



19CSI605 - Mobile Application Development

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Frameworks and Tools

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Mobile Development Frameworks

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- A **mobile app framework** is a software creation platform that includes tools and software, compilers, debugging tools, and programming interfaces, among other things.
- Thus, a developer creates the application's source code and the framework and uses various elements to generate the application for the different mobile devices



Mobile Development Frameworks

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Types of Mobile Development Frameworks

- Android, iOS, as well as Windows are just a few of the digital devices available.
- Mobile applications come in a variety of shapes and diverse sizes. We're not speaking about specific app areas like purchasing or games.
- However, in terms of how applications work on a smartphone, mobile apps may be divided into three categories



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Types of Mobile Applications

1. **Native Apps** - They are designed for specific operating systems such as Android, iOS, and Windows. Apps make use of device features such as RAM, camera, GPS, and so on.
2. **Web Apps** - A Web app is software that is kept in a distant location and distributed via the Web using a browser interface. Emails, online shopping sales, auction sites, weblogs, instant messaging apps, and other web apps are popular.
3. **Hybrid Apps** - Hybrid apps are applications that are launched on a smartphone in the same way that every other application is. It combine features from native apps and with components from web apps



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Most Popular Types of Frameworks

1. React Native
2. Flutter
3. Xamarin
4. Swiftic
5. Ionic
6. Apache Cordova
7. jQuery Mobile



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React Native

- ✓ React Native, built and supported by Facebook, is an accessible, cross-platform application development framework that has quickly become the preferred option of programmers.
- ✓ React Native facilitates the development of Android and iOS mobile applications
- ✓ The most exemplary instances of React Native apps are those from prominent businesses like Tesla, Airbnb, Skype, or Amazon Prime.
- ✓ The major appeal of React Native is because it enables quicker development and implementation. Reusable elements, interaction with third-party extensions, plus component-based GUI creation for front-end apps are further important characteristics of React Native



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Flutter

- ✓ Flutter is an open and free framework from Google that allows you to create native Android and iOS applications with a simple codebase.
- ✓ It's a ground-breaking SDK for cross-platform application development, which distinguishes it because it takes a novel way of creating native-like apps
- ✓ Flutter is a comprehensive and precise framework that contains widgets, a rendering engine, debugging and integrating APIs, and resources to assist developers in creating and deploying beautiful mobile applications.
- ✓ Flutter has been used by a number of well-known organizations, including Google and Abbey Road Studios



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Xamarin

- ✓ Xamarin is an alternative cross-platform application development framework for developing applications for Android and iOS.
- ✓ Because they employ the C# programming language, the applications need fewer lines of code.
- ✓ As a result, the process of coding is quicker.
- ✓ Also, it allows us to rapidly transfer the scripts across other systems, such as Windows and macOS
- ✓ Microsoft has acquired Xamarin. Because developing an app is so much faster these days, you might assume that quicker development means sacrificing quality and construction



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Swiftic

- Swiftic is a do-it-yourself mobile app platform that seeks to make it easy for anybody to build unique applications for their company.
- It simplifies app development by allowing programmers to integrate current material from the internet rather than starting fresh.
- It is amongst the highly supple mobile application development frameworks as it offers pretty smooth user experience, specialized banking, and straightforward strategies.



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Iconic

- ❑ Ionic is an explicit framework for crafting Progressive Web Apps (PWAs), hybrid, and cross-platform mobile applications.
- ❑ Ionic is an accessible framework that uses Apache Cordova (PhoneGap) plus Angular to enable programmers to create Android and iOS applications that seamlessly operate together.
- ❑ The framework aids developers in creating solid and feature-rich native apps.
- ❑ The most prominent feature of Ionic would be that it lets programmers employ various UI components in the application framework, including filtration, inputs, views, easy navigation, and actions sheets.



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Apache Cordova

- Apache Cordova, previously marketed as PhoneGap, is a popular developer-friendly application development framework.
- It's a cross-platform application development framework that builds mobile apps using CSS3, HTML5, and JavaScript.
- The Cordova plugins allow programmers to utilize smartphone hardware features such as GPS, cameras, and accelerometer to offer a native-like interface.



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jQuery Mobile

- jQuery Mobile is a precise cross-platform mobile app development framework that supports the development of explicit platform agnostic applications.
- This particular framework is utilized to craft supple web portals that can function on different platforms, comprising smart phones, tablet devices, and PCs, utilizing JavaScript and HTML.



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Sencha Touch:

- ✓ Sencha Touch is the leading cross-platform mobile app development tool.
- ✓ It can be utilized to develop efficient applications, making utilization of hardware acceleration techniques.
- ✓ On Sencha, top quality applications can be developed with well-tested, integrated UI components and libraries

Benefits

- It provides built-in-native-looking themes for all the major platforms.
- It also maintains PhoneGap and Cordova integration for native API access and packaging.
- This tool supports all the platforms such as Android, iOS, BlackBerry, Windows Phone.



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Kony Mobile Platform:

- ✓ Kony Mobility Platform is an integrated, cross-platform mobile app development tool.
- ✓ It also gives automatic coding features, API connections, application preview facility.
- ✓ Besides, it has pre-built apps that make it less difficult for beginners to build up an application easily.

Benefits

- It offers some pre-built in techniques which are highly beneficial for the beginners.
- Its visualizer works as the front-end to its powerful multi-channel JavaScript APIs.



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Appery.io :

- ✓ It is a leading edge cloud-based mobile app tool used for making android and iOS applications.
- ✓ This tool offers several inbuilt modules and Apache Cordova helps to make the app.
- ✓ Samsung and AT&T are some leading organization who works on Appery.io tools

Benefits

- It helps to reduce the costs of building, deploying, and maintaining cross-device applications.
- Its low-code visual builders help to increase the productivity of the developers



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Convertigo:

- ✓ It is one of the best **mobile app development** tools.
- ✓ It is an open-source software that gives a mobile enterprise application platform comprising these solutions: Convertigo Studio, Convertigo Cloud, Convertigo Server, and Convertigo Mobilizer.

Benefits

- It also allows you to create business-driven events computed to notify users, even if the device is in standby mode.
- It enables connecting to enterprise data with a lot of connectors such as web services or SQL databases.



THANK YOU