

QR Codes for Tech Ed and Engineering

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Wiki Loves Monuments: Historic sites, photos, and prizes!



QR code

From Wikipedia, the free encyclopedia

Not to be confused with [Quadratic residue code](#).

QR code (abbreviated from **Quick Response Code**) is the trademark for a type of [matrix barcode](#) (or two-dimensional [barcode](#)) first designed for the [automotive industry in Japan](#). A barcode is an optically machine-readable label that is attached to an item and that records information related to that item. The information encoded by a QR code may be made up of four standardized types ("modes") of data (numeric, alphanumeric, byte / binary, [Kanji](#)) or, through supported extensions, virtually any type of data.^[1]

The QR Code system has become popular outside the automotive industry due to its fast readability and greater storage capacity compared to standard [UPC barcodes](#). Applications include product tracking, item identification, time tracking, document management, general marketing, and much more.^[2]

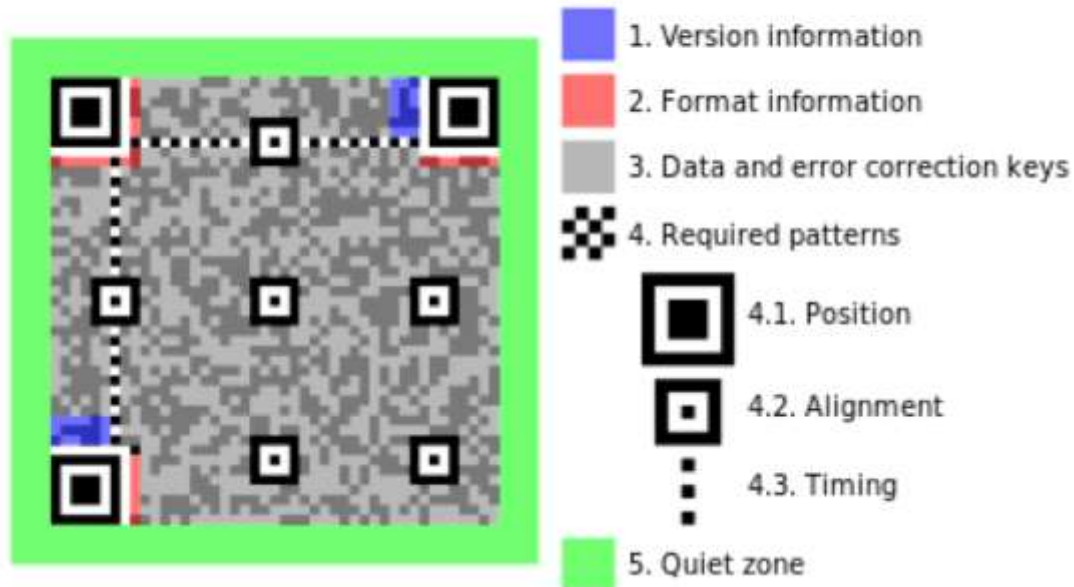
A QR code consists of black modules (square dots) arranged in a square grid on a white background, which can be read by an imaging device (such as a camera) and processed using [Reed-Solomon](#) error correction until the image can be appropriately interpreted; data is then extracted from patterns present in both horizontal and vertical components of the image.^[2]



QR code for the [URL](#) of the English Wikipedia Mobile main page, "<http://en.m.wikipedia.org>"

Standards for interpreting QR Codes:

Standards [\[edit source\]](#)





Typical Uses

- Tracking parts during manufacturing
- Marketing (to folks with smartphone apps)
 - Now a marketing focus because it takes users directly to the product website
 - Coaxes prospective buyers further down the purchase “funnel” immediately and effortlessly
- Mobile Couponing – connects you to discounts

Typical Uses (continued)

- QR codes also may be linked to a location to track where a code has been scanned (part of the code or tracked by GPS).
- Used since 2008 in Japan on gravestones to connect visitors with the deceased's history
- Can be used to store bank account information and pay for purchases
- Used for automated login to websites

QR Trivia

- Each QR code can store:
 - 7089 numeric characters (0, 1, 2, 3, etc.)
 - 4296 alphanumeric characters (numbers, symbols and uppercase (only) letters)
- Codes can be encrypted for increased security (as such are used to store info in Japanese passports)
- Codes are “error corrected” allowing up to 30% of misread characters to be restored; this allows for the use of artistic codes that are more pleasing to the human eye
- Malicious QR codes combined with a permissive reader can put a computer's contents and user's privacy at risk. This practice is known as "attagging". In Russia, a malicious QR code caused phones that scanned it to send premium texts at a fee of US \$6 each.

A great Prezi on QR codes for education:

<http://prezi.com/cfulh21m2dvo/qr-codes-in-education/>

QR Codes in Education

Nicole Zumpano, NBCT

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<http://todaysmeet.com/cpstechtalkqrcodes>

A movie clip on one school's QR code use:



Reading QR Codes:



ShopSavvy QR Code Reader

- Download a free app for your mobile device:
- ShopSavvy for either Apple or Android
 - http://digitalnewsrelease.com/?q=ShopSavvy_V4
- QR Scanner
- Redline

Creating QR Codes:



Free QR Code Generator

- Go to a free code generator on the web
 - <http://goqr.me/> <http://qrcode.kaywa.com/>
- Enter the web address for a website, video or online document
- Click to generate the code
- Screen capture the generated code and paste it into your document or website



Applications in the Tech Ed/Engineering classroom:

- Post a code on machines that connects students to safety information
- Post codes on worksheets to connect students to videos, websites, other resources or assessments
- Post on the course website or bulletin board to connect students to information/video clips they missed when absent – or simply for review
- Post on business cards to connect folks to your website or other info
- Other??

Questions/Suggestions?

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