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***ICT Training & Consultancy***

***QR (Quick Response) Codes***  
***For Education and Business***

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## Document Information

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## Category and Level

Computer applications.

Introduction (some prior knowledge of using computers is required).

This training will take approximately 50 minutes to complete.

## Getting Started

### QR (Quick Response) Codes Explained

A QR code is a two-dimensional barcode. A QR code usually consists of black square dots arranged in a square grid on a white background. First designed in 1994 for the automotive industry in Japan to track parts during vehicle manufacture, QR codes are now typically used for many other purposes. The QR code can contain various forms of data including: product information, contact information and website links.

Technology has advanced significantly since QR codes were invented, with most smartphones and tablet computers now able to instantly read and process the data contained within a QR code.

QR codes are becoming increasingly popular and are now seen on websites, advertising, publications and at venues. They can be used to convey many different types of information and data.

### Tutorial Outline and Outcome

This tutorial gives a basic introduction to creating and reading QR codes and suggestions of how they can be used for educational and information purposes in schools and businesses. The user is shown how to create two QR codes, one containing a website link; the other contact information in the form of a vCard (a file format standard for electronic business cards). A free app is then used to scan the vCard QR code to create a contact on a smartphone or tablet device. As an increasing number of people are using tablets and smartphones to access the Internet, the tutorial concludes by showing how to shorten a web address for easier display on such devices.

### Tutorial Requirements

A computer, tablet or smartphone with an Internet connection (to visit a free online QR code generator website).

A computer, tablet or smartphone equipped with a camera and a QR Code Reader app installed. The QR Code Reader app from Scan Inc. was used for this tutorial. It is available free from the Apple App Store and Google Play.

Website links are given in the tutorial.

### Additional Requirements

Internet connection.

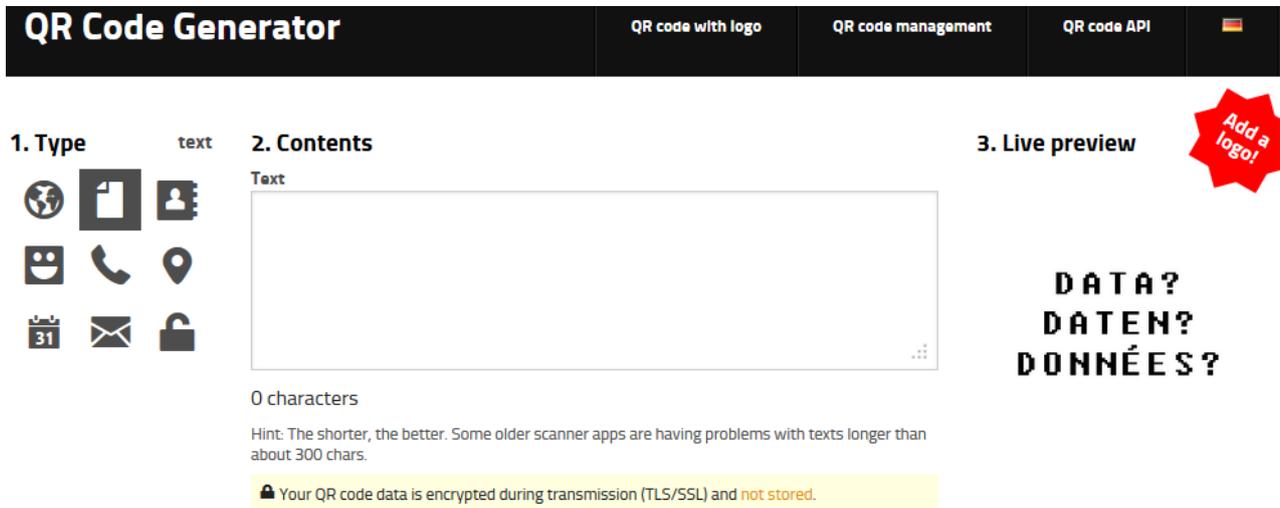
iTunes or Google Play account (for downloading the QR Code Reader app).

Printer (optional).

