

Ultimate Guide To Cross-Platform Mobile App Development: Everything You Need To Know



[Source](#)

So, you are looking to develop a mobile app for your business or startup?

But you don't have enough capital to build a native app?

If you said yes, then here's good news for you. You don't need to build two different apps for two ecosystems.

You can just build one cross-platform app. It will run on every platform regardless of the ecosystem.

That's crazy, right?

In the guide, we are sharing complete details on what is a cross-platform mobile app development and how you can start with development.

So, let's dive in.

What Is Cross-Platform Mobile App Development?

Cross-platform app development is a process where developers build apps that run on several mobile platforms like Android, iOS, or Windows.

Cross-platform apps are gaining popularity in the mobile app development industry. This is becoming helpful mainly for startups thanks to its cost-saving and development time-saving functionality.

Cross-platform technology helps companies to run the same app on different platforms instead of building different apps for different platforms.

Some Of The Famous Examples Of Cross-Platform Mobile Apps Are.

- Bloomberg
- Instagram
- Walmart

Cross-Platform Mobile App Development Life Cycle

When developing a mobile app, it's important to have a clear vision of the entire range of stages and procedures to follow.

Here is the full life cycle of a typical development project, that most developers use no matter the complexity:



[Source](#)

Stage #1: Requirement Gathering

Every app starts with a concept. This concept is developed into a solid foundation for a mobile application. In this phase, you will need to gather intricate details such as tech stack, target demographics, budget, development team, etc. Once you have all the required data and a team, you can move to the next step, which is design.

Stage #2: Design

You already know what sort of app you want to make at this point in the app development process. You've collected all of the necessary nuts and bolts. It's time to determine how your app will look.

Begin by putting together your dream team, which will be familiar with all of the project's requirements. To define limits for particular roles, create a workflow design and chart for the project. In this stage, the team's role, duties, and functions are defined and recorded.

Stage #3: Development

After successfully completing the design stage, the software development team may now begin working on the project. It is at this stage that the actual coding of the app starts. Developers are now provided with app prototypes to turn them into fun functioning mobile apps. The development process is iterative and cyclical. It works hand in hand with testing to ensure that any problems or mistakes in the software are detected and fixed as soon as possible.

This is also the time to conduct frequent reviews in order to maintain track of the project's development and ensure that it runs smoothly.

Stage #4: Testing

Following the completion of development, it's time for some testing. All the mobile apps must undergo additional testing to guarantee that all the components and features work in harmony.

Quality assurance is a stage in the creation of a mobile app in which the product is checked for conformity with all the specifications. It's critical to not skip the testing process or cut corners during this phase under any circumstances, as this is where you will find where your app is lacking.

Stage #5: Launch

Finally, after extensive development and testing, the software is now ready to be launched to the public. You'll need the marketing and advertising staff at this time to assist promote the app. The app's official release date should be the pinnacle of the app's marketing efforts up to this point.

But, wait. The development life cycle doesn't end here.

After publishing your cross-platform mobile app, you have to track downloads and troubleshoot problems that your users face. Consistent updates will help your app provide peak performance at all times.

The Difference Between Native and Cross-Platform App Development.

Choosing between a cross-platform mobile app and a native app has always been a debate between developers. Both of them have their own advantages and disadvantages.

The table below provides an in-depth analysis of cross-platform and native app development to help you understand what would be the right choice for you.

Parameters	Native app development	Cross-Platform app development
Project Cost	High	Low
Project Duration	High	Low

Code Usability	No Code usability for different platforms	You can use one code for different platforms
UI Consistency	Yes since apps are built for a single platform	No, since UI attributes are different according to the platform
Performance	High performance since building solely focused on a single platform.	Low performance since one app builds for multiple platforms
Time to market	Low since the project cycle takes time for each platform	High since single project cycle for multiple platforms
Security	Highly secure	Medium to low since limited access to core OS security features.
Features	Full access to device API with no limitations	No assured or limited access to device API
Developer team	Big since a separate team is required according to the platform	Medium to small, since the single team can build an app for different platforms.
Customer reaches	Low as the app is promoted on a single platform focused	High, since one app can get promoted through a different platform.

How To Choose The 'Right' Cross-Platform Mobile App Development Platforms?

There are several in-demand **cross platform app development frameworks** available in the market.

Each framework has its own pros and cons. In the end, choosing the right tech stack depends on multiple factors such as development time, developer expertise, budget, features, and so on.

Following are some of the most in-demand **cross-platform app development frameworks**:

1. Xamarin

With the tagline "Loved by Developers, Trusted by Enterprise" Xamarin came into play in 2011. Later acquired by Microsoft in 2016 is now one of the leading open-source platforms. This cross-platform mobile app framework relies on the C# programming language along with the .NET framework. This platform includes various tool sets like their own IDE, SDK Test Cloud, etc.

Why Use Xamarin?

