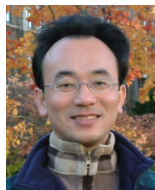




Social Media Apps Programming

Introduction to Android / iOS Apps Programming

1041SMAP02
TLMXM1A (8687) (M2143) (Fall 2015)
(MIS MBA) (2 Credits, Elective) [Full English Course]
Wed 9,10 (16:10-18:00) B310



Min-Yuh Day, Ph.D.
Assistant Professor

Department of Information Management
Tamkang University

<http://mail.tku.edu.tw/myday>



Course Schedule (1/3)

Week	Date	Subject/Topics
1	2015/09/16	Course Orientation and Introduction to Social Media and Mobile Apps Programming
2	2015/09/23	Introduction to Android / iOS Apps Programming
3	2015/09/30	Developing Android Native Apps with Java (Eclipse) (MIT App Inventor)
4	2015/10/07	Developing iPhone / iPad Native Apps with Swift (XCode)
5	2015/10/14	Mobile Apps using HTML5/CSS3/JavaScript
6	2015/10/21	jQuery Mobile

Course Schedule (2/3)

Week	Date	Subject/Topics
7	2015/10/28	Create Hybrid Apps with Phonegap
8	2015/11/04	jQuery Mobile/Phonegap
9	2015/11/11	jQuery Mobile/Phonegap
10	2015/11/18	Midterm Exam Week (Midterm Project Report)
11	2015/11/25	Case Study on Social Media Apps Programming and Marketing in Google Play and App Store
12	2015/12/02	Google Cloud Platform

Course Schedule (3/3)

Week	Date	Subject/Topics
13	2015/12/09	Google App Engine
14	2015/12/16	Google Map API
15	2015/12/23	Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)
16	2015/12/30	Twitter API
17	2016/01/06	Final Project Presentation
18	2016/01/13	Final Exam Week (Final Project Presentation)

Android /iOS Apps Programming

Native Apps

Hybrid Apps

Mobile Web Apps



Android / iOS Apps Programming

- Native Apps
- Mobile Apps (Web Apps)
- Hybrid Apps

App Development Comparison



Native Apps



Hybrid Apps



Web Apps



Hybrid Apps

Mobile Apps, Native Apps



HTML5 vs. Hybrid vs. Native Apps



39%

**SPEND TIME DEVELOPING
THE SAME APP/FEATURE FOR
MULTIPLE PLATFORMS**



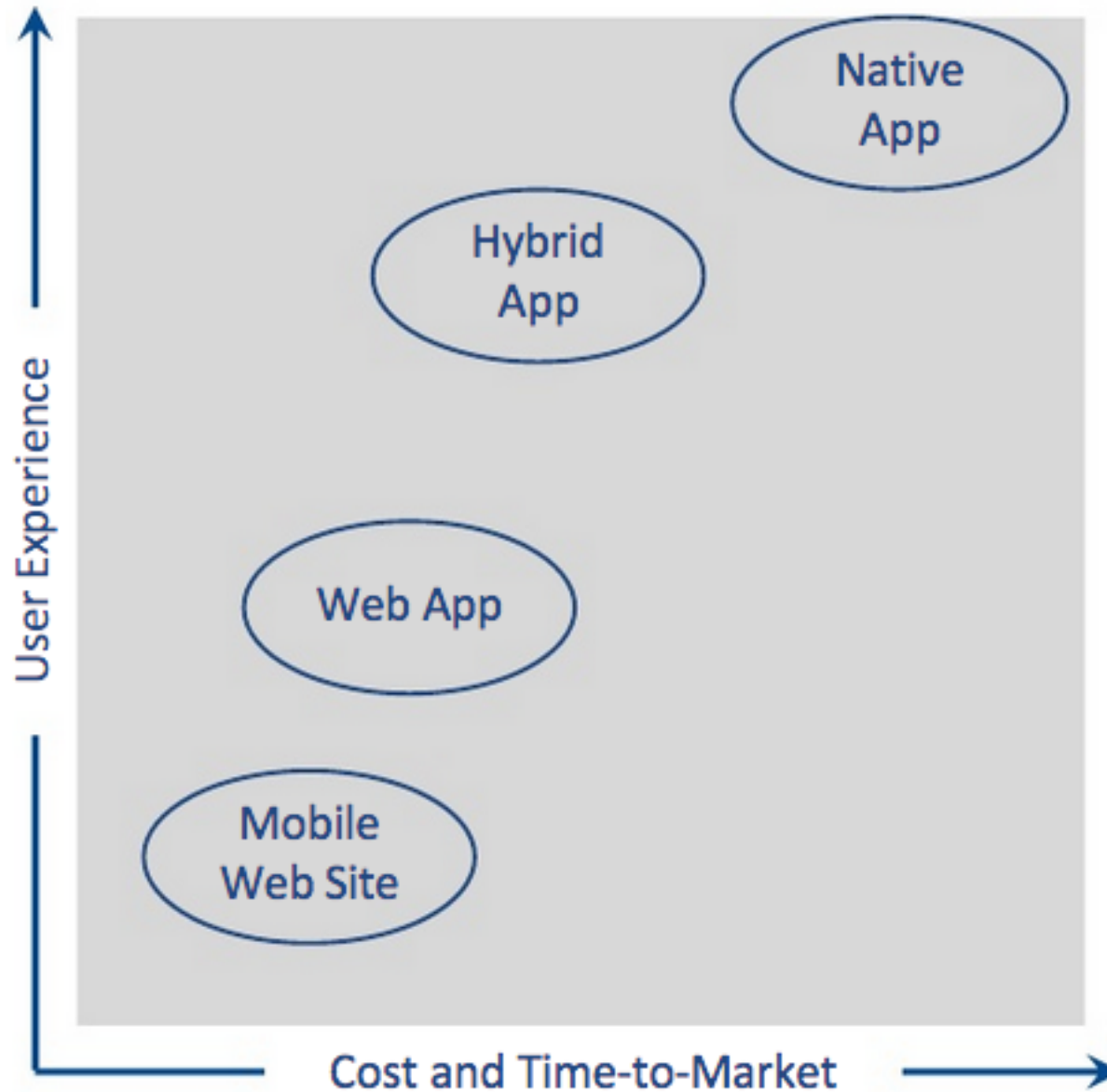
HTML5 is #1

**CHOICE FOR BUILDING APPS FOR
MULTIPLE MOBILE PLATFORMS**



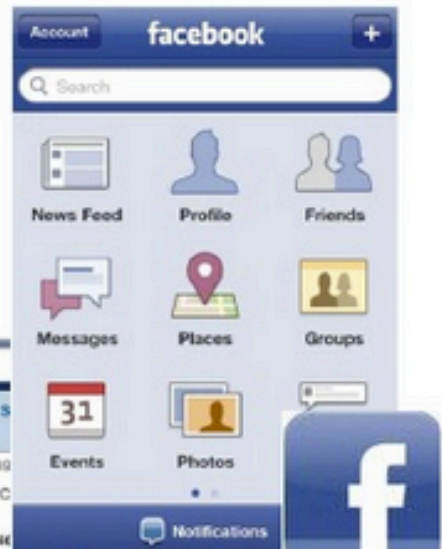
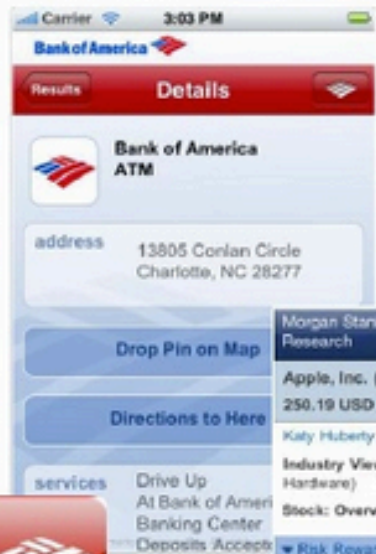
Source: KendoUI.com

Native Apps vs. Hybrid Apps



Hybrid App Examples

Bank of America



Facebook

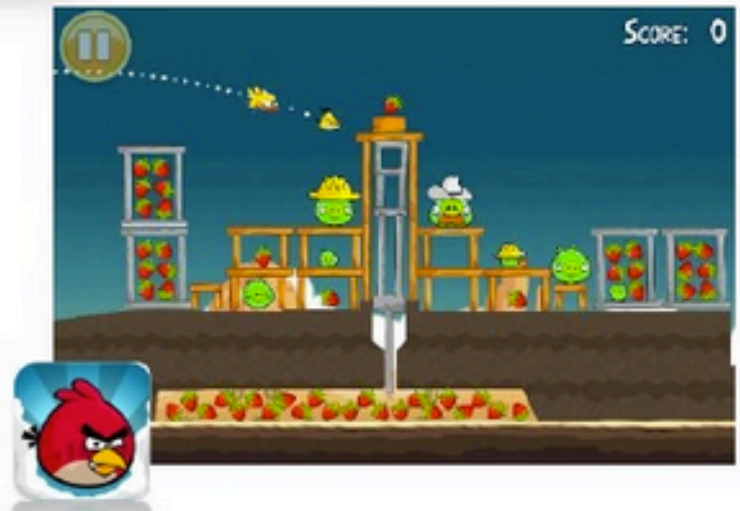


Morgan Stanley

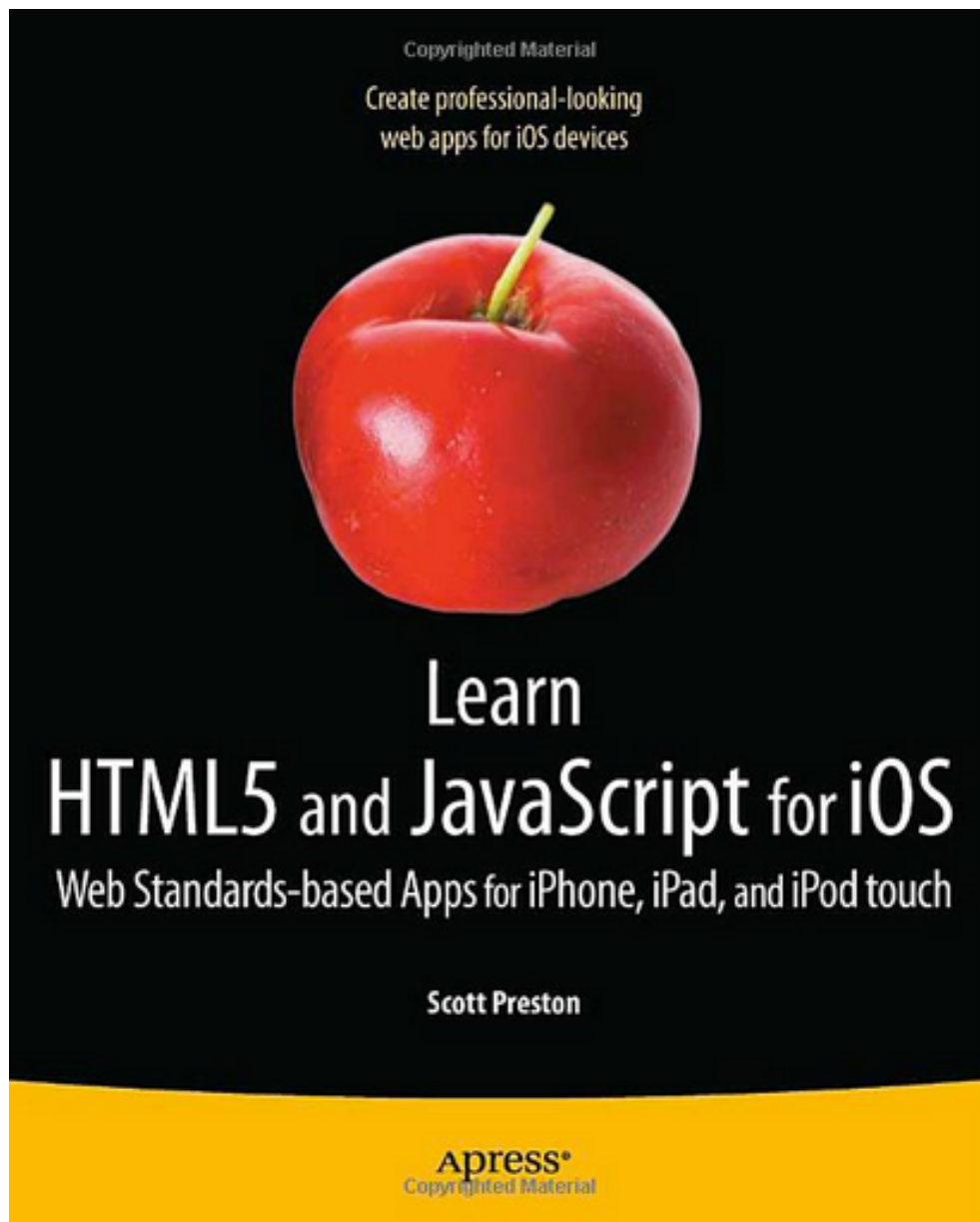


Lotte Card (Korea)

Examples of Purely-Native Mobile Apps



Learn HTML5 and JavaScript for iOS: Web Standards-based Apps for iPhone, iPad, and iPod touch, Scott Preston, Apress, 2012



Building iPhone Apps with HTML, CSS, and JavaScript: Making App Store Apps Without Objective-C or Cocoa

