

## Hardware and Software for different Mobile frameworks

*What is the Mobile Application Development Framework, right??* Okay, Mobile App Development Framework is a library that offers the required fundamental structure to create mobile applications for a specific environment. In short, it acts as a layout to support mobile app development. They are various advantages of Mobile App Development frameworks such as *cost-effective*, *efficient*, and many more. Moreover, mobile application frameworks can be classified majorly into 3 categories: *Native Apps*, *Web Apps* & *Hybrid Apps*. Before moving further, let's take a quick look at all these three categories.

- **Native Apps:** A Native App is an application that is specifically designed for a particular platform or device.
- **Web Apps:** A Web App concerns with the application that is designed to deliver web pages on different web platforms for any device.
- **Hybrid Apps:** A Hybrid App is a combination of both native & web applications. It can be developed for any platform from a single code base.

### 1. React Native

React Native is one of the most recommended Mobile App Frameworks in the development industry. The framework, created by **Facebook**, is an **open-source framework** that offers you to develop mobile applications for **Android** & **iOS** platforms. The React Native framework is based on **React** and **JavaScript** that aims to develop native applications over hybrid applications that run on a web-view. Moreover, it is a *cross-platform development framework* that uses the single code base for both Android & iOS applications.

Some of the major **benefits of React Native** are mentioned below:

- Code Re-usability & Cost-Effective
- Compatible with third-party plugins
- Re-usable components for optimal performance
- Provides hot deployment features
- Ease of Maintenance

There are various renowned mobile applications built with **React Native** such as *Instagram*, *Soundcloud*, *Uber Eats*, and many more.

## 2. Flutter

Flutter, developed by **Google**, is a **UI toolkit** to build native applications for the mobile, desktop & web platform. Flutter is a **cross-platform mobile app development framework** that works on one code base to develop Android as well as iOS applications. The framework provides a large range of fully customizable widgets that helps to build native applications in a shorter span. Moreover, Flutter uses the **2D rendering engine called Skia** for developing visuals and its layered architecture ensures the effective functioning of components. Some of the major benefits of Flutter are mentioned below:

- Provides Full Native Performance
- Flexible User interface (UI)
- Provides Strong Widget Support
- Offers Built-in Material Design
- Fast Application Development

Some of the major mobile applications that are built on **Flutter** are – *Google Ads*, *Hamilton*, *SpaceX Go*, *Watermaniac*, and various others.

## 3. Xamarin

Xamarin is also one of the most popular open-source framework used to develop mobile applications. The framework, acquired by **Microsoft**, is based on **.Net** and allows you to build native applications for *Android*, *iOS*, and *Windows* platforms. Xamarin comes with almost every required tools and library needed to build native applications and offers you to create rich experiences using **native UI elements**. Moreover, Xamarin also supports the feature of sharing the common codebase to make the development process more efficient and cost-effective. There are various **benefits of Xamarin**, some of these are mentioned below:

- Huge Community of around 1.4 million developers
- Native API Access & UI Support

- Easier API Integration
- Target All Platforms
- Cost-Effective & Faster Development Process

Some of the most popular and renowned mobile applications that are built on **Xamarin** are – *OLO*, *Alaska Airlines*, *Storyo*, and many more.

#### 4. Mobile Angular UI

Mobile Angular UI is an open-source mobile application development framework that merges the implementation of the **Bootstrap** and **Angular** framework. The framework offers **various UI components** such as *overlays*, *switches*, *sidebars*, *navbars*, *scrollable areas*, etc. to provide robust and attractive user interfaces for the applications. Furthermore, Mobile Angular UI supports **fastclick.js** and **overthrow.js** to create rich experiences. Moreover, Mobile Angular UI supports **cross-browser compatibility** that allows it to automatic handling of JavaScript code for each browser. Some of the major benefits of Mobile Angular UI are mentioned below:

- Responsive Framework
- Offers Interactive Components
- LightWeight
- No jQuery dependencies
- Easier conversion from the web or desktop application to the mobile app

There are various renowned mobile applications built with **Mobile Angular UI** such as *Hotelier News*, *iKeyBox*, and many more.

