

# Becoming a Pro

## IN Mobile Applications Testing



# Overview: Mobile APPS

## > Categories

> Types

> Distribution/Installation/Logs

> Mobile Test Industry Standards

> Remote Device Access (RDA)

> Emulators

> Simulators

> Troubleshooting Guide

> App Risk Analysis

# MOBILE APPS: Categories



Utilities



Entertainment



Games



News



Productivity



Lifestyle



Social Networking



# MOBILE APPS: Utilities



Calculators

Note-pads



Communi-  
cation.  
apps

Weather  
apps



# MOBILE APPS: Entertainment



Face  
Juggler

Ice Effex



Duolingo

DubSmash



# MOBILE APPS: Games



Angry  
Birds



Sudoku



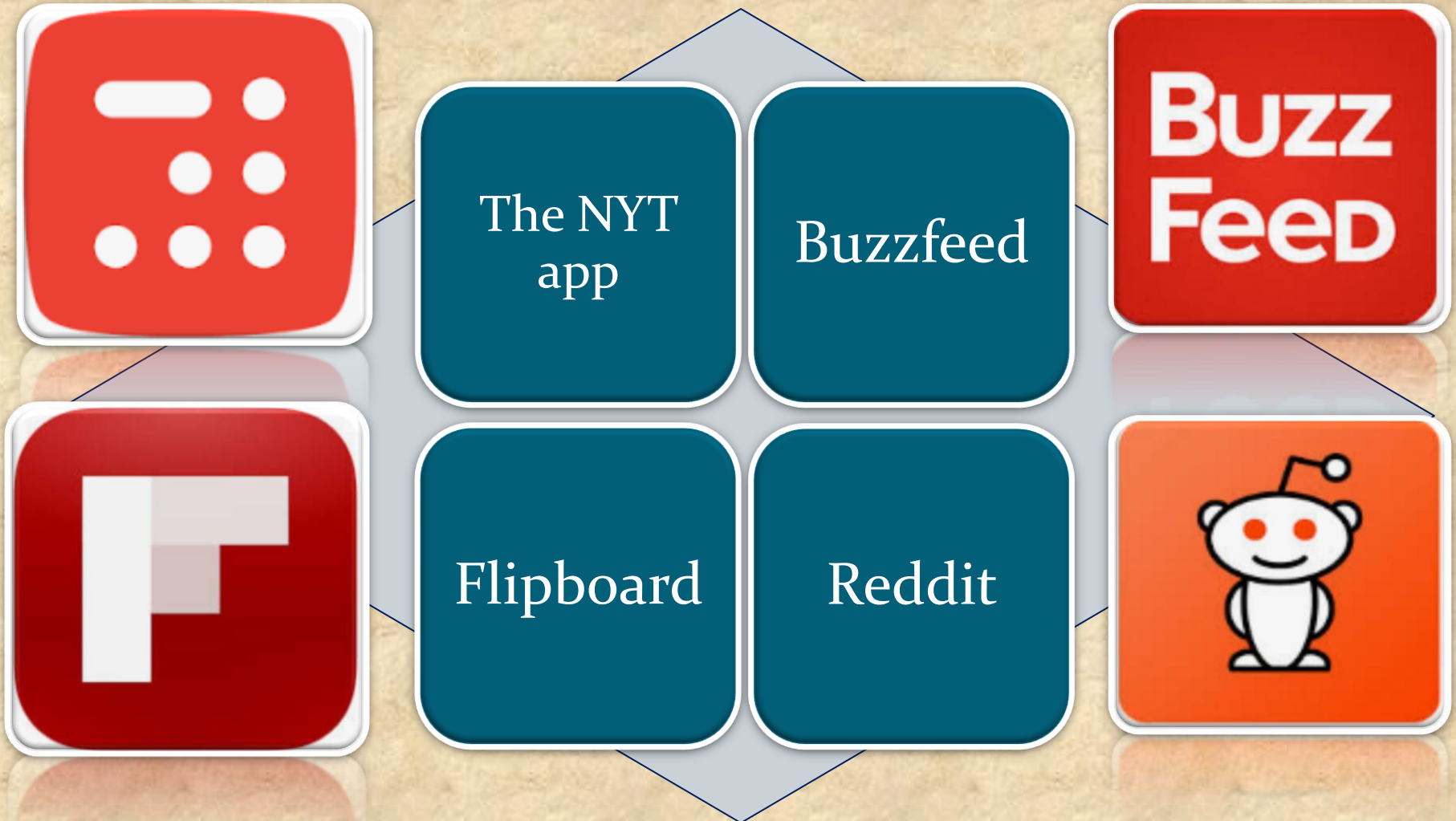
Trivia  
Crack



Candy  
Crash Saga



# MOBILE APPS: NEWS



# MOBILE APPS: Productivity



Finance  
apps

Calendars



Translators

Grocery list  
makers





# MOBILE APPS: Lifestyle



Music apps

Travel  
Apps



Food &  
Drink apps

Dating  
apps



# MOBILE APPS: Social Networking



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# MOBILE APPS: Types



## Tree basic types of "app"



Native

*Built specifically to the needs of the various operating systems such as Apple's iOS or Android*