Jonathan Stark, O'Reilly, 2010

Making App Store Apps Without Objective-C or Cocoa



Building

iPhone
Apps

with HTML, CSS, and JavaScript

O'REILLY®

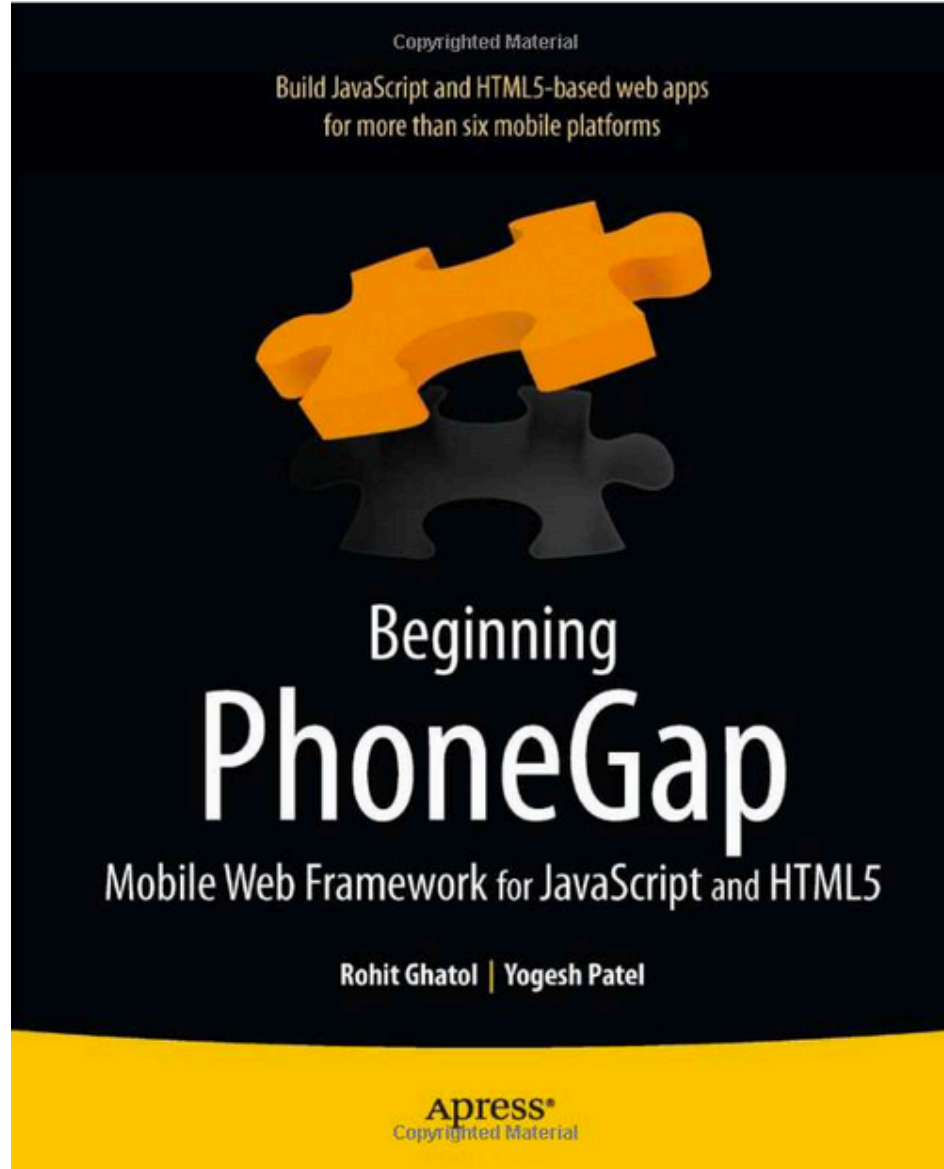
Jonathan Stark

Copyrighted Material

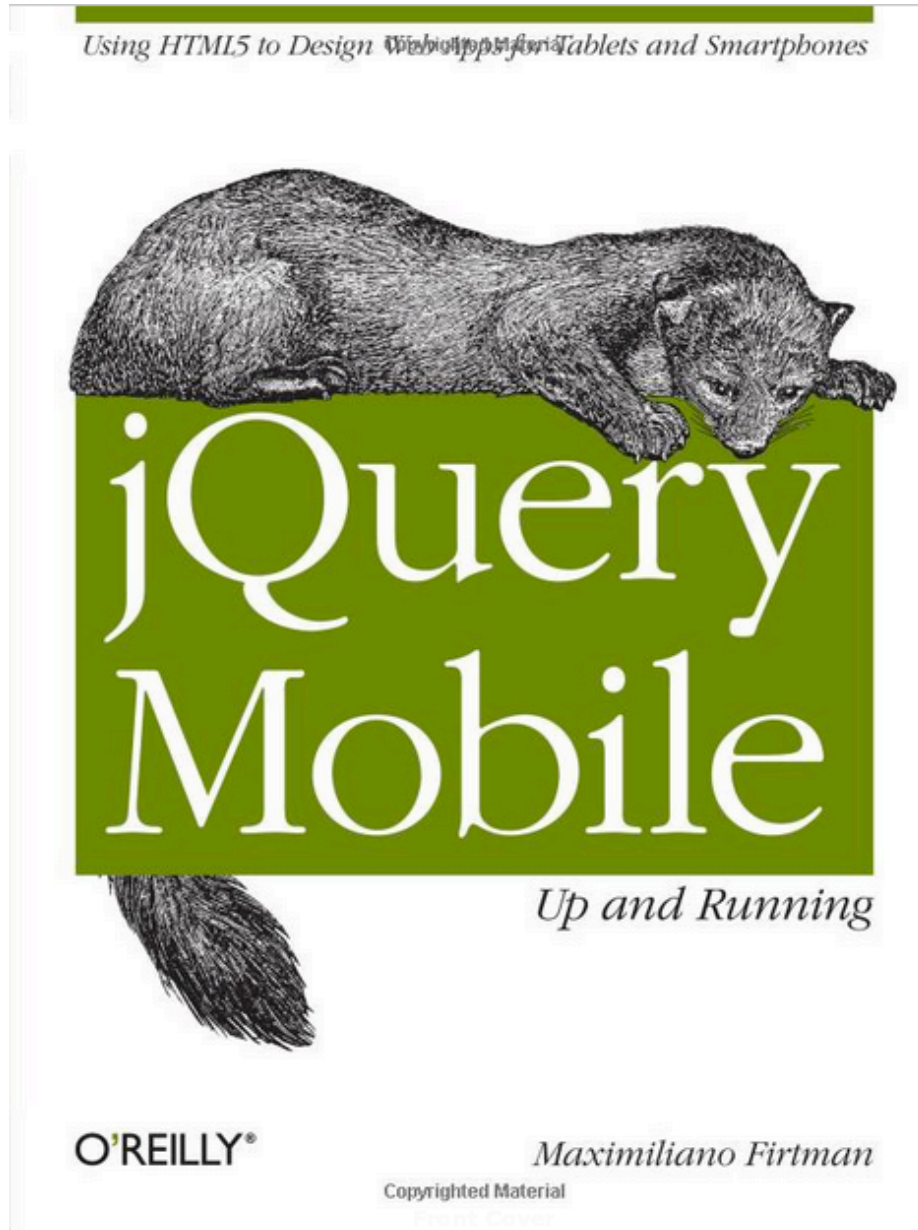
Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools, Jonathan Stark & Brian Jepson, O'reilly, 2012



Rohit Ghatol and Yogesh Patel, Beginning PhoneGap: Mobile Web Framework for JavaScript and HTML5, Apress, 2012

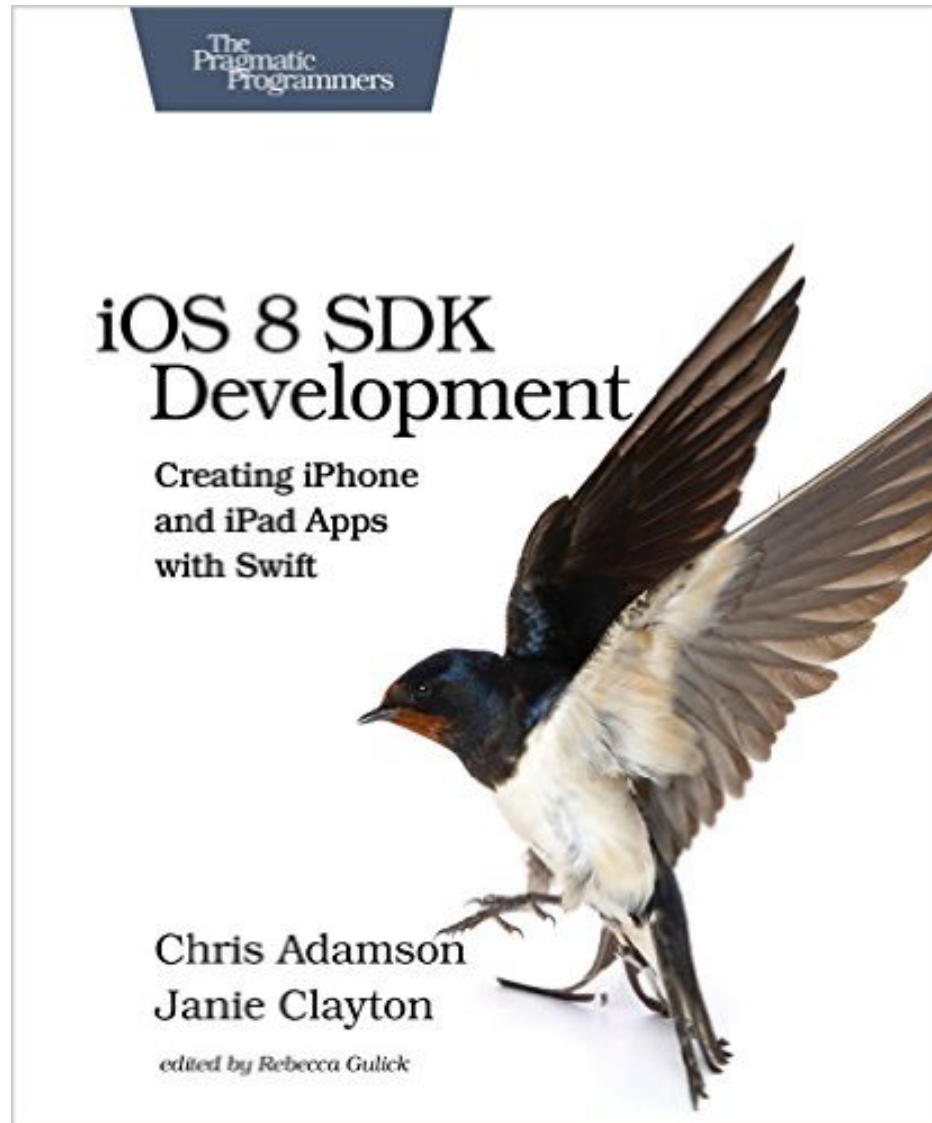


Jon Reid, jQuery Mobile, O'reilly, 2012



Source: <http://www.amazon.com/jquery-Mobile-Running-Maximiliano-Firtman/dp/1449397654>

Chris Adamson and Janie Clayton,
iOS 8 SDK Development: Creating iPhone and iPad Apps with Swift,
Pragmatic Bookshelf, 2nd Edition, 2015



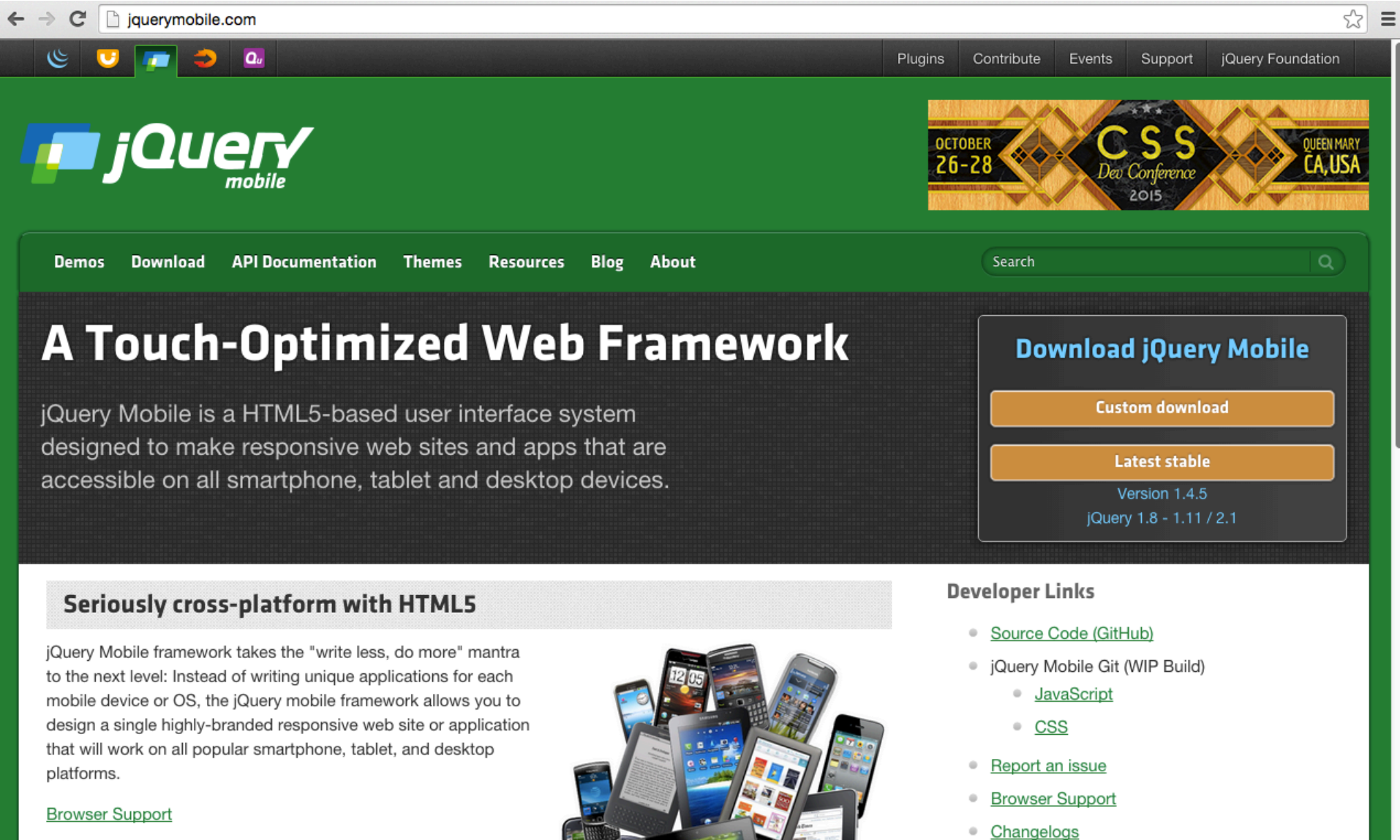
Source: <http://www.amazon.com/gp/product/1941222641>

Responsive Design

HTML5/CSS3/JavaScript



jQuery Mobil: <http://jquerymobile.com/>



The screenshot shows the jQuery Mobile website homepage. At the top, there is a navigation bar with links for Plugins, Contribute, Events, Support, and jQuery Foundation. Below this is a green banner with the jQuery Mobile logo on the left and a promotional banner for the CSS Dev Conference 2015 on the right. The main content area has a dark background with the heading "A Touch-Optimized Web Framework" and a description of the framework. To the right of the main text is a "Download jQuery Mobile" section with buttons for "Custom download" and "Latest stable" (Version 1.4.5). Below the main text is a section titled "Seriously cross-platform with HTML5" with a paragraph of text and a link to "Browser Support". To the right of this section is a "Developer Links" section with a list of links including "Source Code (GitHub)", "jQuery Mobile Git (WIP Build)", "JavaScript", "CSS", "Report an issue", "Browser Support", and "Changelogs". At the bottom center, there is an image of various mobile devices.

jQuery Mobile is a HTML5-based user interface system designed to make responsive web sites and apps that are accessible on all smartphone, tablet and desktop devices.

A Touch-Optimized Web Framework

Download jQuery Mobile

Custom download

Latest stable

Version 1.4.5
jQuery 1.8 - 1.11 / 2.1


Seriously cross-platform with HTML5

jQuery Mobile framework takes the "write less, do more" mantra to the next level: Instead of writing unique applications for each mobile device or OS, the jQuery mobile framework allows you to design a single highly-branded responsive web site or application that will work on all popular smartphone, tablet, and desktop platforms.

[Browser Support](#)

Developer Links

- [Source Code \(GitHub\)](#)
- [jQuery Mobile Git \(WIP Build\)](#)
 - [JavaScript](#)
 - [CSS](#)
- [Report an issue](#)
- [Browser Support](#)
- [Changelogs](#)



PhoneGap: <http://phonegap.com/>

The image shows a browser window displaying the PhoneGap website. The address bar shows 'phonegap.com'. The navigation menu includes 'PhoneGap', 'About', 'Developer', 'Community', 'Apps', and 'Enterprise', along with an 'Install' button. The main content area features a large heading, a video player, and two feature cards.

← → ↻ phonegap.com ☆ ☰

PhoneGap About Developer Community Apps Enterprise [Install](#)

Easily create apps using the web technologies you know and love: **HTML, CSS, and JavaScript**

PhoneGap is a free and open source framework that allows you to create mobile apps using standardized web APIs for the platforms you care about.

[Install PhoneGap ▶](#) [Getting Started Guides ▶](#)

Adobe PhoneGap Enterprise

Enterprise mobile application development and management across channels and platforms

The PhoneGap Developer App

Develop locally then see the changes instantly on your mobile device with our cross-platform app

Apple Developer

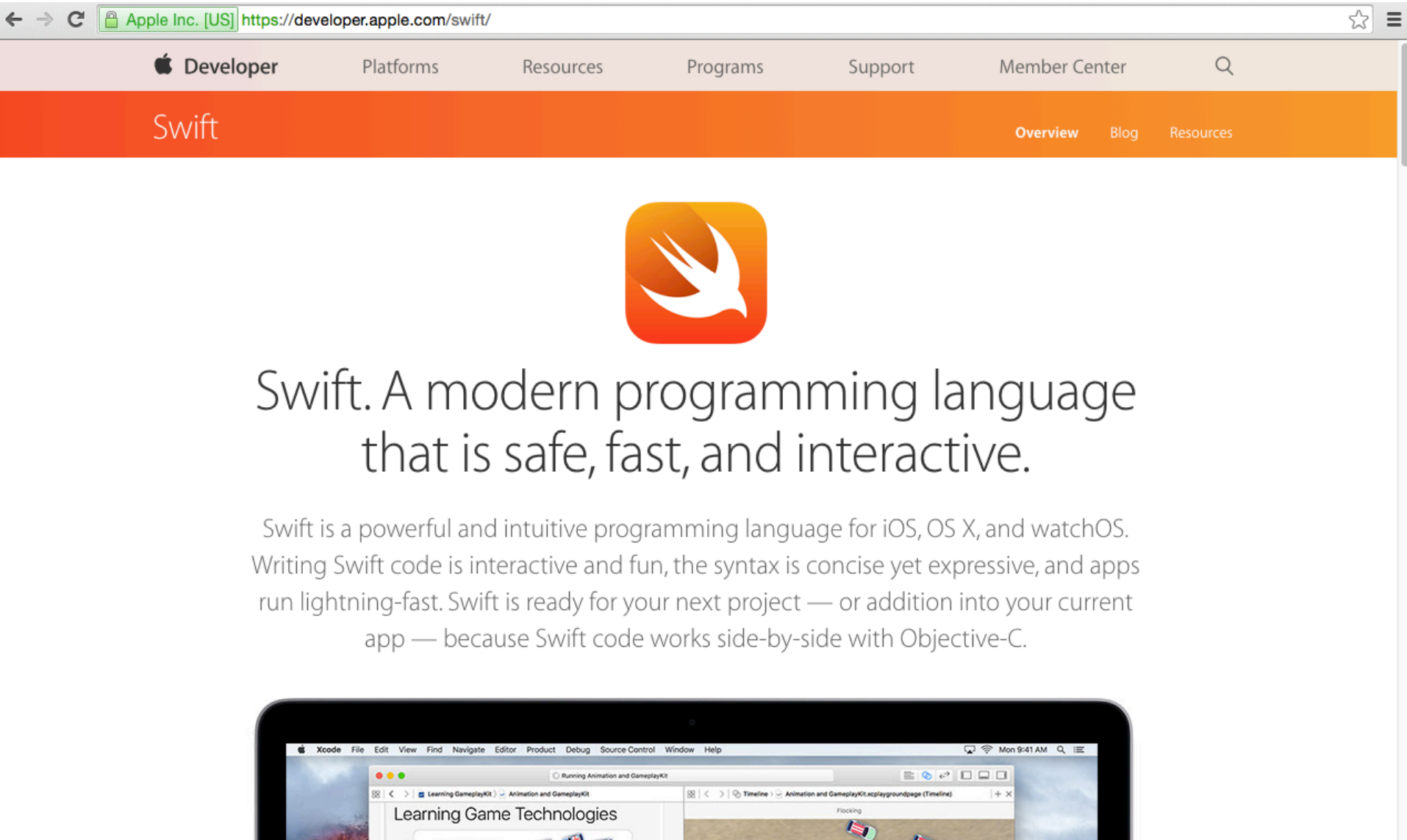
<https://developer.apple.com/>

Prepare your apps for the App Store.

