iPhones and Android and HTML5 (Oh My!)
Choosing The Right Mobile Interface For the Job

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Having been burned by poor design once before with the Motorola ROKR (iPhone, n.d.), Apple elected to exclude traditional cell phone manufacturers and instead design and sell the smartphone itself. The result was a device that adhered to Apple’s already rock solid standards that it applied to everything else.

Interestingly, part of Jobs’ vision for the iPhone was significantly different than what we have come to expect from an iPhone. As mobile web pundits often point out, there wasn’t “an app for that” with the original iPhone (Rowinski, 2011). The user experience was intended to focus primarily on the mobile web, and in fact many big name players, such as Band of America, launched mobile web sites that were expressly designed for the iPhone. The App Store was not launched until the release of iOS 2, almost a year later (iPhone, n.d.). And thus the great mobile debate was launched.

With that being said, let’s take a deeper look into our first option for mobilizing your brand – the mobile web.

Your Options: Mobile Web

The mobile web is exactly what it sounds like – a website or web app that is designed to render in a mobile browser. Most brands will enter the mobile world through the mobile web first because the technology path is usually shorter. Most companies have a web presence already, so hosting and development considerations are already addressed. If your brand is looking to solely deliver information and content in a marketing environment, then the mobile web is absolutely the way to go.

One important consideration when developing for the mobile web is the mobile user experience. All too often, brands will simply reformat their existing website into a single column layout and call it mobile. Unfortunately, this approach fails to take into account the different reasons that a mobile user might be going to the site versus a desktop user (Bourdeaux, 2011). For instance, a mobile user may be more interested in a phone number or address than they are in downloading pdfs.

This isn’t to say that we have to develop different sites for each delivery type. But it does mean that making your
current website content mobile friendly may involve an overall site redesign at the same time.

Without a doubt, one of the biggest benefits to using the mobile web is cross platform support. A mobile website can reach users on Android, iOS, or any other mobile platform. Updating the website involves updating a single source, and upon release it is updated everywhere. For companies and brands that have limited development resources, this is easily the most cost effective path to take.

Another benefit to using the mobile web is its ability to link to other articles and websites without interrupting the user experience. Similarly, it is easy to send a link to a mobile website to somebody. Embed the url in an email, or even better in a QR code, and users are easily sent to your brand’s mobile web offering.

Finally, a mobile web site can take advantage of location-based searches in search engines. Discovery of a local brand is made easier if you include the correct location meta data in your mobile site. As we will discuss later, search engine limitations are a drawback of native apps.

Of course, with the good comes the bad. The drawback to the mobile web is that a device needs to have service in order to view the website. Rural areas obviously suffer in this regard, and even urban settings can be affected. For instance, in areas like New York and San Francisco, the cell network is so saturated that getting a data connection is not guaranteed. Also, commuters often face network issues, with wireless data connections not viable in underground subways and not allowed on commercial airlines, for now at least (Beja, 2011).

This is where HTML5 pundits get excited. Enter HTML5 apps which, among other benefits, offer a way to view web apps offline. At the risk of oversimplifying the idea behind HTML5, they are websites written in HTML5 that can be cached offline and bookmarked on a user’s home screen just like a native app. While this is a promising field, there remain major problems with this approach.

First, offline caches for HTML5 apps are not standardized. For instance, an HTML5 web app developed for the iPhone has proprietary apple code included in it that identifies it as a web app, as well as the icon and startup image. (Kessinger, 2011) Fragmented code like this eliminates one of the major benefits of the mobile web – cross platform support.

Second, the app loses the ability to push the logic functions to a web server, meaning that everything needs to be done inside the DOM with client side scripting. Again, this mitigates another of the benefits to using mobile web.

Finally, there are still some functions that simply cannot be reproduced with HTML5 apps, such as background operations. One example would be push notifications, where a push notification service such as APS sends messages to the installed native application that triggers application updates or logic flow.

HTML5 capabilities are increasing every day, and the gap between an HTML5 app and a native app is getting smaller and smaller. But it isn’t there yet. The general consensus in the industry is that it will be at least three years before the technology fully matures, and it has to “reach critical mass on consumers’ mobile handsets and in developers’ minds” before it becomes a serious alternative (Husson, 2011). If your brand’s mobile presence needs offline access, background operations, or advanced UI, the other mobile option – native apps – still offers you a more complete solution.

Your Options: Native Apps

Native apps are applications that are installed and run on the device itself. They are the ones that we install through...
the various markets or websites. Native apps aren’t new, Apple just made them into a household name. Remember, iOS didn’t even start with native apps. The SDK allowing developers to create their own apps didn’t come out until the second generation of iPhones, and iOS2.

