on those lists. Of the 95 libraries that did allow access to their lists of databases, only 12 (13 percent) indicated databases with mobile web access or applications; 83 database lists (87 percent) did not indicate that any databases had mobile access. Thus, if someone were accessing a library's database list via a mobile device, that person would not have any indication that the database could be accessed through a mobile interface.

One way to identify mobile applications available through a library's website might be to have a subject guide indicating what mobile applications are available through the library or even the institution as a whole. This analysis showed that only 20 of the 99 libraries (20 percent) had such a guide; 79 (80 percent) had no guide to mobile applications.

In terms of what features were included in the library mobile websites that were found, figure 1 shows the functions available in all the mobile websites. A search through various resources identified consistent "must haves" for mobile library websites:

- feedback
- catalog searches
- library hours
- contact information
- library account information
- check out and renew materials
- research databases
- reference help (chat/text)
- library location
- library maps<sup>9</sup>

The top ten features actually found on the mobile websites examined were, as figure 1 indicates:

- library hours ✓
- main library website
- ask-a-librarian ✓
- catalog search ✓
- libraries locations ✓
- databases ✓
- contact us ✓
- computers—usage
- feedback ✓
- library news

(✓ matches the top ten features with the "must haves" mentioned above)

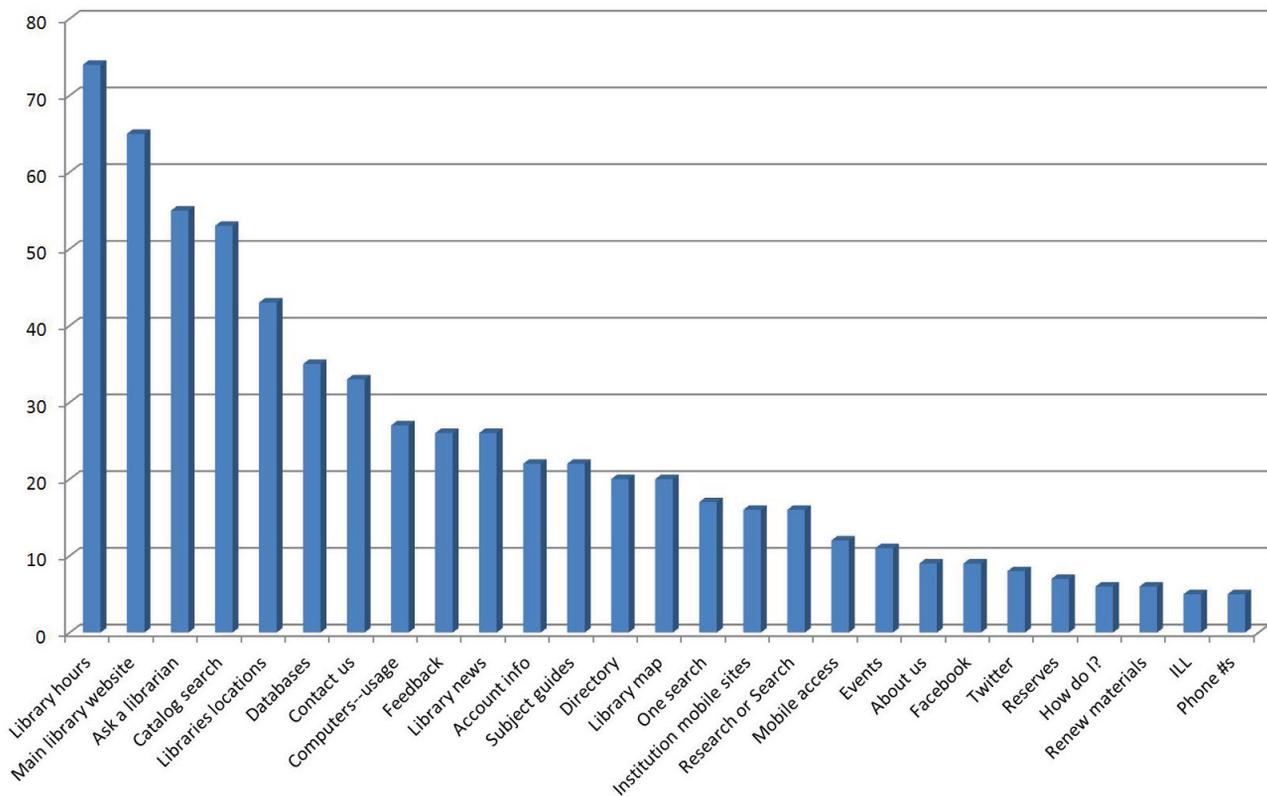
Thus, of the top ten recommendations, library hours, ask-a-librarian, catalog searching, library locations, databases to search, contact information, and feedback appeared most frequently on the library mobile websites analyzed. From the top ten recommended features, library account information, the ability to check out and renew materials, and library maps are features that appear on some mobile library websites, but not in the top ten list. One feature that was included in several mobile websites but was included nowhere in the list of recommendations was real-time information on computer usage within the library. Since library computers are always in demand in most libraries, this real-time feature could be a great benefit to library users.