The next release of watchOS, iOS, and OS X will soon be in the hands of hundreds of millions of customers around the world. Download the GM seeds, test your apps, and submit them to the App Store for review.



Apple Swift for iOS



The image shows a screenshot of the Apple Developer website for Swift. The browser address bar shows "Apple Inc. [US] https://developer.apple.com/swift/". The navigation menu includes "Developer", "Platforms", "Resources", "Programs", "Support", and "Member Center". The "Swift" page title is visible, along with "Overview", "Blog", and "Resources" links. The Swift logo, a white bird in flight on an orange-to-red gradient square, is centered. Below it, the text reads: "Swift. A modern programming language that is safe, fast, and interactive." A paragraph follows: "Swift is a powerful and intuitive programming language for iOS, OS X, and watchOS. Writing Swift code is interactive and fun, the syntax is concise yet expressive, and apps run lightning-fast. Swift is ready for your next project — or addition into your current app — because Swift code works side-by-side with Objective-C." At the bottom, a tablet displays the Xcode IDE with a game titled "Learning Game Technologies" running, showing a flocking simulation.

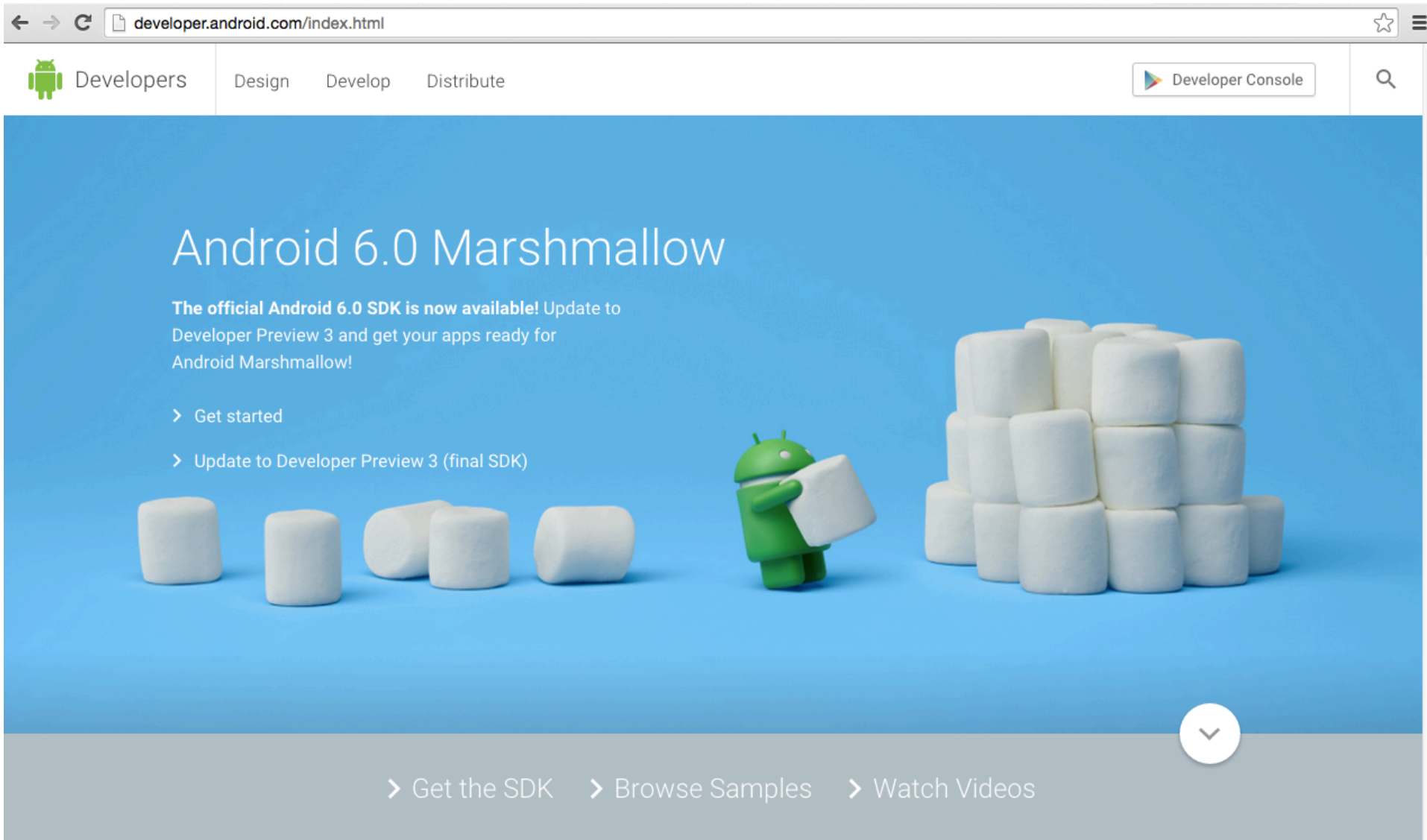
Swift. A modern programming language that is safe, fast, and interactive.

Swift is a powerful and intuitive programming language for iOS, OS X, and watchOS. Writing Swift code is interactive and fun, the syntax is concise yet expressive, and apps run lightning-fast. Swift is ready for your next project — or addition into your current app — because Swift code works side-by-side with Objective-C.

Source: <https://developer.apple.com/swift/>

Android Developer

<http://developer.android.com/>



The screenshot shows the Android Developer website for Android 6.0 Marshmallow. The browser address bar displays "developer.android.com/index.html". The navigation menu includes "Developers", "Design", "Develop", and "Distribute". A "Developer Console" button is visible in the top right. The main content area features a blue background with the heading "Android 6.0 Marshmallow". Below the heading, a text block states: "The official Android 6.0 SDK is now available! Update to Developer Preview 3 and get your apps ready for Android Marshmallow!". Two links are provided: "> Get started" and "> Update to Developer Preview 3 (final SDK)". The visual theme is marshmallows, with a green Android robot holding a marshmallow and a large stack of marshmallows. At the bottom, a grey bar contains three links: "> Get the SDK", "> Browse Samples", and "> Watch Videos", along with a circular button containing a downward arrow.

← → ↻ developer.android.com/index.html ☆ ☰

Developers Design Develop Distribute Developer Console 🔍

Android 6.0 Marshmallow

The official Android 6.0 SDK is now available! Update to Developer Preview 3 and get your apps ready for Android Marshmallow!

- > Get started
- > Update to Developer Preview 3 (final SDK)

> Get the SDK > Browse Samples > Watch Videos

Facebook Developers

The screenshot shows the Facebook Developers website. The top navigation bar includes links for Developers, My Apps, Products, Docs, Tools & Support, and News, along with a search bar and a user profile picture. The main content area features a large banner for "Facebook Analytics for Apps" with the text "Understand how your customers use your app across all of their devices." and a "Learn More" button. To the right of the banner is a tablet displaying the Facebook Analytics interface, which includes an "Overview" section with a line chart for "ACTIVE USERS" and a summary of key metrics: INSTALLED (4,224, +13.1%), DAILY ACTIVE USERS (209,571, +14.2%), APP LAUNCHES (1.9M, +15.1%), and PURCHASES (21,602, -2.4%). Below the banner are four product categories, each with an icon, a title, a brief description, and a "Learn More" link.

Product Category	Icon	Description	Learn More Link
App Monetization	Smartphone and tablet icon	Monetize with ads and publisher tools	Learn More
App Invites	Paper airplane icon	Let people recommend your app to friends	Learn More
Social Plugins	Thumbs up icon	Easily make your app or website social	Learn More
Messenger	Messenger logo icon	Grow your app by powering conversations	Learn More

Discover More Products

<https://developers.facebook.com/>

Integrate Facebook with your native iOS apps



iOS

Integrate Facebook with your native iOS apps.

<https://developers.facebook.com/>

Facebook SDK for iOS

Facebook Developers | My Apps | Products | Docs | Tools & Support | News | Search in docs

- Graph API
- IOS SDK**
 - Getting Started
 - Calling the Graph API
 - Errors
 - FAQ & Troubleshooting
 - Changelog
 - Upgrade Guide
 - IOS 9
 - Reference
 - Downloads
 - Deprecated
- Android SDK
- JavaScript SDK
- PHP SDK
- Unity SDK

Facebook SDK for iOS

Helps you build engaging social apps and get more installs.

[Download the SDK](#)

Includes Bolts, Audience Network, and Facebook frameworks. Requires iOS 7.

v4.6.0. See [Change Log](#) or [Upgrade Guide](#).

- [Read our iOS 9 guide](#)
- [Get Started on iOS](#)
Basics for iOS
- [SDK Reference Docs](#)
API Reference Docs



In iOS SDK

- More Getting Started Guides
- Related Resources

Share
People on your app can share, send a message, or like content in your app. They can also share

Login
People can sign in to your app with their Facebook Login.

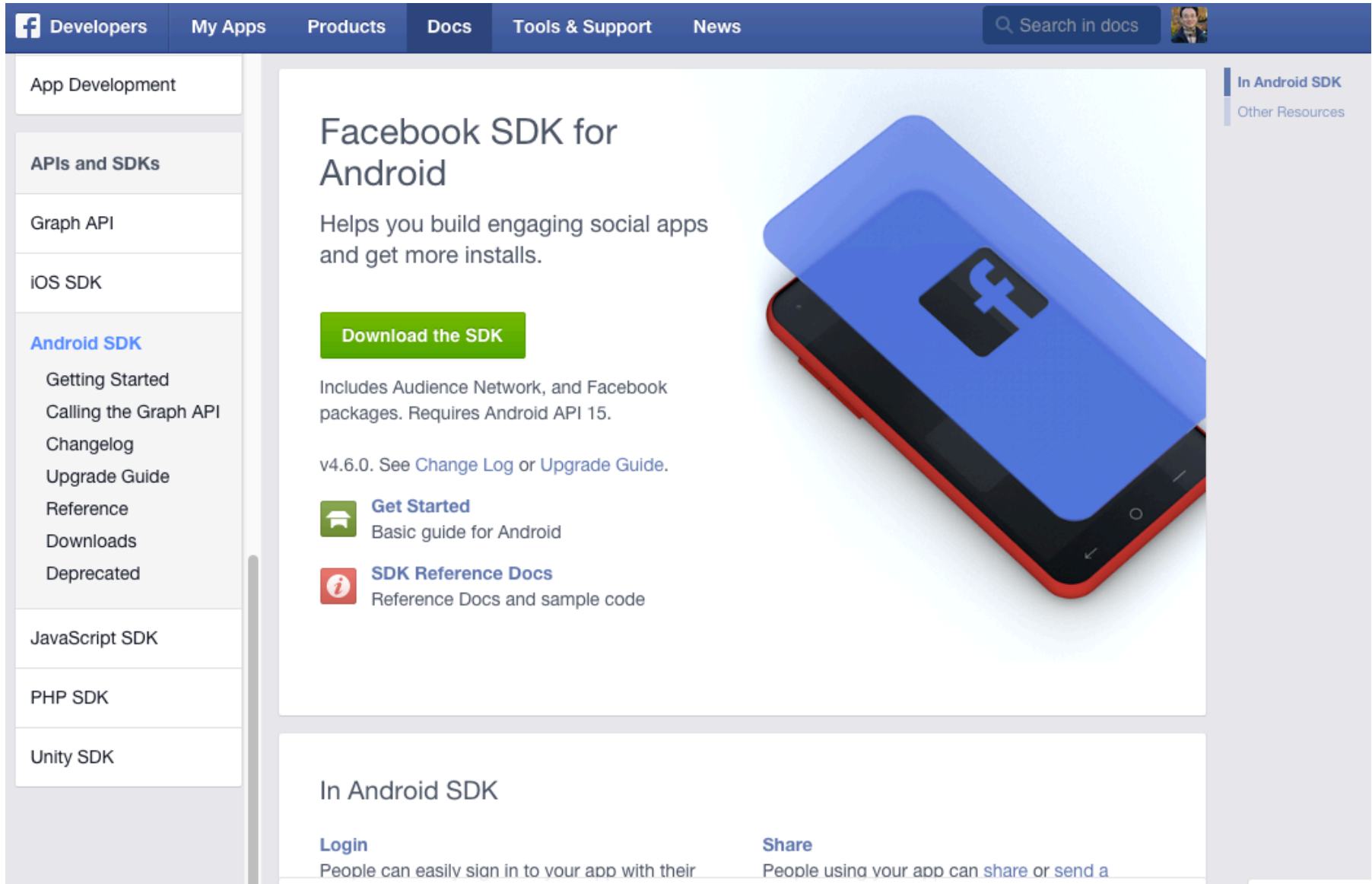
Integrate Facebook with your native Android apps.



Android

Integrate Facebook with your native Android apps.

Facebook SDK for Android



The screenshot shows the Facebook Developers website for the Android SDK. The top navigation bar includes 'Developers', 'My Apps', 'Products', 'Docs', 'Tools & Support', and 'News'. A search bar is located on the right. The left sidebar lists various SDKs, with 'Android SDK' highlighted. The main content area features the title 'Facebook SDK for Android', a description, a 'Download the SDK' button, and links for 'Get Started' and 'SDK Reference Docs'. A large image of a smartphone with the Facebook logo is on the right. The bottom section includes 'In Android SDK' and 'Login'/'Share' options.

Developers My Apps Products Docs Tools & Support News Search in docs

App Development

APIs and SDKs

Graph API

iOS SDK

Android SDK

Getting Started

Calling the Graph API

Changelog

Upgrade Guide

Reference

Downloads

Deprecated

JavaScript SDK

PHP SDK

Unity SDK

Facebook SDK for Android

Helps you build engaging social apps and get more installs.

[Download the SDK](#)

Includes Audience Network, and Facebook packages. Requires Android API 15.

v4.6.0. See [Change Log](#) or [Upgrade Guide](#).

