MmIT

Multimedia Information & Technology

Information provision via video

Integrating the LMS and VLE

iPads for roving enquiries

Library apps on the move

User-centred content via Apple

welcome

This issue's special focus is on mobile devices in libraries and education, complemented by a roster of articles across other leading edge and established technology in use worldwide.

Warm regards,

Cathie

Catherine Dhanjal, Managing Editor

Renewals time
If you haven't yet renewed your subscription to MmIT journal, please do so now by contacting us on +44 (0)1883 650434 or emailing catherine.dhanjal@theansweruk.com. Budgets are stretched across all sectors of our readership and in recognition of this we have kept the rate at £70 pa this year. Many thanks!

03

08

18

26

30

contents

Mobile web vs apps: what's right for your user?

With the advent of ever more sophisticated mobile devices, an increasing number of library users are 'going mobile', accessing the web and apps (AKA 'downloadable applications') whilst on the move. Most phones sold in the UK today may be classed as smartphones, and this combines with the growing profile of other portable web-accessible devices to give libraries pause for thought; the way in which users are able to access our resources has changed, albeit with some demographic differences. Jon Fletcher examines the way that, despite the perceived ubiquity of the 'all-powerful app' in advertising campaigns (seemingly implying that everyone owns an iPhone), there is much for each library to think about before deciding their own course of action. After all, before you take your service to the user, you'd better make sure they're going to be there to find and use it...

Background: the UK mobile devices and apps market

May 2010 saw over 50m mobile phones in use in the UK, with an estimated 91 percent of mobile phones operational in August 2010 allowing some type of mobile web access (Ofcom, 2010). Usage of mobile web services is not a uniform phenomenon: whilst around 40 percent of 16-24 year olds access the internet on their mobiles daily, this number falls to 23 percent of mobile users overall, and the same survey found 56 percent of users profess to not being actively concerned with access to the mobile web (Mintel, 2011). Nevertheless, this still puts almost half of the sample group as being interested in web access, and one only has to combine this with the surge in tablet PC sales (BBC News, 2011) to realise that there is an even bigger audience for mobile information

and services[1]. This is a very broadbrush survey — local demographics need to be considered by each library service, and not all users will have the data plans allowing them to browse mobile webpages for free without WiFi. Overall, however, the fact remains that libraries should be catering for this market.

Choosing between apps or mobile webpages: what are you trying to deliver?

When considering which path your library should take, it is essential to consider the pros and cons of each approach, due to the fundamental differences between these offerings:

1. Mobile webpages

Brenann (2010: 76) points out that mobile webpages are largely the same as all other websites, and can, like 'regular' webpages, be built using (X)HTML and CSS and run from hardware traditionally used to host websites. However, variations in device specifications mean that the web might be accessed by everything from devices using WAP ('Wireless Application Protocol' - the most basic form of mobile web access) to those which fully support the latest versions of (X)HTML and CSS. Mobile webpages should also bear in mind that only more recent devices tend to support technologies such as Javascript and Flash (the latter will not run on iPhones or iPads), which have traditionally been writ large in web design. Pages should therefore try to adopt some manner of 'graceful degradation', where bottom-end users can access basic content whilst higher-end users are offered premium-level features as appropriate (Brenann, 2010: 77). This is likely to become a more unified field in the future (cf. Arthur, 2011; Oshiro, 2010), with partial - and increasing - support for HTML5 on all major mobile browsers bar Microsoft's Windows Phone 7, which currently does not support it. Those concerned with tracking site usage can still use tools such as Google Analytics, though some additional code will need to be inserted into webpages (cf. Google Code Labs, 2011).

Illustration: © Sumerk_s | istockphoto.com

One correctly built site can certainly cater for a majority of mobile devices, and, whilst users will require access to a web connection to access these pages, many libraries will offer some form of WiFi for in-house users, thereby allowing many users with web access to at least use these devices for free whilst onsite (Brenann, 2010: 79).

Ultimately, there is no way to ensure that the site you build works on all devices — whilst the operating systems may be a known (though ever-evolving) quantity, the fact is that different handsets will support different versions of operating systems and will have different functionality. Universal functionality cannot therefore be promised. However, mobile webpages can be tested without the need to purchase multiple physical devices, with tools like Firefox's user agent

extension allowing your web browser to access a webpage as if it was a specific mobile browser (others also exist); for greater accuracy, there are a number of emulators available which let you test your page on generic versions of operating systems (Brenann, 2010: 78-9). Such techniques can allow you to test how your pages, images and text (etc.) are likely to appear on different phones, and allow for maximum usability.

2. Apps
In contrast to the possibilities for the mobile web, the app market is a fragmented one. Phones capable of downloading apps over the mobile web (via contract or WiFi) must get these from app stores, though these are not cross-compatible; each operating system may only run its own apps. The six largest are as shown (Distimo, 2011: 3).

