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| A7D18627**COMSATS UNIVERSITY ISLAMABAD**  **ATTOCK CAMPUS** |

**ASSIGNMENT#01**

**MOBILE APPLICATION DEVELOPMENT**

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**Explore the different frameworks available for cross platform mobile application development. prepare a report that include following.**

1: A comparison of native and cross platform mobile app development.

2: different scenarios where each native and cross platform mobile app development is preferred.

3: list of frameworks for cross platform mobile application development.

***REPORT***

**Native mobile app development:**

Native app development means building a mobile app for single platforms. This native app is built with the languages that are specific to single platform.

**Cross platform mobile app development:**

Cross platform app development means to make an application that runs on multiple platforms and multiple mobile operating system.

***Comparison of native and cross platform:***

As we know the android application development is also called native application development.

If we compare it with cross platform application development then cross platform apps run on windows, iOS. Native platform application is far better than cross platform. When you have to access with hardware then native platforms are mostly used.

For example, if you are making low energy app of Bluetooth or any machine learning project where new hardware of mobiles is involved. They are easy to use in native development. when you open 10-year-old project in native development then there will be no error but in case of other cross platforms your project may get crashed.

In native platform development lots of libraries are already done in built-in. In cross platform you have to create libraries if any issue occurs. Native application development is only for single os, e.g., android, iOS, windows. On the other hand, cross app platform supports multiple os(hybrid).

**Pros and cons:**

**Native:**

**Pros:**

* Its hardware runs smoothly, and the application works directly.
* Broad functionality.
* Increase scalability.
* High performance.

**Cons:**

* One application can run on single play store.
* Costly.
* Time consuming.

**Cross:**

**Pros:**

* Its application works on all play store.
* Less costly.
* Single code base.

**Cons:**

* It has hardware problem.
* Slower app.
* Limited functionality.

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

There are different scenarios where you should choose that which app platform is best and why.

If we talk about the performance and you want to give a dynamic app to users then making native app is preferred. You can implement different features of mobile phone such as wireless and network access point to enhance the performance and user experience.

In case of development costs, cross platform app development is mostly used. Native platform is more costly and sometime doesn’t fit in the budget of users.

Many of the apps released through apple store and google store. In the present market testing and maintaining a native app take quite long time, so if you want faster time to market, the cross-platform approach is worth considering.

Another important factor is security. Nowadays security is the most important concern for business. Native app has many built in security features. So, if you want to built a cross platform app for increased time to market and reduce development cost you should wait till your application get stable.

**3: list of frameworks for cross platform mobile application development.**

**FRAMEWORKS:**

There are five e best frameworks that are most frequently used.

1. Xamarin
2. React native
3. Ionic
4. Adobe PhoneGap
5. Sencha
6. Monocross
7. Native script.