Superpatron Edward Vielmetti gives a patron’s-eye view of mobile library interfaces, along with ideas on putting phones to good use

Focus on the Interface

Mobile phones are everywhere: there are more mobile phones than Internet-connected computers and long lines in front of stores to get the latest new model. One in ten U.S. households has cut the cord, relying on a cell phone, not a landline, for telephone services.

Globally, there are 3.3 billion mobile phone subscriptions as of the end of 2007, according to an Informa report, with about 25 percent of those subscribers using Internet services on their mobile devices. And while a recent survey from web analytics vendor GetClicky showed that mobile phone usage reflected only about 0.5 percent of overall Internet use, this growing new platform for library content and services deserves the attention of library technologists, even if mobile library interfaces cannot be the 100 percent focus of improvements and development.

Sadly, in many libraries, the most common image associated with mobile phones is the ubiquitous sign saying they are not allowed. It’s time for libraries to reevaluate systematically this attitude toward patrons who bring communications devices into the library and to see what they can do to engage patrons both inside the building and on the go with their collections and services. An investigation of what some pioneering library systems are doing to connect to patrons via their mobile devices reveals transcoded catalogs, SMS reminders, and other mobile-friendly Internet services. They represent a mere prelude to what the future of the mobile library might be.

Distilling an OPAC

My handset, an older model BlackBerry, has a functional but unlovely browser that harkens back to the state of Internet browsing in the late 1990s: it’s relatively slow, it has a small screen, and it doesn’t do everything that my big laptop does. But, crucially, it works when I’m on the move and allows me to check the weather, figure out how late the bus is running, and send a Twitter message from just about anywhere. It seems only reasonable that I should also be able to look up a book at the library, put it on hold, or renew my outstanding books from the same device.

A number of library catalog vendors offer ready-made modules that al-
low mobile phones a special, cut-down version of the catalog designed for what is assumed to be a device with a tiny text-only display, limited keyboard functionality, and slow access speeds. The strongest product in this category is the AirPAC catalog interface, designed by Innovative Interfaces (III), though other examples include PocketCirc from SirsiDynix. The AirPAC screens are simple, clear, and easy to read on small devices. It’s not fancy or flashy and generally underwhelms on many fronts, but it works quickly and, most important, is easy to deploy. It is used by the Nashville Public Library (see graphic, below left).

Note that its AirPAC front page does not include common questions the library gets (hours, locations) and doesn’t have a phone number to call for reference—this is typical of catalog-centered mobile implementations that are disconnected from the rest of a library's services. AirPAC has been around since 2001, and it shows the early design strategy aiming at the lowest common denominator in mobile phone information display.

Mobile-focused online catalogs can be found around the world. The Katholische Öffentliche Bücherei Erbach im Odenwald uses a system called BVS eOPAC, developed by IBTC in Haigerloch, Germany. This system has much of the same look and feel as AirPAC, with the bare minimum of page text, no book cover images, and conservative, single-column page formats readable on minimal systems. Ball State University libraries, Muncie, IN, built a mobile version of its online catalog in 2005 with a similar conservative approach, and the Cal Poly Pomona library mobile site offers just hours and locations but no catalog access.

Coding for mobile on the fly
Some library systems offer mobile access through translation systems that reformat the regular library web site into something more friendly to mobile devices. Called "transcoding," this is a very low-cost solution but also one that has limits. As an example, the University of Virginia VIRGO catalog employs a service from Usablenet called Transcoder, which transforms the site so that it's accessible to both disabled users as well as to mobile Internet devices. Generally, a failure of this approach is that the information architecture necessary for a small screen differs from that for a large screen. A simple translation that preserves a full set of site navigation links creates real problems that may require mobile users to scroll through two or three pages of text before seeing content. Google offers a similar service called Google Mobile Optimizer, which is integrated into some of the Google Mobile tools so that when individuals come to a library through a Google search on a mobile phone, they get a reasonably formatted site. (For more on mobile site transcoding, see Megan K. Fox's "Information Anytime," p. 2.)

The emergence of the iPhone has allowed interface designers to go one step further in reaching out to mobile users. In one sense, the full browser found on the iPhone has let web developers off the hook: the browser will adapt the site on its own, removing the need for mobile-specific development. Just as with the transcoding systems described above, however, this is not perfect. The WebKit-based Safari browser on the iPhone does not render all sites in the same way as the browsers with the biggest market share, so library sites that are less than 100 percent on desktop-based Safari browsers are going to suffer. In addition, the very narrow and short iPhone screen can make for situations where input and text boxes are tiny—flaws that are fixable with the addition of small amounts of iPhone-specific coding but that still need to be addressed.