Web

*Websites built using HTML that are designed specifically for smaller screens*



Hybrid

*Native app shell with feeds from the website*

# MOBILE APPS: Native APP

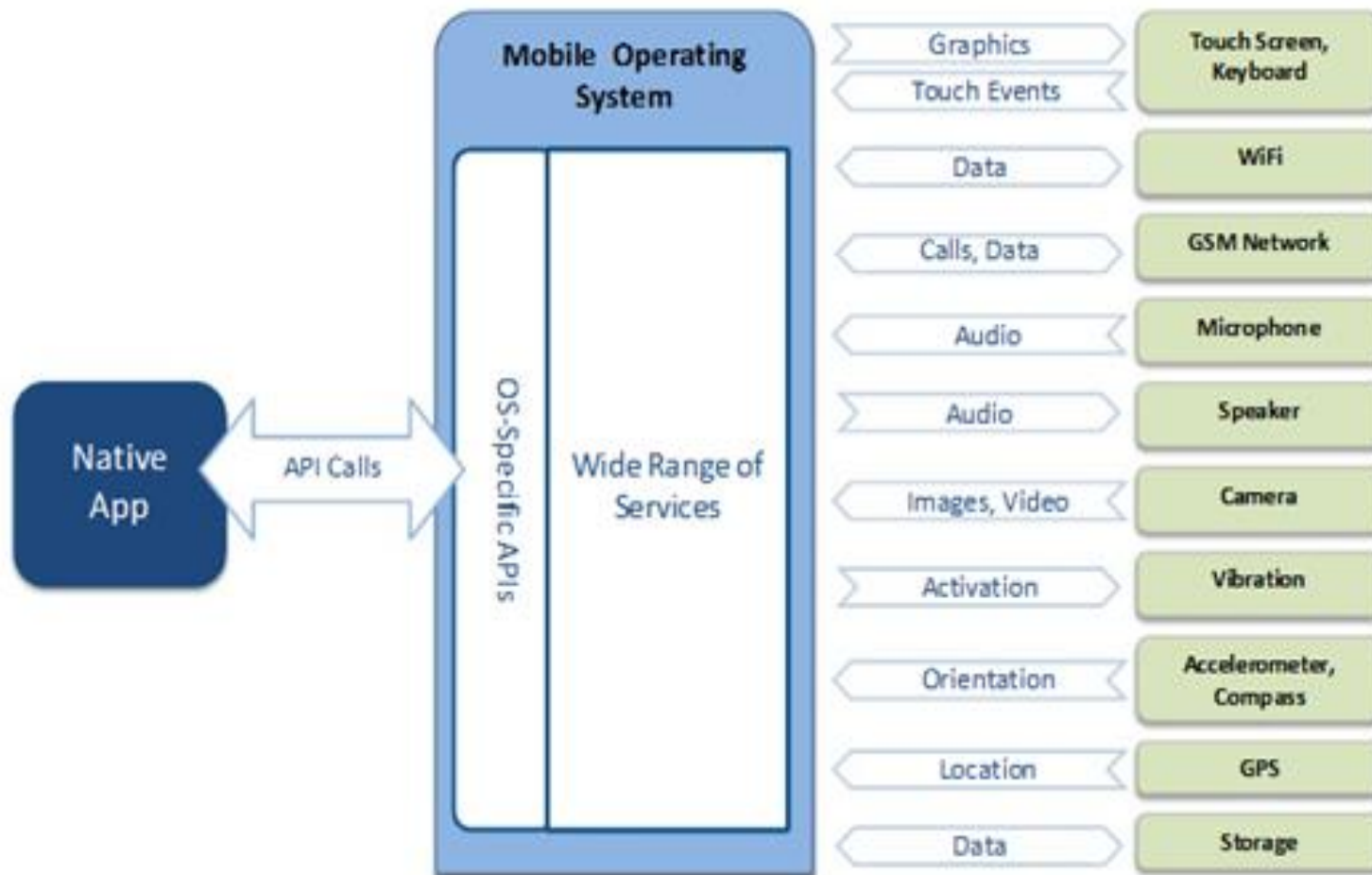


Written using the default language for the mobile platform, which is Objective C or Swift for iOS and Java for Android.

Compiled and executed directly on the device.

Using the platform SDK (API), the app can communicate with the platform to access device data or load data from an external website using http requests.

