

# Touring the Mobile Market

## Why Native Apps are Not the Solution for the Mobile Universe



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As museum visitors become increasingly connected with smartphones, iPods and other mobile devices, museums have begun feeling pressure to develop mobile applications that will allow the visitors to self-tour with their devices. While this opens up educational opportunities for museums, it also means a flood of new costs, most significantly application development. But before an organization makes the decision to invest tens of thousands of dollars on application development, it's worth considering the diversity of the mobile market and how a museum can best meet the needs of the majority of visitors.

The ubiquity of mobile devices and the increasing use of apps on smartphones is undisputed. Since 2009, the sales of smartphone devices have increased nearly 100 percent, according to a Gartner study. The mobile market has more than 4 billion subscribers and access to the internet has never been less dependent on location than it is today.<sup>1</sup> Gartner predicts that by 2013,

mobile phones could surpass PCs as the way people access the web, with the number of smartphones and web-enabled phones worldwide reaching 1.82 billion and continuing to climb.

With growth, the smartphone market is becoming increasingly diverse. Several platforms exist for mobile phone apps, including Apple, Symbian and Android. The market is well divided, with no one platform maintaining a monopoly. iPhones make up about 16.7 percent of the world's smartphones with Androids at 25.5 percent, according to Gartner. While the iPhone is typically considered the gold standard for apps in the U.S., a glance at the worldwide numbers shows us that when we include foreign visitors in that number, the iPhone is much less prevalent.

But just because smartphones are popular does not mean that all owners are taking advantage of their features. About 35 percent of U.S. adults have software applications on their phones, but only 24 percent of adults use them. In fact, 11 percent of cell owners don't even know whether their phone is equipped with apps. On the other hand, 38 percent of adult users use their cell phone to access the internet, making web browsing via smartphone a more familiar and popular use than apps.<sup>2</sup>

The increasingly diverse mobile phone market and the low usage rate of apps among adult cell users (as opposed to the higher rate of smartphone web browser users) pose a problem for museums developing mobile tours. With no single platform dominating the market, it's difficult to make a decision about which type of app to develop, and expensive to develop applications for more than one. Some organizations have combated this issue by

<sup>1</sup> Johnson, L., Witche, H., Smith, R., Levine, A., and Haywood, K., (2010). The 2010 Horizon Report: Museum Education: Austin, TX: The New Media Consortium.

<sup>2</sup> Purcell, K., Enther, R., Henderson, N. The Rise of App Culture. September 14, 2010. Pew Internet & American Life Project.

having mobile devices on which their patrons can access their apps available on site, but this solution requires a large investment of resources, both to purchase the devices and to secure them from theft. As organizations try to cater to an increasingly smartphone-enabled audience, the question has become how they can do it efficiently and cost-effectively. The answer may lie not in traditional, single-platform apps but in tours that exploit the familiarity and ubiquity of smartphone web browsers.

### **The Current State of Native Applications**

Applications developed for a specific platform, such as an iPhone App, are regarded as native apps. They are programmed specifically for a particular platform and only work when downloaded to that platform. Until now, native apps have really been the only feasible way to create an interactive tour that can be accessed on a handheld device or smartphone. Among their advantages are the fact that native apps match in style the other features of their phones, an effort to make users comfortable with the look and feel of the apps.

That said, native apps are cost-prohibitive for many organizations, especially smaller ones. Forrester estimates that a basic, no-frills app can cost \$20,000, with a sophisticated app running as much as \$150,000. The cost is for a single platform—say, the iPhone or the Android—and is repeated if apps are being developed for multiple platforms to allow the full spectrum of visitors to access them.

TourSphere's programming team estimates that a typical iPhone app will cost \$30,000 to \$40,000 to develop, but the costs don't end there. Any changes to the app and regular maintenance require a programmer, with an estimated cost of \$5,000 to \$8,000 per year. Developing a native app also requires the developer to go through the app store submission process on each platform, which

can be time-consuming and frustrating. Each update made by a programmer requires another submission through the app stores. This particular step of the process is difficult to control and often riddled with delays.

Because the app is downloaded directly onto a phone, there are a number of disadvantages. There is no bidirectional data exchange, so while there is visibility into the number of downloads, there is no way to track user experience or ask survey questions. And because native apps are software downloads, there is little control over updates. Should a visitor return to retake a tour six months later, without downloading a new version of a native app, there is a strong chance that he or she will be working with old information, and little the museum can do to control that.

### **If Not a Native App, What?**

Until now, the only flexible alternative to a native app was a hybrid app, which allows programmers to grab information from the web and insert it into the native app to create updates. While hybrid apps are more flexible than native apps, they don't avoid any of the costs associated with native app development. Those costs can be prohibitive for many organizations and take an unnecessary bite out of other areas of the budget for others.

