



2D Barcode Information and Guidelines

What are 2D barcodes and why should I care?

Two-dimensional (2D) barcodes provide a means of embedding Web addresses, text or other data in a camera-readable format. This enables users of modern mobile phones to scan a 2D barcode with their form and be automatically directed to a Web page or other data contained within the code. This simplifies having to remember or re-key URLs to Web pages on printed or other physical collateral.

Based on research conducted in spring 2011, it is estimated that 30% or more of current CI students are familiar with and are actively using 2D barcodes. As mobile devices are expected to outpace desktop computers as the primary means of accessing the internet in 2012, 2D bar codes can facilitate access to Web content

Guidelines for Using 2D Bar Codes

Consider your audience: make sure they are comfortable with using 2D barcodes in the way you plan to present them. Because knowledge and adoption of these codes is not yet 50%, 2D barcodes should not be used as the only way to provide information.

Use the Quick Response (QR) code format for 2D barcodes. QR codes are the most familiar, and are easy to generate and use.

Embed URLs in your codes. For most applications, having the 2D barcode link to a Web page is better than embedding a text message directly in the code. One important exception: consider embedding text instead of URLs for 2D barcodes placed in locations which have poor or no wireless internet access.

Use a short URL. The shorter the URL you use, the smaller you can make your 2D barcode. If your URL is more than 30 characters long, shortening is strongly recommended. URL shortening services such as tinyurl.com, bit.ly and go.csuci.edu can be used to shorten long URLs.

Make sure your barcode URL points to a mobile-friendly Web site, whenever possible. This will ensure users don't have to struggle to resize text or scroll excessively to get to the information they need on their mobile device.

Enable tracking on your 2D barcodes to measure campaign success. Make sure the URLs you are using for your 2D barcodes contain a tracking designator. The easiest way to do this is to add **?qr** (all lowercase) at the end of your code. When using multiple codes, you could add a number to the tracking designator (example: **?qr1**, **?qr2**, etc.). This way, server analytics reporting can provide data on which bar codes have received the most traffic for a given campaign.

For URLs that end with a forward slash (/):

<http://www.csuci.edu/crc>

could be written

<http://www.csuci.edu/crc?qr>

For URLs that end with a filename (e.g., index.htm, about-us.html, etc.)

<http://www.csuci.edu/it/helpdesk.htm?qr>

or

<http://www.csuci.edu/it/helpdesk.htm?qr1>

Provide a call to action and instructions for 2D barcodes. Invite your users to action, and explain to them what they can expect to see or do when they scan the code.

For example:



Provide an alternate URL for access alongside the 2D barcode. By providing the destination URL directly adjacent to the barcode, readers who don't have a 2D barcode reader on their mobile device will still be able to get to the same information by typing in or writing down the URL.

Make sure your 2D barcode is big enough. You should be able to scan it easily at arms length. If it doesn't work, you'll need to make the code physically bigger. There should also be sufficient whitespace bordering the code so that it can be scanned properly.

Make sure your 2D barcode has sufficient contrast. A black code on a white background offers the best contrast.

Deliver multiple 2D barcode formats simultaneously, if necessary. For maximum usability in critical situations, consider delivering your 2D barcodes in both QR and Microsoft Tag format. This will ensure improved likelihood of being scanned correctly.

Test, test, and test again: make sure your 2D barcode works well! Test it out on multiple devices, using multiple 2D barcode readers. Test it out using the location, placement and lighting where it will typically be delivered. Test it out with actual users whenever possible. Be sure and test it out before it goes into production or is sent out to print; fixing it after it's been printed or if it has the wrong URL may be difficult and costly, and result in poor marketing campaign performance.

How Do I Create a QR Code?

1. Go to the Web site for one of the free 2D bar code generators (see the “2D Barcode Generators” section of this document)
2. Enter the destination URL in the code generator, and follow the instructions to generate the code. Don't forget to include your tracking designator (as described in the Guidelines section).
3. Save the resulting code as an image on your computer's desktop.
4. Paste the image in your document.
5. Test your code to make sure that it works!

You are now ready to distribute the code.

Related Resources

2D Barcode Readers for Mobile Devices

- [Mobile-Barcodes.com QR Code Readers page](#) - to find 2D barcode readers for your mobile device
- [Microsoft Tag Reader](#)

2D Barcode Generators

- [Kaywa QR Code Generator](#)
- [ZXing QR Code Generator](#)
- [Invx QR and Data Matrix Generator](#)
- [BeeTagg QR & Data Matrix Generator](#)
- [Kerem Erkan QR Generator \(can generate QR codes in vector formats\)](#)
- [Microsoft Tag Generator](#)

More Reading on 2D Barcodes

[Educause “7 things you should know about QR Codes” \(in PDF format\)](#)

[PSFK “Future of Mobile Tagging Report” on Slideshare](#)

[MGH Marketing: QR Code Survey Results](#)

[Capstone Media Insights “How to Create a QR Code Campaign” \(in PDF format\)](#)

[Conected: “QR Codes and Mobile Web Sites” \(in PDF format\)](#)