Tips & Trends: QR Codes

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Overview and Definition

QR, or Quick Response codes are two dimensional barcodes encoded with information that can be scanned (or decoded) by a mobile device equipped with a QR code reader. Freely available QR code generators (e.g., Kaywa, i-nigma, Nokia, Deliver, Microsoft Tag, BeQrious, Bee Tagg, and Bit.ly) take user supplied information, such as a web page, audio, video, text or a phone number, and create a QR code image which may be displayed electronically or in print. When the image is scanned by a mobile device camera, the encoded information prompts the device to perform an action, such as open a web browser, to dial a specified phone number, or to display text. Originally designed for business and industry, the technology has quickly gained popularity in libraries.

http://www.ala.org/ala/mgrps/divs/acrl/about/sections/is/committees/instrtech.cfm

Basis for Current Interest

Due to the near ubiquity of advanced mobile devices on many campuses, several industries and organizations have implemented QR codes in a variety of ways. For example, newspaper and magazine publishers utilize these codes to point readers to extended article information, while marketing professionals place them on signs or store windows promoting a particular product. Museums have adopted QR codes to link visitors interested in learning more about a specific object to online audio or textual enhancements for extended learning. All of these applications can and have been adapted for library environments.

QR codes present the possibility of meeting library users where they are and with the information they need, whether they are off-campus researching or lost in the stacks. Furthermore, they offer a low cost marketing tool easily distributed in a variety of formats and locations.

Current Applications in Academic Libraries and Higher Education

The number of university and college libraries using QR codes is rapidly increasing as familiarity with the technology grows. The Library Success wiki maintains a list of examples and links http://www.libsuccess.org/index.php?title=QR_Codes. There are several creative applications in libraries, a few of which are detailed below.

There are numerous uses of QR codes for marketing, promotion, and outreach initiatives. For example, a code printed on a business card may point to contact details, a subject guide, or chat window. Codes placed in an online directory of employees will allow a user to save and store contact details in their mobile device, after scanning the code for a particular librarian or library. Traditional promotional materials such as posters, flyers, or event calendars may be supplemented by QR codes, as can social media tools such as Facebook, blogs, or Twitter.

QR codes also offer mapping and way-finding solutions. They can point to an online mapping service which, once scanned, will allow a user to save navigation directions to their mobile device. Or to facilitate users' way-finding inside the library building, libraries may also embed QR codes in the online catalog. A user may scan the code in order to record the call number as well as stack and call number maps. Another way-finding solution is to strategically place codes in known areas of need, for example providing a map from print periodicals to scanning or printing stations.

In order to increase user awareness of library collections and services, QR codes may link to:

- Electronic equivalents or related works from physical holdings (or exhibits)
- Mobile friendly databases or mobile library catalogs
- Audio library tours
- Renewal services (placed inside book cover)
- Live chat window
- Operational video for technology (operating scanner, self check-out machine, projection system).

Current Applications in Academic Library Instruction

Orientation

An increasing number of libraries are offering orientation programming via methods such as tours or games. In these types of place-based games, QR codes may be used to connect the virtual and the physical. For examples, Lafayette University Library has developed a "Where in the Library Is Carmen Sandiego?" scavenger hunt-style game, in which QR codes are posted at each new location.

Some libraries are also developing virtual tours of their buildings, instead of (or in addition to) conducting personal tours of the building. Lawrence University's library displays QR codes throughout the building. When touring, a user can take a picture of a code that links them to more information about the location in which they are standing. Tour information linked from a code might include a video, podcast, a mobile webpage, or images.

Point of Need

The allure of QR codes is that they connect the physical to the virtual. This function is one that instruction librarians can harness to provide point of need instruction. Codes can be printed and posted next to physical items in the library so that patrons can find related resources, electronic holdings, and instructional videos related to the item (Walsh 2010). For example, Half Hollow Hills Community Library embeds codes in the stacks, which when scanned connect patrons to research guides about the subjects. Instruction Librarians are increasingly creating online learning tools, which can logically connect to actual physical places in the library where a person may need instruction.

Outreach

Using QR codes for outreach and promotion is currently the most popular method of use. Librarians who are promoting events, such as drop-in workshops, have included QR codes on flyers or research guides. These codes often include more information about the event, supplemental materials, and perhaps even a digital trailer.

Potential Value

The number of students who own a mobile device is increasing each year. According to the 2010 ECAR study, 62.7% of students currently own a mobile device that can connect to the Internet, with another 11% planning on purchasing such a device this year. With more and more students accessing information through the mobile web, library instructors should examine how they can leverage their content (and expertise) to be delivered via this medium.

