Quick Response Codes

User Guide for Extension Professionals

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INTRODUCTION

A few words before we start!

Thank you for taking the time to pick up, load, or take a glance at this QR user guide for Extension professionals. In the next pages I hope to teach you what a QR code is, how they are used, how to scan them with devices, why others use them, and how to make your own.

This guide is focused on how Extension professionals can apply the technology of QR codes through experiential education. That being said many of the discoveries, applications, and examples that inspired my own use of QR codes have come from a large variety of sources. I have found that being open and observant to other QR codes has helped me develop my own ideals about applications of this technology.

Through my own love of technology I hope to give you the tools you need to be successful in the use of QR codes through your own adventures.

To those who helped me edit, listened to me go on and on about some QR code thing, or were embarrassed by me stopping in the middle of a store to snap a picture of a QR code—Thank you! Your support and love has made this guide what it is today!

Happy QR Coding!

Heather L. Gottke

WHAT IS A QUICK RESPONSE

The history of the code and its origination

QR code is short for quick response code.

Bar codes hold 20 characters, while QR cdoes hold 7,089 characters.

QR codes are read up and down, side to side.

QR codes read 10 times faster than a bar code.

The inventor of the QR code was Denso Wave.

A QR code (also known as a quick response code) is a way to receive information. A younger cousin to the bar code, it provides information from a large variety of sources. The bar code holds a maximum of 20 characters, while the QR code can hold up to 7,089 characters (Crompton, LaFrance, & van't Hooft, 2012). It is generally square in design and looks much like a puzzle with blocks on three of the corners. The code "consists of black modules (square dots) arranged in a square pattern on a white background" (Neal, 2012, para. 3). The QR code is scanned like a bar code, but provides information up and down and from side to side.

Speed is another advantage of the QR code over the bar code; it can be read more than 10 times faster than other code" (para. 8). The QR code is scanned with applications from mobile devices, tablets, or a computer. Once the code is scanned, the browser will be redirected to the URL (uniform resource locator) or information that the user scanned to receive such as a map, picture, video, or plain text message. More information about how to scan the codes will be shared later in this guide.

The QR code was developed by Denso Wave as a way to benefit business industries who wanted to send or receive information that was greater than 20 characters (Denso Wave, n.d.). In 2002 Japan exploded in usage of the code with the development of smartphones for personal use with everyday consumers (Denso Wave, n.d.).

SHARING DATA

What kind of things can a QR code do?

In order to develop more ideas for QR code use, it is helpful to understand what it can link to. The list below shows a n extensive list of uses for QR codes. Unique uses to note would be wifi login, telephone call, vcalendar events, text messages, and google maps locations. While this list is not comprehensive all of these uses can have a QR code developed at the QR Stuff generator found at http://www.qrstuff.com.

- Website URL
- YouTube Video
- Google Maps Location
- App Store Download
- iTunes Link
- Dropbox
- Plain Text
- Twitter
- Facebook
- LinkedIn
- FourSquare
- Wifi Login (Android Only)
- Paypal Buy Now Link
- Telephone Number
- Skype Call

- SMS Message
- Email Address
- Email Message
- Contact Details
- Digital Business Card
- Event (VCALENDAR)

EXPLORING THE CURRENT USES

Business, Marketing, Community, Education & Extension

Business & Operations

The use of QR codes in business and operations can help on a number of levels. Productivity of employees, professional development, instructional media, and communications are just a few of the many ways that businesses can adopt QR codes. These methods are seemingly limitless, and can grow to fit a business or organization accordingly.

Specific ideas for business & operations:

QR code of contact information on a business card.

QR code used for inventory of items.

QR codes to gain immediate feedback or evaluations.

QR codes that explain how to do something with a video.

QR codes to explain policy changes or otherwise lengthy information.

Marketing

Using QR codes can be applied to marketing in a number of ways that guide your efforts in a way that engages the technology savvy user and invites those that are new to technology. The use of QR codes "increased consumer engagement and ability to connect with consumers on a deeper level can help strengthen the dedication to that particular brand" (Larkin, 2010, p. 74). Larkin also discussed the increased ability to track a QR code's analytics to gauge customer engagement and feedback. The code makes anything it is on a tool for evaluation and a way to get immediate comments from the consumer.

Specific ideas for how to integrate marketing techniques could be:

QR code on the bottom of an event flyer to RSVP, or save the event to a smartphone.

QR code on business front to promote social media pages with a direct link.

QR code on promotional products that link to a mobile store.

QR code that when scanned offers a promotional coupon or discount for an email address or physical mailing address.

