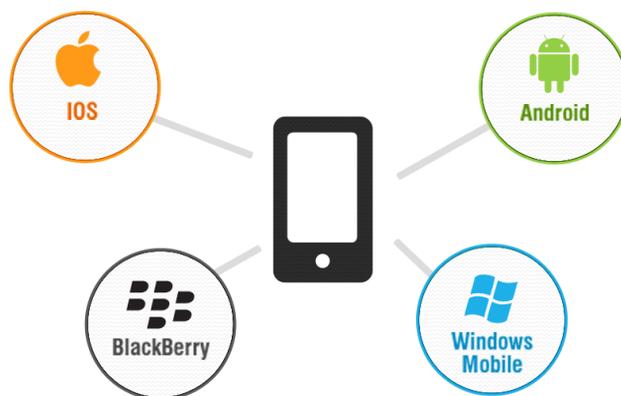


CROSS PLATFORM DEVELOPMENT

The HTML5 Way

A Whitepaper by
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Abstract

With over half a dozen mobile platforms out there and more in line to come up, it has become difficult for the customers to figure out the platforms to target for their business and tackle with the costs of developing for these platforms.

Cross-platform development is a solution to publishing an app to multiple platforms and at the same time save efforts and cost too. With number of cross-platforms solutions available out there in different development technologies, HTML5 based apps form a major part of this solution approach.

Introduction

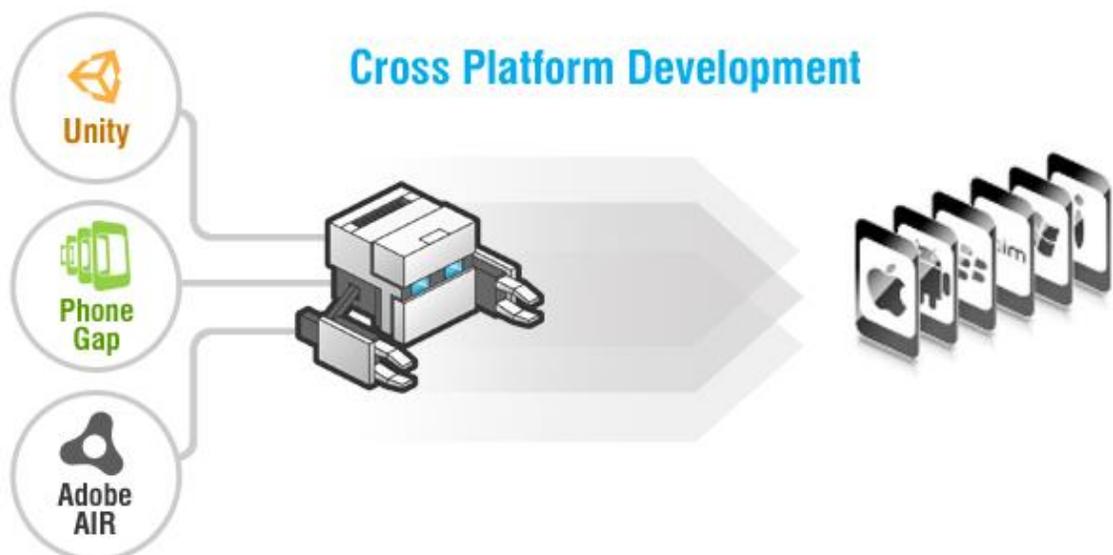
With numerous mobile OS platforms in today's competitive market, it is usually a time consuming and high cost-involving affair to develop separate apps for all the OS platforms. Going for cross-platform development solutions is possibly the smartest approach as it helps in developing applications for multiple mobile platforms using the same code base with minimum amount of changes. Cross platform, mobile development surely proves to be the profitable answer encompassing these varied needs of the multi OS market by offering them the universal app solution.

With a number of such solutions around, HTML5 based solutions are the most preferred ones amongst the developers these days. Many frameworks and tools have come up in the last few years which have made it possible to create applications for almost any platform using HTML5 along with CSS and JS.

This whitepaper discusses about why to go for cross-platform development, the popular HTML5 based solutions and their pros and cons.

Why Cross-Platform?

A recent study has shown that more than 286 million tablets are forecast to be shipped in 2018. Also, by 2017, over a third of the world's population is projected to own a smartphone, making it almost 2.86 billion smartphones in the world. Another major change that has taken place in the PC market is that the PC sales have reduced than that of the previous year. A major reason for this shift is the evidently the advancements in the mobile and tablet market.



Developing for all these platforms can be challenging and time consuming for both the development agencies and the clients looking for expanding business in the mobile domain. Thanks to the advancements in the field of cross-platform development solutions to help solve this problem. Advantages of using such a solution are:

Code Reusability

The major driving factor behind cross-platform development is its ability to use a single code base for all platforms rather than writing the same bits for different platforms in different languages.

Easy to Start

There is no need to hire new developers for different platforms to work on. One can use the existing workforce and jump into developing for popular mobile platforms.

Reduced Development Costs & Time

Another big advantage of this approach being is reduced development costs and time.