[Get Started](#)
Basic guide for Android

[SDK Reference Docs](#)
Reference Docs and sample code

In Android SDK
Other Resources

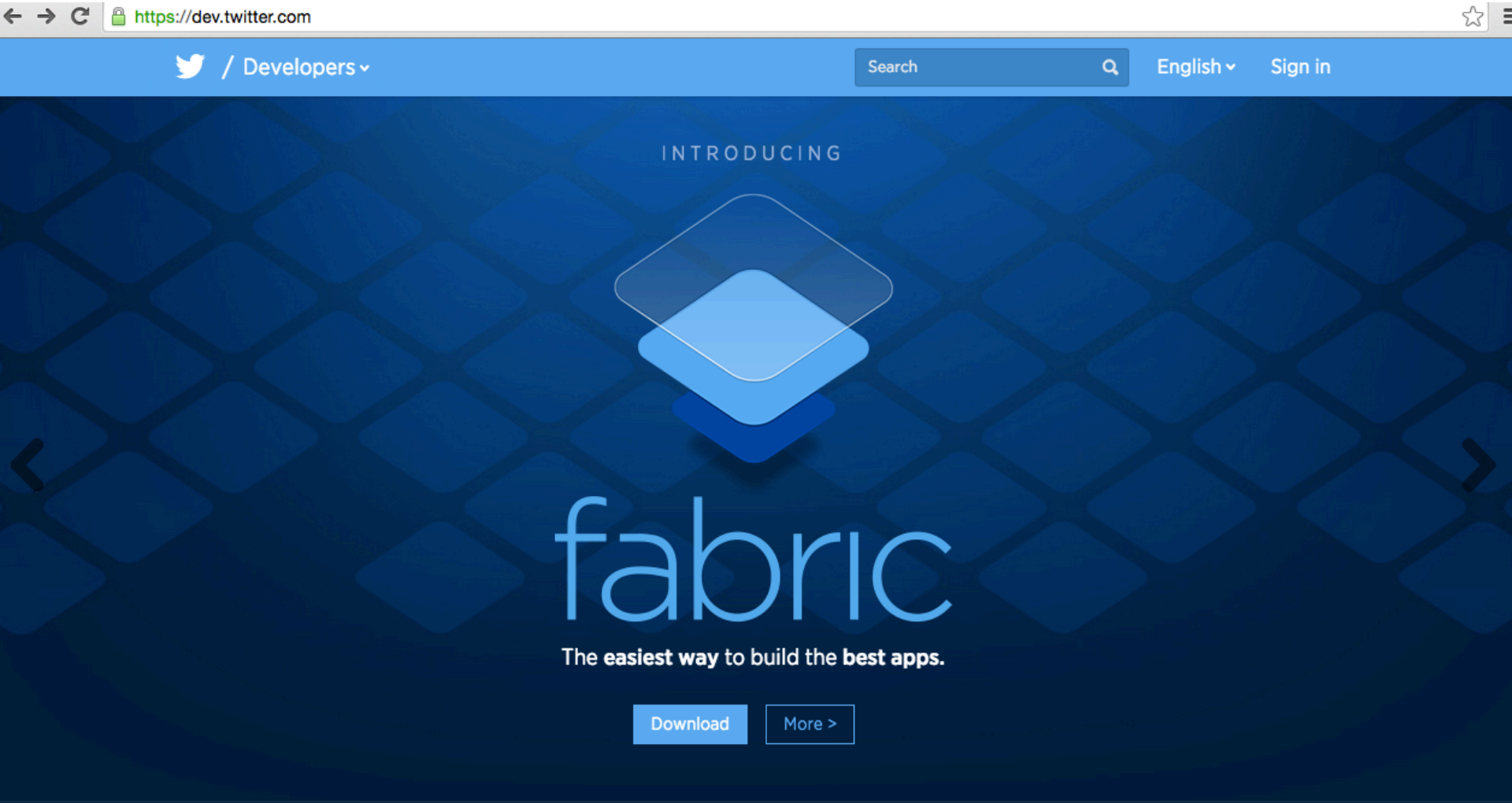
In Android SDK

Login People can easily sign in to your app with their


Share People using your app can share or send a

Twitter Developers

<https://dev.twitter.com/>



The screenshot shows a web browser window with the URL <https://dev.twitter.com/>. The page features a blue header with the Twitter logo, a search bar, and a 'Sign in' link. The main content area has a dark blue background with a diamond-shaped pattern. It prominently displays the word 'fabric' in a large, light blue font, with the tagline 'The easiest way to build the best apps.' below it. Two buttons, 'Download' and 'More >', are positioned at the bottom of the main content area.


 flight Twitter's Developer Conference is back! [Click here](#) for all the details.

Google Cloud Platform

The image shows a browser window displaying the Google Cloud Platform website. The browser's address bar shows the URL <https://cloud.google.com>. The page features the Google Cloud Platform logo, navigation links for 'Why Google', 'Products', 'Solutions', 'Customers', 'Developers', 'Support', and 'Partners', and buttons for 'Contact sales' and 'Try it now'. A search bar is also present. The main content area has a background image of server racks and the heading 'Tools for modern applications'. Below this, there is a paragraph describing Google Cloud Platform's capabilities and a 'Get Started' button. A secondary section titled 'Google Compute Engine now generally available' includes a paragraph of details and a 'Learn More' link. A decorative graphic of blue hexagons with various icons is on the right side of the page.

Home — Google Cloud Plat x

← → ↻ <https://cloud.google.com> ☆ ☰

 Google Cloud Platform

[Go to my console](#) | [Sign out](#)


[Why Google](#) [Products](#) [Solutions](#) [Customers](#) [Developers](#) [Support](#) [Partners](#) [Contact sales](#) or

Tools for modern applications

Google Cloud Platform enables developers to build, test and deploy applications on Google's highly-scalable and reliable infrastructure. Choose from computing, storage and application services for your web, mobile and backend solutions.

Google Compute Engine now generally available

Google Compute Engine is now generally available with a 99.95% monthly SLA and 24x7 support. We've eliminated maintenance windows with live migration, cut prices by 10%, added support for Red Hat, SUSE, FreeBSD, or any Linux variant you want, and introduced new 16-core instances.

[Learn More](#)

<https://cloud.google.com/>

Google App Engine

The screenshot shows the Google App Engine product page. At the top, the browser address bar displays the URL <https://cloud.google.com/products/app-engine/>. The page header features the Google Cloud Platform logo, navigation links for 'Go to my console | Sign out', a search box, and a 'Try it now' button. Below the header, a navigation menu includes 'Why Google', 'Products', 'Solutions', 'Customers', 'Developers', 'Support', and 'Partners'. The main content area has a background image of server racks. On the left, the App Engine logo is displayed next to the text 'App Engine'. Below this, a paragraph reads: 'Run your applications on a fully-managed platform with built-in services that make you more productive. Just download the SDK and start building immediately.' A 'Try it now' button is positioned below the text.

Features

Popular languages and frameworks

Write applications in some of the most popular programming languages: Python, Java, PHP and Go. Use existing frameworks such as Django, Flask, Spring and webapp2. Develop locally with language-specific SDKs. Pair your applications with Compute Engine to integrate other familiar technologies such as Node.js, C++, Scala, Hadoop, MongoDB, Redis

Focus on your code

Let Google worry about database administration, server configuration, sharding and load balancing. With Traffic Splitting, you can A/B test different live versions of your app. Multitenancy support lets you compartmentalize your application data.

Multiple storage options

Choose the storage option you need: a traditional MySQL database using Cloud SQL, a schemaless NoSQL datastore, or object storage using Cloud Storage.

<https://cloud.google.com/products/app-engine/>

Google Cloud Datastore

Cloud Datastore — Google

← → ↻ <https://cloud.google.com/products/cloud-datastore/> ☆ ☰

Google Cloud Platform

[Go to my console](#) | [Sign out](#)

Why Google **Products** Solutions Customers Developers Support Partners [Contact sales](#) or

Cloud Datastore

Use a managed, NoSQL, schemaless database for storing non-relational data. Cloud Datastore automatically scales as you need it and supports transactions as well as robust, SQL-like queries.

Features

Schemaless access, with SQL-like querying

No need to worry about data models and migration. Cloud Datastore is a schemaless storage service that allows you to be agile by removing the need to think about the underlying structure of the data. Cloud Datastore provides a [robust query engine](#) that allows you to search for data across multiple properties and sort as needed.

Managed database

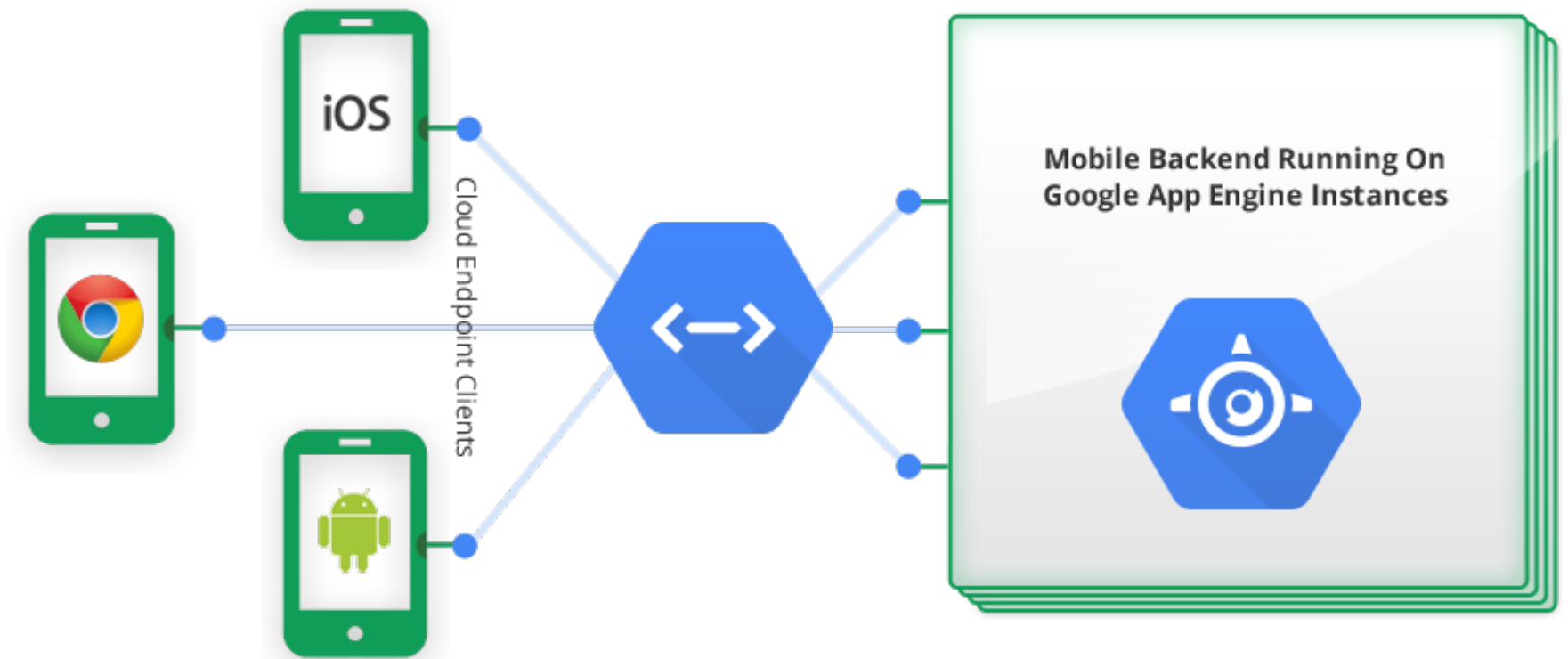
Cloud Datastore is fully managed. Google automatically handles sharding and replication in order to provide you with a highly available and consistent database.

Autoscale with your users

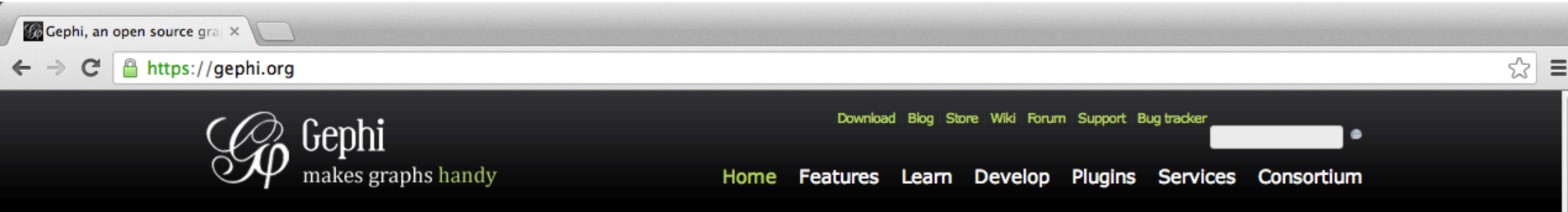
Cloud Datastore automatically scales depending on your needs. This allows you to focus on building your application and not on worrying about provisioning and load anticipation.

<https://cloud.google.com/products/cloud-datastore/>

Google Cloud Endpoints



Gephi: Social Network Analysis and Visualization: <https://gephi.org/>



The Open Graph Viz Platform

Gephi is an interactive visualization and exploration platform for all kinds of networks and complex systems, dynamic and hierarchical graphs.

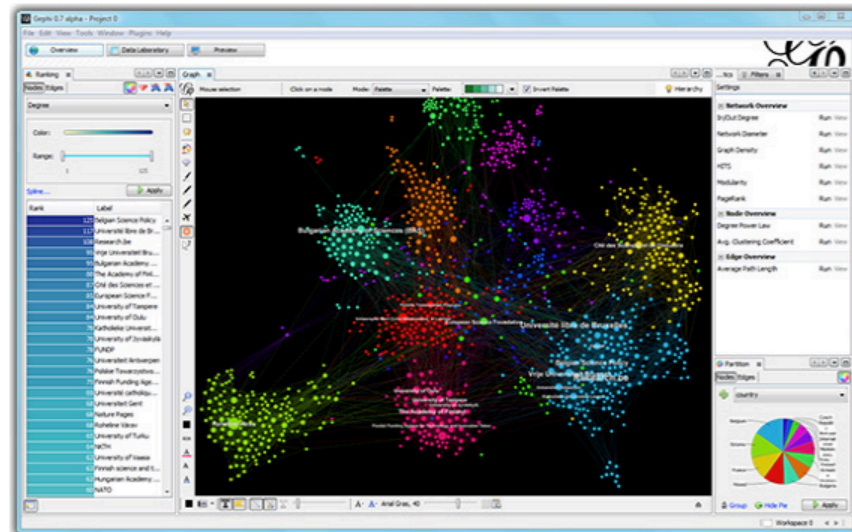
Runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

[Learn More on Gephi Platform >](#)



[Release Notes](#) | [System Requirements](#)

- ▶ Features
- ▶ Quick start
- ▶ Screenshots
- ▶ Videos



Support us! We are non-profit. Help us to innovate and empower the community by donating only 8€:



APPLICATIONS

- ✔ **Exploratory Data Analysis:** intuition-oriented analysis by networks manipulations in real time.
- ✔ **Link Analysis:** revealing the underlying structures of associations between objects, in particular in scale-free networks.

“Like Photoshop™ for graphs.

— the Community

LATEST NEWS

[Google Summer of Code 2012](#)