1. Xamarin platform uses C# for coding. That allows the app to work on any platform, including Android and iOS
2. Xamarin allows developers for code reusability up to 75% which simply means "Write once, use anywhere" functionality.
3. Xamarin is compatible with MVC and MVVM architectures for mobile app development.

2. Flutter

With the "**Beautiful Native apps in No-time**" tagline, Flutter comes next in the list of cross-platform mobile app development tools. This is another new yet limelight open-source platform for creating an amazing interface for both Android and iOS apps.

Google announced Flutter recently, i.e. in February 2018. And in May 2019, Google announced a new stable build for Flutter. The entire framework is maintained by Google solely.

[Developers](#) ranked Flutter among the top 3 most beloved frameworks in a survey.

Why Use Flutter For Cross-Platform App Development?

1. Flutter's "Hot reload" feature allows the developer to monitor code changes in real-time on the device.
2. High-performance rendering engine that allows developers to use and customize animations in no time.
3. A wide range of UI elements and widgets to choose from, makes app development not only fast, but also visually appealing.

3. React Native

With the "*Learn Once, write anywhere*" tagline, Facebook launched React Native back in 2015. In no time, React Native changed the whole market of **cross platform app development frameworks**. Today, it's one of the leading mobile application development frameworks.

This framework comes with a unique feature i.e. it is based on JavaScript language which allows building natively-rendered mobile apps for both Android and iOS platforms.

Why Use React Native For Cross-Platform App Development?

1. This framework allows a "Hot-reload" feature, just like Flutter. This feature allows developers to monitor code changes without saving code.
2. This framework offers more stability as compared to other cross-platform frameworks.
3. Code usability up to 80% which increases performance and speed significantly.

Advantages and Disadvantages of Cross-Platform Mobile Development

Benefits Cross-Platform Mobile Development

There are several **cross platform app development benefits**. Top benefits are listed below.

1. Maximum Audience Reach

By building a single app, the company can target both the Android and iOS ecosystems simultaneously. This is the best benefit of mobile cross-platform development. It enables the company to build one app and deploy it on multiple platforms.

2. Code Reusability

Cross-platform app development allows code usability. This means developers don't need to write new code for every platform. This not only saves development time but also cuts down costs significantly.

3. Easy cloud integration

Due to a single source code, cloud integration is simple. Enterprise-grade plugins for integrating your business apps with the cloud are available, making them globally compatible. Developers can create cross-platform apps that look and feel like native apps, thanks to powerful tools and capabilities.

Disadvantages of Cross-Platform Mobile App Development

1. Performance-Related Issues

Cross-platform mobile apps face performance issues since those apps have limited access to core OS features. Developers can't leverage all the hardware available on the phone.

2. Long Wait For Updates

When Google and Apple release new features for Android and iOS, native solutions can make use of them right away. The cross-platform apps, on the other hand, will have to wait until these upgrades have been tailored to the cross-platform framework of choice. Hence, most app updates will get delayed.

3. Security Issues

Cyberattacks are becoming more widespread, and mobile applications are no exception. Native applications can fix security flaws with regular updates, but cross-platform apps lack that flexibility when it comes to resolving security issues right away. Native apps are recommended for apps that deal with a lot of corporate and business data.

Challenges in the Cross-Platform App Development Process

1. All native-only capabilities and features of mobile devices, such as complex graphics and animation or 3D effects, are not supported by cross-platform apps. As a result, the app's functionality is often restricted, and the design is bad.
2. Another issue that commonly arises while using cross-platform is the increased time consumption. With this platform, the procedure of integrating local settings becomes quite lengthy.
3. Cross-platform application development is not as simple as it appears, especially for inexperienced programmers. As a result, developers use cross-compliance during the development process, resulting in slower code and, therefore, a slow application.

Cost Estimate For Mobile Application Development

Following are the standard hourly rates of developers. More specifically \$40 per hour. According to this rate, the following is the approximate cost estimation that gets charged for each feature required in the app.

Feature	Description	Duration (in Hrs)	Cost
User Signup	Allows users to create an account	20	\$800
Payment gateways	Lets users make payment for their purchases with a credit or debit card	50	\$1,000
Search	Allows users to search for a certain thing using built-in search	10	\$550
Chat	Allows users to communicate with each other. It could include sending text and or multimedia and receiving.	80	\$2,800

Geolocation	Allow users to use and share their physical location.	50	\$1,750
Video/audio streaming	Allows users to play video or audio content.	30	\$2,300 - \$3,000

[Source](#)

Conclusion:

There it is. A comprehensive cross-platform app development guide. Keep in mind, that the success of your app depends on several things. Most important being your developers.

Since developers will be handling the majority of development, it's imperative to choose the 'right' ones. But, that's easier said than done. That's where mobile **app development companies** step into the picture.

There are many established mobile **app development companies** that already have an expert developer and designer team in place. Hiring such companies will not only save your time but also cut down costs since you don't have to spend months looking for designers.

Hope this guide helps you with cross-platform mobile app development. If you have any queries let us know in the comment section below.