

Cross-platform mobile app development

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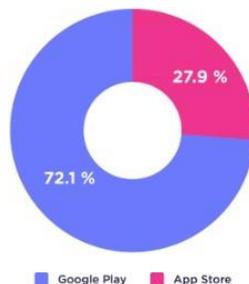
Abstract

Currently, due to the increasing availability of mobile Internet, there is a trend towards the use of mobile applications. Apps are popular not only among Internet users, but also quite profitable for their owners. Putting these two factors together, we can conclude that almost any business development strategy can include the creation of an application. The dilemma, however, lies in choosing the right way to develop mobile applications. There are over five billion smartphones in the world. Of these, about 99% work on Android and iOS, according to StatCounter. To optimize the process and avoid programming a mobile application for each of the operating systems, you can resort to cross-platform development. It is based on a single source code and technology stack. Once the application code is written, it can be deployed across devices and platforms without worrying about incompatibility issues. This is a generic approach that is widely used to save development time and money.

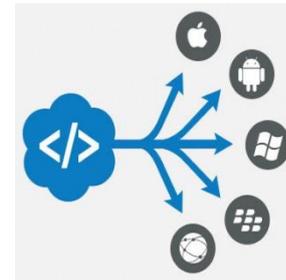
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1 Introduction

Cross-platform is the ability of software to run on multiple platforms. Cross-platform mobile development allows you to cover two operating systems, iOS and Android, with one code. It does not involve writing code in a native programming language, but provides an almost native experience through a visualization interface using native controls. At the moment, many companies use cross-platform solutions, someone is already seriously considering switching to them in the near future. Cross-platform development of applications for iOS and Android allows you to significantly optimize development processes. Any cross-platform application can be compiled for various platforms with minimal effort.



And the result will be different executable files. So, in the solution for iOS, the executable file will receive the extension ".ipa", and the application for devices running Android will start the application from the file ".apk". There are many articles that analyze in detail all the advantages of cross-platform applications. However, the pros and cons should be considered on the Framework, which has every chance of becoming the most popular among developers.



Overview

Cross-platform entails the creation of applications that can run on different operating systems. Once the application code is written, it can be deployed across devices and platforms without worrying about incompatibility issues. This is a one-stop approach that is widely used to save time and money. Cross-platform development opens up new business opportunities and allows you to launch as soon as possible. If the product is not too complicated, understandable, performs certain tasks, then this is the best solution for a quick and efficient launch.

Benefits of

- If customers use both Android and IOS, then covering all types of mobile devices will help to get a wide segment of users.
- A single stack of technologies is used, both for android and for iPhones.
- Deployment is much faster due to the fact that there is a single code base that can be easily integrated into any operating system.
- The speed of creating a mobile application

increases significantly.

- It is much easier to launch a cross-platform application to the market. It is enough to take into account a number of requirements that the stores set.

Decision

At the moment, the market for operating systems for mobile devices (phones, tablets, smart watches, TVs, etc.) has formed and is focused on two main platforms - Android and iOS.

There is now a wide range of cross-platform technologies, including Flutter, React Native and Kotlin Multiplatform.

Flutter is a cross-platform mobile development framework by Google that uses the Dart programming language. It is an open-source SDK that helps to create beautiful, native-looking, mobile, web, and desktop applications using a single codebase. It is a reactive framework that comes with plenty of ready-to-use widgets and offers better performance because of compiling with machine language.

React Native is a popular JavaScript-based mobile app framework that allows you to create native mobile apps for iOS and Android. The framework allows you to create

References

- [4] StatCounter is a web traffic analysis - <https://gs.statcounter.com/>
- [5] ASOMobile is a comprehensive mobile app analytics for developers, marketers and ASO specialists - <https://asomobile.net/>.
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applications for different platforms using the same code base.

Kotlin multi-platform is an experimental language feature that allows developers to use a single codebase to develop applications for both Android and iOS. Kotlin multiplatform leverages the advanced features and capabilities of the programming language across iOS, Android, iOS, Windows, Mac, Linux, Web, etc. By making it possible to share code between all these platforms, it significantly reduces the development time.

Conclusion

Cross-platform application development is a great solution for business tasks. If the emphasis is not on the visual design, but the functionality itself is important, this development method can significantly reduce time, reduce the budget and make an effective application that will benefit the business. If you immediately need to reach a larger audience and the application's functionality is not complicated, it's easier and cheaper to use a cross-platform approach.

Thus, a single codebase will undoubtedly impact every aspect of application development, down to reducing the number of developers required, allowing a company to save money that would normally be spent fixing and updating two separate codebases.

- [7] Official site for Flutter developers - <https://flutter.dev/>

- [8] Official site for Kotlin Multiplatform developers - <https://kotlinlang.org/docs/multiplatform.htm>