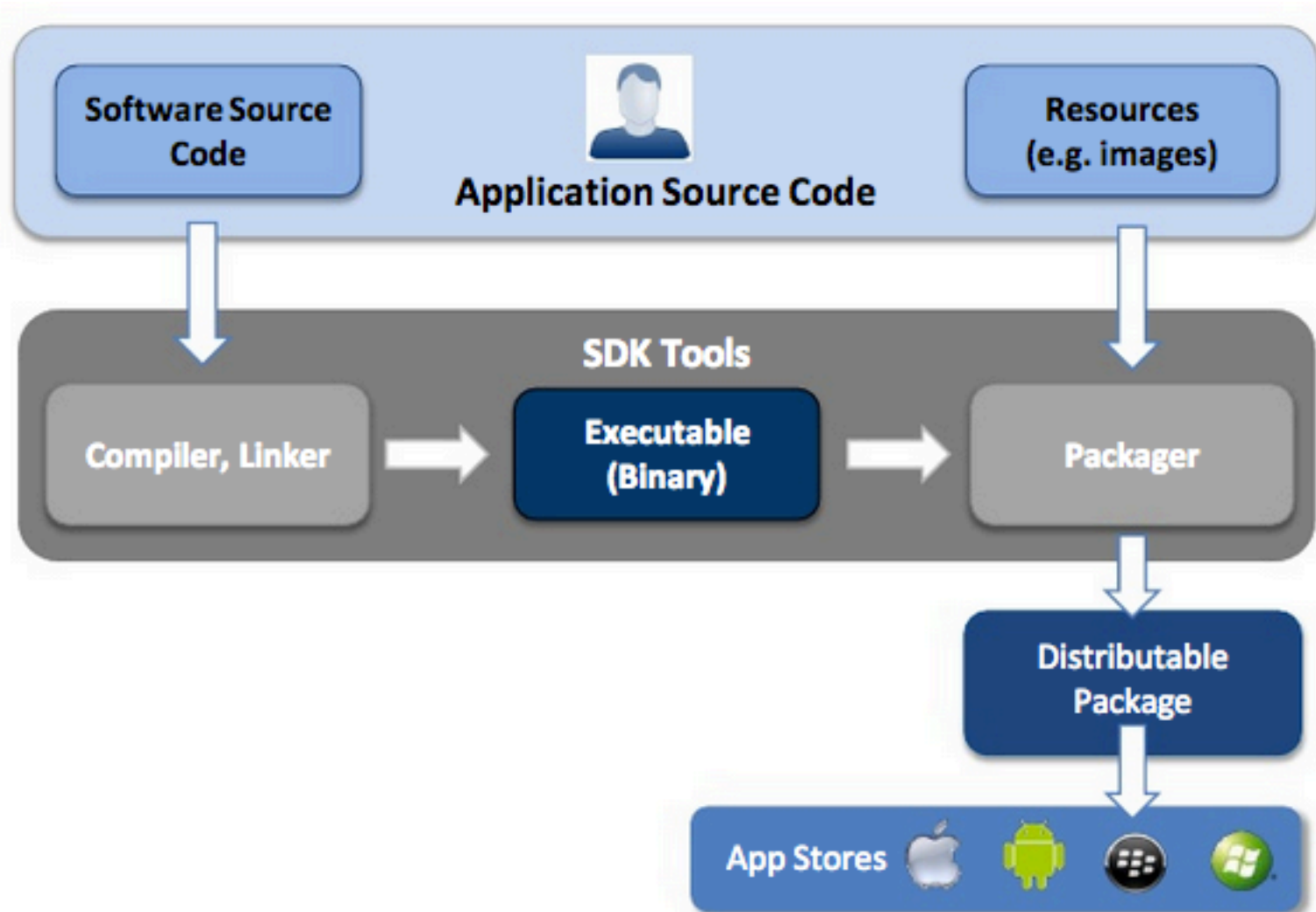
PAPERS



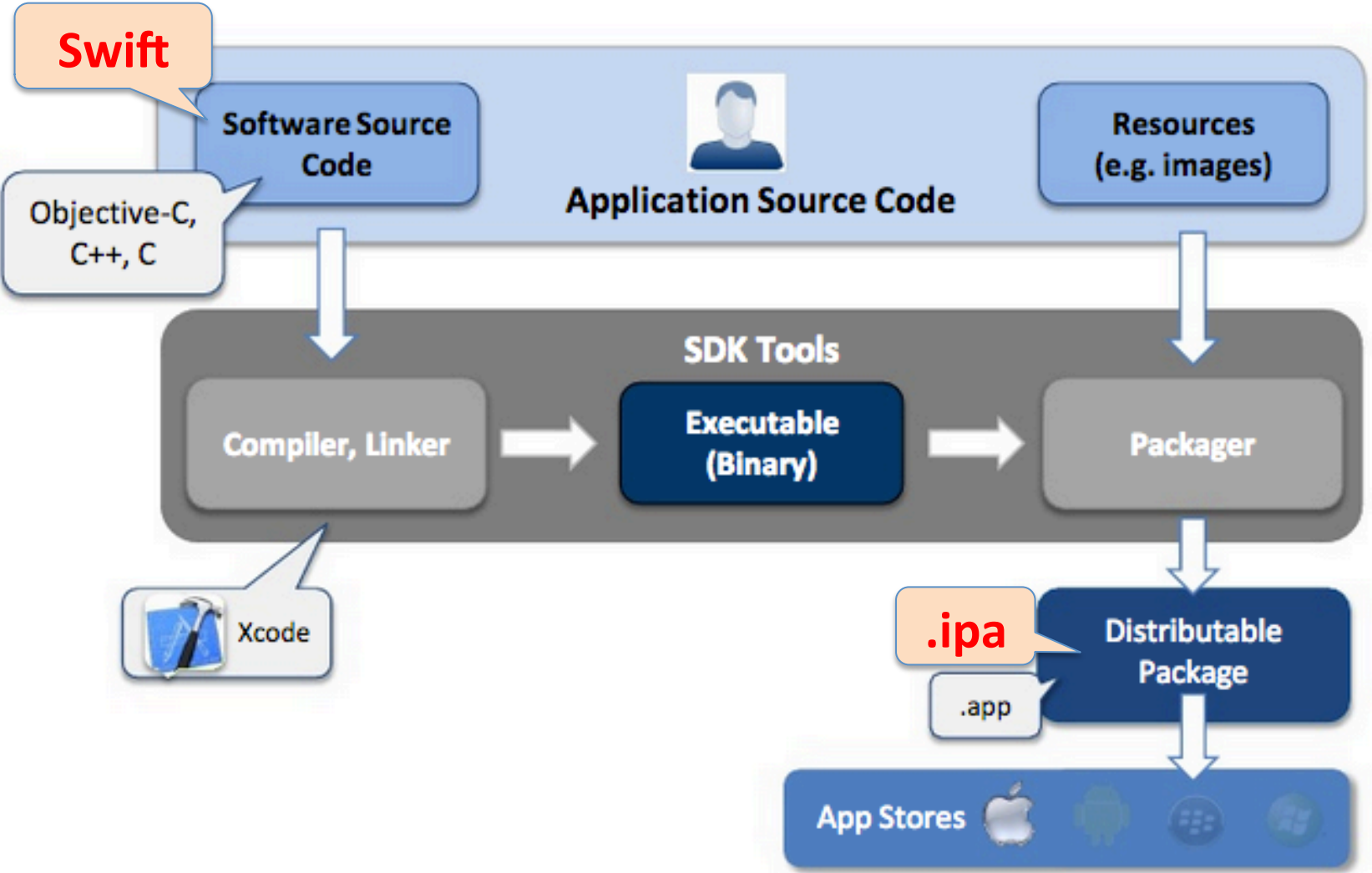
Characteristics of a Purely-Native Mobile App

- A **binary** “executable image”, that is explicitly downloaded and stored on the file system of the mobile device
- **Distributed** through the popular app store or marketplace of the device, or via an enterprise distribution mechanism
- **Executed directly** by the operating system
 - Launched from the home screen
 - Does not require another “container app” to run it
- Makes explicit use of **operating-system APIs**

Native App Development



iOS - Native App Development



Swift Language



A new programming language for iOS and OS X.

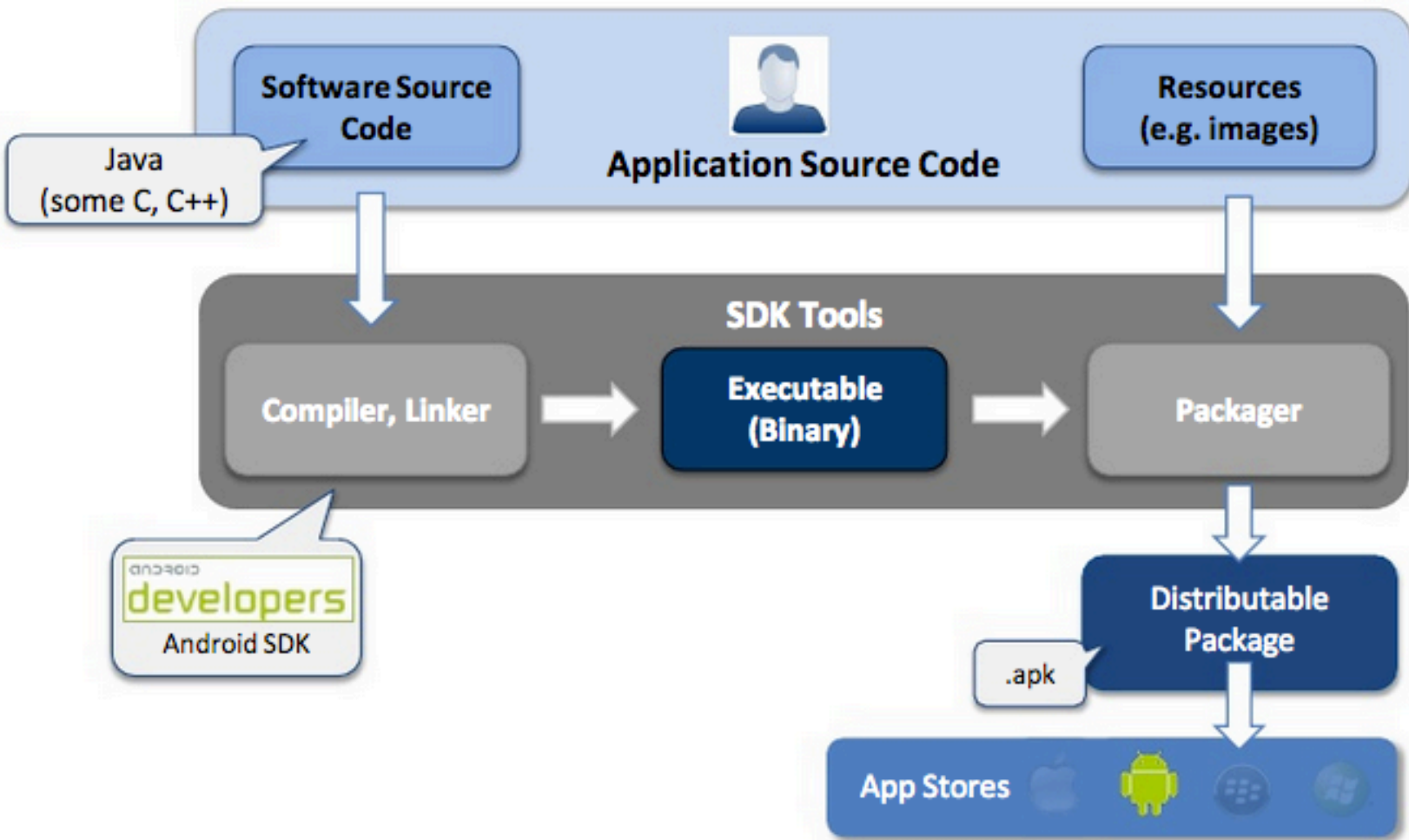
- Swift is a new **object-oriented programming language** for **iOS and OS X development**.
- Swift is **modern, powerful, expressive,** and **easy to use**.

Swift Language

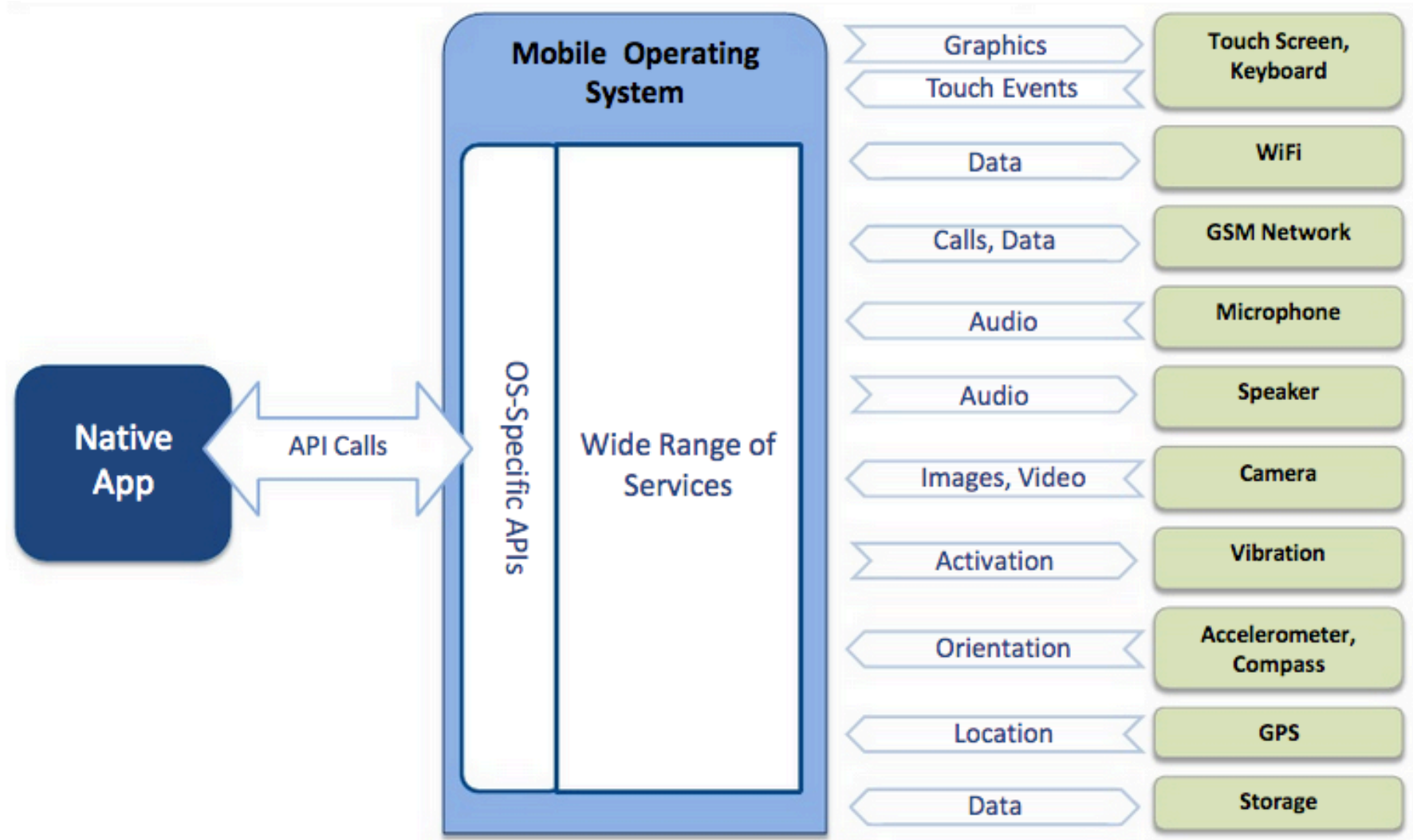


- **Unified**
A **complete replacement** for both the **C** and **Objective-C** languages.
 - Swift provides full object-oriented features, and includes low-level language primitives such as types, flow control, and operators.
- **Fast**
- **Complete platform**
- **Safe by design**
- **Modern**
- **Interactive**

