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Ronda Holt

Mary Walker

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## Going Mobile: the In's and Out's of an Academic Library Mobile Site

### Abstract

More people are joining the mobile society and libraries are beginning to provide on the go library service. There are several types of mobile devices including cell phones, smartphones, PDAs, the iPad, etc., and one-third of all Americans accessed the web using these devices in 2009. How can your library provide an access point for mobile research? The authors will tell you how two libraries have done this for their customers, how you can create a basic mobile site for your library, and how you can provide access to databases now offering mobile interfaces.



Volume 1, 2011

*Originate, Create, Renovate, and Innovate: Leading Revolution in the Academic Library*

## **Going Mobile: The In's and Out's of an Academic Library Mobile Site**

Ronda Holt  
Butler Community College  
El Dorado, Kansas

Mary Walker  
Wichita State University  
Wichita, Kansas

### **Abstract**

More people are joining the mobile society and libraries are beginning to provide on the go library service. There are several types of mobile devices including cell phones, smartphones, PDAs, the iPad, etc., and one-third of all Americans accessed the web using these devices in 2009. How can your library provide an access point for mobile research? The authors will tell you how two libraries have done this for their customers, how you can create a basic mobile site for your library, and how you can provide access to databases now offering mobile interfaces.

Keeping up with new technologies is just one of the ongoing challenges for the academic library. The authors attended the Handheld Librarian Online Conference on February 17-18, 2010 and realized that mobile websites would be the next step for both of their libraries. Both campuses continue to incorporate technology into the learning environment and it seemed only natural that the libraries would do the same. However, attempting to keep up with the introduction of new mobile technologies and applications is becoming a challenge for libraries. ("2010 top ten," 2010)

### **Smartphone Devices**

A smartphone allows advanced computing capabilities in a mobile phone. The Blackberry was introduced in 1996 as a Personal Digital Assistant. The applications in the first model included: an address book, calendar and a to-do list which fit into the corporate world. In 2002, Blackberry introduced the first smartphone with Internet connectivity. It was the first of the smartphones to utilize e-mail. (Wikipedia, 2010)

The first Apple iPhone was introduced in 2007 with Internet and multimedia capabilities. The iPhone was the first to allow the user to maneuver only via touch screen. In 2008 the Apple's APP store launched over 200,000 applications. Currently, there are four generations of iPhone, each enabling the user to do more. (Wikipedia, 2010)

Google launched Android in 2008 which is an open source, cross-platform operating system that includes phone, tablet, and T.V. capabilities. The latest Droid, launched October 2009, has full HTML which allows the user to browse the Internet with the same ease as using a computer. (Wikipedia, 2010)

### **A Few Facts...General and Higher Education**

Mobile access to the Internet is growing faster than desktop Internet access did when it was new (Milligan, 2010) in the late 80's and early 90's. This is mostly due to the popularity of the smartphone which has made mobile access possible. Smartphone sales are the fastest-growing segment of the market right now (Johnson, Levine, Smith, and Stone, 2010).

One-third of all Americans accessed the web using a cell phone in 2009 (Farkas, 2010). A high percentage (71%) of 12-17 year olds owned a cell phone capable of accessing the Internet in 2008 (Fox, R, 2010). In 2009, 66% of college students owned a mobile device with Internet capabilities (Fitzpatrick, 2009). Half of all undergraduate students owned this type of device (Farkas, 2010).

What makes these devices so popular for Internet access? Portability makes them ideal for accessing and storing reference materials and for enhancing the learning experience (Johnson, et al, 2010). It was also stated in the 2010 Horizon Report (Johnson, et al, 2010) that all kinds of information and training materials are increasingly being accessed by mobile devices. This provides an opportunity for universities and libraries in particular, to reach students by creating tutorials and information access points for the mobile environment.

