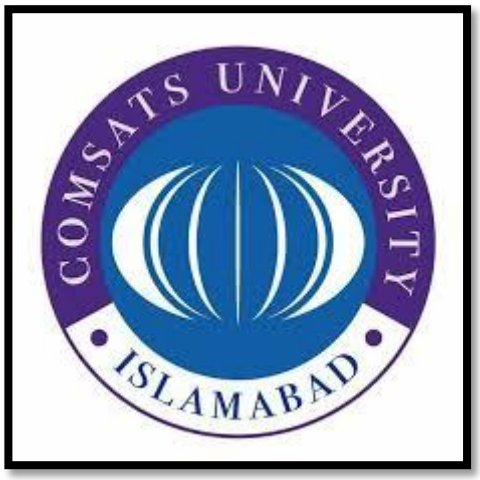

COMSATS UNIVERSITY ISLAMABAD
ATTOCK CAMPUS

Mobile Application Development

Student Name	Usama Bin Arshad
Registration Number	Sp20-Bse-020
Program	BS-(SE)
Semester	VI

Submitted To : Sir Muhammad Kamram

Explore the different frameworks/Tech Stacks available for cross platform mobile application development. Prepare a report that include following:

Q:- A comparison of Native and Cross Platform mobile app development.

Native	Cross Platform
Cross platform development is the process of building an application, a mobile app that can be deployed across several platforms based on single source code	Native application development is the process of building an application exclusive to a particular platform
Code reusability between IOS and Android apps	Application speed and performance
Faster development process	Stability in maintenance and updates
Value for money and reduce development cost	Maximizing the use of hardware functionalities
UI/UX consistency across platforms	Customization on features and UI/UX
Broad market reach when testing and prototyping	Application Security

Q:- Different scenarios where each native and cross platform mobile app development is preferred?

Native apps are developed for their particular platform, taking full advantage of the software and the operating systems' features. These apps can directly access the hardware of the device such as the GPS, camera, microphone, etc. so they are faster in execution, which ultimately results in better user experience.

While

Mobile engineers use cross-platform mobile development frameworks to build native-looking applications for multiple platforms, such as Android and iOS, using a single codebase. Shareable code is one of the key advantages this approach has over native app development

Q:- List of frameworks/Tech Stack for cross platform mobile Application development?

Ionic:-

Ionic is one of the most remarkable and popular cross-platform app frameworks, based on AngularJS. 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

React Native:-

It is a framework built on JavaScript and is used to write real code and give the native-like feel to mobile applications that work both on Android and iOS.

Node.Js:-

Node.js is an incredible framework for developing cross-platform apps. All of the Node.js APIs are asynchronous, signifying that they are non-blocking in nature, meaning servers based on Node.JS do not essentially wait for data from APIs.

Appcelerator Titanium:-

Appcelerator offers various tools for rapid application development. This indicates that a prototype can be created with much less time and effort to evaluate user interaction with UI.

Flutter:-

Flutter offers apps that easily and effectively run on multiple platforms with uniformity and dynamicity. Flutter promotes portable GPU, which renders UI power, allowing it to work on the latest interfaces.

Xamarin:-

It is a streamlined framework used for developing apps for Android, Windows, and iOS with the help of C# and .Net, instead of JS libraries and HTML. It allows the developers to use 90% of the code for building an app for three distinct platforms.

NativeScript:-

NativeScript renders beautiful, accessible, and platform-native UI, and that too without the WebViews. Developers are only required to define once and let the NativeScript adapt to run everywhere. They can even customize the UI to specific devices and screens.

PhoneGap:-

PhoneGap is considered an impeccable cross-platform framework as it enables developers to create cross-platform apps using existing web technologies such as HTML 5, CSS3 and JavaScript.

Sencha Touch:-

It is famous for providing built-in native-looking themes for all of the major platforms like Android, iOS, BlackBerry, Windows Phone, etc.