EXPLORING THE CURRENT USES

Business, Marketing, Community, Education & Extension

Public Information

QR codes are not limited to educational uses however. There are a number of ways that a scanned code with information can be used in a public setting. QR codes are free to generate, and can reduce the amount of copies made to communicate information in a community setting. QR codes can be educational, informative, or persuasive to benefit the people in the community.

Specific ideas for how to integrate community include:

QR codes in public parks or other locations giving information about hours of operation.

QR codes that connect users to a survey about the park or rest stop.

QR codes that share calendar of events for organizations or public meetings.

QR codes that promote community events.

QR codes that promote current events, or fundraisers.

Education

There are a number of educational uses that could be developed for QR codes. QR codes allow students to access information with a long URL or detailed information quickly. Codes can help teachers to customize learning experiences for students at any level without them feeling as if attention was brought to their ability level. Teachers can also use QR codes for classroom management. Students would be able to use a QR code to log out (or leave) after they attend a learning session to record their attendance (Jacoby, 2012, p. 302).

Specific ideas for how to integrate education could be:

QR code on a math problem explaining how to complete it.

QR code with answer to worksheet questions.

QR code with various writing prompts.

QR codes to give early finishing students fun challenges to experience.

EXPLORING THE CURRENT USES

Business, Marketing, Community, Education & Extension

Cooperative Extension

The learning experiences gained through experiential education can give the use of technology a bad name in Cooperative Extension. The addition of QR codes can give a high touch and high tech feel for programs and events in Extension. There are a number of applications that can be adapted from other areas that are using QR codes.

Specific ideas for how to include Extension include:

QR codes in the produce section with preparation tips and hints for unique items.

QR codes in the grocery store for seasonal items and how to prepare them.

QR codes with links to recipes for healthy living or disease specific diets.

QR codes at banks for savings and budgeting information.

QR codes at community gardens with information about unique species.

QR codes on plant care information, or included with local greenhouse plant sales.

QR codes on information that is a current issue for agriculture (changing frequently).

QR codes for businesses developed as a result of economic development group.

QR codes with information about the community or local industry.

QR codes with historic information about buildings, or parks in the community.

QR codes to self check worksheets about caring for livestock, or quality assurance.

QR codes to promote 4-H programs and link the user to club/volunteer information.

QR codes to connect families to 4-H calendar of events.

QR codes that prompt teens conducting camp counselor training on role play situations.

QR codes to connect to survey information about the quality of events provided.

QR codes on flyers with event information and location.

QR codes on fact sheets that link to ask an expert .

QR codes that send an email asking for more information .

QR codes that connect learners to more information and digital handouts.

QR CODE READERS

Tips & Suggestions for Downloads

The secret to reading QR codes is a good QR code reader. Most are available free through mobile stores (both google play and the app store). QR code readers offer a screen to scan your codes, and often a section that saves the history of scans to review as needed.

NeoReader (iPhone)

iTunes link for quick download
https://itunes.apple.com/app/neoreader-qr-reader-barcode/id284973754

QR Droid App (Android)

Google Play link for quick download http://q.qr.ai

Kaywa Reader
iPhone and Android apps http://reader.kaywa.com/

Read QR Codes from your Laptop!

http://www.codetwo.com/freeware/qr-code-desktop-reader.

MAKING YOUR OWN QR CODE

Finding a generator that works for you!

Anyone with access to the Internet can create a QR code. Using a code generator the user will enter in the information (such as a URL) that they wish to share with the recipient and copy the QR code that the generator produces. The code can then be inserted into documents and printed out for materials.

QR Code generator:

http://www.qrstuff.com/

See page 3 of the user guide for more detailed information about this topic.

Delivr

http://delivr.com/

Kaywa

http://qrcode.kaywa.com/
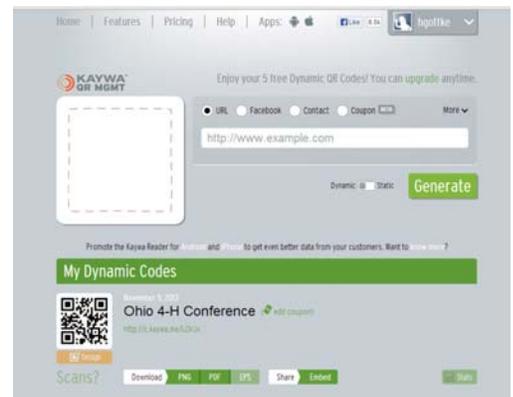
TRACKING ANALYTICS

What level of engagement do you have?

Analytics is defined as "the systematic computational analysis of data or statistics" (The Oxford American College Dictionary). In finding the statistics of the QR codes used, one is able to identify whether the audience was engaged with the technology or not.

