**Types of Mobile Applications**

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Mobile applications fall broadly into three categories:

1. Native Applications
2. Hybrid Applications
3. Progressive Web Applications (PWAs)

## Native Applications

**Native Applications** are platform specific. They only work with devices from a specific platform, such as Android or iOS. They are built using a language that is specific to that platform, such as Java for Android, or Swift for iOS.

Due to being platform specific, native applications are able to optimize the user experience. They look and perform better.

## Hybrid Applications

**Hybrid Applications** are platform independent. They are built using a single language and then deployed to multiple platforms.

Hybrid applications possess features from both native applications, such as the ability to access the user’s contact list or camera, and also web applications.

Web applications are applications that are accessed via the internet using a browser. They are not installed on the device.

Both hybrid applications and web applications use a combination of technologies like HTML, CSS and JavaScript. Hybrid applications are deployed in a native container but use a mobile WebView object. The native container allows access to the hardware capabilities of the device.

## Progressive Web Applications

A **Progressive Web Application** (PWA) is a web application that delivers an application-like experience to users without requiring them to install anything. However, unlike web applications, they can be saved to the device in the form of a URL that is pinned to the device’s home screen.

PWAs are built using HTML, CSS and JavaScript, just like web applications, but they are not browser dependent. They provide a user experience that is similar to a native application and can access most native device features.

PWAs are:

* Reliable – They load instantly, even without an internet connection.
* Fast – They respond quickly to user interactions.
* Engaging – They feel like a native application.
* Easy to access
* Updated automatically – Updates do not depend on the user to install them. They are automatically installed via the internet.

## Comparisons

|  |  |  |
| --- | --- | --- |
| **Native Applications** | **Hybrid Applications** | **PWAs** |
| 🗸 Fast and responsive | ⨯ Comparatively slower |  |
| 🗸 Best performance | ⨯ Comparatively worse performance | ⨯ Comparatively worse performance |
| 🗸 Recognizable look and feel |  |  |
| 🗸 All device features are accessible | ⚬ Most device features are accessible | ⚬ Most device features are accessible |
| ⨯ Works on single platform | 🗸 Works on multiple platforms | 🗸 Works on multiple platforms |
| ⨯ Expensive | 🗸 Less expensive | 🗸 Less expensive |
| ⨯ Time-consuming to develop | 🗸 Faster development |  |
| ⨯ Higher maintenance costs | 🗸 Low maintenance costs |  |
| ⨯ Installation is comparatively difficult |  | 🗸 No installation, but users must visit the website initially |
| ⨯ Updates are manual |  | 🗸 Updates are automatic |
| ⨯ Does not contain features of web apps | 🗸 Contains features of native and web apps | 🗸 Contains features of native and web apps |
|  |  | 🗸 Works offline |