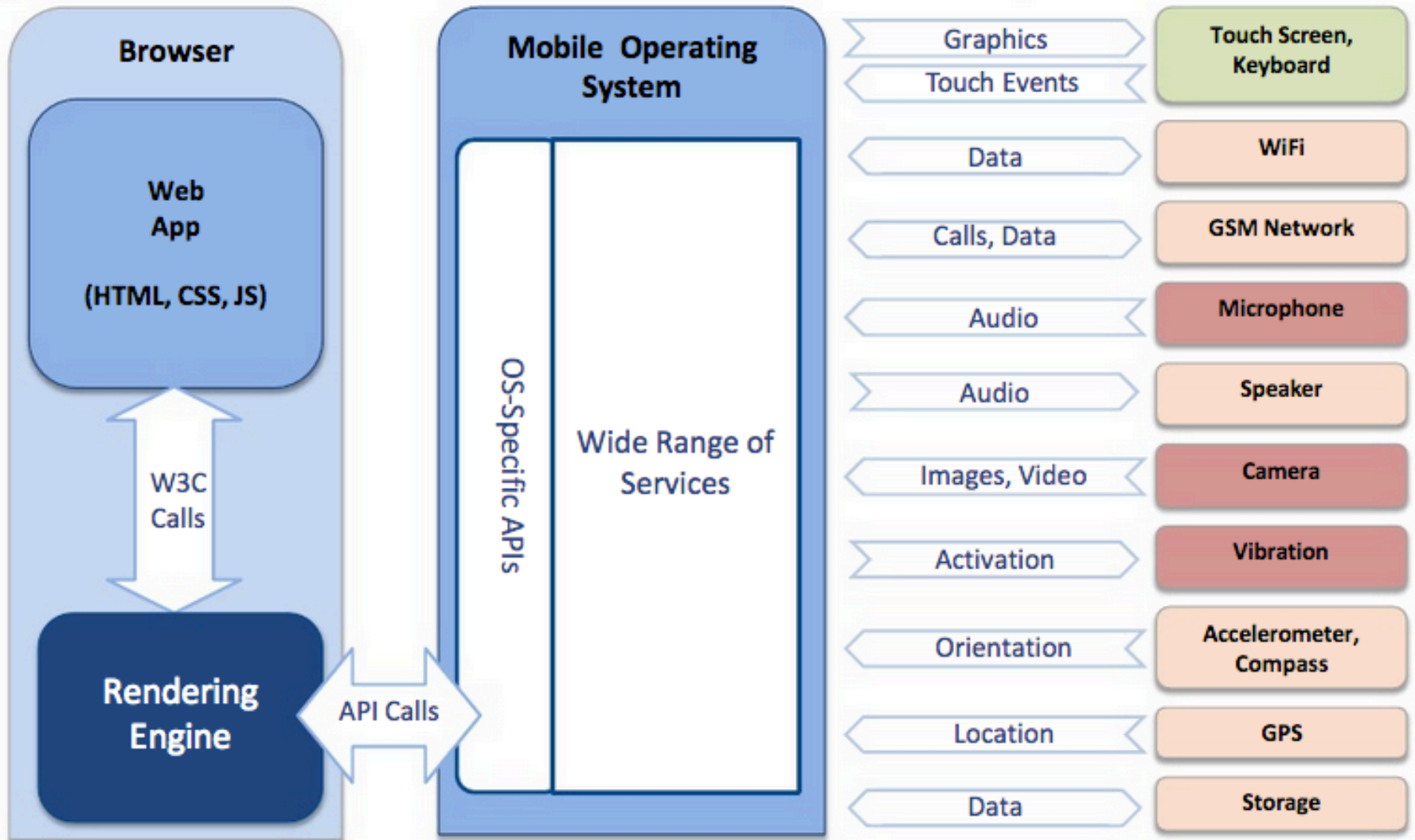
Android - Native App Development



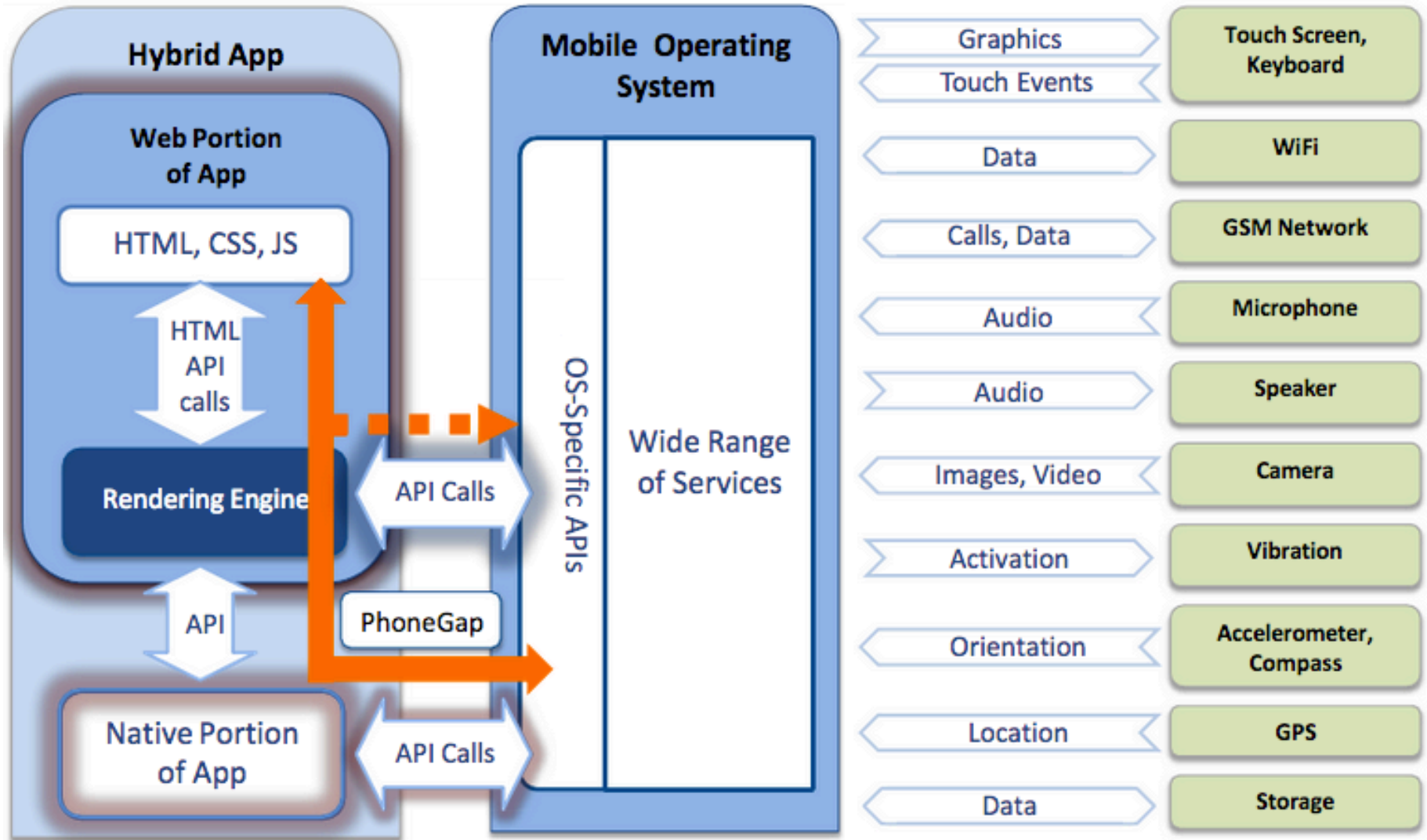
Native App – Interaction with Mobile Device



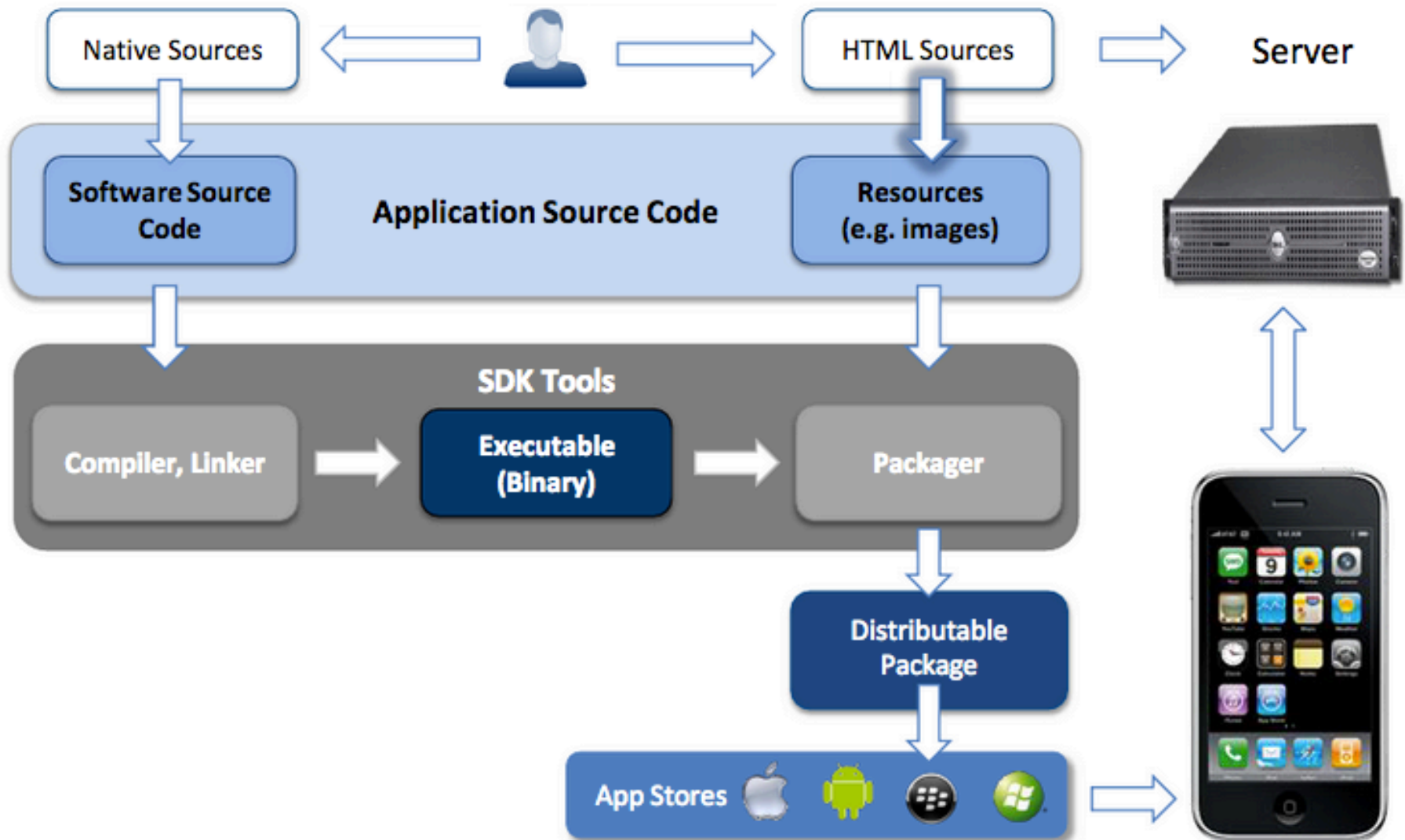
Web App – Interaction with Mobile Device



Hybrid App – Interaction with Mobile Device



Hybrid App Development



Hybrid App Examples

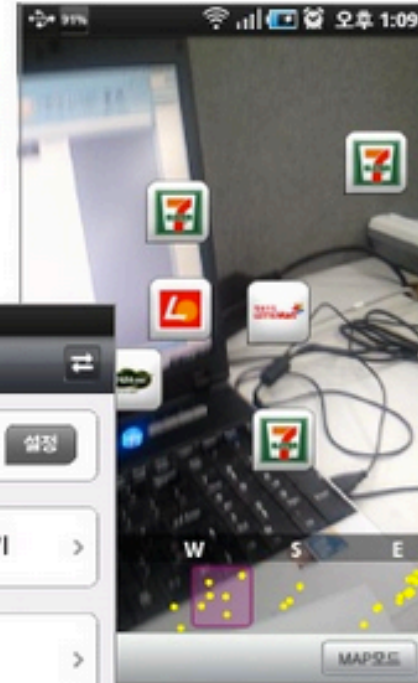
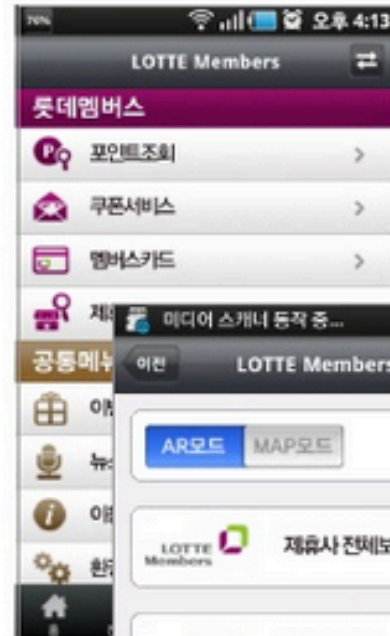
Bank of America



Facebook

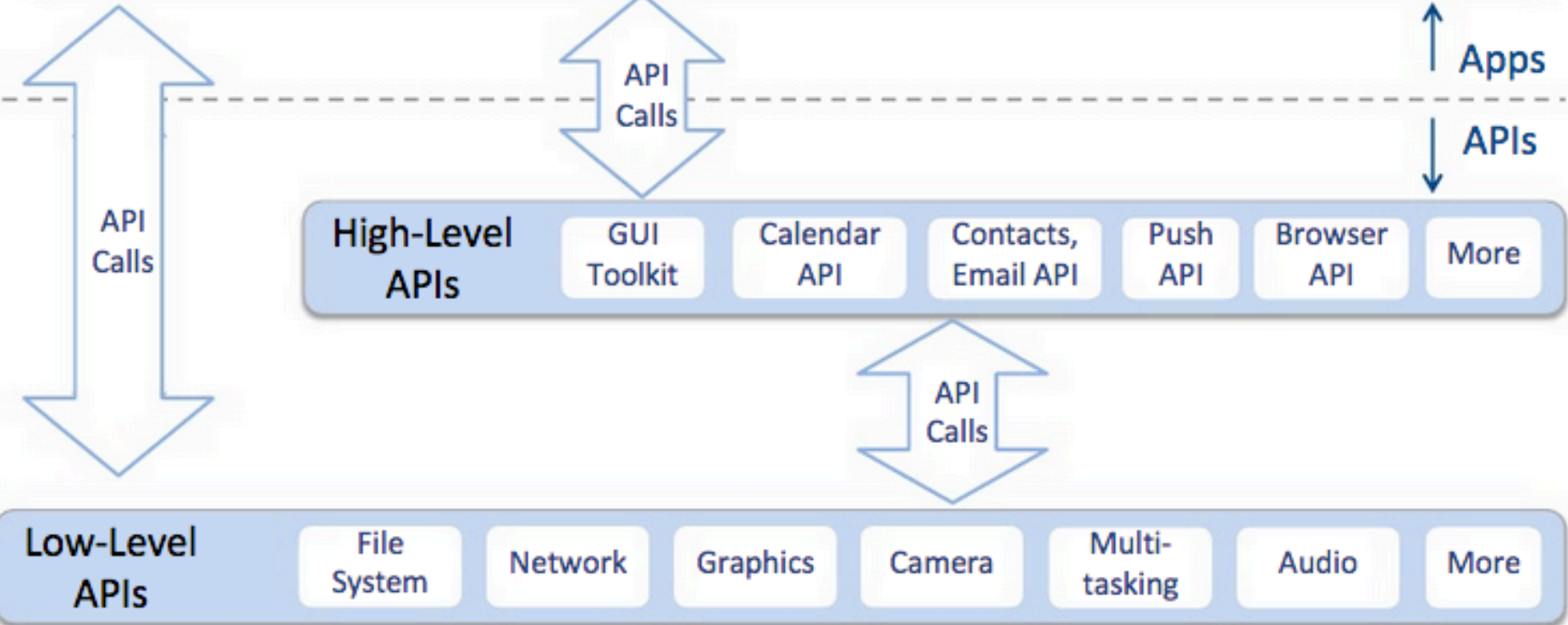
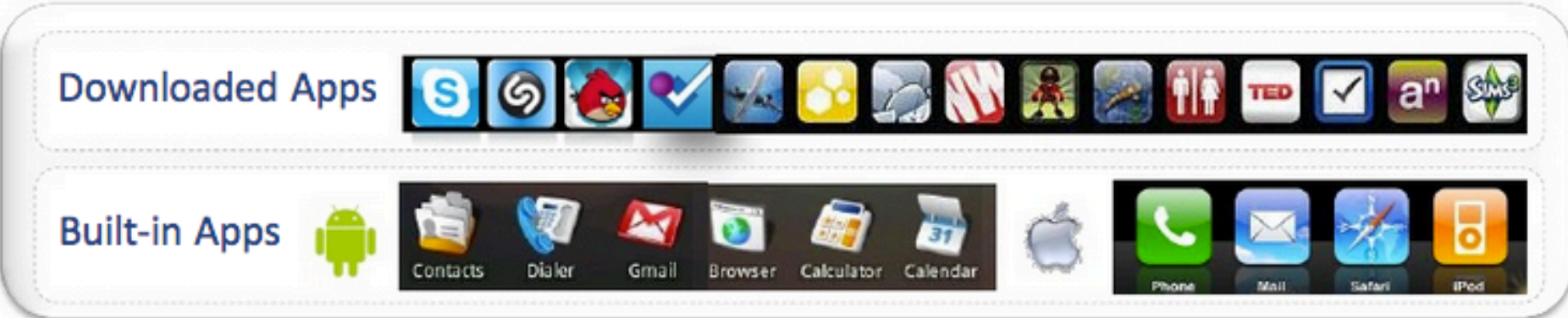


Morgan Stanley



Lotte Card (Korea)

Native App – High-level APIs and Built-in Apps



GUI Toolkit Provides App With “Native” Look



Mobile Web Apps and Mobile Browsing



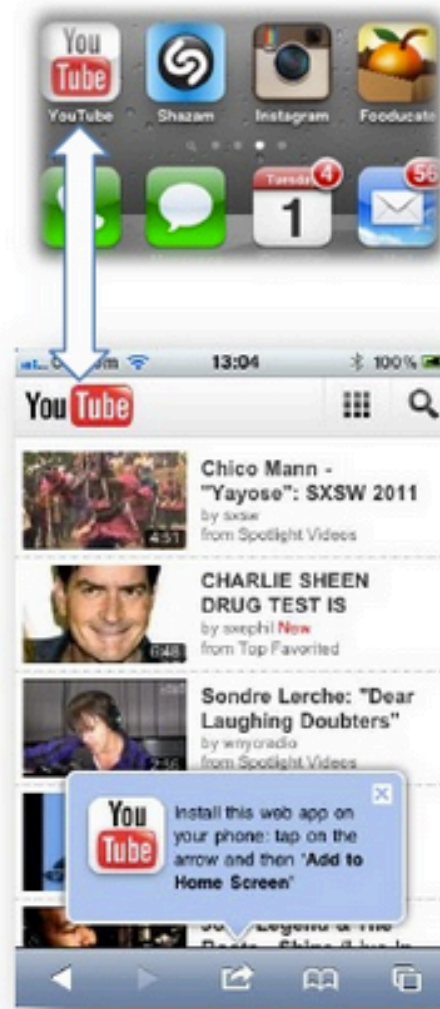
Mobile Browsing and Mobile Web Apps



Google, Wikipedia:
Mobile-optimized
websites



Dremel:
Launch using
QR-Codes



YouTube: Web App



2B: Web App

Mobile Browsing vs. Mobile Web Apps



Pure Mobile Web Sites

- Visited by browsing
- Static, navigational UI
- Generic look & feel
- Server-side rendering
- Require connectivity

... Gray Area ...

