

DTAG100 Demo Guide

Firmware Version V2.x

Introduction

We have created a suite of demo software to illustrate some of the typical use cases for the DTAG100 with NFC and/or Bluetooth beacons. The demo consists of a Chrome app (available for Windows, OS X, Linux, and Chrome OS), which controls the DTAG100 connected over USB, plus an Android app (available for devices running Android 4.3 or greater) and an iOS app (available for devices running iOS 7.0 or greater), which will read and write certain data to and from the DTAG100.

The demonstration Chrome app represents the system that would normally control the DTAG100. This would normally be a smart display, a point-of-sale terminal, or some other type of computer. The demonstration mobile apps represent your own mobile application, that would have some simple additions to support NFC and/or BLE reading and writing.

Our hope is that you will get some ideas about how to integrate the DTAG100 into your systems and campaigns, to benefit the most from its dynamic features.

Please refer to www.dtag100.com/demo for the latest information on the demo apps available. Useful source code extracts are also provided to aid further development.

Installing the demo

On your host system, first install Chrome and then search for the “DTAG100 demo” in the Chrome web store. After installing this app, connect your DTAG100 to the host, launch the app and click on the Settings tab to choose the DTAG100 mass storage drive to be used. You should also click on the button to enable the two-way comms features.

The two-way comms feature works best when you have switched your host system to use a UK keyboard layout. This is only something to consider for the demo, and is not a requirement of the DTAG100 itself.

Visit www.dtag100.com/demo for links and instructions on how to download the Android and iOS apps. These apps are used to demonstrate the two-way communications features built into the DTAG100, and are written specifically to work with the Chrome demo, although you could easily change some NFC and/or BLE settings later if you want to start integrating with your own mobile app instead.

Using the demo

There are several separate demo scenarios and activities that are a part of the Chrome app: digital signage integration, two-way communication, a video that you can ‘take away’ with you, some

example NFC tags, and a browser that allows NFC phones to follow the URL that is visited. These are described in more detail below.

Digital Signage

If you are interested in adding some customer interaction to your digital signage, this demo shows how the DTAG100 can send links to websites, coupons, and apps that change depending on what's on your screen. The Chrome app will update the DTAG100 content depending on the current time of the video, so that it is always relevant to what is on the screen.

You'll need to choose the local video file from the Settings tab, as well as the text file that contains the NFC tag and BLE beacon content you want at specific times. See Appendix A: Example Digital Signage File for more information on creating your own digital signage file for use in this demo. To get started, you can download our example demo files and use the files "signage.mp4" and "signage.txt".

When you've done this, open the Digital Signage tab and play the video. The NFC and BLE data on the DTAG100 will change as the video progresses so that the contents matches what is shown on screen, and you can easily experiment with different content by simply editing the text file.

Note that you can also click to display the video in full screen mode, and the DTAG100 will continue to be programmed with the changing NFC and BLE data as and when needed.

Two-Way Tap

The DTAG100 can be even more interactive if you add in support for it to your mobile application. Android, iOS, and Windows Phone all support BLE for writing to and reading from the DTAG100's Bluetooth interface. Android, Windows Phone, and Blackberry support using NFC as the method of communication as well. This activity shows what is possible when your app supports writing back to the DTAG100 to create a two way channel for communication.

To operate this demonstration, you need to make sure that the DTAG100 has been set to enable two-way communications. The simplest way to do this is to use its keyboard emulation mode, which can be configured from the Settings tab of the Chrome demo. An alternative method is also available using a virtual serial COM port (see the **DTAG100 User Guide** for more details) in which case you can also choose the COM port number to be used in the demo settings.

For NFC, open the DTAG100 Demo Android app beforehand and select the data that you want the phone to send back to the DTAG100, and the optional splash screen to display. Once this is configured, when you present your phone to the DTAG100, the text string from the Chrome app will show up on the phone screen and the data from the phone will show up in the Chrome app whenever the phone is tapped while the two-way data demo is running.

For BLE, the process is similar on our Android and iOS apps. You can select data that you want the phone to send back to the DTAG100 and an image that you want displayed while in range of the DTAG100's Bluetooth field. Additionally, you can configure how close to the DTAG100 and for how many seconds before reading and writing between the DTAG100 and the mobile app.

This unique two-way exchange is handled by the DTAG100's ability to be read from and written to by the mobile apps. Your app can do the same thing, so that any information you want to send to or

from a user's phone can be dynamically generated and exchanged. See our DTAG100 User Guide for more technical details on how to implement this.

Video Takeaway

This is an example scenario where a user is watching a video on a digital sign but may want to take that video away with them on their mobile device. We've made it so when the phone is tapped to the DTAG100, the video is opened on the phone at the same point as it was playing on the digital sign (currently, on iOS the video will open from the beginning but not to the same point because of a limitation with the iOS YouTube app). Effectively, this allows the user to continue viewing your content on the go, while away from your video installation.

You will need to have a local copy of the video and a link to the same video on YouTube. We recommend that you use a video that does not have a pre-roll ad on YouTube, otherwise an ad will be displayed on the phone before continuing.