# MOBILE APPS: Native APP





# MOBILE APPS: Native APP



## PROS

Native APIs

Performance

Same environment

## CONS

Language requirements

Not cross platform

High level of effort

# MOBILE APPS: WEB APP

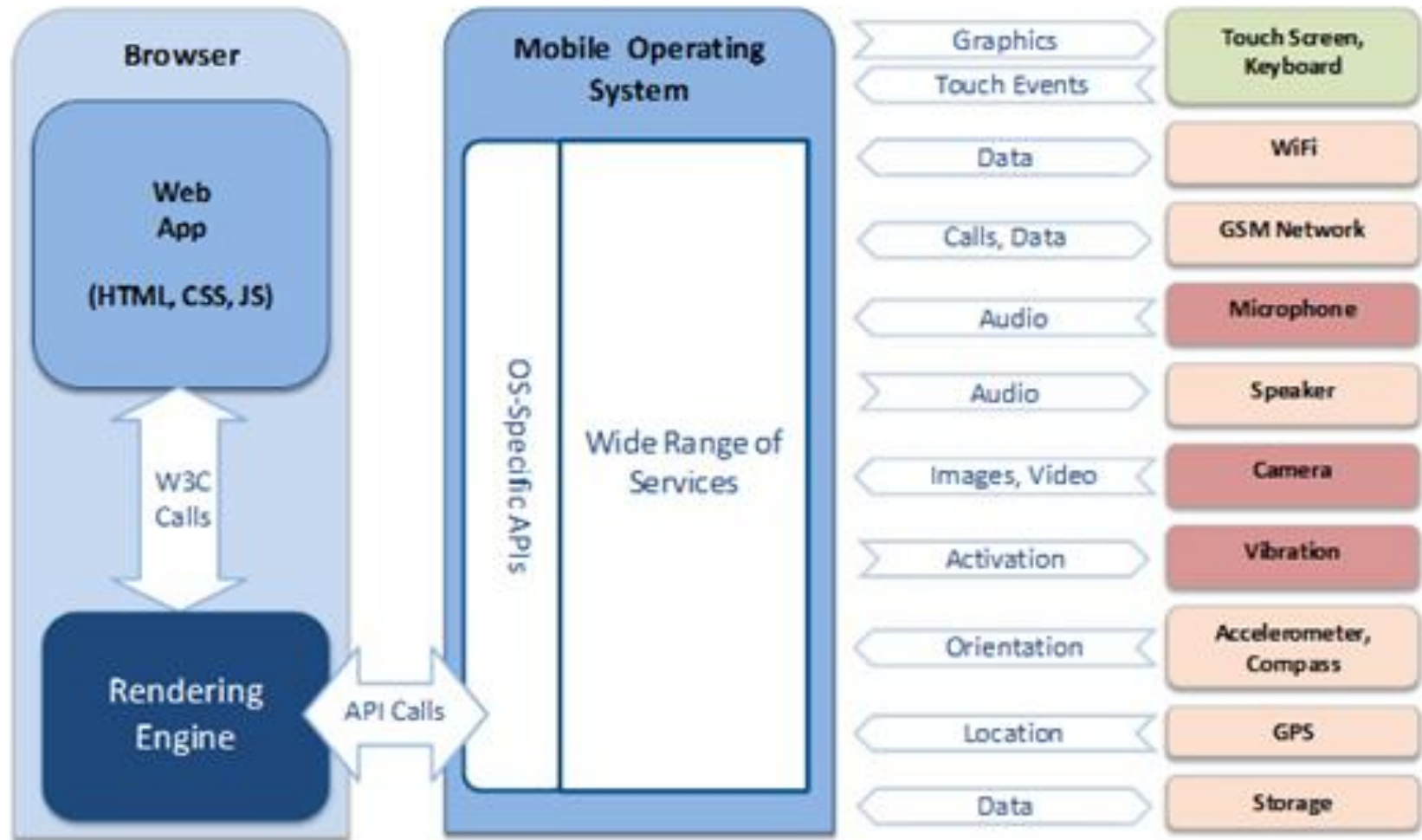


Mobile websites are applications that work well on a mobile device, but are accessed through the mobile browser.

These websites viewed on a mobile device in a mobile browser, with the exception of being designed to fit a mobile device screen size.

Web applications commonly use a combination of server-side script (ASP, PHP, etc) and client-side script (HTML, Javascript, etc.) to develop the application..

# MOBILE APPS: WEB APP





# MOBILE APPS: WEB APP



## PROS

Maintainability

No  
installation.

Cross platform.

## CONS

No native access

Requires  
keyboard to load

Limited user  
interface.