Pure Mobile Web Apps

- Installed and launched
- Interactive UI
- Touch optimized
- Client-side rendering
- Available offline

Characteristics of Mobile Web Apps

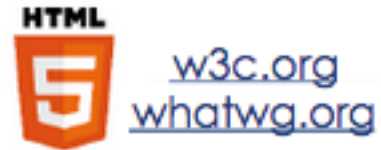
- Entirely written using web technologies
 - HTML, CSS and JavaScript
- Code is executed by the browser, not by the OS
- Various launch mechanisms
 - Typing URL, clicking hyperlink, scanning QR Code or clicking home-screen shortcut
- Installation is optional
- Combine cross-platform HTML5 and device-specific features optimize apps
 - Touch-optimized look & feel
 - No address bar
 - Suggestion to pin to home screen
 - Offline availability

HTML5 and related technologies

Static Pages

Dynamic Pages

Web Applications

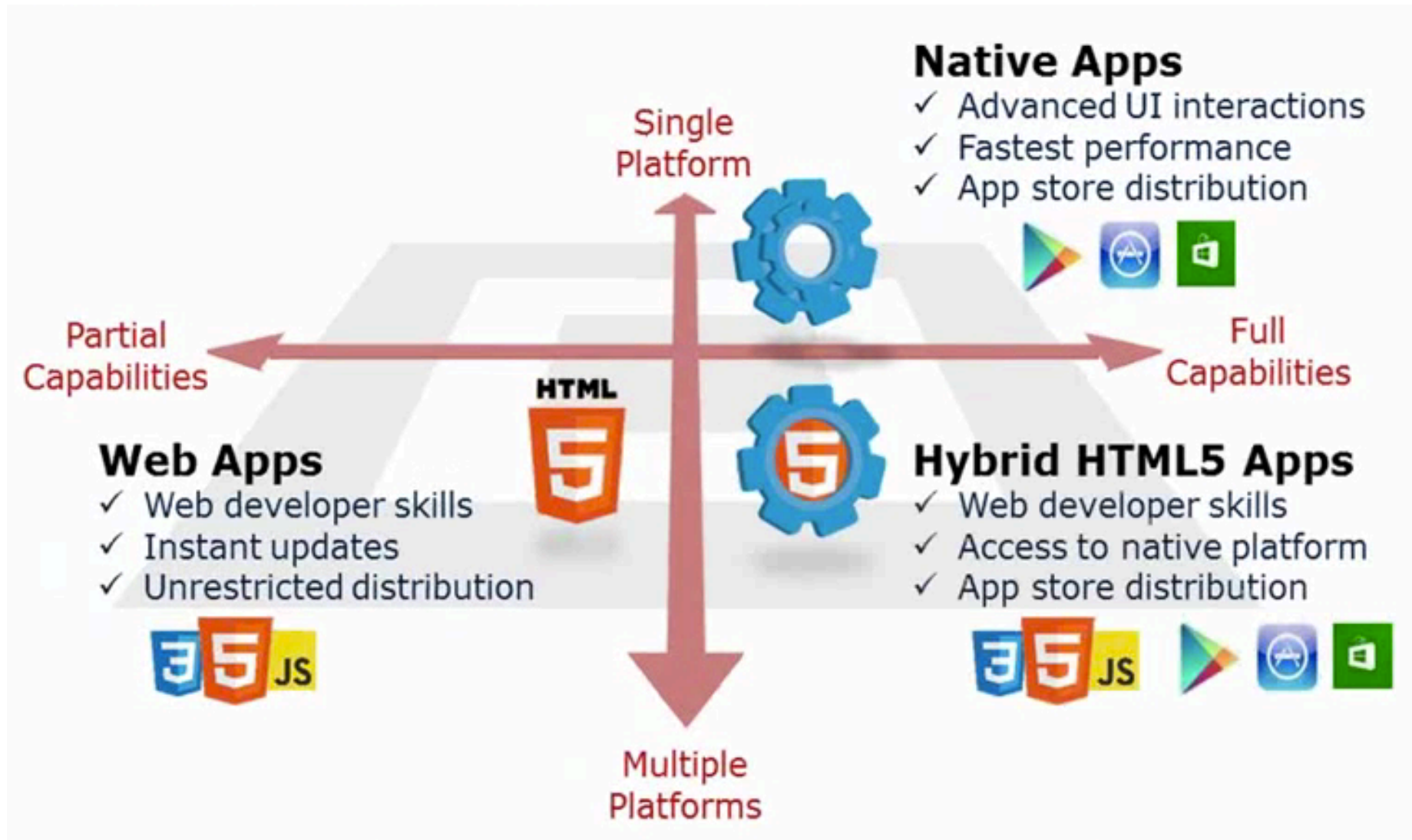


- Main HTML5/CSS3 features on mobile
 - Bitmapped and vector graphics, including animations
 - Offline support and data URLs
 - Geolocation
 - Video and Audio
 - Continuous communications with the server
 - More...

Characteristics of Hybrid Apps

- A Hybrid App is a native app with embedded HTML
- It has all the benefits of native apps: full access to APIs, app-store presence, etc.
- Selected portions of the app are written using web technologies
- The web portions of the app can either be downloaded from the web or packaged within the app

Native Apps vs. Hybrid HTML5 Apps



HTML5, JavaScript, CSS3

HTML



CSS



JS



jQuery Mobile: <http://jquerymobile.com/>

jQuery Mobile | jQuery Mo x

jquerymobile.com

jQuery UI **Mobile** Plugins Meetups Forum Events About Donate

jQuery
mobile

Demos API **Download** Platforms Themes Resources Blog

JQUERY MOBILE 1.4.0 BETA RELEASED!

jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets

A unified, HTML5-based user interface system for all popular mobile device platforms, built on the rock-solid jQuery and jQuery UI foundation. Its lightweight code is built with progressive enhancement, and has a flexible, easily themeable design.

Latest stable version - 1.3.2 ↗
Legacy versions: **1.2.1** - **1.1.2** - **1.0.1**

Seriously cross-platform with HTML5

jQuery mobile framework takes the "write less, do more" mantra to the next level: Instead of writing unique apps for each mobile device or OS, the jQuery mobile framework allows you to design a single highly-branded web site or application that will work on all popular smartphone, tablet, and desktop platforms. **Device support** ↗

PhoneGap: <http://phonegap.com/>

The screenshot shows the PhoneGap website homepage. At the top, there is a navigation bar with links for "About", "Developer", "Community", "Apps", and "Support", along with an "Install" button. The main content area features a large heading: "Easily create apps using the web technologies you know and love: **HTML, CSS, and JavaScript**". Below this, a sub-heading reads: "PhoneGap is a free and open source framework that allows you to create mobile apps using standardized web APIs for the platforms you care about." There are two buttons: "Install PhoneGap" and "Getting Started Guides". To the right, a video player is embedded with a "Watch Intro" button. At the bottom, a process flow diagram illustrates the workflow: "Wrap your app with PhoneGap" (represented by a box containing JS, CSS, and HTML icons) followed by "Deploy to mobile platforms!" (represented by a stack of mobile device icons).

PhoneGap | Home

phonegap.com

PhoneGap About Developer Community Apps Support

Install

Easily create apps using the web technologies you know and love: **HTML, CSS, and JavaScript**

PhoneGap is a free and open source framework that allows you to create mobile apps using standardized web APIs for the platforms you care about.

Install PhoneGap ▶ Getting Started Guides ▶

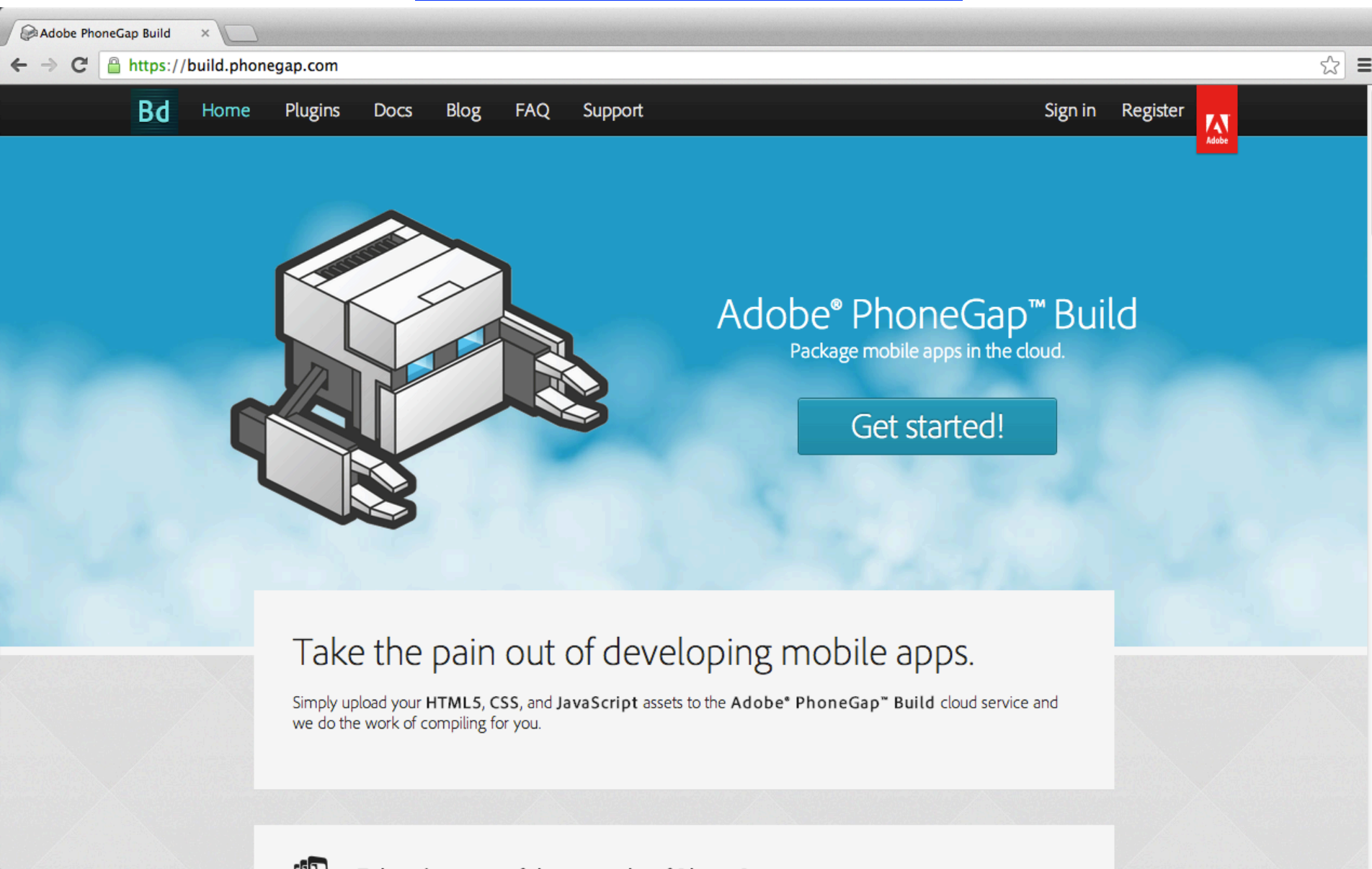
Watch Intro

Wrap your app with PhoneGap

Deploy to mobile platforms!

Adobe PhoneGap Build: Package mobile apps in the cloud

<https://build.phonegap.com/>



The screenshot shows the Adobe PhoneGap Build website. The browser's address bar displays the URL <https://build.phonegap.com/>. The navigation bar includes a 'Bd' logo, links for 'Home', 'Plugins', 'Docs', 'Blog', 'FAQ', and 'Support', and buttons for 'Sign in' and 'Register'. The Adobe logo is in the top right corner. The main content area features a 3D illustration of a mobile phone on the left. To its right, the text reads 'Adobe® PhoneGap™ Build' followed by the tagline 'Package mobile apps in the cloud.' and a prominent 'Get started!' button. Below this, a white box contains the text 'Take the pain out of developing mobile apps.' and a sub-headline 'Simply upload your HTML5, CSS, and JavaScript assets to the Adobe® PhoneGap™ Build cloud service and we do the work of compiling for you.'

Demo

CompileOnline: Try jQueryMobile
Online

http://www.compileonline.com/try_jquerymobile_online.php



CompileOnline: Try jQueryMobile Online

Try jQuery Mobile Online

www.compileonline.com/try_jquerymobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
8   ="stylesheet" />
9     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
10  ></script>
11  </head>
12  <body>
13    <div data-role="page" id="first" data-theme="a">
14      <div data-role="header">
15        <h1>Page Title1</h1>
16      </div><!-- /header -->
17
18      <div data-role="content">
19        <p>Page content goes here.</p>
20        <a href="#second">Go to second page</a>
21      </div><!-- /content -->
22
23      <div data-role="footer">
24        <h4>Page Footer1</h4>
25      </div><!-- /footer -->
26    </div><!-- /page -->
27
28    <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
29      <div data-role="header">
30        <h1>Page Title2</h1>
31      </div><!-- /header -->
32
33      <div data-role="content">
34        <p>Page content goes here.</p>
35      </div><!-- /content -->
36
37      <div data-role="footer">
38        <h4>Page Footer2</h4>
39      </div><!-- /footer -->
40    </div><!-- /page -->
41  </body>
42 </html>
```


Result


How it works?

Just follow the following simple steps to compile and execute any of your favorites programming languages online using your favorite browser and without having any setup on your local machine.

Step - 1 Select your favorite language which you want to execute.

Step - 2 Type your source using available text editor.

Step - 3 Finally click  button [Ctrl+E on Windows & Command+E on Mac] to see the result.

NOTE: If you do not get result, then kindly try clicking  button once again.

Advanced Functionality

- If you are willing to provide input to your program then use **input.txt** to give input to your program. Internally you will need to read this input.
- If you know how to use multiple files to implement packages, modules etc. in your favorite language then you can enable multi-file support using available checkbox.
- If you are willing to provide command line arguments to your program then use below mentioned input box to specify your command line arguments.

Tutorials

http://www.compileonline.com/try_jquerymobile_online.php

Try jQuery Mobile Online

www.compileonline.com/try_jquermobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```

1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
="stylesheet" />
8     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
></script>
9   </head>
10
11   <body>
12     <div data-role="page" id="first" data-theme="a">
13       <div data-role="header">
14         <h1>Page Title1</h1>
15       </div><!-- /header -->
16
17       <div data-role="content">
18         <p>Page content goes here.</p>
19         <a href="#second">Go to second page</a>
20       </div><!-- /content -->
21
22       <div data-role="footer">
23         <h4>Page Footer1</h4>
24       </div><!-- /footer -->
25     </div><!-- /page -->
26
27     <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
28       <div data-role="header">
29         <h1>Page Title2</h1>
30       </div><!-- /header -->
31
32       <div data-role="content">
33         <p>Page content goes here.</p>
34       </div><!-- /content -->
35
36       <div data-role="footer">
37         <h4>Page Footer2</h4>

```

Result Download Files

Page Title1

Page content goes here.

