Logo, company name

Description automatically generated

|  |  |
| --- | --- |
| Name | M. Nasir Abdullah khan |
| Reg no | Sp20-BSE-038 |
| Subject | Mobile Application development |
| Assignment | 1 |
| Submitted TO | Sir Muhammad Kamran |

# Explore the different frameworks/Tech Stacks available for cross platform mobile application development:

**Sol:**

# Frameworks for Cross-Platform Mobile App Development:

The top frameworks for cross-platform development are as follows:

# 1.React Native:

React native is a open-source mobile application framework that allow you to use reacts framework along with native platform capabilities for developing mobile apps with the knowledge of java script .

# 2. Titanium :

Titanium SDK, through the use of JavaScript, empowers developers to build cross-platform mobile applications that bridge native, hybrid, and web with a single code base. Firstly, as an open-source solution with thousands of API, Titanium is very instrumental in delivering rapt user experience faster if compared to the orthodox native platform..

# 3. Xamarin :

It is also an open source platform for hybrid development where you can develop the entire app in c#. Xamarin extends.NET so .NET developers get an edge over others. It is maintain by Microsoft .it provides better native performance when it compared to other hybrid development frameworks.

# 4.Flutter :

Flutter is an open source software development kit which is created by google and mainly used for cross platform mobile app development .Dart language is required for building an app in flutter .

# A comparison of Native and Cross Platform mobile app development.

Native apps are developed for a specific platform. These apps are developed in a language compatible with the platform. Apple, for instance, prefers Objective C and Swift for iOS while Google favors Java for Android. Using these acceptable languages, developers can make better use of the innate features of these platforms. A native app developed for Android will not function on iOS.

Cross-platform apps are compatible with multiple platforms. Due to the market share of Android and iOS, most cross-platform apps are limited to these two operating systems. These apps are developed in [HTML and CSS](https://www.zeolearn.com/magazine/how-to-easily-create-modern-material-design-cards-with-html-and-css?utm_source=blog) since these standard web technologies are platform independent. There are several cross-platform application development tools that allow developers to create these apps with little trouble.

# Different scenarios where each native and cross platform mobile app development is preferred.

# Scenarios 1:

If you are building an app that is just displaying information fetched from the network, cross-platform development will be a good choice. However, if it involves heavy processing or requires access to low-level APIs like Bluetooth, you’ll want to go with native development.

# Scenarios 2:

Native development produces apps with high performance, but it can be costly to build. If you have a limited budget to work on, cross-platform development is the best choice. You’ll save around 30%-40% as only a single codebase is created for an app that works on both Android and iOS.

# 3. List of frameworks/Tech Stack for cross platform mobile Application development.

The list of frameworks/Tech stack for cross platform mobile application development are as follows:

1. React native
2. Flutter
3. Titanium
4. Xamarin