The launch of TourSphere presents a new option for museums in developing mobile, interactive tours. App development is put in the hands of nonprogrammers, allowing curators, interpretation directors, or educators to develop a single app that will be compatible with any Internet-enabled device or smartphone. TourSphere is a revolutionary App Generator and Content Management System that builds highly dynamic web applications that work on almost any Internet-enabled smartphone or tablet device. No matter your role at the museum, TourSphere is the ultimate tour creator—no programmer needed.

TourSphere apps are browser-based, meaning that users view them through the web browser on their Internet-enabled devices. TourSphere's cross-platform application avoids a couple of issues for museum tour creators. First, the type of smartphone a museum visitor carries becomes irrelevant. Because TourSphere apps work on any web-enabled phone, only one app is required for all the possible platforms a museum visitor could be utilizing. Secondly, because TourSphere apps work via web browser, they combat the unfamiliarity that many adult cell users have with their phone apps. Far more smartphone users utilize the internet over their phone than utilize apps, so the TourSphere platform is in fact more familiar to a majority of visitors.<sup>3</sup>

If a museum makes its tour as an Android app, 75 percent of smartphone users will be left in the cold. As an iPhone app, the numbers are even worse: despite the iPhone's popularity, around 84 percent of smartphone users don't have one. These numbers are further exaggerated in the international market, where iPhones are not nearly as ubiquitous as in the U.S. TourSphere also allows for multiple languages (without creating separate tours) and accessibility accommodations, addressing the widest possible audience without the development of separate apps.

Visitors don't have to download anything to take a tour; they simply point their browser to the proper site and the app launches. Special customizations through TourSphere mimic the app styles of the user's phone, so the application looks and feels like one of their native apps, not a web browser.

TourSphere also addresses the cost issues associated with native app development. Developing a TourSphere app is free, and even the hosting fees are a fraction of native application development costs. TourSphere has created a free content management system that allows anyone to create a tour of anything on an easy-to-use platform. Users can upload photos, video, and text, create tours in different languages, and create tour maps from original illustrations or Google maps. The process is simple and user-friendly, but most important, it's free to create and test a TourSphere app. The museum pays only when they are ready to turn the app "on," so to speak, or to procure a public slot for your TourSphere app. TourSphere apps can be turned on and off at will, similar to a utility.

In this Web 2.0 age, visitors expect a user-centric experience, and studies have shown that standard audio tours often fall short of expectations, and it's the content, not the technology, that's a problem.<sup>4</sup> TourSphere apps allow for free, frequent and instantly delivered updates and changes, providing museums with the flexibility to create tours that visitors want. This flexibility—both in the speed with which the update reaches the user and the fact that updates are free—presents large advantages over the static state of native apps.

Because TourSphere is accessed through a web browser, it also allows for bidirectional information flow. The organization hosting the tour can collect valuable data about the tour downloads, from which types of devices are being used to when and how the users are accessing the application. TourSphere also allows the organization to set up a survey at any point in the tour that allows them to ask information about the tour itself or about

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<sup>3</sup> Purcell, K., Enther, R., Henderson, N. The Rise of App Culture. September 14, 2010. Pew Internet & American Life Project.

<sup>4</sup> Proctor, N., The Museum is Mobile: Cross-Platform Content Design for Audiences on the Go. In J. Trant & D. Bearman (eds.). Museums and the Web 2010: Proceedings. Toronto: Archives & Museum Informatics. Published March 31, 2010.

aspects of the exhibits. Because TourSphere also allows for the free development of complementary kiosk applications, the tour itself can extend into the museum and beyond just the smartphone with the integration between the smartphone tour and the kiosk application.

TourSphere is hosted in an elastic cloud computing environment, which means it has unlimited scalability. For places that are inundated by visitors on a particular day or season, or for whom there is an event that requires a huge audience be able to sign on at once (such as, perhaps, a TourSphere app in Washington, D.C. on inauguration day), this is essential. Users will not experience slower response or less functionality on the app simply because large numbers of them are accessing it at the same time, providing another layer of flexibility for organizations using TourSphere apps.

Since TourSphere apps are web apps hosted by TourSphere, there is no app store with which to contend or approval process to undergo. Once you've created your app in TourSphere, you simply purchase a TourSphere slot to make the app public. It's a monthly subscription that you can start or end at anytime, and because there are no long-term contracts, an organization can simply turn the app off if they are undergoing changes or are closed for the season. Updating your TourSphere App is free and seamless, should changes take place.

But if a native app is important to a museum's program—perhaps a supply of mobile devices already exists or access through an app store is important—TourSphere can help with that as well. For an additional fee, the TourSphere team can convert your TourSphere App into a native application for the iPhone, Android, or any other platform. There are still no programming fees, and the TourSphere Content Management System gives the freedom and flexibility to develop a tour without the assistance of a technical staff.

## Suggested Reading

Johnson, L., Witchev, H., Smith, R., Levine, A., and Haywood, K., (2010). The 2010 Horizon Report: Museum Edition. Austin, Texas: The New Media Consortium.

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