The study at Kent State recommended no more than ten links on a mobile library website.<sup>10</sup> This study found that 14 percent of the libraries had more than ten links, with the highest being eighteen links. Sites with exactly ten links made up 22 percent of the total sites. Those with fewer than ten links made up the final 64 percent. The fewest links on a mobile site were two: catalog search and ask a librarian. For those 55 libraries that had an ask-a-librarian-type service, 31 (56 percent) offered texting or SMS contact with the library.

Of the 33 libraries that offered a "Contact the Library" link, what that link led to varied. Some led to the reference services page for the library. One was simply a link to the webmaster. Other contact links led to circulation, Google maps, staff directories, subject librarians, department contacts, branch libraries, and directions to campus. Links to databases also varied. A significant majority (88 percent) of the links to database were to mobile-enabled-only databases. In addition, a few of the databases links went not only to article databases, but also to Refworks, e-journals, citation linkers, subject guides, and Google Books. One of the database links took the user to the main, nonmobile list of library databases, difficult to select without the mobile interface.

The "How do I?" link led to a variety of sources:

- shelf locations
- research guides



**Figure 1.** Features Available on Mobile Library Websites

- tutorials
- FAQ
- loan periods
- lost and found
- printing, copying, faxing
- scanning
- getting a book
- recalling a book
- finding articles
- getting passwords

Similarly, the “Search” or “Research” links went to databases, e-journals, catalogs, subject guides, course reserves, a call number locator, various types of apps, citation help, subject librarians, digital repositories, and other links. Although links to subject or research guides did not make the top ten list, 22 of the 83 libraries (27 percent) did link to their guides. Given the large numbers of libraries that are making use of the popular Springshare LibGuides, which has its own mobile interface, this number will probably rise.

## CONCLUSIONS

From this research it is evident that the number of mobile library websites has increased significantly over the past two years. By the time this article is published, there will probably

be many more. Librarians have definitely taken notice of the increase in mobile device users and have been proactive in finding ways to make the library a part of this mobile activity. One of the greatest challenges in this move forward, however, is making the user aware that such a service is available. Kim says we must make it easy for users to discover us, and she suggests five strategies for doing so:

- “Make the Mobile site link on your library homepage more prominent.
- Footer = good location.
- If you use an icon, make sure the meaning is obvious.
- Add the auto-redirect to the mobile site when a user visits the desktop site on a mobile device.
- Make discovery happen when a user is on a mobile device and accessing the library online.”<sup>11</sup>

Many libraries are using these strategies, but many are not, with the result that library users employing mobile devices often only see a very small version of the library’s desktop website.

For those libraries that have not instituted mobile websites, the 2012 NMC Horizon Report indicates that “institutional barriers present formidable challenges to moving forward in a constructive way with emerging technologies.”<sup>12</sup> Saravani, in a study of “mobile service delivery on libraries and . . . on staff members” found that “consistently studies

## FOR YOUR ENRICHMENT

have revealed that academic staff cite poor facilitating conditions (including inadequate technical support) as barriers” to integrating technologies into their “professional practice.”<sup>13</sup> Joel Shields, of the Washington Research Libraries Consortium, demonstrated an excellent mobile website that he developed in a little over a month with no more resources than his own time and motivation.<sup>14</sup> Libraries can and have taken the lead on their campuses in developing mobile websites and in soliciting user input as to the desirable features on a library website. Lippincott said that the “library will want to be part of campus discussions on [mobile web site] decisions so that they can ensure that library content and services will be able to interoperate with the device and platform selected.”<sup>15</sup> The result of the development of the Kent State library’s mobile website led to their role as a guiding force in the development of their university’s mobile website.<sup>16</sup> The value of academic libraries can benefit from careful, useful development and promotion of mobile library websites that delight our library users.