QR codes can serve as a conduit between physical and virtual services, spaces, and resources that libraries offer. This connection allows librarians to offer instruction where and when students need and want it.

QR codes are often free to create, and posting them is a way to bridge the gap between physical and print. It's also a low cost option to provide instruction with minimal staff time needed.

Potential Hurdles

According to the 2010 ECAR data, 24% of students do not own a web enabled mobile device and do not plan on purchasing one in the coming year. This means that a quarter of the student population will not benefit from the added value QR codes can provide. Additionally, several libraries report that many students are not familiar with QR codes, nor do they have the correct scanning program downloaded on their phone to make them immediately useful.

Because the codes work with mobile devices, for maximum user satisfaction it is necessary for the content being pushed via a QR code to be optimized for mobile devices as well. Library websites currently range from a fully functional mobile site to no mobile option at all. Additionally, researchers are beginning to question the kinds of

content that are really useful to users and what they will actually need in the mobile environment (Aldrich 2010). Therefore, libraries will need to carefully consider when QR codes will enhance a user experience.

There are also potential issues for those with disabilities when using QR codes and mobile devices. "Universities and their libraries have yet to address mobile web access for people with disabilities" (Aldrich 2010). Currently, libraries strive to make their content fully accessible to all their patrons. However, not all accommodations are currently possible with mobile devices. In accordance with the law, until the technology exists to make content accessible for mobile devices, there will need to be alternative methods of delivery.

Conclusion

According to the literature, a small but increasing number of libraries are actively using QR codes at this point for library instruction. With increasing mobile usage by our student patrons, QR codes offer a mechanism for us to further connect them to our instructional materials.

References and Further Readings

EDUCAUSE. *7 Things You Should Know About QR Codes* (EDUCAUSE Learning Initiative). Boulder, CO: *EDUCAUSE,* 2009. http://www.educause.edu/ELI/7ThingsYouShouldKnowAboutQRCod/163728

Aldrich, Alan. "Universities and Libraries Move to the Mobile Web." *Educause Quarterly Magazine* 33, no. 2 (2010). http://www.educause.edu/EDUCAUSE+Quarterly/EDUCAUSEQuarterlyMagazineVolum/UniversitiesandLibrariesMoveto/206531

Ashford, Robin. "QR Codes and Academic Libraries: Reaching Mobile Users." *College & Research Libraries News* 71 no. 10 (2010): 526-530. http://crln.acrl.org/content/71/10/526.full

Smith, Shannon D. and Judith Borreson. *The ECAR Study of Undergraduate Students and Information Technology, 2010* (Research Study, Vol. 6). Boulder, CO: *EDUCAUSE,* 2010.

http://www.educause.edu/Resources/ECARStudyofUndergraduateStuden/217333

"Cookery Datamatrix." Half Hallow Hills Community Library. Digital Photograph. 2010. http://www.flickr.com/photos/halfhollowhills/4504965499/

"Library Virtual Tour." *Lawrence University*. Accessed September 13, 2011. http://www.lawrence.edu/library/tour/

Ramsden, Andrew. "The use of QR codes in Education: A getting started guide for academics." Working paper, University of Bath, 2008. http://opus.bath.ac.uk/11408/

Walsh, Andrew. "QR Codes – using mobile phones to deliver library instruction and help at the point of need." *Journal of Information Literacy* 4, no. 1 (2010), 55-64. http://jil.lboro.ac.uk/ojs/index.php/JIL/article/view/LLC-V4-I1-2010-1

"Where in the Library is Carmen Sandiego?: An Interactive Library Mystery Game." *Lafayette College Library.* Last modified August 5, 2011. http://library.lafayette.edu/carmensandiego

Whitchurch, Michael. "QR Codes and the Library Audio Tour." Presentation at the Association of College and Research Libraries Conference, Philadelphia, Pennsylvania, March 30–April 2, 2011. http://www.ala.org/ala/mgrps/divs/acrl/events/national/2011/papers/qr_codes.pdf

Wisniewski, Jeff. "Bridging the Other Digital Divide." *Online* 34, no. 5 (2010): 55-57.

Other Examples

Best Practices Wiki: QR Codes http://www.libsuccess.org/index.php?title=QR_Codes

QR Code (Video from University of Nebraska Omaha) http://www.youtube.com/watch?v=wmak6uKxr2M&feature=related