

**Name : Sheharyar Ahmed**

**Roll No : FA19-BCS-101**

**Assignment # 1**

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

**Native APP Development:**

Native app development is like building a mobile app exclusively for a single platform. The app is built with many programming languages and tools that are specific to a single platform. For example, a developer can develop a native Android app with Java or Kotlin and choose Swift and Objective-C for iOS apps.

Native apps are known to deliver exceptional user experience as they are generally high performance. User experience is also enhanced as the visuals are tailored to the platform UX. However, startups are concerned about the high cost of native app development as they need to run concurrent development for both platforms. Its pros are broad functionality, increased scalability, and better support product while cons are costly and time taking.

**Cross-Platform App Development:**

Cross-platform development points to the process of creating an app that works on several platforms. This is done by using tools like React Native, Xamarin, and Flutter, where the apps created can be deployed on both Android and iOS. Startups will favor the reduction in time and cost with cross-platform development. However, you’ll need to bear in mind that it might be more difficult to customize the app beyond what’s allowed in the framework. Its pros are less costly, faster development and single codebase while cons are slower app, limited functionality, and limited UX.

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

You should choose a native development if your application requires full access to all of the phone resources and services. If you want to build the most responsive application .You're looking to take full advantage of the mobile phone's hardware .You want an app that can be easily updated and enhanced with new features in the future. All the Apps in your mobile phone under your finger tips.

You should choose Cross-Platform development if You are ready to accept a less responsive app .The application does not involve complex animation nor deal with complicated logic .You have a short window to test an idea and hypothesis in the app market. In some projects, you’ll want to get an MVP app up as soon as possible. This is where you’ll want to consider cross-platform development. You don’t have to work on two versions of the app. Instead, only a single cycle of development is needed for an App to be released for Android and iOS.

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

1. **Ionic :**  It allows developers to use a combination of top programming languages i.e., HTML5, JavaScript, and CSS and Cordova wrapper to access native platform controllers.

2. **React Native:** It is a framework built on JavaScript and is used to write real code and give the native like feel to both the android and ios users.

3 **Flutter:**It is a software development kit designed to assist in the expeditious Android and iOS app development. It is also a fundamental and primary method for developing Google apps.

4 **Xamarin :**  It is a streamlined framework used for developing apps for Android, Windows, and iOS with the help of C# and .Net.