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**Assignment =01**

**A comparison of Native and Cross Platform mobile app development:**

**Native APP Development:**  
The term native app development refers to building a mobile app only for a single platform. The app is built using single platform specific programming languages ​​and tools. For example, you can develop a native Android app using Java or Kotlin, and choose Swift and Objective-C for iOS apps.Native apps are known to provide great user experience as they usually have high performance. The user experience is also improved as the visuals are adapted to the UX of the platform. However, startups are concerned about the high cost of native app development, as they have to do simultaneous development for both platforms. The pros are extended functionality, increased scalability, and better product support, while the cons are costly and time-consuming

**Cross-platform App Development:**

Cross-platform development refers to the process of creating an application that works on multiple platforms. This is done using tools like React Native, Xamarin, and Flutter, where the apps created can be deployed to both Android and iOS. Startups will prioritize reducing time and costs with cross-platform development. However, you should be aware that it may be more difficult to customize your application beyond what is allowed in the framework. Its advantages are cheaper and faster development and a single code base, while the disadvantages are slower application, limited functionality, and limited UX.

**Different scenarios where each native and cross platform mobile app development is preferred:**

You should choose native development if your app needs full access to all phone resources and services. You want to create the most responsive app. You want to get the most out of your cell phone hardware. You want an app that can be easily updated and improved with new features in the future.

You should go for cross-platform development if you're willing to accept a less responsive app. The app doesn't include complex animations or deal with complicated logic. You have a short window of opportunity to test an app market idea and hypothesis. In some projects you may want to deploy an MVP application as soon as possible. This is where you should consider cross-platform development. You don't have to work on two versions of the app. Instead, it only takes one development cycle to release an app for Android and iOS.

**List of frameworks/Tech Stack for cross platform mobile Application development:**

1 Ionic - Allows developers to use a combination of the best programming languages, i. H. HTML5, JavaScript and CSS, and the Cordova wrapper to access native platform drivers.

2. React Native – This is a JavaScript based framework and is used to write real code and give a native feel to mobile apps that work on both Android and iOS.

3 Flutter: is a software development kit designed to support rapid development of Android and iOS applications. It is also a fundamental and primary method of developing Google applications.

4 Xamarin - This is a simplified framework used to develop apps for Android, Windows and iOS using C# and .Net.