



19CSI605 - Mobile Application Development

1



Frameworks and Tools

G. Pradeep, AP



Mobile Development Frameworks

2

- 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

3

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



Mobile Development Frameworks

4

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



Mobile Development Frameworks

5

Most Popular Types of Frameworks

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



Mobile Development Frameworks

6

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



Mobile Development Frameworks

7

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



Mobile Development Frameworks

8

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



Mobile Development Frameworks

9

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.



Mobile Development Frameworks

10

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.



Mobile Development Frameworks

11

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.



Mobile Development Frameworks

12

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.



Mobile Development Tools

13

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.



Mobile Development Tools

14

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.



Mobile Development Tools

15

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



Mobile Development Tools

16

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