### **A Few Facts...Libraries**

#### **Medical Libraries**

Medical libraries were the first libraries to adapt to the mobile environment. The applications providing services via mobile devices debuted as early as 2000. In recent years **Pub Med on Tap** allows patrons to search Pub Med and download or order full-text articles. Medical text publishers have started releasing textbooks for use on mobile devices in the last few years (Pope, 2010)

## **ECAR Study**

According to the 2009 ECAR (Educause Center for Applied Research) study of 30,616 participants, 51.2% owned Internet ready smartphones while only 14.8% indicated they would use library services with their devices. Vendors are now beginning to offer mobile interfaces to electronic resources and mobile OPAC's. Librarians are also "thinking creatively" by offering text messaging and mobile interfaces to digital collections. ("2010 top ten," 2010)

## **Library User Needs**

According to a study at the University of Cambridge, 85% of students identified opening hours as the most useful information. The highest ranked categories in the study represented "passive information" including: opening hours, map of the library, and contact information. The "interactive" categories such as online catalog, electronic journals and databases were in the lowest percentage in the study. Keep in mind that this study was done in 2009 during the first generation of smartphones which had limited functionality.

In the spring of 2009 Kent State University conducted focus groups about the usage of smartphones. During these sessions the participants indicated they wanted access to electronic resources through the library including: access to databases, access to course materials on reserve, and the ability to download articles and create citations. They also specified that when using the OPAC they wanted to have the capability of clicking on the call number to locate and check availability of items. The participants wanted the ability to contact the librarian with their smartphone, either by texting or through online applications such as Ask-a-Librarian. (Aldrich, 2010)

## **Tools for Creating a Mobile Library Site**

### ***Mobify***

Butler Libraries first attempt to create a mobile site was with Mobify Me (now called Mobify) at <http://mobify.me>. Mobify has a free basic design tool and three additional design tools available for purchase. Mobify allows the user to capture a traditional website and convert it to a mobile design. After Butler signed up for the basic service, the process of creating the website began. After attempting to capture the necessary information the finished product did not fit the vision for Butler library's mobile site. Butler decided this was not the tool they wanted to use to create the mobile library page; they wanted more control of what was added.

### ***Mobile Site Generator v1.1***

Toward the end of the evaluation of Mobify, a colleague recommended an open source mobile website creation application, Mobile Site Generator. It can be found at <http://www.hiddenpeanuts.com/msg/>. Mobile Site Generator uses the iUI (iPhone User Interface) framework which consists of a JavaScript library, CSS, and images for developing advanced mobile web apps for iPhone and comparable/compatible devices.

## **Mobile Library Sites**

### ***Butler's Site***

At Butler the first step in creating the mobile library website was to approach the marketing department for approval which was granted in May of 2010. The design of the mobile site began immediately using the Mobile Site Generator. After consulting with staff and students it was determined the mobile site would include the following: Contact Us, Hours & Closings, Locations, Online Catalog, Electronic Resources, Course Guides and Text-a-Librarian. The Butler mobile site, located at <http://bit.ly/bNN8mz> was launched in September 2010.

### **Creating the mobile site**

The first step is to download the iUI file to a folder on an in-house server. On the Mobile Site Generator website form, enter the "Title" for the mobile page. Add the header image which has to be smaller than 320 x 40 pixels. There is a sample the user can insert until they create their own. Information is then added for the website links.

The application presents boxes in which to insert information such as hours, locations, catalog, searching, and contact information, which links to the subpages specified. For example: If Box 1 says 'Hours', then the subpage would be 'Hours'. If these boxes are left blank, the information about the hours can be added in the text content space after the web page is created. Once all the information has been entered, select the Submit button and then copy and paste the code into a created file in the iUI folder that was previously downloaded to the server.

After the file is saved the user can start adding information to each individual subpage. The design code is HTML and should be revised in a basic text based editor such as Notepad. When creating the webpage in a commercial web design suite, the software added code that conflicted with a mobile site. However, in newer versions there are often mobile site elements for creating web pages.