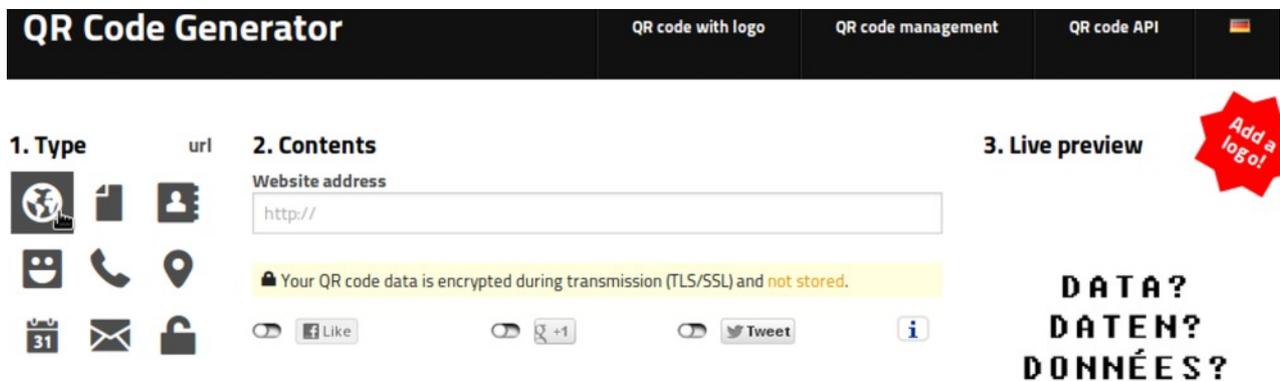
## Creating QR Codes

### URL (Web address)

Start the Internet browser program on your computer and visit the website <http://goqr.me/>.



At the top of the page on the goqr.me website there are three numbered areas, 1 Type, 2 Contents and 3 Live Preview. Goqr.me can generate different types of QR codes, for example, website links, text and vCard contact information. The default Type is text. This is indicated on the website by a highlighted text document icon underneath Type and the word 'text' at the right. A Text box is also displayed underneath Contents.



We are going to create a website link QR code. Start by clicking the world icon.

Note the Type has changed to URL (Uniform Resource Locator) and underneath Contents there is a Website address titled text entry box starting with http://. Click in the the box and enter the full address (including the http:// part) of the website you want the QR code to link to.

### Notes

A URL is more commonly referred to as a web address.

# QR Codes For Education & Business

## 2. Contents

### Website address

<http://www.georgejopling.com>

I have entered my website address . This could be your school, business or personal website address.

The screenshot shows the 'QR Code Generator' website. At the top, there are navigation links: 'QR code with logo', 'QR code management', and 'QR code API'. The main interface is divided into three sections: '1. Type', '2. Contents', and '3. Live preview'. In the '2. Contents' section, the website address 'http://www.georgejopling.com' is entered. A yellow notification bar states: 'Your QR code data is encrypted during transmission (TLS/SSL) and not stored.' Below this are social sharing buttons for 'Like', '+1', and 'Tweet'. The '3. Live preview' section shows a large QR code and two buttons: 'Download' and 'Embed'. A red starburst icon with the text 'Add a logo!' is positioned above the QR code.

As characters are typed into the address box the QR code in the Live preview area is being generated automatically in real time.

Check that the website address you have entered is correct and then click on the Download button directly underneath the QR code.

### Download QR Code

The dialog box for downloading the QR code includes several settings: 'Error correction code' is set to 'L (recommended)'; 'Foreground' is set to '000000' (black); 'Background' is set to 'FFFFFF' (white); 'Border' is set to '1'; 'Size' is set to '400' pixels. There are two sets of 'Download QR Code as' buttons: the first set offers 'SVG' and 'EPS' formats, and the second set offers 'PNG' and 'JPEG' formats. A close button (X) is located in the top right corner.

**Note: You can use the QR code completely free of charge (commercial and print usage allowed).**

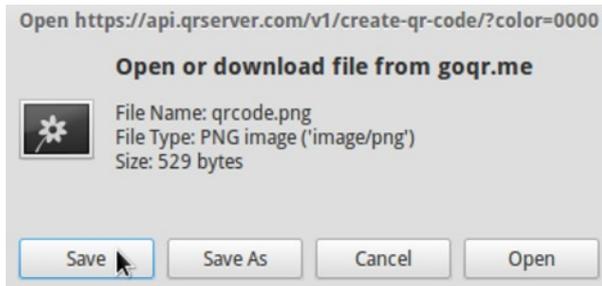
A dialog box is displayed presenting you with a few download options and a note at the bottom stating that you can use the created QR code free of charge. The default QR code size is 400 x 400 pixels. To change this, click and drag the Size marker left or right to decrease or increase the size as required.

# QR Codes For Education & Business

Download QR Code as



The QR code can be downloaded in SVG, EPS, PNG and JPEG formats. PNG or JPEG will suffice for most purposes and I have selected PNG. I intend to write a separate tutorial explaining file types on a computer.



Click on Save from the Open or Download file dialog box.

