

Native vs cross-platform app development

Native apps

Suited for particular operating systems, iOS or Android. They represent the premium format due to the unbeatable performance and user experience that can be achieved through them.

NOTABLE ADVANTAGES

- Highest possible performance & speed
- Highest level of security and data protection
- Complete access to hardware resources
- Lowest storage space requirement
- Unrestricted access to UI/UX
- No third-party library restrictions

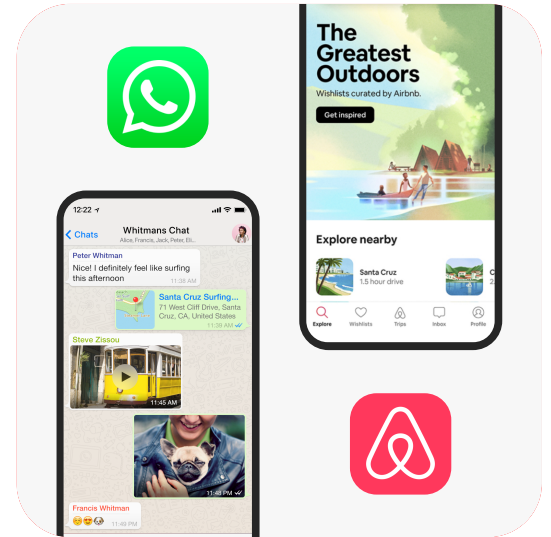
DISADVANTAGES

- Increased app development & support cost
- Longer development time
- Require a high level of expertise

BEST FIT FOR

- Telecommunication Apps
- Mobile banking apps

- IoT Apps
- Gaming Apps



Cross-platform apps

These apps are designed to be compatible with multiple platforms/OS and can, therefore, run on any smartphone, tablet, PC, smartwatch, and connected TV.

NOTABLE ADVANTAGES

- More cost-effective than native development
- Shorter time to market
- 60% - 90% reusable codebase
- Easy maintenance and update synchronization
- Exposure to a large number of users

DISADVANTAGES

- Lack of platform specific optimisations may cause performance issue
- Limited support of third-party libraries
- Worse access to native OS features
- Depending on framework providers
- Depending on developer communities

BEST FIT FOR

- Social Apps
- Simple MedTech Apps

- Hospitality Apps

How to make the right decision?

GO NATIVE IF...

- performance, speed & UX have top priority.
- you are building a long-term product - sustainability is important.
- safety & reliability have high priority.
- device-specific functions are used extensively (camera, GPS, microphone...).
- the app should (for the time being) only run on one operating system.
- a platform-specific UI should be used.
- your app needs to perform tasks while not in the foreground.

GO CROSS-PLATFORM IF...

- time and / or budget are tight.
- you need a fast Proof-of-Concept.
- iOS & Android platforms have to implement complex logic (code sharing).
- a consistent UI / UX across both platforms is explicitly desired.
- existing JavaScript logic/libraries should be used (→ React Native).

	NATIVE	CROSS-PLATFORM	NOTE
Performance	+++	++	No doubt, native apps perform better and are more responsive than cross-platform apps. This is large because the native code interacts directly with the device's resources.
Development time	+	+++	Native apps take significantly more time to develop as separate teams are required to develop for different platforms. Cross-platform apps shine here since code can easily be duplicated across several platforms.
Development cost	+	+++	More development time and personnel mean more development costs. The ability to develop for different platforms with one team will save you a lot of resources.
Hardware resources	+++	+	Native development gives you complete access. Though cross-platform apps try to make up with plugin integration, compatibility issues are still often common, and the app often ends up taking up a lot of space.
UI/UX design	+++	++	Cross-platform development also lags behind in the UI/UX experience. Developing in a native environment grants unrestricted access to UI/UX components, and delivers more stunning visuals and an outstanding UX.
Product lifetime	+++	++	Native development is safer for projects that are long term because the tools and framework are more stable and there are no changes overnight.
Background processes	+++	+	Allowing the app to perform tasks while not in the foreground, must be native.
Push notification	+++	++	Push notification handling is tricky in cross-platform, native does it much better.
Debugging	+++	++	Cross-platform doesn't offer the same app debugging capabilities. E.g. Crashlytics doesn't work on RN & Flutter.
OS updates	+++	++	It takes a while (few weeks) until cross-platform catches up with the latest OS updates.
Dependency	+++	++	Native apps are less depended on other open-source libraries and platforms.

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