Native, Non-Native, and Cross-Platform Applications

Native Applications:

Native development refers to using the official language of the device, as well as the tools provided by the manufacturer. Developing a native application will cost more than a cross-platform or hybrid one (most of the time) and will also take more time. Dealing with two native applications for your project instead of a cross-platform one is a more complex task.

Advantages:

- Runs better and faster.
- Integrating new features is faster and easier.
- Everything related to hardware, such as geolocation tracking, camera, or microphone, is much simpler to implement.
- Android and iOS constantly create and improve tools to address development issues.
- Design rules and user experience are different for each platform.

Disadvantages:

- High development costs.
- Development complexity.
- Longer development time. Approximately 4 to 6 months.

Non-Native Applications:

Non-native applications are those that are not specifically designed to run on the native operating system of a device. Instead, they use technologies and frameworks that allow portability across different platforms.

Advantages:

- Development Costs: It can be more economical to develop a single application that works on multiple platforms instead of building separate native applications for each platform (iOS, Android, etc.).
- Development Time: Non-native development can be faster as a significant portion of the code is shared across different platforms.
- Simplified Maintenance: Updates and fixes can be performed centrally, simplifying maintenance.

Disadvantages:

- Performance: Non-native applications may experience lower performance compared to native ones as they do not fully leverage the specific capabilities of each platform.
- Limited Access to Device Features: There may be limitations in accessing certain device-specific features and functionalities.
- User Experience: The user experience may not be as smooth and optimized as in native applications.

Cross-Platform Applications:

Cross-platform development involves creating applications for multiple platforms. This means that the code is created once and runs on various devices or platforms, in this case, iOS and Android. This development method is more suitable for applications that generally require simple interaction and do not require specific and/or complex features.

Advantages:

- Developed only once.
- Lower cost.
- Easy to add or modify functionalities since changes only need to be made in one place.

Disadvantages:

- Limitations on Access to Device Features: There may be limitations in accessing specific platform features as the framework may not natively support all features.
- Performance: Although it has improved over time, cross-platform applications may still experience lower performance compared to native applications.
- Dependence on External Frameworks: Performance and stability can heavily depend on the framework used, and changes in the framework can impact the application.