## Notes

The created QR code is given the default file name of 'qrcode'. Go to your download folder and give this a more meaningful name.

## vCard

Return to the goqr.me main page and this time we will create a vCard QR code. vCard is a file format standard for electronic business cards.

<b>1. Type</b>	<b>vcard</b>	<b>2. Contents</b>
		<b>First name</b> <input type="text"/>
		<b>Last name</b> <input type="text"/>
		<b>Title</b> <input type="text"/>
		
		
		

The process is very similar to the QR code we created previously. This time click on the vCard icon as the Type. Enter your required details in the Contents text fields.

When you have checked that all your details are correct, click on Download the same as before to download your new vCard QR code.

# QR Codes For Education & Business

## QR Code Types

The website can be used to create nine types of QR code: URL, text, vCard, SMS, call, geolocation, event, email and wifi. When you place the mouse cursor over each icon the type of QR code it will generate is shown. Click on the appropriate Type icon and enter your information.

## Reading a QR Code

Any suitably equipped computer, tablet or smartphone with a QR code reader app installed can be used to read the QR code. I have used a Motorola smartphone with the QR Code Reader app from Scan Inc. This is available from the Google Play store for Android based devices.

<https://play.google.com/store/apps/details?id=me.scan.android.client>

Alternatively, visit the iTunes store for iOS based devices.

<https://itunes.apple.com/us/app/qr-code-reader-by-scan/id698925807?mt=8>

Have the QR code ready for viewing, this could be printed on a sheet of paper or displayed on a Web page.

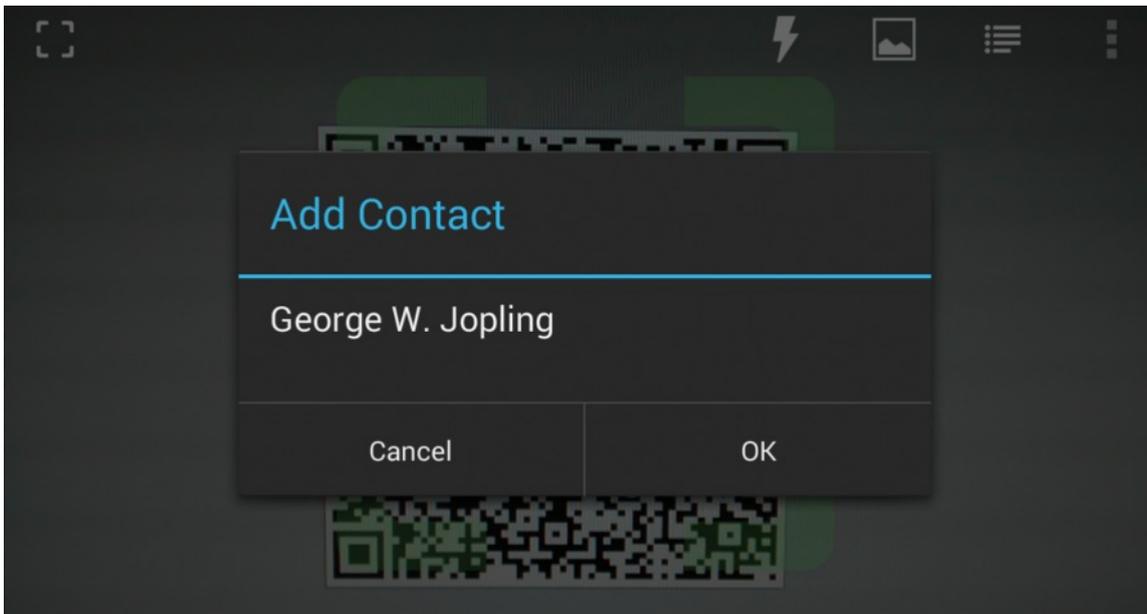


Tap the QR Code Reader app to start scanning.



Position the QR code within the on-screen frame. I am using a vCard QR code in this example.