### **What was learned during this process?**

The most important lesson learned during this process was to *keep it simple*, as large images and abundant text is not conducive to the mobile environment. *Keep it informative* was an essential aspect of the design; the information added should be what a user would want to know on a mobile website. *Keep images smaller than 1KB* for downloading purposes, and multiple columns make it difficult to read. *Keep away from HTML software*, unless you have a version that is compatible with a mobile site.

### **Wichita State's Site**

Gemma Blackburn, Library Systems Developer, created the Wichita State University Libraries' mobile website (<http://libraries.wichita.edu/mobile>), which became live on July 22, 2010. She created a flyer to promote the new mobile site which was posted in key locations around campus including the library. The posters included an image of the site, the web address, and a QR (Quick Response) Code for access. The QR code in the lower right hand corner allows smartphones, with the proper app, to read this code and be taken directly to the mobile site. A link to the mobile site is also available on the Libraries' website.

WSU chose to give mobile access to a few services believed to be useful when users were on the go: the hours & locations (we have three sites - the main library, the music library, and the chemistry library); the mobile version of the online catalog; access to the mobile databases; contact information; and the opportunity to see the Libraries' full website.

The website's availability was announced to the campus via WSU Today, the University's e-mail announcement service, on July 27, 2010 and the site received 36 views on that day. There was another spike on August 26, the day of the Libraries' open house. There were 486 visits between July 22 and September 30 with a total of 1,762 page views. The average time spent on the site is two minutes forty-nine seconds. WSU uses Google Analytics to track usage statistics on the mobile site.

Gemma used Notepad to create the site using HTML and cascading style sheets (CSS) with a mobile-friendly META tag in the header, Viewport. This allows her to define how the pages display in mobile devices. For more information on Viewport see <http://learnthemobileweb.com/2009/07/mobile-meta-tags/>.

## Mobile Online Catalogs

Butler is in the process of negotiating with the ILS (Integrated Library System) vendor, Auto-Graphics, for an online catalog, *iLib2Go*, featuring a unique StackMap element that provides interactive “stacks” navigation to locate an item’s physical location within the library. The user will be able to locate libraries in the surrounding area that are *iLib2Go* enabled and by using a username and password, review and update account information. They will be able to search all library resources using topic search based on BISAC (Book Industry Standards and Communications) categories, place and review reserves (holds), and renew items.

Wichita State University Libraries uses Ex Libris Voyager as their Integrated Library System. Gemma created the mobile online public access catalog (OPAC) which was made available in January 2010. She modified an OPAC mobile skin that was created by Tom Paisley at the Universal College of Learning (UCOL) in New Zealand. These files are available to other Voyager libraries through the EL Commons Code Share community. It’s basically the same OPAC but with a different CSS and config file settings. It took Gemma a couple of hours to change the CSS to reflect WSU colors in addition to modifying a few features.

## Mobile Databases

The number of vendors developing mobile applications or interfaces continues to increase. Subscription and open access vendors alike are offering this convenience to those in need of their services. Some are creating applications for the iPhone, others are creating mobile versions of their search page.

Some of the subscription based vendors that currently provide mobile access are: EBSCO, Overdrive, IEEE, Naxos, Gale, ACS (American Chemical Society), AIP (American Institute of Physics), and Wilson. A few of the open access providers are: Medline, USA.gov, Google Books, PubMed, and Unbound MEDLINE. OCLC provides an open access version of their product, WorldCat.

All of the providers offer a mobile version of their search interface. Some have apps only for the iPhone, iPod Touch, or iPad but others are accessible from most mobile devices. Something to keep in mind is that full functionality may not be available on the mobile version. IEEE and AIP restrict users from downloading full text directly from the database website onto the mobile device but once the documents are downloaded to a computer, they can then be uploaded and viewed on the mobile device.

## How to Find Mobile Databases

Vendors will usually bombard you with news of updates and enhancements through email, newsletters, notices on their website, etc. Subscription vendors are happy to share their information with you - the more accessible their product, the more use it will get, and the more likely you are to renew your subscription.