Before iOS and Android, there were other languages and platforms that allowed native apps to run on mobile devices. For instance, Blackberry smartphones run Java based apps that share a common language with Android applications (J2ME). But while most of us have heard of Android and iOS, few people outside the development circles have ever heard of J2ME.

Where did iOS and Android succeed where previous platforms failed? They succeed because of the ease of application deployment. iOS has the App Store and Android has both the Android Market and the Amazon Market. Markets give developers the ability to submit their applications for a relatively low cost, monetization engines that allow the developer (and Apple or Google) to get paid for the app, and fast, indexed searching for apps.

Native apps offer many benefits. For starters, they allow for a platform supported rich UI that carries certain expectations about look and feel from the native platform. Because Apple and Google control their respective platforms, language standards can be enforced across all devices. Mobile websites suffer from having to render correctly on multiple versions of multiple browsers, but developers can control exactly which platforms and versions their apps will run on.

As mentioned earlier, there is one area that HTML5 apps and the mobile web simply cannot compete with native apps, and that is background operations. For example, take the Gmail mobile app. When new emails are received, users receive some kind of notification even if the app is not currently active. This is not (yet) possible with HTML5 apps.

The ability to easily deploy and monetize applications is also a major benefit. Developers have flocked into the mobile app realm as a result, and this has in turn created a rich application market. Both Apple and Google use the number of available apps on their platform as a marketing tactic, and it has been largely successful. Most people know that “There’s an app for that.” This marketing blitz and resulting consumer acceptance has created a delivery channel that may actually be one of the strongest arguments for using a native app over the mobile web. Consumers want a native application, often times regardless of whether or not a native app offers any additional benefit. How long this consumer driven hype continues to exist is up for debate, but there is no ignoring its existence and impact right now.

With all of this being said, there are two obstacles that any brand should consider before going with a native app. Most obvious is the problem of scalability. Right now there are two major application platforms – iOS and Android. If you want to reach the majority of consumers, you need to implement a separate solution for each platform. Aside from the fact that this will increase your overall development cost and time to market, the cost of maintaining applications across multiple platforms can become prohibitive. One app on two platforms is probably OK, but what happens if/when Windows Phone 7 takes off. Now you have three platforms (three products). And what if you want another application. Now you have two apps on three platforms (six products). It is easy to see the N-applications on N-platforms can get out-of-hand quickly.

The second major drawback to native apps is not as apparent, but may be even more serious. With well over 500,000 apps available for the two major platforms, there is the problem of application discovery. There is currently no Google like search engine to find the app that you are looking for, which is rather ironic, since Google is one of the major markets. Wade Rousch summarizes this problem nicely.

“As the Web swelled—to 1.7 million sites by December 1997 and 3.7 million by December 1998—the directory model quickly became unworkable, and people started turning to first-
generation search engines like AltaVista. But search results in these early days tended to be pretty random, and vulnerable to manipulation through spamdexing schemes. It wasn’t until Google came along with its Page Rank algorithm in late 1998 that Web surfers finally had a reliable way to locate high-quality content. The app world hasn’t yet had its Google moment... Just try searching on the term “restaurant guide” in iTunes or the Android Market. The top result at iTunes is something called VegOut, and the top result at the Android Market is the U.S. Army Survival Guide. I kid you not.” (Roush, 2011)

One approach that has been gaining popularity lately is to create an HTML5 app, and then embed that app in a native app webview application. The webview applications are very small applications that are easy to create, reuse, and maintain. This approach takes advantage of HTML5’s cross platform support, while still allowing the application to use the delivery and monetizing engines of the app markets.

Want to deliver a cross platform application to a highly technical crowd? Sounds like an HTML5 app is in your future.

However sometimes the correct mobile approach is not obvious even after careful examination of the options. Don’t worry; there is no reason to spend countless nights agonizing over the decision. In many situations, the only wrong answer is to not do anything. Sixty percent of US consumers who download apps also access the Internet on their mobile phone at least daily, while 63% of US iPhone owners access the mobile web on a daily basis (Rowinski, 2011). In situations where you can’t decide between a native app or an HTML5 app, it usually means you can succeed with either.

The mobile world is ready for your brand.

Wrap It Up

Looking at the pros and cons of the different approaches, sometimes it is easy to identify what kind of mobile development suits your brand best. Looking for an informational content delivery site that has high discovery in search engines and high consumer acceptance? Then the mobile website is perfect. Do you need an app for company staff that is specific to a certain platform and needs offline access? A native app would fit the bill nicely.
Sources


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