#### 5. Ionic

Ionic, developed in **2013**, is an open-source framework that allows you to build cross-platform mobile apps using web technologies like **HTML**, **CSS** & **JavaScript**. The application built through Ionic framework can work on *Android*, *iOS* & *Windows* platforms. The framework offers numerous default UI components such as *forms*, *action sheets*, *filters*, *navigation menu*, and many more for attractive and worthwhile design. Moreover, Ionic has its **own command-line interface** and various

other in-built features such as **Ionic Native**, **Cordova-Based App packages**, etc. Some of the major benefits of Ionic are mentioned below:

- Faster Application Development
- Availability of Cordova Plugins
- Built-in UI components
- Platform Independent
- Based on AngularJS

There are various renowned mobile applications built with **Ionic** such as *MarketWatch*, *Amtrak*, and many more.

## 6. Adobe PhoneGap

Indeed, PhoneGap is among the most popular mobile app development frameworks. PhoneGap, purchased by **Adobe Systems** in **2011**, is an open-source framework that allows you to **build cross-platform applications** using languages such as **HTML5**, **CSS3**, and **JavaScript**. The framework allows you to create a single mobile application that can be installed as a native app over many devices. Furthermore, the PhoneGap framework *does not depend on any hardware configurations* during the development of mobile applications. There are various benefits of PhoneGap, some of these are mentioned below:

- Code Re-usability
- No Hardware Restrictions
- Plugin Library & Third-Party tools
- Robust Support System
- Compatibility with all the platforms

Some of the most popular and renowned mobile applications that are built on **PhoneGap** are – Wikipedia, TripCase, Buildr, and many more.

## 7. Appcelerator Titanium

Titanium, developed by **Appcelerator Inc**, is an open-source development framework that allows you to build mobile apps for all platforms. The framework is based on a **Javascript-based SDK** with **over 5000 APIs** for *Windows, HTML5, iOS, and Android* that further allows the reusability of Javascript code up to **90%** in case if you're targeting multiple platforms for application development. Moreover, the framework comes with various UI components that can be used to create rich experiences for the users. There are various benefits of the Titanium SDK, some of these are mentioned below:

- Various features for API Management
- Compatible with multiple platforms
- Easier API Integration
- Better Code Reusability
- Faster Development Process

There are various renowned mobile applications built with **Titanium SDK** such as *Avis, Massachusetts Institute of Technology (MIT), Comerica*, and many more.

## 8. Framework 7

Framework7 is an **open-source development framework** that allows developing mobile, desktop, or web applications with a native perspective. The framework allows you to use tools of your preferences with **HTML, CSS, & JavaScript** and offers the additional support of **Vue.js** and **React** components for app development. Furthermore, Framework7 provides a **wide range of UI elements and widgets** such as *action sheet, side panels, list views, form elements*, etc. to make the development process more convenient and efficient. There are various benefits of Framework 7, some of these are mentioned below:

- Easier Customization
- Provides various UI widgets and elements
- Paired with additional tools like Electron & NW.js
- Rich Ecosystem
- Ease of Maintenance

There are various renowned mobile applications built with **Framework 7** such as *Wappler*, *Blokt*, *Kidoverse*, and many more.

## 9. JQuery Mobile

JQuery Mobile is a cross-platform development framework that is used to **build mobile and web applications** for various devices. The framework allows running a single code version across for all the devices. Furthermore, the **HTML5-based development framework** comes with various plugins such as *Image Slider*, *Content-Slider*, *Pop-Up Boxes*, etc. that help to create a feature-rich and interactive design. Moreover, the JQuery framework is compatible with other mobile application development frameworks such as PhoneGap and various others. There are various benefits of JQuery Mobile, some of these are mentioned below:

- Responsive Framework
- Supports multiple platforms & devices
- Lightweight Size
- Various Add-on Plugins
- Powerful Theming Framework

Some of the major mobile applications that are built on **JQuery Mobile** are – *Untappd*, *Veev*, and many more.

## 10. NativeScript

Last but not least, Native Script is an open-source framework that is used to build native mobile applications using **Angular**, **Vue.js**, **TypeScript**, or **JavaScript**. The framework allows you to create both **Android** and **IOS** apps from a single codebase. The apps built with the NativeScript framework use the same APIs as in **Xcode** or **Android Studio**. Moreover, the framework is strongly recommended to those developers who want to build applications for multiple platforms within a lesser duration and effective cost. Some of the major benefits of NativeScript are mentioned below:

- Cross-Platform Development
- Direct access to Android & iOS APIs
- Native Performance

- Re-usability of Code
- Strong Backend Support

There are various renowned mobile applications built with **NativeScript** such as MayMyPhotos, Smart Evaluation, and many more.

So, these are several major mobile application development frameworks that you can opt for as per your needs and technological requirements. Now, what are you waiting for? Just identify your requirements, pick a relevant framework, and start to build your mobile application!!