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**COMSATS Institute of Information Technology Department of Computer Science, Attock Campus**

**MOBILE APPLICATION DEVELOPMENT**

**ASSIGNMENT#01**

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**Question 1: A comparison between native and cross-platform mobile app development.**

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| **NATIVE** | **CROSS-PLATFORM** |
| The goal of native app development is to create a mobile application for a single platform. | *Cross-platform development is the process of making an app that is compatible with several platforms.* |
| Because they are typically high-performing, native apps are renowned for providing the greatest and highest user experience. | *Cross-platform programming reduces costs and saves time, but quality suffers.* |
| Because the aesthetics are customized for the platform UX, the user experience is also improved. | *Cross-Platform is less expensive because just one team is required.* |
| It has a wide range of functions. | *A single development cycle is sufficient to produce an app that works across many platforms.* |
| Publishing a native app is simpler. | *There is just one code base.* |
| The scalability of natively developed apps is another advantage. | *The cross-platform application is slower than its native counterpart due to the requirement for an additional abstraction layer and rendering procedure.* |
| When you need to launch for both iOS and Android, building native apps can be expensive. | *It's only partially functional.* |
| The creation of native apps takes time because the work done for one platform cannot be repeated for another. | *The UX is Limited.* |

**Question 2: Different scenarios where each native and cross-platform mobile app development is preferred.**

**SCENARIO NO. 1:** Native development should be employed if an app requires access to low-level APIs or involves a lot of processing. Additionally, cross-platform development will be a wise decision if an app is only intended to display information fetched from the network.

**SCENARIO NO. 2:** Cross-platform development should be used if you have a small budget to deal with. due to Native's high price.

**SCENARIO NO. 3:** In some projects, you'll want to launch an MVP app right away. Here is where cross-platform development should be considered. There is no need to develop two versions of the app. Instead, an app may be published for both Android and iOS after just one cycle of development.

**SCENARIO NO. 4:** Native development is the best option if you want outstanding visuals and an engaging user experience. When working in a native environment, developers can access UI/UX components. Cross-platform will significantly restrict the UI/UX of the app.

**Question 3: List of frameworks/tech stack for cross-platform mobile application development.**

***List of frameworks/tech stack for cross-platform MAD:***

* **Flutter.**
* **React Native.**
* **Cordova.**
* **Xamarin.**
* **Firebase etc.**