# MOBILE APPS: HYBRID APP

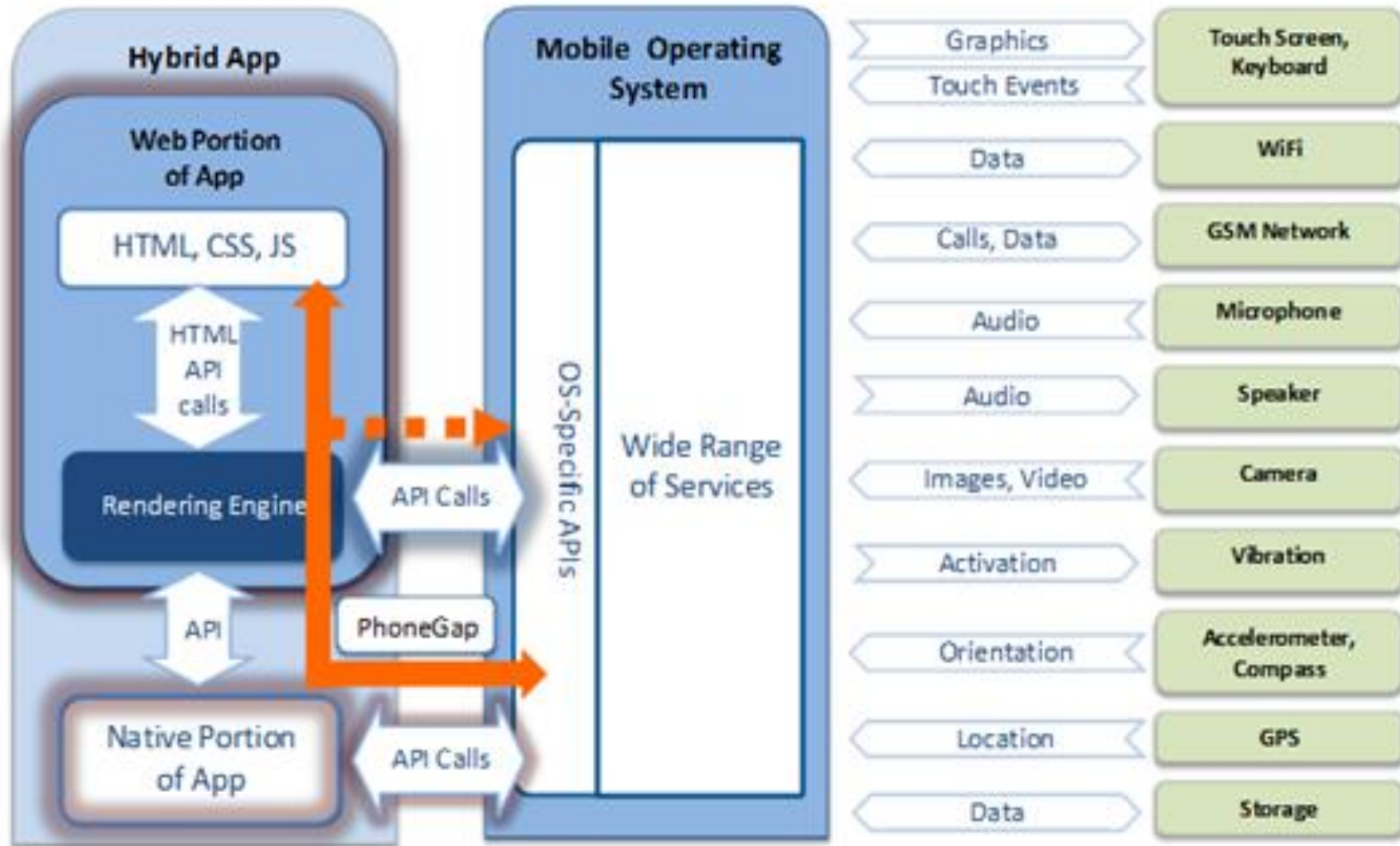


A hybrid app is one that combines elements of both native and Web applications

Hybrid apps are often mentioned in the context of mobile computing

Native source code is written and compiled into an executable program and a web based component written with HTML, JavaScript, and CSS

