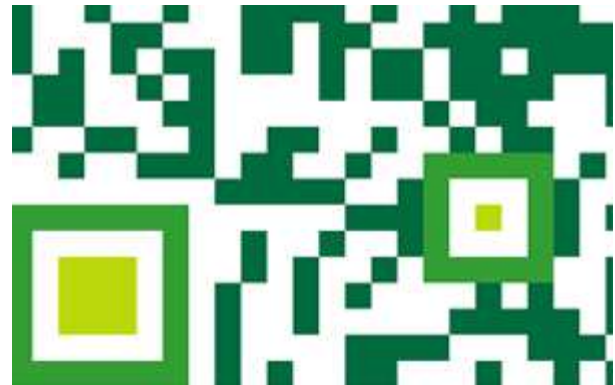


# QR Code Generator Build Guide

## Introduction

The QR Code Generator component makes it easy to create a Quick Response (QR) code for your online rich media advertisement! These QR codes can be scanned by any cell phone that has barcode scanning technology installed. The QR codes hold a small amount of information that can be used to link to a website, map, coupon, contact information, subscription page, and more.

**NOTE:** This QR code component is only available for ActionScript 3.



A preview of a creative using the QR Code Generator component can be found [here](#)

## Steps

Make sure you have the latest DoubleClick QR Code component installed in Adobe Flash. The MXP package can be downloaded, along with the sample files [here](#)

**NOTE:** You must have the DoubleClick Enabler/Studio Library included and initialised in your parent file for this component to function. More details can be found here: [www.google.com/support/richmedia/bin/topic.py?hl=en&topic=21691](http://www.google.com/support/richmedia/bin/topic.py?hl=en&topic=21691)

1. Open your Flash file and drag an instance of the component into your Library from the Components window.

2. Import the QrCode class.

> To do this, you can either use the following import code and create an instance of the QrCode class:

```
import com.google.ads.studio.strat.qrcode.proxy.QrCode;
var qrcode:QrCode = new QrCode();
// You can the code to the stage and position it here
// or elsewhere in your code as desired. But don't forget!
addChild(qrcode);
```

or

> Drag the component onto the stage and give it an instance name, for example: `qrcode`

3. Set each of the properties for the data you want to encode and the resulting QR code image.

> Set the data to be encoded. This can be a contact, an email address, a phone number for calling or SMS, a map location, a URL or a wifi access point. This data will then get encoded into the QR code. Change `myData` to your own string (i.e. "Hi Jenny") or variable containing one of these data types below.

```
qrcode.dataToEncode = myData;
```

> See sample data type encodings below. Replace example data provided with your own. Format and spacing provided is exact, including the double semi-colons in some data types.

> Contact: MECARD:N:Jenny;TEL:18008675309;URL:http://www.google.com;EMAIL:test@gmail.com;ADR:76 Ninth Ave, New York, NY, 10011;;



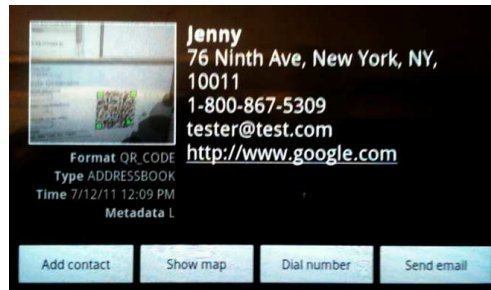
75

Data to Encode:

MECARD:N:Jenny;TEL:18008675309;URL:http://

Create QR Code

**NOTE:** Currently some mobile reader applications place the entire address string into the street number field instead of filling them into city, state, zip code, etc.



> Email: MATMSG:TO:test@gmail.com;SUB:My email subject;BODY:Write an email message here.;;

or

> Email: <mailto:test@gmail.com>

> Map Location: <geo:40.740624,-74.001911>;;

> Phone Number: <tel:18008675309>;;

> Plain Text: Enter any string.

