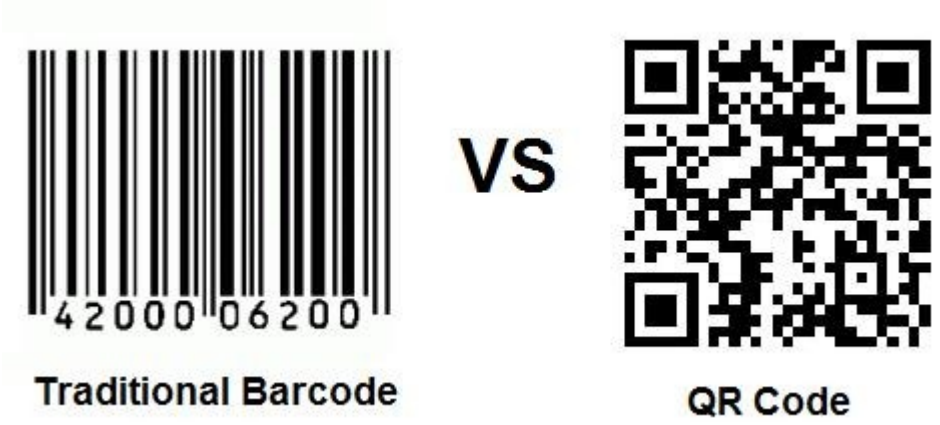
What is a QR code?

QR is short for “Quick Response Code” (QR Code). The “quick response” part refers to the fact that a device can instantly understand the code simply by scanning it with a camera or dedicated reader.

A QR code consists of black squares arranged within a square grid on a white background, a QR code can be scanned quickly by a dedicated **2D** bar code reader or a camera. They can look like this:

We use QR codes the same way as we use bar codes – but QR codes are more advanced. Bar codes are **1D** (1 dimension) because they only go from left to right, while QR codes are squared or **2D** (2 dimensions). This allows them to encode much more information.



What are QR codes used for?

Although traditional bar codes are still commonly used in grocery stores, government and commerce, QR codes are replacing them in many settings, QR codes are well known for helping people quickly get to websites using their phone camera.

A common example of this is a QR code in an advertisement, which allows you to get more information simply by scanning the QR code with your phone's camera:

There are a many other uses – from informing you about a product or event to soliciting donations for charity, encouraging voter registration and more.

QR code Labels can allow you to take a printed product and bring it to life, as you'll be able to link to resources such as websites, videos, images and promotional material.

How do QR codes work?

So, how do they actually work? Well, it can be a bit complicated – but it comes down to the black and white patterns.

When you point your camera at a QR code, your smart phone analyses the patterns of white and black, which are completely unique to that specific QR code. Then your phone generates a URL and takes you straight to the website (after you confirm).

The code itself is comprised of 6 special types of patterns – you'll notice that there are some dots, but also some bigger squares and consistent shapes. These patterns help your camera understand the image better, and each has its own function.

The system works so well because even one tiny difference in a QR code can create a completely different result. In fact, there are more possible QR codes than there are atoms in the universe!

Who made these things (and why)?

QR codes were invented back in 1994 by the Japanese company Denso Wave, a subsidiary of Toyota. Its initial purpose was to track vehicles during manufacturing. However, like many technologies, it found new life as broader consumer uses were discovered.

They became popular over time and remain very popular. A recent estimate suggested there were 1.3 billion mobile QR code coupons redeemed last year… and it's expected to rise to 5.3 billion by 2022!

Now let's have some fun…

The original inventors still hold the patent on QR codes, but they've granted free license to it, which helped them become universally popular.

And guess what? You can even create your own QR code! There are many sites that let you do it, like this one: https://www.qr-code-generator.com/

Now try it yourself! If you have a smartphone, open your camera, point it at this image and see what pops up.