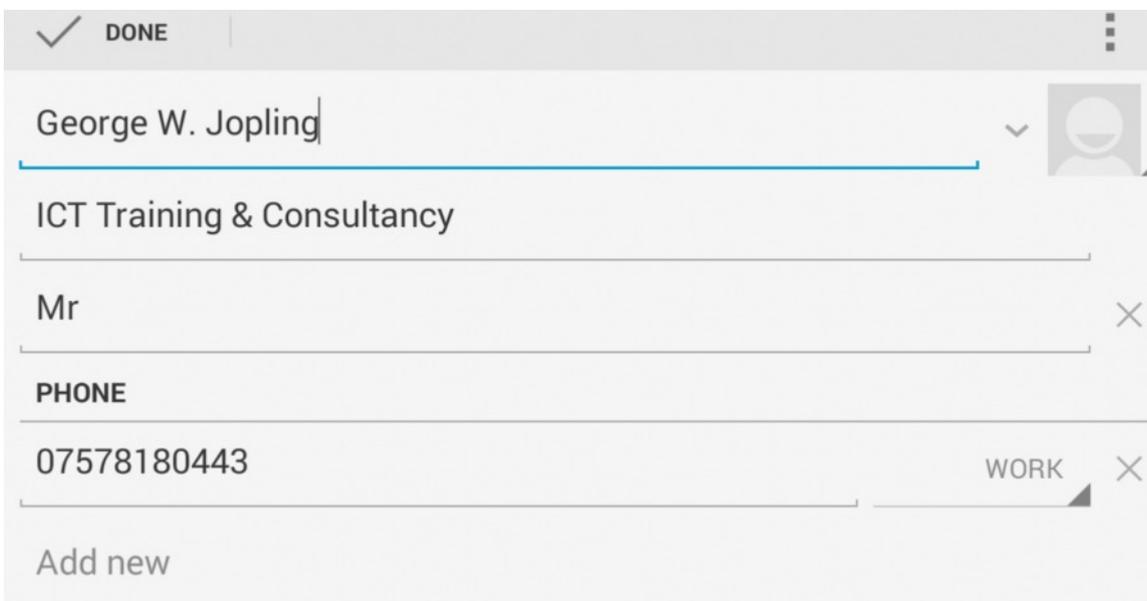
## QR Codes For Education & Business



Once the code has been scanned the device will activate a response depending on the type of QR code being scanned. As I am using a vCard QR code, I am prompted to Add Contact. When a URL QR code is scanned, the device will open the default Internet browser program and go to the URL contained within the QR code.

### Notes

Different actions and other apps may be launched by your device to process the QR Code.



The information from the QR Code is used to populate the contact fields. Add the contact information to your device.

## **QR Codes in Education and Business**

Here are some suggestions of how QR codes can be used for educational and information purposes in schools and businesses.

### **School or Business Contact Details**

Create a vCard QR code with all your school or business contact details on it. Print out the QR code to a large size and display this in the school or business reception area. Visitors can then scan it to create a 'Contact' on their tablet or smartphone without having to enter information manually. Put the QR code on your business cards and flyers. A geolocation QR code will show where you are located.

### **Notice Boards and Displays**

Have the displays in the school or business reception area, notice boards and possibly corridors come to life with QR codes. In school, put a QR code on the display linking to a video of the pupils creating it and explaining about the subject and what they have learnt from doing it. A business could link the QR code to a promotional video about a product or service offered. Give text information in a text QR code.

### **Parent Evenings**

Create a virtual tour of your school by placing QR codes at various locations giving text information, web links to class information pages and videos of the pupils learning in school. Create a school promotional video and link it from a QR code. Many schools now use iPads and Android tablets for learning. Consider giving one to parents for use during the visit if they do not have a tablet device or smartphone.

### **Extended Learning**

Not everyone understands something the first time it is explained, or is that just me? Create a QR code linking to a video or podcast explaining about a project or principle that the pupil and parents can watch later to reinforce learning in school. A customer can use it to review product and service information. Include QR codes on printed worksheets to allow students to link to further reading online.

### **Make Old Textbooks Come to Life**

Extend the life of old textbooks by inserting a QR code linking to a video or website giving further information about the topic and photographs. Add additional teacher notes in a text QR code.

### **QR Code Communications**

QR codes can also link to SMS text messaging and email services. These have many possible uses from giving responses and feedback about products and services to requests for additional information about a specific product or service. Bear in mind that text messaging and email costs may be incurred.

### **School and Business Website/Newsletter**

Make full use of QR codes for your school and business website, newsletters and flyers by linking to further information, videos or podcasts. If you have a school play or sports event coming up, why not make of video of the pupils rehearsing and preparing for the event to show how good it is going to be? Businesses can use QR codes to promote new products and services and keep customers updated about existing products. Include an event QR code to give the date of forthcoming school or business events.

