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Creative Agency Alert: Multi-Platform App Development

An Overview of Appcelerator Titanium

This agency alert presents an overview of Appcelerator Titanium, a mobile app development environment that we've used to build high-quality, cost-effective, multi-platform mobile apps for clients on iOS and Android platforms. The basics about Titanium are presented here, so you can understand its benefits and when it should be considered.

What is Titanium?
Titanium is an open source mobile app development environment and framework developed and supported by Appcelerator used to create native functioning, multi-platform apps (e.g. iOS, Android, BlackBerry, etc.). The Titanium software development kit (SDK) is free, and as of August 2014, the SDK has been used to create over 70,000 mobile apps deployed on over 230 million devices. Brand name apps include ZipCar, Bed Bath & Beyond, Homes.com, Office Max, T Mobile, and Legoland (see Titanium gallery).

How Titanium Works
The Titanium SDK enables developers to write one codebase using JavaScript to build multi-platform apps that run on all Titanium supported mobile platforms. Titanium-developed apps deliver a true native user interface experience because each device's native controls are used to render the user interface (e.g. buttons, text fields, lists, etc.). Titanium's API hooks into the devices' interface controls and JavaScript engines, and the developer-written JavaScript code interacts with Titanium's API. Like many desktop web browsers, interface differences across mobile platforms occasionally require tailoring the JavaScript code to perfect the layout on each platform. The back-end data model and business logic are typically identical across platforms, however.

As compared to a native app approach, the JavaScript/Titanium API abstraction layer introduces some computing overhead. In most cases app performance is marginally impacted, but worth the tradeoff given the development flexibility and cost-efficiency gains from using Titanium. For the casual app user, the difference is not discernable. Titanium includes the ability to implement Titanium Modules that bypass the Titanium API approach for performance-critical features requiring native optimization or not accessible via the API.

When We Choose Titanium
Titanium is a part of our consideration set for all multi-platform app projects. It performs like a native app with minimal performance inefficiencies, requires one codebase, and is fast to develop in, thus providing meaningful cost savings versus building multiple native apps. Most times, the case for using Titanium is clear. For apps with especially complex feature sets (e.g. hardware intensive) or strict performance and/or security requirements, a native approach may be more appropriate as long as there is adequate time and budget for the project. Titanium, in most cases, offers higher value to your clients and greater margins to you because we can create an app for two platforms for around the same effort it takes to build one native app.

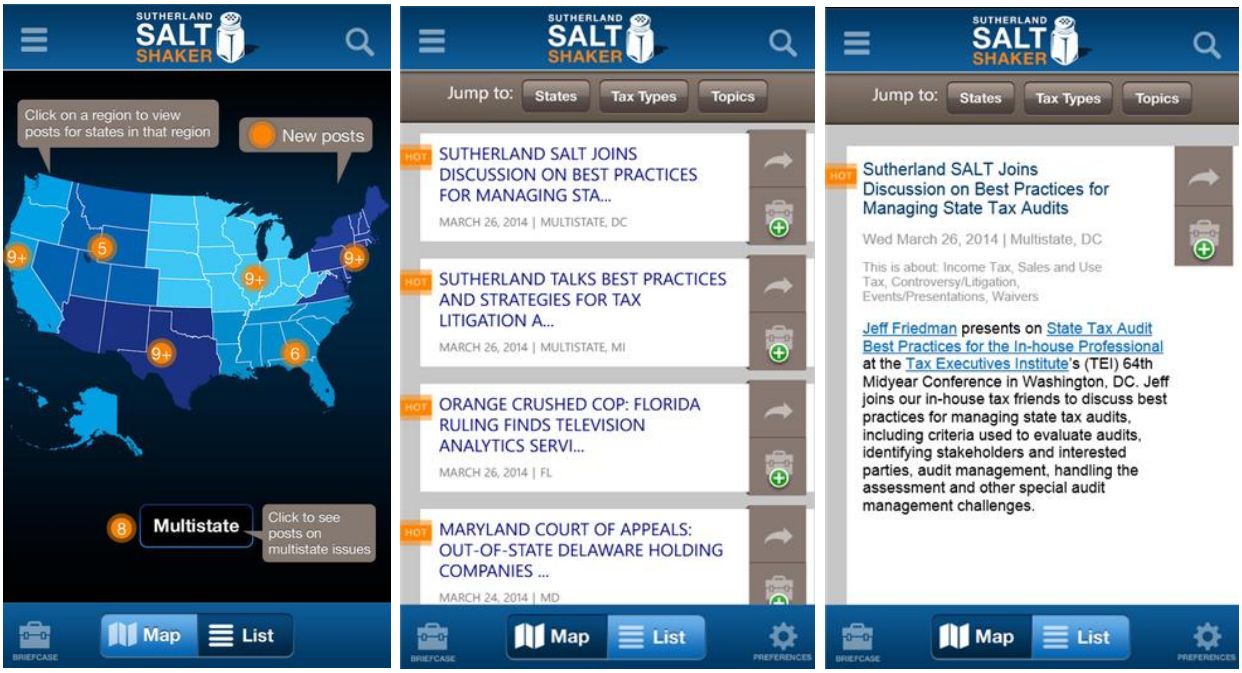
Example Titanium Project: Sutherland SALT Shaker App
We were engaged by the marketing department at Sutherland Asbill & Brennan LLP, a 400 attorney Washington D.C. based law firm, to build a multi-platform app running on iOS, Android, and Windows phones as a mobile complement to their popular Sutherland State and Local Tax Blog.

The core app functionality includes an interactive U.S. map showing new tax updates by region and state, options to search by state and topic, the ability to save content to read later in a "briefcase", functionality to submit your pet for a chance to be featured as the "Pet of the Month", real-time alerts when new relevant content is posted, and user analytics tracking. The project also involved developing a custom CMS for Sutherland staff to manage content and push notifications to the app.

Titanium was an ideal fit. All of the requested features were well within Titanium's wheelhouse. We could develop one codebase to streamline future enhancements, and Titanium's computing overhead was negligible for this purpose. Also, the client's development timeframe and budget requirements made Titanium the right choice. We developed the Windows Phone app as a native app using C# because Appcelerator is currently working on adding Windows Phone support to Titanium. Once released, we plan to deploy the same iOS/Android codebase to Windows Phone.

Please download the app and let us know what you think. It is available in the Apple, Google, Amazon, and Windows Phone stores and receiving praise from the media and users.

Screenshots from the app:



PhoneGap: Most Commonly Cited Other Multi-Platform Approach
In addition to native and Titanium development approaches, PhoneGap is the other approach most commonly used for building multi-platform apps. PhoneGap (also referred to as Apache Cordova) is an open source software owned by Adobe that essentially wraps a "Web View" of HTML, CSS, and JavaScript into a native app. The resulting app is not truly native because the interface is accomplished with Web Views and it is not truly web-based because the app has access to native device APIs. PhoneGap is an especially good approach for apps that you want to look/act like a website instead of like a native app.

While it is useful to consider PhoneGap for multi-platform projects, we have found its Web View approach has meaningful look/feel and performance limitations as compared to using Titanium. This is especially evident for graphic intensive apps. Also, some PhoneGap apps have had problems getting past Apple's strict design and functionality approval process when the app doesn't look "native enough".

How We Can Help
We've had great experiences with Titanium and are currently working on three projects for iOS/Android multi-platform apps. Let us know if we help you set the right strategy and value pitch for your clients' app projects.

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