# MOBILE APPS: HYBRID APP





# MOBILE APPS: HYBRID APP



## PROS

Access to  
device

Same  
environment

## CONS

Web view  
limitations

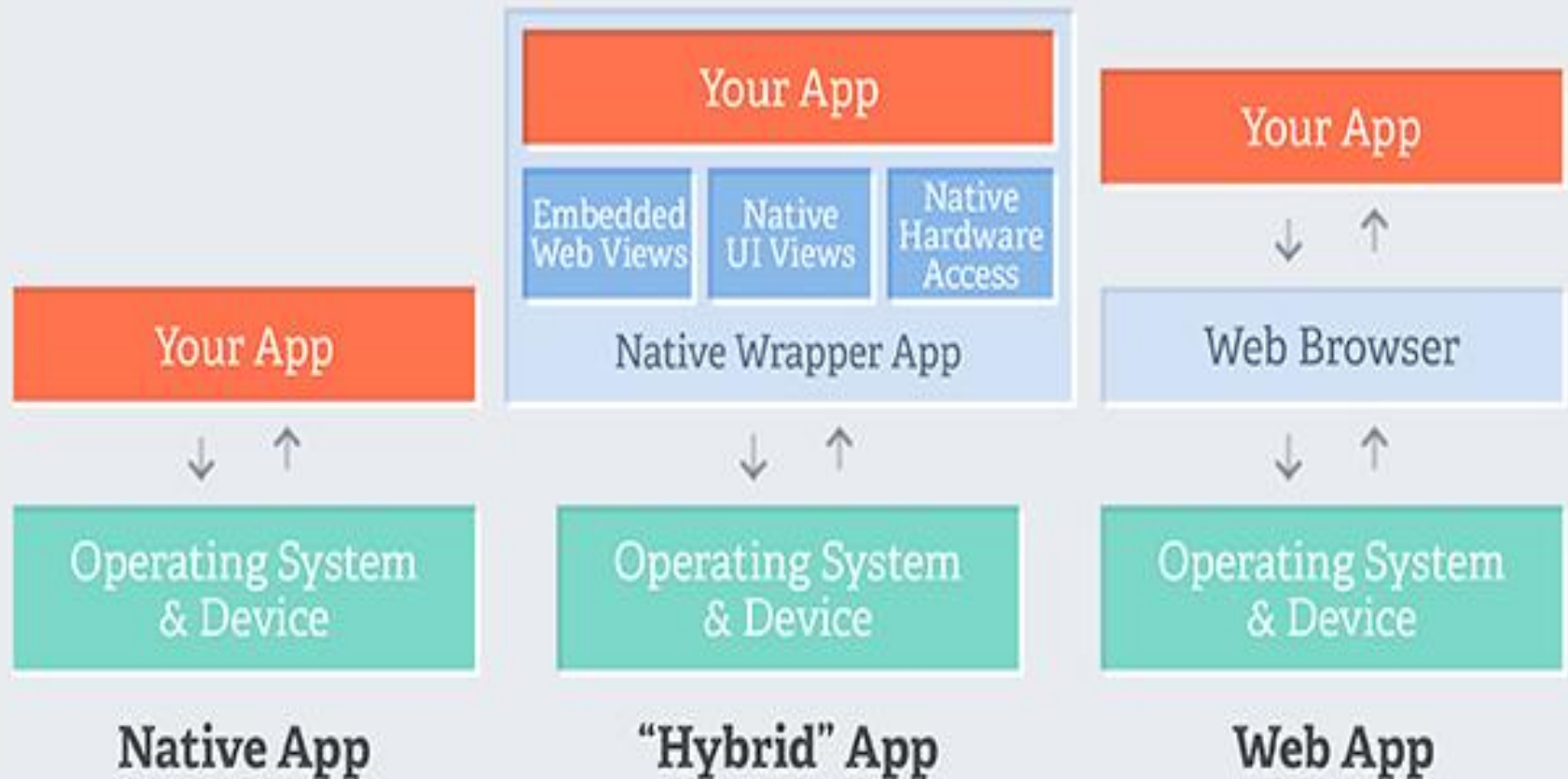
Native via  
plugins

No native user  
interface controls

Experienced  
developers

# MOBILE APPS: SUMMARY

## Mobile App Technology Stacks



# MOBILE APPS: SUMMARY

## Native Mobile App

- iOS - Developed using Objective-c
- Android - Developed using JAVA
- Need to Install from APP Store.
- Available as an Application on Device.

## Mobile Web App

- Developed using typical web development technology - HTML, CSS, Java Script.
- View size of the Web page fit to the real-estate of the device.
- Accessed through the browsers on the device

## Hybrid Mobile App

- Wrapping the HTML and creating Native like look and feel (HTML within the app itself). Framework like Phone Gap support this development.
- Native Mobile App with Web view control and render the HTML directly on the web view (HTML Rendered from enterprise server).
- View size of the Web page fit to the real-estate of the device.
- Accessed through the browsers on the device



# Mobile APPS : Conclusion

| LIST                 | Native                     | HTML5                    | Hybrid                                |
|----------------------|----------------------------|--------------------------|---------------------------------------|
| <b>App Features</b>  |                            |                          |                                       |
| Graphics             | <i>Native APIs</i>         | <i>HTML, Canvas, SVG</i> | <i>HTML, Canvas, SVG</i>              |