### References and Notes

1. Shannon D. Smith and Judith Borreson Caruso, *The ECAR Study of Undergraduate Students and Information Technology, 2010—Key Findings* (Boulder, CO: EDUCAUSE Center for Applied Research, 2010), accessed July 10, 2012, [www.educause.edu/library/resources/ecar-study-undergraduate-students-and-information-technology-2010%E2%80%9494key-findings](http://www.educause.edu/library/resources/ecar-study-undergraduate-students-and-information-technology-2010%E2%80%9494key-findings).
2. Alexandre Mars, “Importing Mobile Marketing Tools: While the U.S. Market Is Soaring, There Are Still Lessons to Be Learned from Europe,” *Brandweek* 51, no. 7 (February 15, 2010): 17.
3. EDUCAUSE Learning Initiative, *7 Things You Should Know About . . . Mobile App Development* (Boulder, CO: EDUCAUSE Center for Applied Research, 2011), accessed July 10, 2012, [www.educause.edu/library/resources/7-things-you-should-know-about-mobile-app-development](http://www.educause.edu/library/resources/7-things-you-should-know-about-mobile-app-development).
4. Joan K. Lippincott, “A Mobile Future for Academic Libraries,” *Reference Services Review* 38, no. 2 (2010): 205–13.
5. “Smartphone,” *Wikipedia, the Free Encyclopedia*, accessed June 11, 2012, <http://en.wikipedia.org/wiki/Smartphone>.
6. Jamie Seeholzer and Joseph A. Salem Jr., “Library on the Go: A Focus Group Study of the Mobile Web and the Academic Library,” *College & Research Libraries* 72, no. 1 (January 2011): 9–20.
7. Bohyun Kim, “The Mobile Web and the Mobile Websites: How They Changed for the Last Few Years” (paper presented, Amigos 2012 Online Conference, “Access by Touch: Delivering Library Services through Mobile Technologies,” June 8, 2012).
8. Alan W. Aldrich, “Universities and Libraries Move to the Mobile Web,” *EDUCAUSE Quarterly* 33, no. 2 (2010), 5, accessed July 10, 2012, [www.educause.edu/ero/article/universities-and-libraries-move-mobile-web](http://www.educause.edu/ero/article/universities-and-libraries-move-mobile-web).
9. Lori Barile, “Mobile Technologies for Libraries” (paper presented, Amigos 2012 Online Conference, “Access by Touch: Delivering Library Services through Mobile Technologies,” June 8, 2012); Bohyun Kim, “The Mobile Web and the Mobile Websites”; EDUCAUSE Learning Initiative, *7 Things*; Karen Mills, *M-Libraries: Information Use on the Move* (Arcadia Programme, Cambridge University, 2009), 10, accessed July 10, 2012, [http://arcadiaproject.lib.cam.ac.uk/docs/M-Libraries\\_report.pdf](http://arcadiaproject.lib.cam.ac.uk/docs/M-Libraries_report.pdf); Seeholzer and Salem, “Libraries on the Go”; New Media Consortium and EDUCAUSE Learning Initiative, *2012 Horizon Report*, accessed June 11, 2012, [www.nmc.org/publications/2012-horizon-report](http://www.nmc.org/publications/2012-horizon-report); Joel Shields, “Developing a Mobile Website for Your Library” (paper presented, Amigos 2012 Online Conference, “Access by Touch: Delivering Library Services through Mobile Technologies,” June 8, 2012).
10. Seeholzer and Salem, “Library on the Go.”
11. Bohyun Kim, “The Mobile Web and the Mobile Websites.”
12. New Media Consortium and EDUCAUSE Learning Initiative, *2012 Horizon Report*.
13. Sara-Jane Saravani, “The Mobile Library and Staff Preparedness: Exploring Staff Competencies Using the Unified Theory of Acceptance and Use of Technology Model,” *Australian Academic & Research Libraries* 42, no. 3 (September 2011): 179–90.
14. Joel Shields, “Developing a Mobile Website for Your Library.”
15. Lippincott, “A Mobile Future for Academic Libraries,” 208.
16. Seeholzer and Salem, “Library on the Go.”