App store name	Platform	Manufacturer	Number of apps (approx)
Apple App Store (iPhone)	iOS	Apple	300,000
Google Android Market	Android	Various	150,000
Ovi Store	Symbian	Nokia	25,000
App World	Blackberry OS	RIM (Research in Motion)	20,000
Windows Phone 7 Marketplace	WP7 (Windows Phone 7)	Various	10,000

Fourth quarter sales of smartphones in 2010 gave Symbian a 37.6 percent share of the worldwide market, followed by Android at 22.7 percent, Blackberry/RIM at 16 percent, iOS at 15.7, Windows Mobile handsets at 4.2 percent and other operating systems (including WP7) at 3.8 percent (Gartner, 2011). However, this is complicated by the fact that Nokia has now abandoned Symbian (cf. Sorrel, 2011) in place of WP7 (the latest incarnation of Windows Mobile), which is likely to suddenly push Android into the lead and iOS (given recent growth) into second place. Worldwide, the current momentum is with Android and iOS, though WP7 might soon become a real player with its Nokia partnership (and

Samsung are due to launch their own Bada operating system later in 2011). Some cross-platform app stores will actually offer apps for different systems (see list at Wikipedia, 2011), though these app stores are smaller and far less visible to the user.

Overall, apps can offer the same information as webpages, though their key advantage is that they *can* be used offline, although in practice many apps use live data from the web and require a web connection to function optimally. An effective app can do far more than a webpage: built for a specific operating system, this can access the advanced hardware common to devices running this operating system (e.g. microphones, cameras, etc.). This is only necessary, of course, if your library app needs to use this functionality to run. With most relying on RSS feeds and other web-harvested information, it is more likely that a library app will utilise some basic information (in textual/image format) offline and will require a web connection to connect to dynamic, up-to-date data.

Assessing the above information, it is clear that apps which are limited to specific devices will exclude many users who might wish to access this content, though they themselves

Illustration: © treenabeena #1939208 | Fotolia.com

can be fairly easy to build (depending on the complexity of the app). Sites such as PhoneGap (2011) allow an app to be designed using standard (X)HTML and CSS before being converted into the format required for uploading to an app store; the same file can therefore be used multiple times. The app then simply needs to be uploaded (along with accompanying explanatory information) and advertised appropriately in order to be located and downloaded. Be aware that an operating system such as iOS or Symbian will require a developer's licence to be bought before content can be uploaded to app store, whether or not you wish to charge for the app which the end user will download. It must also be borne in mind that app stores will allow users to rate your content and that this can be seen by all who are interested in downloading your app — a few negative comments can act as a big turn-off to prospective users, so it pays to get your production and promotion right from the very start. So how do you get users to download these apps? Effective advertising will be needed to ensure that users know how to find your app, know what it is and also understand the benefits of downloading it... without this process being followed to completion, your app is just a resource which is never used.

What have others done, and what can work for you?
Libraries which have taken the lead in this department have taken both mobile web and app routes (cf. Library Success, 2011). Accessibility is always a concern either way, though the major operating systems offer APIs (Application Programming Interfaces) and guidance concerned with accessibility, making neither mobile websites nor apps preferable in this respect. One can find both library-specific apps (e.g. Santa Clara County Library, 2011) as well as libraries which have been featured within a larger institutional/organisational app (e.g. ODU Mobile, 2011). It will vary from library to library as to which approach is both allowed and encouraged, though (if the end goal is to be downloaded) either approach can work. Apps have the great advantage that information which is unlikely to need updating often (such as basic

contents, maps and location information) can be included. Other libraries, mindful of the fact that users will need a live data connection to access up-to-the minute information, have taken the mobile-friendly website route (e.g. Simmons Library, 2011) which is a practical way to offer dynamic content. Whilst some libraries (albeit a minority) have taken the approach of making their catalogues fully mobile-friendly, none have tried to put an entire catalogue into an app, due to the sheer complexity of this task. In contrast, websites can be bookmarked and returned to fairly easily from a mobile browser, though they lack the convenience of having a clickable icon which lives permanently on a mobile device. Those wanting to use a mobile site have at least once extra click to make, which – for some – may be one click too many.