Ohio State University Short Links Service (OSU Only)

http://go.osu.edu

Left: Once you login with your name.# and password you will find yourself at this screen where you can enter the original URL and the short link that you wish to have.
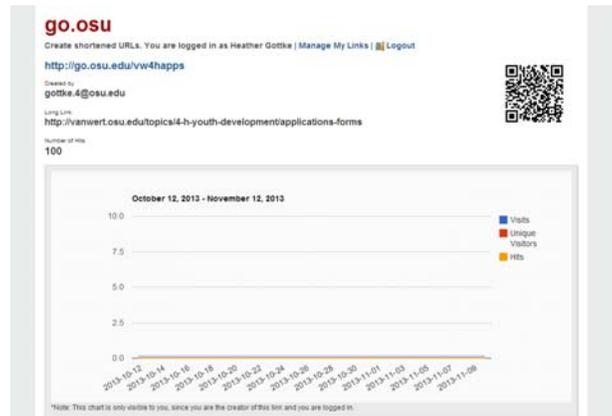

Above: Once you submit the information you will receive your go short link and a QR code that links to the short link.

Right: The short links will be saved in your user account and data can be found under the "Stats" category.

TRACKING ANALYTICS

What level of engagement do you have?

Delivr: http://delivr.com/ is an option for those who wish to track more specific information (other than hits) and/or do not have an Ohio State University username and password. The service provides a short link, QR code, and NFC code.

Right: Users will need to register for the free service first. Once registered you receive 25 free campaigns. To get the short link you will enter the URL and create the codes. The QR code can be copied and pasted from this page.

Above: Once a campaign has been started, users can go to the dashboard and will have a page similar to this one come up. From there you can build a report, or view your totals. Separate totals for the views, QR code scans, NFC tags, and URL clicks are all on the dashboard as circled above.

TROUBLESHOOTING

Common problems and things to think of!

Once you have decided to generate a QR code, there are a number of barriers you might find along the way. Here are a number of suggestions that will alleviate problems.

Test scan code before you print!

Blurred printing and lines can make a code unreadable to even the best of scanners.

Soft surfaces (ie t-shirts) often cause bunching, creases, or shadows that make your codes unreadable.

All scanners will struggle to read a QR code from a reflective surface.

Too many colors in the code can affect it's readability.

If the QR code is too high up, users will be unable to scan the QR code.

A good example of this would be billboards.

Moving vehicles may seem like a good marketing strategy, but it is questionable for liability if someone was to attempt to scan it while in a moving vehicle and cause or become involved in an accident.

Test scan code before you print!

QR codes should be at least one inch square with a blank space surrounding.

If you want to share information with a QR code, ensure that the information you are sharing is worth the time of the person scanning it.

Make sure that websites linked with a QR code are mobile friendly.

If the code connects to something on the internet, make sure that connectivity is available and it is not location in a dead zone for mobile communications.

FUN APPLICATIONS

Taking your QR codes a step further

There are many resources and fun applications that can be found on the web. Popular social media sites such as twitter (http://twitter.com) and Pinterest (http://pinterest.com) can be very valuable in searching for new ideas and uses for QR codes.

http://qrstuff.com	This site is a comprehensive approach to making, tracking, and customizing QR codes that are attractive and fun for users.
http://www.QRhacker.com	Allows the background or foreground of the QR code to be customized or changed.
http://qrstyler.com/	Custom-made QR codes. Analytics tracking ability also.
http://qrvoice.net/	Users can record their voice, or type in a message, and create a QR code with that information stored in it.
http://www.classtools.net/QR/	Scan-venger hunt generator tool. Very useful for simple question and answer type hunts.
http://www.qrcartist.com/qr-code-resources/multiple-qr-code-generator/	Create up to 100 QR cdoes at one time!

FINAL WORDS

Words of advice for those using QR codes

- Not all programming is suitable for the use of QR codes. Think of your audience and how they might react to technology.

- Make sure that you test your QR codes before you release it to the masses. The frustration of a QR code not working is not a good start to convince your users it is fun.

- QR codes do not need internet connectivity. When scanned the codes can read off plain text. As for accessing links or media on the internet, you do need connectivity.

- QR codes are a great way to engage learners who have a need to feel busy. You can have extra information on the side that they can explore while you finish working with other learners. This is a popular technique I found among traditional education classrooms.

- Make sure that what you are asking people to scan a QR code for is worth the time. It takes about 5 seconds to open the app, scan the code and overlook results. Make people's time worth it.

- If you are linking someone to a webpage, please make sure it is mobile friendly. Most people will use a cell phone to access QR codes and nothing is worse than a link to a webpage that is impossible to view on a phone.

- Try to engage audiences on an optional basis first. Companies often post coupons, or links to liking them on social media such as Facebook. Start slow and see if it catches on by checking your analytics.

- If at first you don't succeed, improve your method and try again!

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Giving credit where credit is due!

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