33% *of developers spend time developing the same app/feature for multiple platforms*

With major amounts of code being re-used, the development time decreases considerably along with the costs too.

HTML5 for Cross-Platform Development

Out of the multiple technologies available out there for developing cross-platform solutions, the most popular is HTML5. HTML has seen considerable improvements in last couple of years, mainly due to finalization of HTML5 and CSS3 standards.

A lot of frameworks and tools have come up which allow publishing of HTML5 based code to mobile platforms. With HTML5 combined with JavaScript and CSS3, developers can now create applications that look good and identical across different mobile platforms. HTML5 also brings with it support for advanced graphic and client-side features which were earlier possible through technologies like: Flash, Silverlight etc. only.

Another major driving factor for using HTML5 is the resource availability. It is quite easy to train existing teams proficient in web development and make them comfortable with mobile development in a matter of weeks. This has made it easier for small design agencies too to jump into the mobile development.



The figures above show preferences of developers, in a survey of 5000, for building a new app for multiple devices. It is evident from the survey that around 68% percent of the developers plan to use HTML5. This shows that HTML5 is already a preferred choice of development.

Options Available - Tools & Frameworks

There are a number of HTML5 based cross-platform development solutions available out there but only a few are popular and feature rich.



PhoneGap

PhoneGap is an open source mobile development framework, now maintained by Adobe Systems. It enables developers to build applications for mobile devices using JavaScript, HTML5 and CSS3, instead of device specific languages such as: Java, Objective-C. The packaged applications have Native like functionality & features but with ease to use same codebase and publish across multiple platforms.

Sencha Touch

Sencha provides development frameworks and tools that help the developers with designing, development and deployment of applications for desktop and mobile applications. Sencha provides developers with tools to create designs rapidly using just drag and drop operations.





Appcelerator Titanium

Appcelerator Titanium is another open source framework for creating native apps across multiple mobile platforms. Appcelerator Titanium comes with multiple APIs and extensions that make the development process easy. Appcelerator Titanium is backed by a cloud based platform for managing the mobile app lifecycle. Titanium also lets developer create apps using HTML5.

HTML5 vs. Native

HTML5 is usually compared with the Native Apps in terms of technical and usability aspects and the debate is big. But it clearly depends on the business requirements to decide which development option to go for. While HTML5 has a number of advantages over native apps, with the major ones being reduced development time and cost, there are still few cons which can prove to be major hurdles in going with HTML5. Some of the limitations of HTML5 when compared with Native apps are:

- **Performance Considerations-** The performance of an HTML5 app is usually not as smooth and responsive as that of the Native ones. A lot of optimizations need to be made in order to achieve native like performance.
- **Advanced Hardware Capabilities-** While developing a game or hardware hungry app, Native applications perform the best as they are closely linked to the system hardware. HTML5 on the other hand doesn't support advanced hardware functions.
- **Limited Plugins Available-** As this market is quite new and not directly supported by the OS platform manufacturers, the plugins available for some of the advanced features might be low.

When to go for HTML5 Mobile Apps?

Looking at the pros and cons with the HTML5 mobile apps, a right decision is required on whether to go for Native or HTML5 apps. Some of the cases when an HTML5 development should be preferred are:

- You need to target almost all major mobile platforms.
- The apps doesn't requires much of hardware interactions.
- The app doesn't require a tight integration with the OS.
- You are short on the development time and costs.

HTML5 Mobile App Development at SoftProdigy

During past few years, SoftProdigy has excelled itself in developing cross-platform solutions and has a team of skilled developers who are proficient in these technologies. With the growing features in mobile applications, we are completely balanced to augment the way you utilize mobile solutions to enhance your business brand.

Our team has gained expertise in developing cross-platform apps using the following tools and technologies:

- HTML5 Mobile Development
 - PhoneGap
 - Sencha Touch
 - jQuery Touch
 - Appcelerator Titanium
 - IBM Worklight
- Adobe AIR
- Unity 3D

Our mobile application development as well as integration differentiates our work from the other mobile application development companies globally. We not only focusing on developing the mobile applications, but also keep important steps in our process plan like testing, maintenance.

About the Author

Rahul Joshi

Rahul Joshi is a Lead Business System Analyst with more than 8 years of experience in the IT industry. Started his career as a Software Engineer, he has worked extensively on front-end development technologies like: Flash and Flex. After moving into business analysis, he has been supporting clients from varied industry domains with technical consulting, focusing on areas like: Mobile Development, Rich Internet Applications and Gaming.

About SoftProdigy

Founded in 2006, SoftProdigy is an award-winning organization with expertise in the areas of Web & Mobile Technologies and Consulting services. Over the last few years, the organization has made a reputation for building quality solutions for its clients that helped them get more out of their business. SoftProdigy's customers range from start-ups to Enterprises like: ING, Aviva, Vodafone and Bajaj. The company has worked with entrepreneurs as well as established corporate houses across the globe to put their ideas into inception and take it to the market. It employs over 150 technology and management professionals who work closely with each other. With a consistent growth track record that has surpassed the industry trends year on year since the company's inception, what sets it apart is the philosophy of pursuing, quoted as "measured success".

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