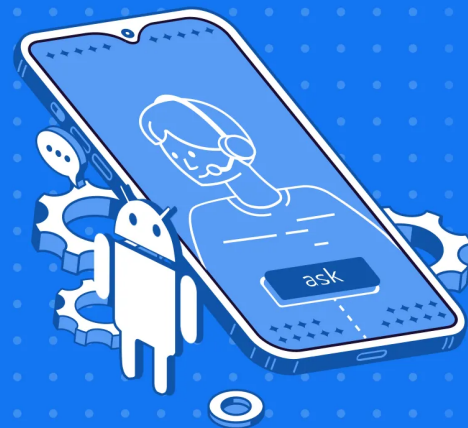


WHAT YOU NEED TO KNOW

ABOUT DEVELOPING A CROSS-PLATFORM APP



If your business is wanting to [build an app](#), learn more here about what [cross-platform app development](#) is, why it's important and the general principles you need to know to make your decision on whether to use it.

What is Cross Platform App Development?

In today's world, many platforms exist across a multitude of devices, each operating in their own unique way. For example, in the world of mobile phones, operating systems range from [Apple's iOS](#) and [Android](#), to Windows and VisionOS. This extends into the realm of tablets as well as laptops and personal computers, where even more operating systems are found. These include Linux, Ubuntu, OS X and Windows, etc. Cross-platform software which is compatible with these systems comes in two guises. Firstly, a separate software build for each particular platform and secondly, a build that runs on several platforms without any modifications required.

Cross Platform Development Options

For a little background info in [cross platform app development](#), there are three main development options which have been used:

- **Mobile Website**

Although similar to the design of a regular website, mobile website development has one major difference. A website built with a mobile component ensures that the site, through using a responsive design framework, can be viewed on any sized mobile device. This includes mobile phones and tablets and is achieved by adjusting the size of the various pages of the site to fit the screen of the mobile device.

- **Mobile Web App**

Here an app is designed to be similar to a standard [mobile website](#), yet it functions and is used in the same way as a native app. In other words, although all the design and technology used is web-based, the user interface will look like a native app.

- **Hybrid Mobile Application**

A Hybrid Mobile App again is similar to a native app as they can be downloaded from various sites – such as the Apple Store or Google Play – and then installed, stored and used on a mobile device. A major difference with these apps, however, is that portions of their code incorporate other programming languages including JavaScript, CSS3, and HTML5. Because these apps are simply web-pages, they have all the same functional limits, as a website.

Considerations for Cross-Platform Apps

What is important within a cross platform solutions?

The following pieces should be taken into consideration:

- The excellent experience a user finds when using an app on a desktop device should be found on portable devices when using the mobile version of the app.
- Three key areas should be the same across all platforms – the look of the app, the feel of the app and how it functions.
- Select a development plan for their app. This helps to ensure that it can work on every platform they intend it to be available on.
- Apps should be brought to the market simultaneously across all platforms as this will help to lower development costs significantly.
- Ensure that the app contributes to increased revenues.

When it comes to [building apps](#) for multiple platforms, different builds of the app are not only time consuming, but wasteful. This is where a multi-platform development plan and a cross-platform app developer ensures the app will work on the platforms required by the business while maintaining the same look, feel, and functionality.

Approaches to App Creation Process: Enhancing Cross-Platform App Development

When searching for "cross-platform app development" on Google, you will encounter a plethora of tools designed to assist with this task. While these tools can be effective for creating basic apps for multiple platforms, they often fall short when it comes to addressing the unique nuances and specific features of

each operating system.

Challenges with Standard Cross-Platform Tools

Using standard cross-platform tools generally results in applications that can operate across different platforms, but these apps might lack the ability to fully leverage the unique capabilities of each operating system. This can lead to a less optimized user experience and potential performance issues. The inherent limitations of these tools can hinder the creation of a truly valuable and convenient app.

