

Use of QR codes to make web links accessible in printed course notes

Students often print teaching resources out to paper. Sometimes web links cannot be accessed because the full web address is not shown on the course material, and the link cannot be clicked as with an electronic resource. One solution is to include QR Codes within the resource, which can be scanned by students using a mobile device to open the web links.

What is a QR Code?



QR or Quick Response Codes are two-dimensional barcodes typically used to link to webpages, telephone numbers and text messages using a smartphone camera. The example here links to the University of Manchester website.

Step 1: Shorten the URL

The first step we recommend to create a QR Code is to shorten the URL of the webpage you would like to link the students to. Shortening the URL simplifies the QR Code, making it easier for the QR scanners to read. Locate the URL you are directing the students to, highlight and copy it (Ctrl + C or Cmd+C for Macs). The URL must be pasted into a URL shortening website. There are a number of these available: two that we recommend are <http://www.bit.ly> and <http://www.goo.gl>.

Step 2: Generate the QR Code

To create the QR Code, you must enter the newly created shortened URL into a QR Code generating website; there are a wide variety of these available. The ones we recommend are <http://www.qrstuff.com> and <http://www.kaywa.com>. There is also a QR code generator on the University's webpages at <https://pssweb.manchester.ac.uk/tools/qrcode/>. These websites are easy to use, reliable, and create the QR Codes with a white border or 'quiet zone', making it easier for the camera to read.

Paste (Ctrl + V or Cmd+V for Macs) the shortened URL into the relevant area and select the 'Static' option. Static means the website is fixed: if the URL was to change, a new QR Code would have to be created using the new URL. The 'Dynamic' option allows the user to change the URL of the QR Code and it will automatically change the destination on QR Codes already printed. However, most QR generating websites only allow the user to create one dynamic QR Code free of charge. The University's QR code generator cannot produce dynamic codes.

The final step is to save the QR Code image ready to add to the course notes. Either right-click on the image and select 'Save Image As', or click 'Download' if this option is available on the website you have chosen to use.

Step 3: Embed the QR Code into a course resource

Embedding the QR Code into a course resource such as a Word or PowerPoint document is straightforward; simply insert the image. However, there are some guidelines we recommend you follow.

The QR Code can be moved around the page to suit the students and/or the page layout, and can be resized. However, it is crucial it is not too small. This is a common problem; if the QR Code is too small it will be unreadable. It is also important to remember there are a wide range of mobile phone cameras and some perform better than others. We recommend QR Codes on printed items should be no less than 3cm square (1.18 inches).

Step 4: Test your QR Code

If you do not already have a QR Code scanner and would like to test your generated QR Codes, here is a list of apps for popular smartphones:

Optiscan for iPhone
QRafter for iPhone

Barcode Scanner for Android
QR Pal for Android

PhraseMeme for Windows Mobile
Blackberry Messenger 5.0 for Blackberry