Listserve, trade journals, and blogs are great resources for discovering mobile databases. Colleagues are an excellent source since they are always on the lookout for enhancements that will benefit the students and faculty they serve. Google searching can also be utilized.

## Providing Access

Setting up mobile access will depend on the type of access created by the vendor. If it is a website modified for mobile use, then creating a link to the site is all that is necessary. Internet capable phones will be able to use their browser to access the site directly. If it is an app for the iPhone, iPad, or iPod Touch, the customer will need to download it from the Apple App Store onto their device. Creating a link to that app makes it convenient for the user to find and download.

It also depends on the vendor. EBSCOhost, for example, has a mobile site but for your library users to be recognized, EBSCO has to create a special URL. You will need to contact EBSCO and they will have the URL produced within a few days. Other vendors such as IEEE will only require your customers to authenticate through your proxy server or other authentication method in order to access the materials to which your library subscribes.

### **Searching for Mobile Site Ideas**

In searching for mobile database page layouts, Rice University's mobile site (<http://m.library.rice.edu/ejournal.html>) was discovered. They use Serials Solutions as their e-journal portal and have converted that search screen into a mobile site. Their HTML was modified for use with WSU Libraries' e-journal portal and a link to this was added to the mobile database site.

Several library mobile database sites were found, and some have a list of the databases in alphabetical order, a link, but no description. Others have done it like WSU has, and yet others have divided their pages into separate sections for iPhone apps and mobile sites. The latter type of layout would make it easier if looking for databases that will work on a specific device, and is helpful if a vendor provides both types of access.

### **Mobile Database Site**

The WSU Libraries' mobile database site was created by Mary Walker in the spring of 2010, before there was a mobile website. Originally, it was a regular web page with links to mobile databases but during the summer, the page was converted using the Mobile Site Generator.

The original page listed the names of the databases in alphabetical order but after discovering there were so many variations on what was provided and on what type of phones they would work; it was decided to add a brief description for each database. Also, there was a need to delineate between what was freely available and what would require a subscription or proxy access. The current mobile database page layout features the mobile catalog at the top, followed by the Libraries' e-journal portal (A-Z list) and then lists the mobile databases alphabetically. This page can be found at <http://bit.ly/9FIYua>.

### **Future of Mobile**

What does the future of mobile hold? A report commissioned by Microsoft suggests that by 2015, five billion people will be connected via a mobile device (Fox, R). By 2020, people will access the Internet primarily through mobile devices according to the Pew Internet & American Life Project (Farkas).

For higher education, the 2010 Horizon Report states, some universities are already experimenting with integrating mobile devices into the learning environment (Johnson, et al.) through podcasting, links, using them instead of clickers, etc. This is sure to increase as the technology advances.

### **Future of Mobile – Butler**

Butler is in the process of adding a "Text-a-Librarian" service. There are many questions that have arisen during the process of starting this service: finding the right smartphone; who will keep the smartphone - just the reference librarian or others; what if the librarian is gone, who will take the texts then? Once all of the decisions are completed the additional service should be in place by the end of the fall 2010 semester. Butler library will continue negotiating with the vendor for the mobile catalog, iLib2go. They will add electronic resources as they become available and continue to update the mobile library website to make searching easier for the user.

## Future of Mobile – Wichita State

WSU will continue to look at mobile. Their web pages are just the beginning and as needs are anticipated mobile strategies will continue to evolve for addressing those needs. In regards to the mobile database page, updating is already necessary. With more mobile databases becoming available, the page is becoming too long and users have to do too much scrolling. The descriptions will probably be removed but the iPhone app and proxy server indicators will be kept.

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Ronda Holt is the Information Technology Librarian at Butler Community College, El Dorado, Kansas.

Mary Walker is the Electronic Resources Librarian at the Wichita State University Libraries, Wichita, Kansas.