# QR Codes For Education & Business

## Hints and Tips

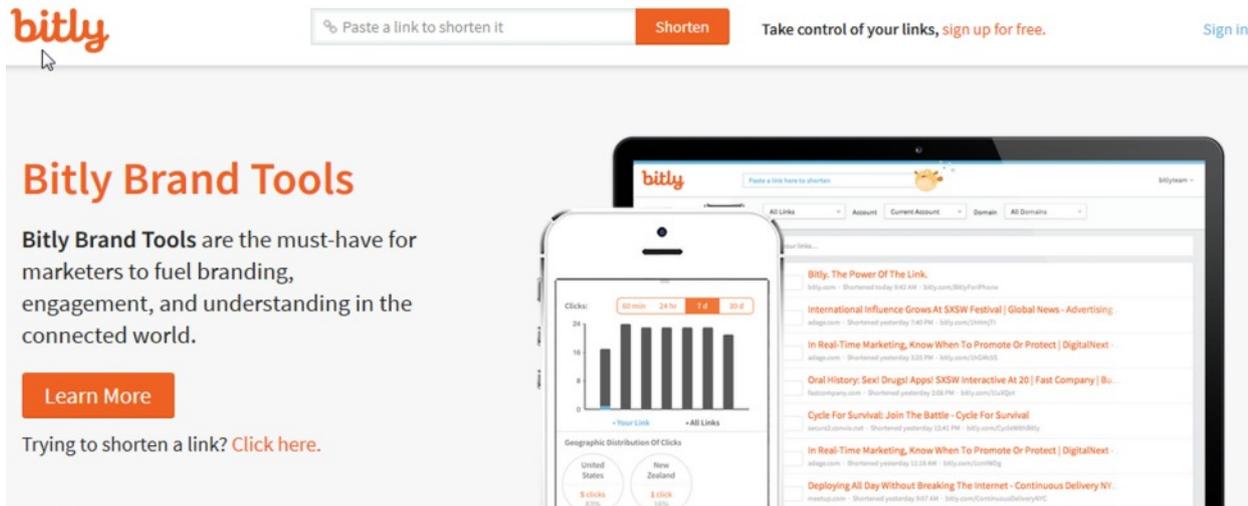
### Shorten URL Addresses

Make the web address in your QR code small and easy to display on smartphones by shortening the URL. There are many websites offering this service for free. Two of the most popular are...

<https://bitly.com/>

<http://ow.ly/url/shorten-url>

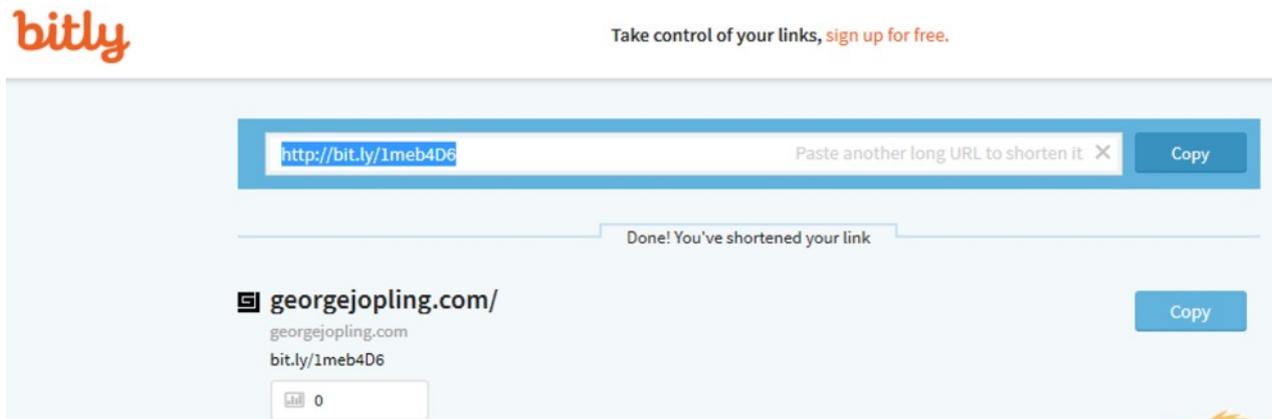
I used the bitly website to turn <http://www.georgejopling.com> into <http://bit.ly/1p2HBBu>



Go to the bitly website.



Enter the website address that you want to shorten and then click on the Shorten button.



Bitly then generates the shortened link for you. Click on the Copy button to copy and paste the link to a document or website page.

I can now use <http://bit.ly/1p2HBBu> as an alternative website link where I know it will mainly be used on smartphones.

# QR Codes For Education & Business

## Conclusion

I hope this tutorial has been useful to you. I enjoyed writing this tutorial and I have tried to make it as interesting and useful as possible. I welcome your comments and feedback along with suggestions for improving it.

Please contact me if you would like me to deliver this training. My email address and website details are on page 1, or scan the below QR Codes. Best wishes in computing.

George  
(14 May 2014)

Email



Website



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