> SMS: [smsto:18008675309](sms:18008675309):Love you Jenny

> URL: <http://www.google.com>

> WiFi Access Point: [WIFI:S:GoogleWiFi;T:WPA;P:PASSWORD](WIFI:S:GoogleWiFi;T:WPA;P:PASSWORD;);;

**NOTE:** For T parameter, supported types are WEP, WPA, or nopass (for open WiFi networks).

> Set the size of the code in pixels. This is how big the code will be when it appears in the ad. The minimum recommended size for readability is 75px by 75px, but you may want to increase it for better readability. The maximum size is 1000 by 1000. All QR codes are square.

```
qrcode.sizeInPixels = 150;
```

> Optionally, you can change the error correction level from the default of 7 percent using the defined constants. Change the final number in the code snippet below to match the desired constant: SEVEN, FIFTEEN, TWENTY\_FIVE, THIRTY. If you do not include this line, the error correction level will default to 7 percent.

```
qrcode.errorCorrectionLevel = QrCode.DATA_RECOVERY_PERCENT_THIRTY;
```

**NOTE:** QR codes duplicate some of the data in the image matrix in order to correct poor quality image reading, meaning if part of the code is blurred when a device is reading it, the data can be picked up from another part of the image. There are 4 potential error correction settings, ranging from the default and lowest setting of 7 percent, to the highest, 30 percent. Since there is a higher amount of duplicated data at 30 percent, there is less data storage available. For more on this, reference the Google Charts QR Code documentation linked below:

[code.google.com/apis/chart/image/docs/gallery/qr\\_codes.html](http://code.google.com/apis/chart/image/docs/gallery/qr_codes.html)

> Optionally, you can change the margin (whitespace) surrounding the QR code. This value is specified in rows, not pixels. See the documentation above for more detail. If you do not include this line, the margin will default to 4 rows. If you specify too large a margin for the available code size, the

margin will be automatically adjusted to fit the data and image into the provided code size.

```
qrcode.margin = 10;
```

**4.** Write functions for and assign handlers to the `Event.COMPLETE` and `IOErrorEvent.IO_ERROR` events from the `qrcode` instance.

```
function completeHandler(event:Event) {
    trace("QR code loaded successfully.");
    trace(qrcode.proxy.chartsUrl);// View the Charts generation URL.
}

function errorHandler(event:Event) {
    trace("Error occurred. Please try again.");
}

qrcode.addEventListener(Event.COMPLETE, completeHandler);
qrcode.addEventListener(IOErrorEvent.IO_ERROR, errorHandler);
```

**5.** Create a button for the user to click to generate the QR code.

**NOTE:** QR codes cannot be generated at run-time without a user click.

This example uses a Flash UI Button with an instance name of "button". Add a click handler that initiates the call to generate the QR code.

```
button.addEventListener(MouseEvent.CLICK, clickHandler);

function clickHandler(event:MouseEvent):void {
    // Call this function on the component instance name to load a QR code.
    qrcode.dataToEncode = "DoubleClick Rich Media";
    qrcode.sizeInPixels = 150;
    qrcode.errorCorrectionLevel = QrCode.DATA_RECOVERY_PERCENT_THIRTY;
    qrcode.margin = 10;

    qrcode.proxy.fetchQrCode();

    button.removeEventListener(MouseEvent.CLICK, clickHandler);
    removeChild(button);
}
```

## Additional Notes

- > The QR code may only be generated by user interaction. You may not generate a code upon ad load.
- > Viewers of the ad will need to have or install a barcode reader application in order to scan and interact with QR codes.
- > Mobile camera qualities will affect the ability to read the code. The larger and clearer your code, the easier it will be for viewers to scan and interact with it.
- > Keeping URLs short will also ensure greater device readability, because less data makes for a simpler image.
- > If you intend to use a QR code to link to a website, make sure that website is mobile-friendly.

For more information about QR codes, please visit this link:

[code.google.com/apis/chart/image/docs/gallery/qr\\_codes.html](http://code.google.com/apis/chart/image/docs/gallery/qr_codes.html)

Download a QR code scanner app:

Android: [code.google.com/p/zxing/wiki/GetTheReader](http://code.google.com/p/zxing/wiki/GetTheReader)

iOS: [itunes.apple.com/us/app/barcodes/id292197557?mt=8](http://itunes.apple.com/us/app/barcodes/id292197557?mt=8)

## Contact Us

If we haven't quite covered everything in this document, please contact your local Rich Media Campaign Manager or email [drm-campaign@google.com](mailto:drm-campaign@google.com) with any follow up questions.

## About DoubleClick

For advertisers and publishers who need to reach a target audience, the DoubleClick product suite is an advertising platform that maximizes revenue growth and return on advertising spend through a unique and innovative ad targeting process. The experience and innovative spirit at DoubleClick drives a constant evolution of products and solutions, ensuring the best, most effective advertising tools are always at our customers' command.

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