Advanced Cross-Platform Technologies

For more sophisticated and high-performance applications, developers often turn to advanced cross-platform development technologies. Some of these include:

1. **React Native:** Developed by Facebook, [React Native](#) allows developers to build mobile apps using JavaScript and React. It enables near-native performance and access to native components, making it a popular choice for building complex apps that need to run on both iOS and Android.
2. **Flutter:** Created by Google, [Flutter](#) uses the Dart programming language to build natively compiled applications for mobile, web, and desktop from a single codebase. Flutter's rich set of pre-designed widgets and high performance make it suitable for building visually appealing and responsive apps.
3. **Xamarin:** Owned by Microsoft, Xamarin allows developers to use C# and .NET to build apps for iOS, Android, and Windows. It provides a single codebase for all platforms and offers access to native APIs, ensuring high performance and a native look and feel.
4. **Kotlin Multiplatform:** [Kotlin Multiplatform](#) by JetBrains allows developers to write code that can be shared across multiple platforms, including iOS, Android, and web. It provides a way to reuse business logic while still using platform-specific code for the UI, ensuring a native experience.
5. **Ionic:** Built on top of AngularJS and Apache Cordova, Ionic allows for the creation of cross-platform mobile apps using web technologies like HTML, CSS, and JavaScript. It provides a library of mobile-optimized UI components and tools for building and deploying apps quickly.

Why is Cross Platform Development Important for Business?

In today's diverse mobile market, developing cross-platform apps is essential for businesses aiming to reach a broad audience. With both Android and iOS being dominant platforms, having an app available on both ensures you capture the entire market, maximizing your user base and potential revenue. Developing separate native apps for each platform can be costly and time-consuming. Cross-platform development allows businesses to build one app that works across multiple platforms, reducing development time and costs.

Cross-platform development ensures a uniform user experience across different devices. This consistency helps in building brand recognition and customer loyalty. Additionally, maintaining and updating a single codebase for all platforms is simpler and more efficient than managing separate

codebases for each. This leads to faster deployment of updates and new features.

With a unified codebase, businesses can launch their apps on multiple platforms simultaneously, speeding up the time to market and gaining a competitive edge. Cross-platform frameworks offer flexibility in terms of development and design, allowing developers to use a wide range of tools and libraries to create feature-rich applications that meet business needs.

Pros and Cons:

Creating apps for different platforms is always a compromise between quality and cost. Lets consider some of the issues at play in cross-app development:

- The task of creating 2 separate applications is much simpler than creating a universal one because of internal conflicts which arise from different operational systems.
- These limitations negatively influence the usability, the speed of the app's operations, the demands to the hardware, and they increase the vulnerability of the system
- Cost of support for such a complicated project will be much higher, as programmers qualifications must be at the top of the industry to do this kind of work.

We have such specialists, but the question is... do you really need such solution?

Bespoke Mobile App Solution

When it comes to more customized, sophisticated and intricate [mobile apps](#) which are needed to perform specific tasks for your business on multiple platforms, a bespoke solution is needed.

Why? Consider this. When you use a special tool, it always work better than the universal solution. Have a look at a screw driver - it's much more convenient than the swiss knife because it's made for a specific purpose. The same is true in app development. If you are looking for a program which can just get the job done to a satisfactory level... and partly answer your needs - the cross platform solution could be it.

However, if you are a serious corporation with strong demands for functionality and usability - you need a separate app for iOS and for Android. We, as experts, recommend this approach as cross-platform development can be complicated and breed functionality issues.

With all things considered, it is time to ask yourself if your company really needs a cross-platform solution. If you really need the app to work with different platforms, we, as an industry experts, strongly recommend you develop separate applications for each of them. This will result in a stable working app with wide functionality and it will be exactly as you plan, with perfect compatibility on each platform.

Key Updates in Cross-Platform App Development in 2024

The field of cross-platform app development has seen significant advancements in 2024, reflecting the ongoing demand for versatile and efficient mobile solutions. Read more in [our recent article](#).