Ultimately, the dream solution is perhaps to deliver a basic

app which can offer the user some functionality off-line but will also (subject to data connection) point the user to detailed and live information on a website, which is likewise available for those using mobile browsers. If this is not an option, each library service must decide which approach is likely to gain them the most traffic. Whether your service chooses the mobile web or app route, it is important to ensure that you make it as simple as possible for your users to achieve their information goals, thereby gaining maximum user satisfaction and interaction from your efforts. ■

Jon Fletcher can be contacted on: jon.fletcher@ntu.ac.uk
[1] it is hard to find exact UK stats for tablet PC sales (these are generally amalgamated with desktop PC figures), though all indications are that sales are growing in the UK

Bibliography

AIRPAC (2011). *AirPac* [online]. www.iii.com/products/airpac.shtml [Accessed 28 February 2011].
ARTHUR, C. (2011). Google's Eric Schmidt on Android's future, HTML5 and more. *The Guardian*, 16 February [online]. www.guardian.co.uk/technology/blog/2011/feb/16/google-eric-schmidt-mobile-world-congress-speech [Accessed 16 March 2011].
BBC NEWS (2011). *Tablet computers hold back PC sales growth* [online]. BBC. www.bbc.co.uk/news/business-12180679 [Accessed 2 March 2011].
BOOPSIE (2011). *Boopsie* [online]. www.boopsie2.com/libraries.html [Accessed 28 February 2011].
BRENNAN, S. (2010). /Mobile/make your website mobile. *.net*, Summer 2010, pp.76-79.
BRIDGES, L., REMPEL, H.G. and GRIGGS, K., (2010). Making the case for a fully mobile library web site: from floor maps to the catalog. *Reference Services Review* [online], 38(2). Available at: ScholarsArchive@OSU, http://ir.library.oregonstate.edu/xmlui/bitstream/handle/1957/16437/Bridges.MakingCaseFullyMobileLibrary.pdf?sequence=1 [Accessed 1 March 2011].
DISTIMO (2011). *Distimo: comparisons and contrasts: Windows Phone 7 Marketplace and Google Android Market* [online]. Distimo. www.distimo.com/publications/ [Accessed 25 March 2011].
GARTNER (2011). *Gartner says worldwide mobile device sales to end users reached 1.6 billion units in 2010; smartphone sales grew 72 percent in 2010*. Gartner [online]. www.gartner.com/it/page.jsp?id=1543014 [Accessed 28 February 2011].
GOOGLE CODE LABS (2011). *Google analytics for mobile* [online]. Google. http://code.google.com/mobile/analytics/docs/ [Accessed 4 March 2011].
LIBRARY SUCCESS (2011). *M-Libraries* [online]. Library Success. www.libsuccess.org/index.php?title=M-Libraries [Accessed 1 March 2011].
MINTEL (2011). Mobile phones and network providers - UK - January 2011. *Mintel* [online]. http://academic.mintel.com/sinatra/oxygen_academic/search_results/show&/display/ id=479814/display/id=545199&list=wh_items/display/id=545394/display/id=479814/display/id=545199 [Accessed 1 March 2011].
ODU MOBILE (2011). *ODU Mobile: Old Dominion University* [online]. Old Dominion University. http://mobile.odu.edu/ [Accessed 16 March 2011].
OFCOM (2010). *The communications market 2010: UK* [online]. Ofcom. www.ofcom.org.uk/static/cmr-10/UKCM-5.19.html [Accessed 1 March 2011].
OSHIRO, D. (2010). *HTML is great for mobile, developers say* [online]. ReadWriteStart. www.readwriteweb.com/start/2010/01/html5-is-great-for-mobile.php [Accessed 5 March 2011].
PHONEGAP (2011). *PhoneGap* [online]. PhoneGap. www.phonegap.com [Accessed 28 February 2011].
SANTA CLARA COUNTY LIBRARY (2011). *Mobile downloadable application* [online]. Santa Clara County Library. www.santaclaracountylib.org/services/mobilesite.html [Accessed 16 March 2011].
SIMMONS LIBRARY (2011). *Simmons Library mobile* [online]. www.simmons.edu/library/m/ [Accessed 17 March 2011].
SORREL, C. (2011). *Nokia Kills Symbian, Teams Up With Microsoft For Windows Phone 7* [online]. Wired.com. www.wired.com/gadgetlab/2011/02/microsoft-and-nokia-team-up-to-build-windows-phones/ [Accessed 28 February 2011].
WIKIPEDIA (2011). *List of digital distribution platforms for mobile devices* [online]. Wikipedia. http://en.wikipedia.org/wiki/List_of_digital_distribution_platforms_for_mobile_devices [Accessed 5 March 2011].
WORLDCAT MOBILE (2011). *WorldCat Mobile* [online]. WorldCat. www.worldcat.org/mobile/default.jsp [Accessed 28 February 2011].

coming soon...

Mash-ups

Blogging platforms for library software

Visualisation tools

FourSquare and Facebook places

News

Reviews

Technology roundup

Regular communications

We will be sending members of the Multimedia Information and Technology Group monthly emails via Cilip's Branch and Group's mailing, updating you on events, journal news, attendance at conferences etc. Please register your email with Cilip to receive these regular news bulletins.