| Performance          | <i>Fast</i>                | <i>Slow</i>              | <i>Slow</i>                           |
| Native look and feel | <i>Native</i>              | <i>Emulated</i>          | <i>Emulated</i>                       |
| Distribution         | <i>Appstore</i>            | <i>Web</i>               | <i>Appstore</i>                       |
| <b>Device Access</b> |                            |                          |                                       |
| Camera               | <i>Yes</i>                 | <i>No</i>                | <i>Yes</i>                            |
| Notifications        | <i>Yes</i>                 | <i>No</i>                | <i>Yes</i>                            |
| Contacts, calendar   | <i>Yes</i>                 | <i>No</i>                | <i>Yes</i>                            |
| Offline storage      | <i>Secure file storage</i> | <i>Shared SQL</i>        | <i>Secure file system, shared SQL</i> |
| Geolocation          | <i>Yes</i>                 | <i>Yes</i>               | <i>Yes</i>                            |
| <b>Gestures</b>      |                            |                          |                                       |
| Swipe                | <i>Yes</i>                 | <i>Yes</i>               | <i>Yes</i>                            |
| Pinch, spread        | <i>Yes</i>                 | <i>No</i>                | <i>Yes</i>                            |
| Connectivity         | <i>Online and offline</i>  | <i>Mostly online</i>     | <i>Online and offline</i>             |

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