

TechMatters: Cracking the QR Code

Krista Graham, Central Michigan University

What is black and white and read with a cell phone camera? The answer: a QR code (see Figure 1). These somewhat strange looking, pixilated boxes seem to be all the talk in and around libraries these days. But, what are they really? How do they work? And, what are their possible applications in libraries and for instruction? If you aren't certain of the answers to one or more of these questions, then this article may provide just the introduction you need.



Figure 1:
QR Code -
Try Me to go to a LOEX web page!

What is a QR Code?

QR, aka Quick Response, codes are two-dimensional, matrix barcodes capable of encoding much more information than standard linear barcodes. Originally developed in Japan in 1994 by DENSO WAVE, then a subsidiary of Toyota, QR codes were first used to track vehicle parts through the manufacturing process.

Since that time their use has evolved to the point where it is now increasingly common to see QR codes in magazines (both in ads and in articles), on signs and business cards, and even consumer products like baby shampoo bottles. All that is required to access the information stored in these codes is a phone with a camera and a code reader application. When scanned, these codes may, amongst other things, be used to provide contact information for an individual or company, send a text message to request help or additional information, and/or link users to sites containing more information about a product or service.

How do I Find a Code Reader for My Phone?

In order to access the information encoded in a QR code, you will need to install a code reader application on your camera phone. Fortunately, there are readers available for most brands of mobile phones. One good source for identifying such applications is the Mobile-Barcodes.com site which reviews and provides a list of “the best QR-Code reading software available for download on the internet.” (<http://www.mobile-barcodes.com/qr-code-software/>)

In addition to allowing you to search by manufacturer and model to locate an application compatible with your phone, the site also provides brief reviews, screenshots, and links to download locations and instructions.

Great! But How Can I Use QR Codes in My Library?

Basically, QR codes can be used anytime you want to direct users to information that can be accessed, used, or

manipulated via a mobile interface. It allows you to provide instruction virtually anywhere. Many libraries have already begun to experiment with using QR codes to promote their collections, orient users to their buildings, provide access to point of need instruction, and facilitate contact with librarians and support staff.

Tutorials and Tours

QR codes can be used to point users to context-appropriate tutorials, as well as to supplement physical tours of the library with relevant audio/video components.

At Brigham Young University's Harold B. Lee Library in Utah, QR codes have been placed in key locations throughout the library¹. At each stop on the tour, students scan a code to hear an audio introduction to that section of the library.

QR codes are added to instructional handouts at the University of Huddersfield (England)², which then point students to supplemental information such as links to video tutorials. In addition, QR codes are placed in physical locations throughout the library in order to provide contextual instruction and/or assistance. For example, a QR code at the “add value” machine for their printing system provides a link to a video tutorial describing how to add money to an account.

Catalog Records

A number of libraries, including those at Ryerson University (Canada)³ and Sonoma State University (California)⁴, include QR codes directly in their full catalog records. When scanned, these codes open a text message into the reader application that includes the title, author, location, and call number for the item (Figure 2). Users can then take their phone with them to the shelves to find the book that they want. Depending on the functionality provided by the reader, they may also have the option to copy and paste the information into another application and/or to send it to someone else via e-mail or SMS text message.

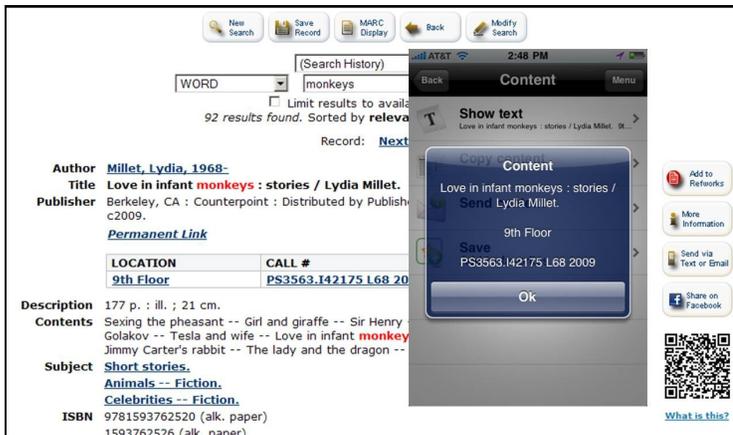


Figure 2: When scanned, a QR Code embedded in a record in the Ryerson University catalog opens a text message providing users with location information.

Provide Access to Help

Another way to leverage QR codes in the library is to use them to make it easier for users to contact the appropriate service desk, as well as to save contact information for future use. At the Sacramento Public Library⁵ in California, a QR code is used to allow users to quickly add the phone number for SPL's text message service to the user's contact list which can then be used to text a question to a librarian. Similarly, the San Diego State University Library⁶ includes QR codes in their staff directory to allow users to add an individual directly to their contact list, as well as providing a link to the mobile version of their web site.

Enhance and Promote the Collection

Several libraries have started to experiment with using QR codes to point users from print resources to their digital equivalents. For example, at the University of Huddersfield Library⁷, QR codes pointing to the online version of print serials are placed on journal stands. In addition, QR codes that direct users to relevant electronic resources related to certain subject areas (e.g., laws & legislation) have been placed on shelf ends in the sections where print materials on those topics reside. Similarly, at the George Fox University Libraries in Oregon⁸ QR codes are placed on dummy volumes at the end of the print runs of journals to alert users that the subscription continues online and redirect them to the electronic version(s).