On the Chrome demo Settings tab, select the local video file (mp4 is recommended) and provide the ID of the matching YouTube video. The ID is in the URL when viewed on YouTube.com. For example, the video ID for this "https://www.youtube.com/watch?v=mC7v_kODAh0" would be just "mC7v_kODAh0". The downloadable demo files contain an example video called "takeaway.mp4" and a matching YouTube video ID for it is provided by default in the Chrome app.

Once configured, go to the Video Takeaway tab and play the video in full screen. Now, when you tap the phone, the video will be opened on YouTube (Android and iOS), starting at the same point in time as when the tap occurred (Android only).

Example Tags

This is an NFC-only demo that enables you to experiment with various different NFC tag contents and record types using the DTAG100. There are many things that you can send to a mobile phone via NFC other than a standard website URL, such as tags that contain map references or that request the phone to send an SMS text message. Once you are familiar with these, you can use them in a digital signage demo.

Follow the Browser

This is another NFC-only demo that provides a way of synchronising the DTAG100 with a web browser session, so that a mobile phone will be directed to exactly the same web pages as being shown on screen. The starting URL for the browser can be configured in the settings, after which the DTAG100's NFC tag data is updated to follow along, wherever you navigate to. The demo also has a useful full-screen mode.

Additional Settings

There are a couple other settings on the Chrome app Settings tab that you should be aware of. The first, and most important, is the DTAG location. You must select this so that the Chrome app knows where it should be writing the dynamic tag data that it generates for your DTAG100. This location, as well as some other settings, will be saved and used in the future so that you do not have to select it each time you open the demo.

There is also the ability to turn off NFC and BLE updates separately, so that if you only want the Chrome demo to modify the NFC and/or BLE files, you can manually turn that on or off from the Settings tab.

There are more advanced options on the Settings tab including the app package name and the beacon UUID/major/minor values.

The app package name is the unique name of the Android application that is meant to be used with our NFC demo. You should not change this unless you have taken the next step to integrate reading and writing NFC in your own Android app and want to test this with our Chrome demo. You could then, for example, have the DTAG100 open your app and have it send and receive data from the Chrome demo, instead of using our Android demo app.

The beacon UUID/major/minor values are the identifiers that tell our Android and iOS apps what to do. You can modify these if you wish on the Chrome side but you will need to make the same modifications on the Android and iOS sides for the demo to continue to work as is. You might want to do this if you have multiple DTAG100 beacons in the same vicinity to insure you are communicating with the right one. You can also make these modifications as you move towards integrating the DTAG100 with your own apps.

Status Indicator

There are many moving parts in the Chrome demo application, so we have created a status indicator in the top right which will show red if there are any problems it detects. If you hover over the indicator, or click on it, you can read what settings are missing for the demo to proceed. It also shows Bluetooth and NFC icons to indicate whether the demo is currently updating those text files on the DTAG100.

Technical Support

For further information and technical support please contact Dot Origin using the contact details below:

support@dotorigin.com

www.dotorigin.com

Appendix A: Example Digital Signage data file

The tag contents data file used by the digital signage demo contains multiple NFC and BLE content blocks, each preceded by the time range (in seconds) to which they apply in the matching video. Please refer to the DTAG100 User Guide for more details of the NFC and BLE data formats, which matches the format used within the tagdata.txt and bledata.txt files on the DTAG100. Make sure there is a blank line between the content data and the next time range line.

The supplied demo data file, signage.txt, which matches a short segment of recorded TV adverts, is shown below:

```

0-37
SmartPoster
Ext2Type=android.com:pkg
Ext2Payload=co.uk.Nationwide.Mobile
BLE
i;NationwideBeacon;000102030405060708090A0B0C0D0E01;0001;0001

37-57
SmartPoster
URI=http://www.co-operative.coop/food/welcome/
Text=Co-op
BLE
i;Co-opBeacon;000102030405060708090A0B0C0D0E02;0002;0002

57-67
SmartPoster
URI=https://play.google.com/store/magazines/details/Closer?id=CAowqfyOBw
Text=Closer magazine
BLE
i;CloserBeacon;000102030405060708090A0B0C0D0E03;0003;0003

67-97
SmartPoster
URI=http://www.yakult.co.uk
Text=Yakult
BLE
i;YakultBeacon;000102030405060708090A0B0C0D0E04;0004;0004

97-127
SmartPoster
URI=http://www.plus.net
Text=Plusnet
BLE
i;PlusnetBeacon;000102030405060708090A0B0C0D0E05;0005;0005

127-137
SmartPoster
Ext2Type=android.com:pkg
Ext2Payload=com.waclawiec.kfcfinder.uk
BLE
i;KFCBeacon;000102030405060708090A0B0C0D0E06;0006;0006

137-157
SmartPoster
URI=http://m.hellmanns.com/product/detail/97853/light-mayonnaise
Text=Hellmanns Light Mayonnaise
BLE
i;HellmannsBeacon;000102030405060708090A0B0C0D0E07;0007;0007

157-330
SmartPoster
URI=http://www.4music.com
Text=4Music
BLE
i;4MusicBeacon;000102030405060708090A0B0C0D0E08;0008;0008

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