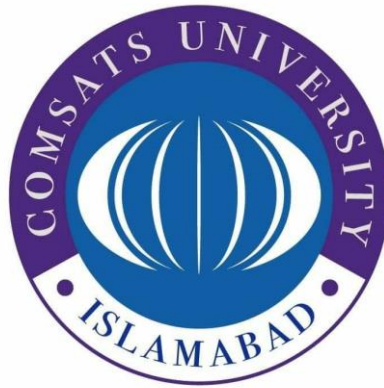


COMSATS University Islamabad
(Attock Campus)



Assignment no.1

Subject "MAD Theory"

Submitted to: Mr. Muhammad Kamran

Submitted by: Summan Gul

(SP20-BCS-048)

Date: 3rd Oct, 2022

Explore the different frameworks/Tech Stacks 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/Tech Stack for cross platform mobile Application development.**

Comparison of Native and Cross Platform:

Native App Development:

The term "native app development" refers to the process of designing a mobile application specifically for an operating system, such as iOS or Android. Native apps are created specifically for a given platform. These apps are created in a language that is appropriate for the platform. For example, Google likes Java for Android while Apple prefers Objective C and Swift for iOS. The built-in capabilities of these platforms can be used more effectively by developers using certain appropriate languages. A native app created for iOS will never work on android and Android won't work on iOS.

Cross Platform App Development:

The construction of software applications that are compatible with many mobile operating systems is known as cross-platform mobile development. Mobile developers can share some or all of the source code across various platforms, saving time compared to developing individual iOS and Android applications. The programmes will function identically on iOS and Android in this fashion. Today, there are numerous open-source frameworks for creating cross-platform mobile apps. Flutter and React Native are popular.

Preferred Platforms for Native and Cross App development:

Preferred Platforms for Native App:

Businesses are focusing more on capturing the mobile audience, and having a mobile app for your business is the best way to achieve that. Native App development is created for the following purpose such as:

- In-house Marketing channel
- Increased brand visibility
- Better brand recognition
- Direct client communication
- Enhanced accessibility

Because of apps audience get familiar quickly. Native apps are preferred due to its fast performance because native are much faster and smoother than those that are not native. These apps fully utilise the device's processing power because they were designed for a specific operating system. The native apps are specifically tailored for various screen sizes and system versions because they are created in programming languages that are fully supported by the ecosystems of their respective platforms.

Preferred Platforms for Cross App:

In native development you only target either iOS or android and did not focus on the future of development and interfaces. Your future application's user interface is essential. Even if you choose the native option, you may still use multiplatform mobile app development services to share app functionality for your project but not the user interface. Although you have a staff of highly qualified iOS and Android developers, you don't have time to introduce new technology. So cross app development is preferred for UI and for make new technologies.

List of Frameworks for Cross Platforms App:

Best framework for developing the cross-platform applications are:

- Flutter
 - Node.js
 - React Native
 - Ionic
 - Xamarin
 - Phone Gap
 - Sencha Touch
 - Corona SDK
 - Appcelerator
 - Kotlin Multiplatform
-