Book a Room

Both the West Virginia University's Evansdale Library⁹ and Brigham Young's Harold B. Lee Library¹⁰ place QR codes outside group study rooms that direct users to their online room reservation form.

OK, I'm Convinced! But How Would I Create a QR Code

Fortunately, there are a variety of free online tools that you can use to generate QR codes. Two that I like are the Kaywa Generator (<http://qrcode.kaywa.com/>) and the XZing Project QR Code Generator (<http://zxing.appspot.com/generator>). Using either one, you can create QR codes to send users to a specific URL, communicate in plain text, provide a phone number, or generate an SMS text message. In addition, the XZing tool allows you to create codes to generate calendar events, provide business card contact information, provide an e-mail address, pinpoint a geographic location, or connect to a WiFi network. Both tools allow users to download QR codes as image files (.png format) that can then be included on paper handouts and web pages alike.

Conclusion

Although not a new technology, QR codes have only recently emerged as a means to market services and communicate directly with customers. As a result, many library users may still be unfamiliar with these codes, so using them effectively may require some promotion and user instruction. However, when you consider the growing number of users that do understand and use this technology, experimentation with QR codes may offer a great opportunity to position yourself as an organization that embraces cutting edge technologies in order to improve access to the information and services you provide for your patrons.

(Editor's Postscript)

After finalizing this article with Krista, I noticed another increasingly common use of QR Codes: on posters at library conferences. This makes complete sense, as a poster is by definition a summarized format of the presenter's work and a QR code can quickly take the conference attendee viewing the poster to more information (e.g., a video, a LibGuide, a handout) about the presenter's project. However, one key tip: don't just slap the code on the poster! This is because 1) as noted above, many people don't yet know what it is and while this will likely change rapidly, don't assume and 2) give some info so the attendees knows why they should use the QR Code—otherwise, it may just fade into the background. Make sure to either put a note (e.g., "Take a picture of this code to see a video of our class") or at least the URL (e.g., so the attendee knows they will be taken to a LibGuide website). You can see good examples of "prompting" the viewer with these examples from a band¹¹, a government-access channel¹², & a library poster¹³.

(QR Codes...Continued on page 10)

(Free Stuff...Continued from page 9)

Since LibGuides allows embedding, this solved my issue. Thus, not only does Jing solve my virtual storage and access problem, but it also gives me all the embedding codes I need.

Conclusion

Free online applications are useful if your budget is limited, or if you need to create something quickly without budget approval. While many people may be concerned about the quality and long-term support of web applications, these freebies often reflect the most current trends and behavior of online communities. If evaluated thoroughly, they can help encourage involvement of distance users and give more Web presence to your subject guide.

(Interview...Continued from page 11)

solve real problems. Also, the work we do is often international, which can help broaden the curriculum for students.

As far as money, we really have dedicated students - they pay for themselves. They are doing this on top of their school work, out of love of the idea and commitment for the mission. In future years we would like to be able to offset some of those costs through grants or scholarships.

If a student or librarian wants to get involved with LWB, how do they get involved? Can they be from outside Canada?

It's always initiated by the person – they contact us. A student will say: "I'm really excited about this, how do we go about setting up a committee ourselves?" Right now we are not able to do that with schools in the United States, but we are starting to look into how to set ourselves legally up in the U.S. As far as timing, I'd love to tell you "We'll be in the U.S. in two years," but really we need to be able to have the

(QR Codes...Continued from page 7)

1 <http://net.lib.byu.edu/~mjw243/audiotourhandout.pdf>

2 <http://eprints.hud.ac.uk/7250/>

3 <http://catalogue.library.ryerson.ca/record=b1966691~S0>

4 <http://iii.sonoma.edu:2082/record=b2007214~S12>

5 <http://www.saclibrary.org/?pageId=59>

6 <http://infoguides.sdsu.edu/people/ppl.php?id=3>

Footnotes

1 Research Methods in Music MUS7260
<http://hkbu.libguides.com/MUS7260>

2 A search in the Library, Information Science & Technology Abstracts (LISTA) database for Meebo yielded 23 results, but a search for Plugoo only retrieved one short article with a brief mentioning of it. A quick glance on the guides in Springshare's LibGuide Community also showed that the free IM used by most librarians was Meebo and only very few used Plugoo.

3 Griffis, Patrick. "Building Pathfinders with Free Screen Capture Tools." *Information Technology and Libraries* (December 2009): 189-190.

resources to support that. A focus this year is really looking to raising money for the organization. In the past we've done that through private individual donations, but we are starting to look at grants through our partner institutions as well as corporate sponsorship that can allow us to keep doing the good work that we've been doing and to take on additional institutions.

To learn more about and support the work of Librarians Without Borders, including about their trip to Guatemala, please see: <http://www.librarianswithoutborders.org>
twitter: lwb_online

7 <http://eprints.hud.ac.uk/7250/>

8 <http://www.flickr.com/photos/25095603@N07/5021688103/in/set-72157625028207818/lightbox>

9 <http://wvutoday.wvu.edu/n/2011/2/16/qr-codes-connect-wvu-students-with-library-resources>

10 <http://lib.byu.edu/sites/qrcodes/group-study-room-reservation/>

11 <http://independentrockstar.com/2040/qr-codes-posters-matt-moran-band/>

12 <http://designnotes.info/?p=2568>

13 <http://staff.lib.msu.edu/deborahm/QuranposterACRL2011>