[Go to second page](#)

Page Footer1

javascript:void(0)

http://www.compileonline.com/try_jquermobile_online.php

Try jQuery Mobile Online

www.compileonline.com/try_jquermobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
="stylesheet" />
8     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
></script>
9   </head>
10
11   <body>
12     <div data-role="page" id="first" data-theme="a">
13       <div data-role="header">
14         <h1>Page Title1</h1>
15       </div><!-- /header -->
16
17       <div data-role="content">
18         <p>Page content goes here. Hello World Myday</p>
19         <a href="#second">Go to second page</a>
20       </div><!-- /content -->
21
22       <div data-role="footer">
23         <h4>Page Footer1</h4>
24       </div><!-- /footer -->
25     </div><!-- /page -->
26
27     <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
28       <div data-role="header">
29         <h1>Page Title2</h1>
30       </div><!-- /header -->
31
32       <div data-role="content">
33         <p>Page content goes here.</p>
34       </div><!-- /content -->
35
36       <div data-role="footer">
37         <h4>Page Footer2</h4>

```

Result Download Files

Page Title1

Page content goes here.

[Go to second page](#)

Page Footer1

http://www.compileonline.com/try_jquermobile_online.php

Try jQuery Mobile Online

www.compileonline.com/try_jquerymobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
8   ="stylesheet" />
9     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
10  ></script>
11  </head>
12  <body>
13    <div data-role="page" id="first" data-theme="a">
14      <div data-role="header">
15        <h1>Page Title1</h1>
16      </div><!-- /header -->
17
18      <div data-role="content">
19        <p>Page content goes here. Hello World Myday</p>
20        <a href="#second">Go to second page</a>
21      </div><!-- /content -->
22
23      <div data-role="footer">
24        <h4>Page Footer1</h4>
25      </div><!-- /footer -->
26    </div><!-- /page -->
27
28    <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
29      <div data-role="header">
30        <h1>Page Title2</h1>
31      </div><!-- /header -->
32
33      <div data-role="content">
34        <p>Page content goes here.</p>
35      </div><!-- /content -->
36
37      <div data-role="footer">
38        <h4>Page Footer2</h4>
39      </div><!-- /footer -->
40    </div><!-- /page -->
41  </body>
42 </html>
```

Result Download Files

Page Title1

Page content goes here. Hello World Myday

[Go to second page](#)

Page Footer1

http://www.compileonline.com/try_jquerymobile_online.php


```

<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
    <meta name="viewport" content="width=device-width, initial-scale=1" />
    <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
    <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel="stylesheet" />
    <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"></script>
  </head>

  <body>
    <div data-role="page" id="first" data-theme="a">
      <div data-role="header">
        <h1>Page Title1</h1>
      </div><!-- /header -->

      <div data-role="content">
        <p>Page content goes here. Hello World Myday</p>
        <a href="#second">Go to second page</a>
      </div><!-- /content -->

      <div data-role="footer">
        <h4>Page Footer1</h4>
      </div><!-- /footer -->
    </div><!-- /page -->

    <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
      <div data-role="header">
        <h1>Page Title2</h1>
      </div><!-- /header -->

      <div data-role="content">
        <p>Page content goes here.</p>
      </div><!-- /content -->

      <div data-role="footer">
        <h4>Page Footer2</h4>
      </div><!-- /footer -->
    </div><!-- /page -->
  </body>
</html>

```

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
    <meta name="viewport" content="width=device-width, initial-
scale=1" />
    <script src="http://code.jquery.com/jquery-1.9.1.min.js"></
script>
    <link type="text/css" href="http://code.jquery.com/mobile/
latest/jquery.mobile.min.css" rel="stylesheet" />
    <script type="text/javascript" src="http://code.jquery.com/
mobile/latest/jquery.mobile.min.js"></script>
  </head>
```

```
<body>
  <div data-role="page" id="first" data-theme="a">
    <div data-role="header">
      <h1>Page Title1</h1>
    </div><!-- /header -->

    <div data-role="content">
      <p>Page content goes here. Hello World Myday</p>
      <a href="#second">Go to second page</a>
    </div><!-- /content -->

    <div data-role="footer">
      <h4>Page Footer1</h4>
    </div><!-- /footer -->
  </div><!-- /page -->
```

```
<div data-role="page" id="second" data-add-back-btn="true"
data-theme="b">
  <div data-role="header">
    <h1>Page Title2</h1>
  </div><!-- /header -->

  <div data-role="content">
    <p>Page content goes here.</p>
  </div><!-- /content -->

  <div data-role="footer">
    <h4>Page Footer2</h4>
  </div><!-- /footer -->
</div><!-- /page -->
</body>
</html>
```

Try jQuery Mobile Online

www.compileonline.com/try_jquerymobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
6 <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7 <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
="stylesheet" />
8 <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
></script>
9 </head>
10
11 <body>
12 <div data-role="page" id="first" data-theme="a">
13 <div data-role="header">
14 <h1>Page Title1</h1>
15 </div><!-- /header -->
16
17 <div data-role="content">
18 <p>Page content goes here. Hello World Myday</p>
19 <a href="#second">Go to second page</a>
20 </div><!-- /content -->
21
22 <div data-role="footer">
23 <h4>Page Footer1</h4>
24 </div><!-- /footer -->
25 </div><!-- /page -->
26
27 <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
28 <div data-role="header">
29 <h1>Page Title2</h1>
30 </div><!-- /header -->
31
32 <div data-role="content">
33 <p>Page content goes here.</p>
34 </div><!-- /content -->
35
36 <div data-role="footer">
37 <h4>Page Footer2</h4>
38 </div><!-- /footer -->
39 </div><!-- /page -->
```

Result Download Files

Page Title1

Page content goes here. Hello World Myday

[Go to second page](#)

Page Footer1

www.compileonline.com/download.php

project.tar.gz Show All

http://www.compileonline.com/try_jquerymobile_online.php

Try jQuery Mobile Online

www.compileonline.com/try_jquerymobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
8 <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
9 ></script>
10 </head>
11 <body>
12 <div data-role="page" id="first" data-theme="e">
13 <div data-role="header">
14 <h1>Page Title1</h1>
15 </div><!-- /header -->
16
17 <div data-role="content">
18 <p>Page content goes here. Hello World Myday</p>
19 <a href="#second">Go to second page</a>
20 </div><!-- /content -->
21
22 <div data-role="footer">
23 <h4>Page Footer1</h4>
24 </div><!-- /footer -->
25 </div><!-- /page -->
26
27 <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
28 <div data-role="header">
29 <h1>Page Title2</h1>
30 </div><!-- /header -->
31
32 <div data-role="content">
33 <p>Page content goes here.</p>
34 </div><!-- /content -->
35
36 <div data-role="footer">
37 <h4>Page Footer2</h4>
38 </div><!-- /footer -->
39 </div><!-- /page -->
40 </body>
41 </html>
42
```

Result Download Files

Page Title1

Page content goes here. Hello World Myday

[Go to second page](#)

Page Footer1

project.tar.gz Show All

Try jQuery Mobile Online

www.compileonline.com/try_jquermobile_online.php

compileonline.com - Try jQueryMobile online

Home Languages Web Editors About Help

Result Preview HTML with jQuery Mobile Default Ace Editor

```
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel
8   ="stylesheet" />
9     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"
10  ></script>
11  </head>
12  <body>
13    <div data-role="page" id="first" data-theme="e">
14      <div data-role="header">
15        <h1>Page Title1</h1>
16      </div><!-- /header -->
17
18      <div data-role="content">
19        <p>Page content goes here. Hello World Myday</p>
20        <a href="#second">Go to second page</a>
21      </div><!-- /content -->
22
23      <div data-role="footer">
24        <h4>Page Footer1</h4>
25      </div><!-- /footer -->
26    </div><!-- /page -->
27
28    <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
29      <div data-role="header">
30        <h1>Page Title2</h1>
31      </div><!-- /header -->
32
33      <div data-role="content">
34        <p>Page content goes here.</p>
35      </div><!-- /content -->
36    </div><!-- /page -->
37  </body>
38 </html>
```

Result Download Files

Back Page Title2

Page content goes here.

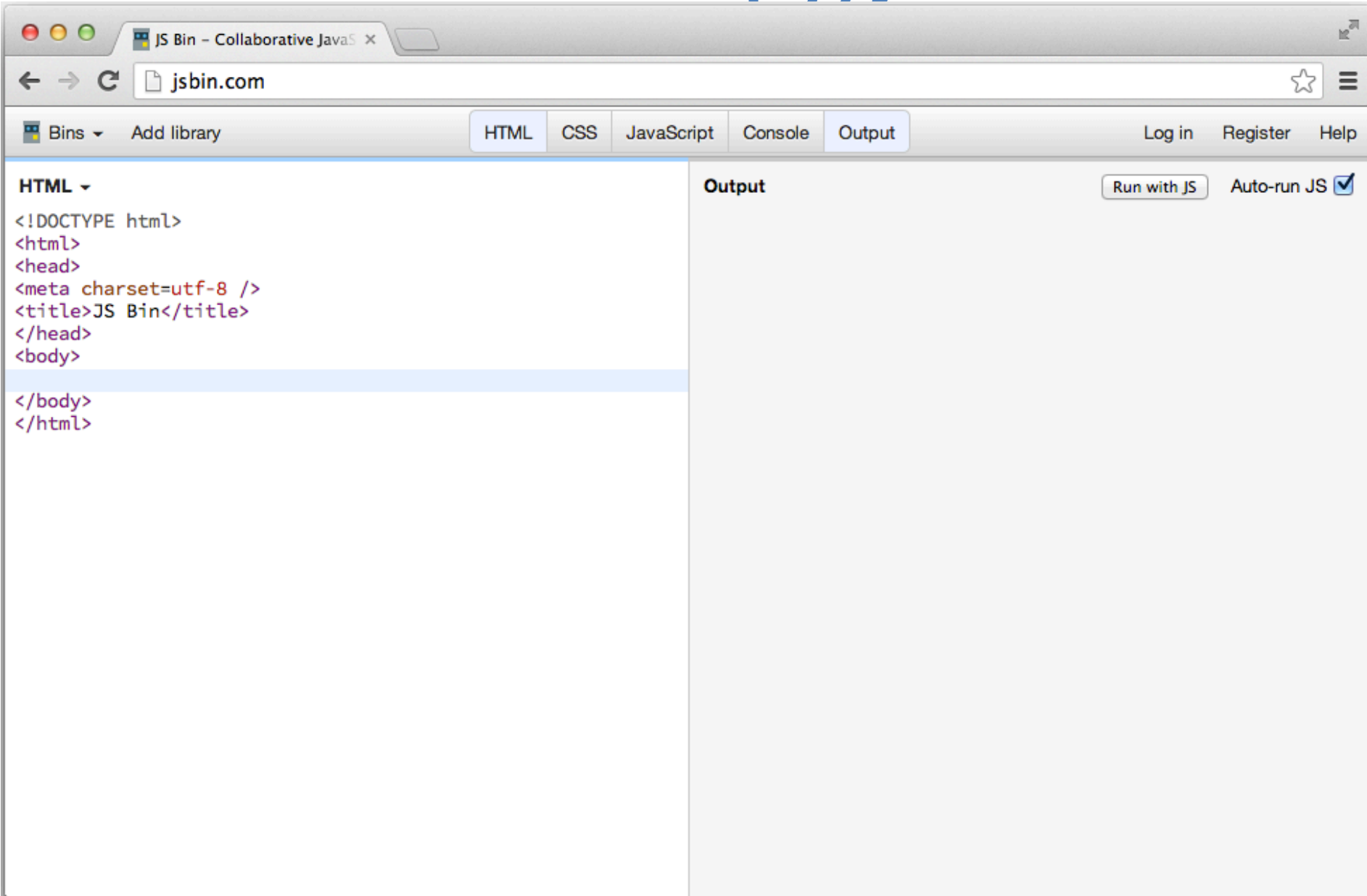
Page Footer2

project.tar.gz Show All

```
TextWrangler File Edit Text View Search Go Window #! Help
index.htm
File Path: ~/Downloads/Project1/index.htm
index.htm (no symbol selected)
1 <!DOCTYPE html>
2 <html>
3   <head>
4     <title>Page Title</title>
5     <meta name="viewport" content="width=device-width, initial-scale=1" />
6     <script src="http://code.jquery.com/jquery-1.9.1.min.js"></script>
7     <link type="text/css" href="http://code.jquery.com/mobile/latest/jquery.mobile.min.css" rel="stylesheet" />
8     <script type="text/javascript" src="http://code.jquery.com/mobile/latest/jquery.mobile.min.js"></script>
9   </head>
10
11   <body>
12     <div data-role="page" id="first" data-theme="a">
13       <div data-role="header">
14         <h1>Page Title1</h1>
15       </div><!-- /header -->
16
17       <div data-role="content">
18         <p>Page content goes here. Hello World Myday</p>
19         <a href="#second">Go to second page</a>
20       </div><!-- /content -->
21
22       <div data-role="footer">
23         <h4>Page Footer1</h4>
24       </div><!-- /footer -->
25     </div><!-- /page -->
26
27     <div data-role="page" id="second" data-add-back-btn="true" data-theme="b">
28       <div data-role="header">
29         <h1>Page Title2</h1>
30       </div><!-- /header -->
31
32       <div data-role="content">
33         <p>Page content goes here.</p>
34       </div><!-- /content -->
35
36       <div data-role="footer">
37         <h4>Page Footer2</h4>
38       </div><!-- /footer -->
39     </div><!-- /page -->
40   </body>
41 </html>
42
43
Line 18 Col 1 | HTML | Unicode (UTF-8) | Unix (LF) | Last saved: 13/9/30 上午06:40:32 | 1,455 / 154 / 43
```

http://www.compileonline.com/try_jquerymobile_online.php

Online Editor: <http://jsbin.com>



The screenshot shows a web browser window with the address bar displaying `jsbin.com`. The page title is "JS Bin - Collaborative JavaScript Online Editor". The interface includes a navigation bar with tabs for "HTML", "CSS", "JavaScript", "Console", and "Output". The "HTML" tab is selected, showing a code editor with the following HTML code:

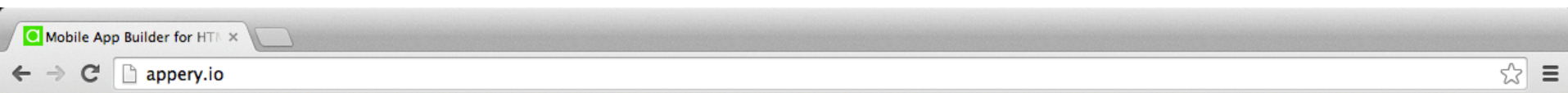
```
<!DOCTYPE html>
<html>
<head>
<meta charset=utf-8 />
<title>JS Bin</title>
</head>
<body>

</body>
</html>
```

The "Output" panel is empty, and the "Run with JS" button is visible. The "Auto-run JS" checkbox is checked.

<http://jsbin.com/>

appery.io



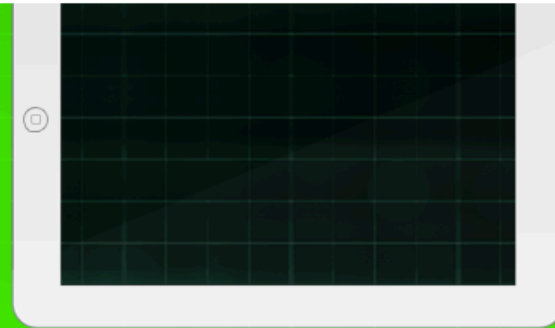
[SIGN UP](#) [LOGIN](#)

appery.io®

[Platform](#) | [Customers](#) | [Pricing](#) | [Services](#) | [Dev Center](#) | [Blog](#) | [About Us](#)

Accelerate Mobile Innovation in the Enterprise

The only cloud-based platform with
visual development tools and
integrated backend services



[Try Our Free Plan](#)



Featured by

Mashable



Forbes



<http://appery.io/>

appery.io

The screenshot displays the Appery.io web-based IDE interface. At the top, the browser address bar shows the URL: `appery.io/app/project/f044ff9d-24e0-4f68-9962-f855b35bff3e/editor`. The interface is divided into several sections:

- Left Sidebar:** Contains a "CREATE NEW" button and a project tree with folders like "Project", "App settings", "Model and Storage", "Pages", "Screen1", "startScreen", "Dialogs", "Templates", "Themes", "CSS", "Services", "JavaScript", and "Custom components".
- Top Bar:** Includes navigation icons (back, forward, refresh) and menu options: "CLOSE", "SAVE", "EXPORT", "TEST". On the right, it shows "Database", "Push", "Server Code", and user status (1 user, 0 notifications).
- Design Canvas:** Shows a mobile screen layout for "Screen1 / mobileheader". A green header bar is visible with the text "Caption".
- PALETTE (Left):** A "DESIGN" palette containing various controls: Button, Group Buttons, Input, Textarea, Datepicker, Label, Link, Radio, Checkbox, Slider, Toggle, Select, List, Image, Grid, and Navbar.
- PROPERTIES (Right):** A "PROPERTIES - Header" panel with sections for "OPERATIONS" (Zoom Level slider at 100), "CUSTOM" (Text: "Caption", Swatch: "Inherit", Back Button: unchecked, Back Button Text: "Back", Position: "fixed", Full Screen: unchecked), and "COMMON" (Name: "mobileheader", Class Name: "Enter Class Name", and a "More properties" link).

<http://appery.io/>

Summary

- Native Apps
- Mobile Apps (Web Apps)
- Hybrid Apps

References

- Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools, Jonathan Stark & Brian Jepson, O'reilly, 2012
- Building iPhone Apps with HTML, CSS, and JavaScript: Making App Store Apps Without Objective-C or Cocoa, Jonathan Stark, O'reilly, 2010
- Native, Web or Hybrid Mobile Apps?,
<https://www.youtube.com/watch?v=Ns-JS4amITc>
- Swift, <https://developer.apple.com/swift/>
- Porting your Apple iOS and Android Apps to HTML5,
<https://www.youtube.com/watch?v=-k43St4LCe0>
- jQuery Mobil: <http://jquerymobile.com/>
- PhoneGap: <http://phonegap.com/>
- Adobe PhoneGap Build: Package mobile apps in the cloud,
<https://build.phonegap.com/>
- Try jQueryMobile Online:
http://www.compileonline.com/try_jquerymobile_online.php
- Online Editor jsbin: <http://jsbin.com/>
- appery.io: <http://appery.io/>