Don't forget your Umbrella

Do book your place at the Cilip Umbrella Conference which takes place on 12-13 July at the University of Hertfordshire, Hatfield, UK. Find out more about topics and MMIT Group representation on page 4.

Photo: © Grondin Franck Olivier | Dreamstime.com

Your articles, photographs, reviews, thoughts and suggestions for the journal are always welcome, just contact Catherine Dhanjal on catherine.dhanjal@theansweruk.com or call 01883 650434.

FIRST THE ROVING I-PHONE, THEN THE ROVING I-PAD. NOW THE ROVING DESKTOP.

flantoons
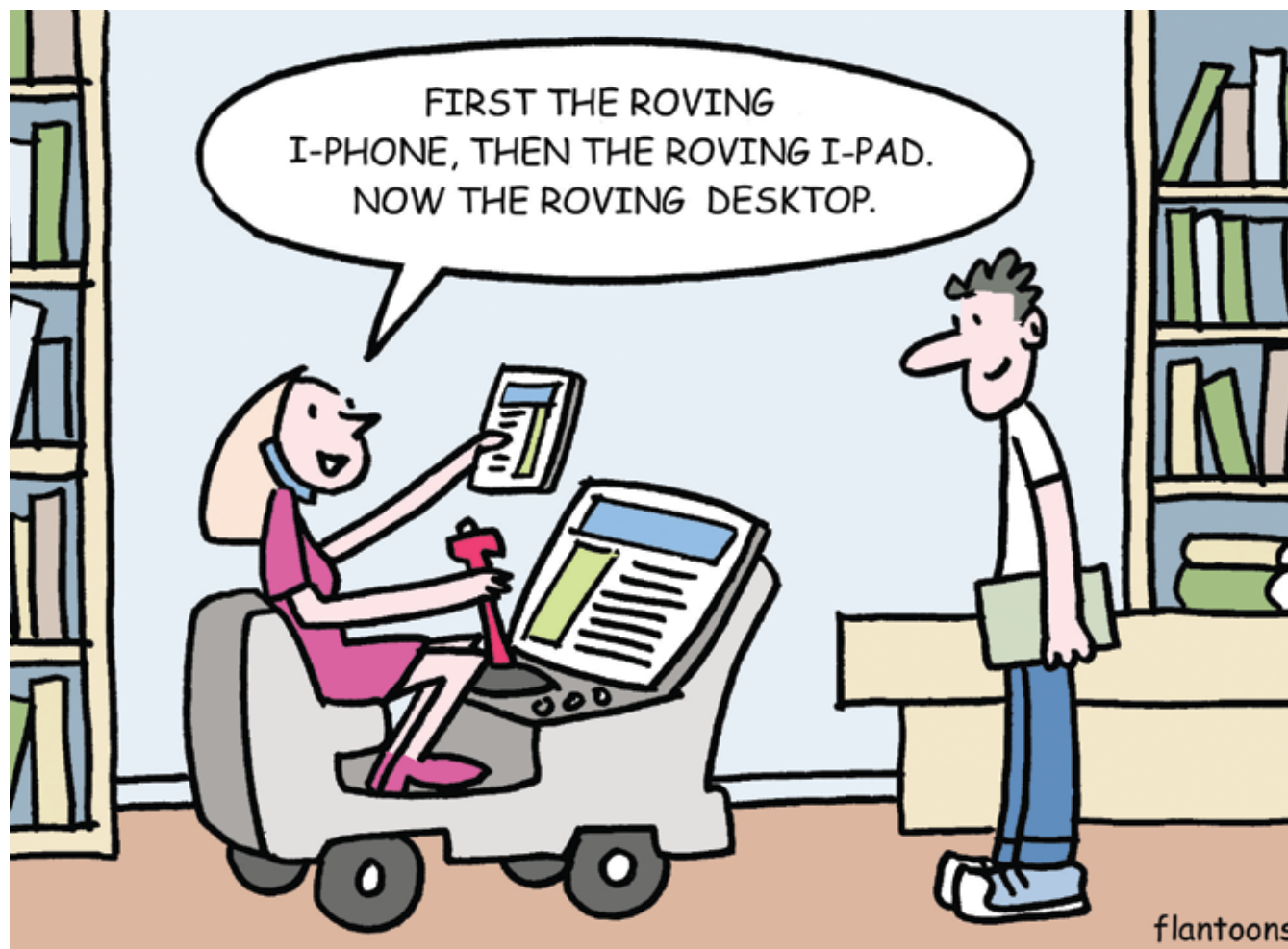
If undelivered please return to *MmIT*, 1 Yew Tree Cottages, Woldingham, Caterham, Surrey, CR3 7EA, UK