Some libraries have gone out of their way to assemble mobile content and format it for the iPhone, knowing that owners of these devices are a part of the target user base. The best example of this is the Yale University Cushing/Whitney Medical Library site, which collects catalog content, licensed database portals, and a mobile-friendly version of MEDLINE into a single site. Note that the actual effort to put this together is not as great as it might seem; much of its services are delivered through links to existing independent projects that provide mobile-friendly content. The Yale Science libraries also offer text message-based reference services, with in-building signage to help patrons locate help.

A second instance of iPhone-specific development is Michigan’s Ann Arbor District Library's (AADL) iPhone portal. AADL uses a Drupal front end on top of its III catalog, and that front end’s application programming inter-
**Easy as SMS**

Not every innovation has to come from changes to the catalog interface. It's perfectly reasonable to use desktop systems for the sometimes complex task of finding and borrowing books and to use the mobile phone as a simple scratch pad for temporary details such as which floor to access to pick up the book. As an instance of innovation here, Adam Brin at the Bryn Mawr Libraries, PA, developed a component that allows you to text the location of a book to your mobile phone. The device receives an SMS or email message with some very small bit of essential information (book title, location, floor, call number), allowing the patron to have that information at hand when heading to the stacks. This feature proved popular when installed at the Iowa City Public Library, with librarian Jason Paulios reporting that a patron had him send her a text message from the catalog "to show others how cool we were." The feature was initially developed for III's Millennium catalog, and the source code is available online.

A number of services allow for sending reminder emails to users telling them about books that have come due or are available from reserves. The Helsinki City Library will send pickup notices as text messages to your mobile phone. This comes as no surprise since Finland, home to mobile phone giant Nokia, is way ahead of the rest of the world in mobile application development. The National Library of Singapore announced a similar SMS-based reminder service this spring, aimed directly at its young adult population: the announcement reads, "How cool is that?" and was written by a 13-year-old blogger.

**Lists in libraries and beyond**

Book-finding and reminder systems go well beyond the library. Bookstores and other book information providers offer mobile services for keeping track of reading materials. Libraries would do well to emulate them.

Amazon.com works really well from a mobile phone and has a well-designed function to help you save a list of books—its wishlist. Via the site's mobile interface, you can find the books you want and save them to your wishlist to make a decision later about whether to purchase or borrow from a library. I've used this in the field to good effect while sitting watching my kids in the library—visit the Amazon search function to look up the name of a book and then walk briefly to the catalog terminal to find its location on the shelves.

The LibraryThing collaborative cataloging system also has a mobile interface, though it's much pared down relative to the main view. Still, it allows you to browse through your own wishlist and very conveniently links to the Amazon page for any given book, a surprisingly seamless integration given that Amazon automatically loads a mobile-friendly page as well.

**LINK LIST**

- Amazon.com mobile
  amazon.com/gp/aws.html
- Ann Arbor Transit Authority mobile
  bus schedule
  mobile.theride.org
- Google Mobile Optimizer
  google.com/www
- Innovative Interfaces AirPAC
  iiit.com/solutions/thesms.shtml
- Iowa City Public Library with SMS
texting from catalog
  catalog.icpl.org
- LibraryThing mobile
  librarything.com/m
- National Library of Singapore SMS
text announcement
  singaporesms.notlong.com
- Remember the Milk
  m.rememberthemilk.com
- SiriDynix PocketCirc
  pocketcirc.notlong.com
- SMS text message from an II Millennium catalog
  trilogy.brynmawr.edu/trica/sys/sms.html
- Twitter mobile
  m.twitter.com
- Usablenet Assistive
  transcoder.usablenet.com/assistive
- Weather Underground mobile
  m.wund.com (general mobile)
  i.wund.com (iPhone)

If you're just keeping a list of books to read independent of the library, there are a huge number of ToDo list and reminder systems that take SMS or Twitter messages as input and collect them for viewing on the small screen. Sites like Remember the Milk, with multiple options for viewing lists, may be better for personal list-keeping than a strictly book-focused system embedded in either library or bookstore software.

If you rejected spending time on mobile-based library services in 2001, when screens were tiny and applications were few, it would be worthwhile revisiting that decision in 2008. A broader range of devices adds to the potential for a system that will get appreciable amounts of use by patrons. Selective use of text messaging for high-value notification and reminder services brings library information to every cell phone user. And while you're at it, tear down that "no cell phones" sign and look to connect to people with the communications tools they are using everywhere.

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