7
Best Practices
To Develop
Cross Platform
Mobile Apps

Presented By: Nine Hertz

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AUTHOR:

Nine Hertz

GRAPHIC DESIGN:

Nine Hertz

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Introduction

Huge growth of smartphones

Smartphone users are growing everyday – a study says there are more than 2.04 Billion smartphone users in the whole world. This huge rise of smartphones has also boosted the app development process globally.

Currently, Android is a dominating mobile OS that is running on 81.5% of smartphones, compared to Apple's iOS running on 14.8% of smartphones in the world.

iOS (14.8%)

Android (81.5%)

■ Android ■ iOS
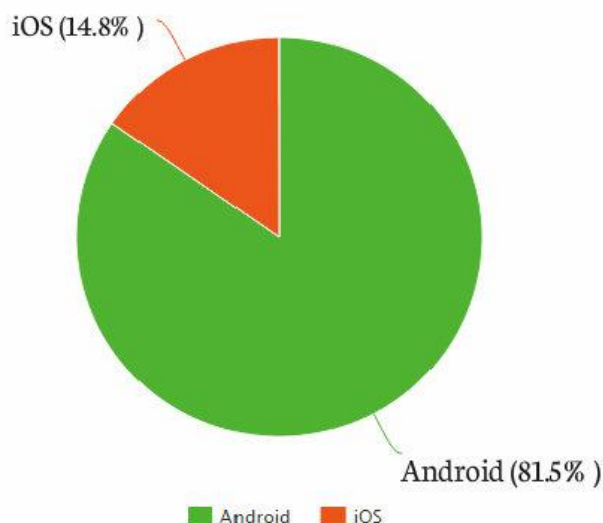
Mobile app development challenges

Mobile app developers are developing mobile applications that are being used on a single platform. It has some challenges like each platform has its own SDK (Software Development Kit) that build native apps. Every SDK has its own limitations that push mobile app developers to build and maintain apps on a single platform.

If a developer builds an app for another platform, then he has to write different codebase and maintain it separately. This takes up a lot of time and energy of the developer as well as the business.

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7 Best Practices to Develop Cross Platform Mobile Apps

Rise of cross platform app development

Nowadays the mobile app market is shifting its needs; now business owners want to have a mobile application that is adaptable on various mobile platforms so people can easily use it.

Therefore, a technology has been introduced called "cross-platform [mobile application development](#)" which is a method to develop applications that can be used on more than one mobile platform.

In recent years it has become necessary for businesses to develop mobile apps that are able to run on various devices. But developing these apps is not very easy, a developer has to think of a different angle to create such an app. So, we have compiled 7 best practices that will definitely help you to develop cross platform mobile apps.

1

The Most Fitting Native Development Technology

A developer must use the most convenient development environment & code sharing on a mobile platform.

Native App Development Technology

Technical Terms Explained

Using native development technologies and tools on cross platform mobile apps is a challenging task because every smartphone platform has its own language and SDK. For example iOS have Cocoa Touch & Xcode, Android has Java with ADK and windows have C#.net with Microsoft Visual Studio. Using these separate tools makes it difficult for an app developer to maintain it, especially when the app has different versions.

Xcode is an integrated development environment (IDE) containing a suite of software development tools developed by Apple for developing software for OS X and iOS.

Cocoa Touch is a UI framework for building software programs to run on iOS (for the iPhone, iPod Touch, and iPad) from Apple Inc.

C# is one of the programming languages designed for the Common Language Infrastructure. It was developed by Microsoft within its .NET initiative

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2

Virtual Machines to boost the App Performance

Virtual Machines are very robust that can run complicated environments with a minimum effect on a machine's performance.

Virtual Machines

There are so many advantages of using Virtual Machines, a couple of those are mentioned below:

- Virtual Machines can be easily sharable but first an app development environment needs to be prepared. After this, the VM can be shared with the team so they can efficiently work on developing cross mobile app development.

- By using a Virtual Machine, a developer doesn't need to switch between different setup environments for debugging and compiling the code. The VM enables them to perform all compiling tasks on a single machine.

- By using VM a developer can simply test the code that changes frequently on all platforms. Also, Virtual Machines can be re-launched with a low error ratio and effort.

virtual machine:

3

Keep the User Experience Same

Usually a normal user get distracted with completely different layouts of the app whenever he moves from one platform to another.

User Experience

A normal user might not be comfortable with different layouts of the app whenever he switches the software platform.

- No matter what mobile operating system is running your mobile app, it is needed to set the same user experience on all mobile platforms. A normal user might not be happy with diverse layouts of the mobile app if he/she move the software platform (iOS/Android/Windows).

- The same functions and layout helps a user quickly identify and use your app, also it can show the unique values of your app. Different layout and navigation flow will force a user to learn the new ways to use your app and he might not like it. Therefore, it is necessary to keep the app navigation and design consistent on all platforms.

- Most importantly, the user interaction with your mobile app will be the same across all different smartphone operating systems.

4

All the Features Must Be Working

Its mandatory that all app features works on all types of mobile platforms.

You must verify whether all features of mobile app are working properly on all platforms.

When an app developer is writing the code he must confirm that all the functions and the code written in a specific language for cross platform are working properly.

Sometimes it happens that the features integrated into a mobile app don't work properly on a variety of platforms. It could happen because of the technical reasons like code incompatibility or code misplaced by the developer etc.

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5

Less Third-Party Libraries

Find C++ libraries that are compatible and provide needed functionality for general mobile app development.

Concentrate on your own custom libraries and specialized code.

Most of the time developers use so many third party libraries that they make an app unnecessarily heavy and hard to maintain.

Therefore, it is better to focus on your own custom libraries and specialized code.

This will keep your app size minimum as well as the maintenance cost. You can find various custom C++ libraries that are compatible and provide needed functionality for general [mobile app development](.).

6

Integration of App With Other Smartphone Services

A developer can integrate his app with different mobile services to increase the productivity.

PhoneGap, Titanium can be a big help to integrate different mobile services with your app.

There are so many smartphone services like content management, photo storage and social networking. A developer can integrate his app with these services to increase the productivity. To do this he needs to adopt a feasible mobile technology, app design and functionalities that make an efficient cross platform smartphone application.

Using powerful cross platform mobile app frameworks like PhoneGap, Titanium, Appcelerator and Rhomobile can help you build a strong and successful smartphone app that uniquely serves the users on various platforms.

7

High App Security on All Platforms

Security of app is a big concern, and must be dealt carefully.

App developer to must check the compatibility of app security features for each mobile platform.

Each smartphone device manufacturer knows the significance of security and so they offer various levels of safety in their apps. This applies to the mobile OS as well, every mobile operating system has a custom environment to run the application that offers different degrees of safety.

It means that phone operating systems do not support the same level of security features, this makes it mandatory for an app developer to build a cross platform app that is compatible for each mobile platform in terms of security features.

The Conclusion:

The mobile world already has multiple operating systems and it is approaching a new level where it could partially replace the use of personal computers. Therefore, businesses are emphasizing more on building mobile apps that are capable of running on multiple smartphone platforms. To achieve this, it is essential to begin working on cross platform technology and make the most of the principle "Write once, runs everywhere".

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NineHertz
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Website
http://theninehertz.com

Skype : ninehertz

Email : info@theninehertz.com

Our Offices

USA

7278, East Galbraith Raod, Cincinnati, 45243, Ohio, United States

Call us: +1-315-381-4100

Dubai

Apartment 1009, Yacht bay, Behind JLT metro station, Dubai

India

44/8, Mansarovar, Jaipur.302020

Call us: +91-0141-2786973