



Social Media Apps Programming

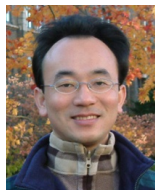
Course Orientation and Introduction to Social Media and Mobile Apps Programming

1041SMAP01

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>



Android /iOS Apps Programming

Native Apps

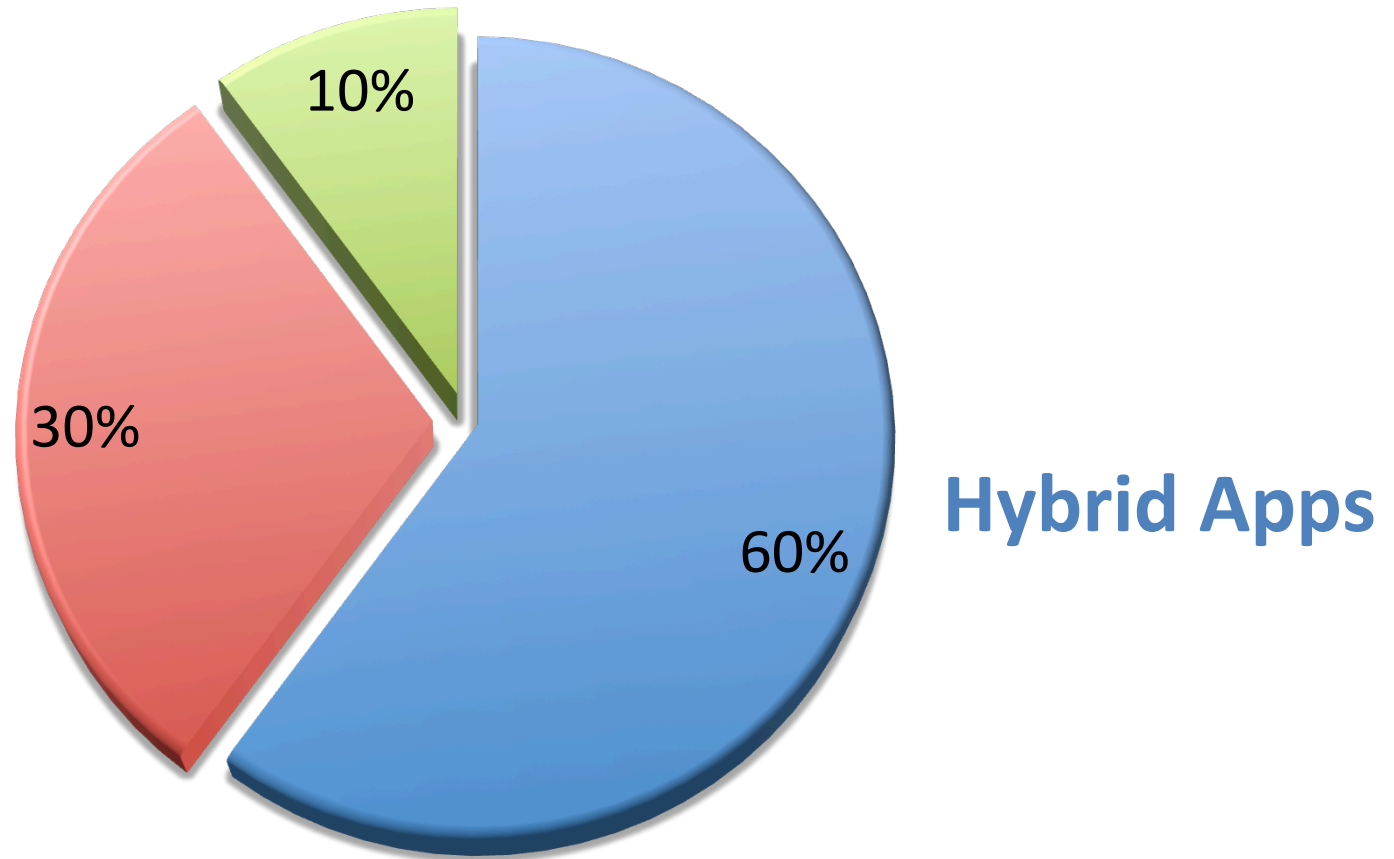
Hybrid Apps

Mobile Web Apps



Enterprise Apps in 2015

■ Hybrid Apps ■ Native Apps ■ Web Apps



Gartner recommend **hybrid apps** over **native apps** development for businesses

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

Making App Store Apps Without Objective-C or Cocoa



Building

iPhone
Apps

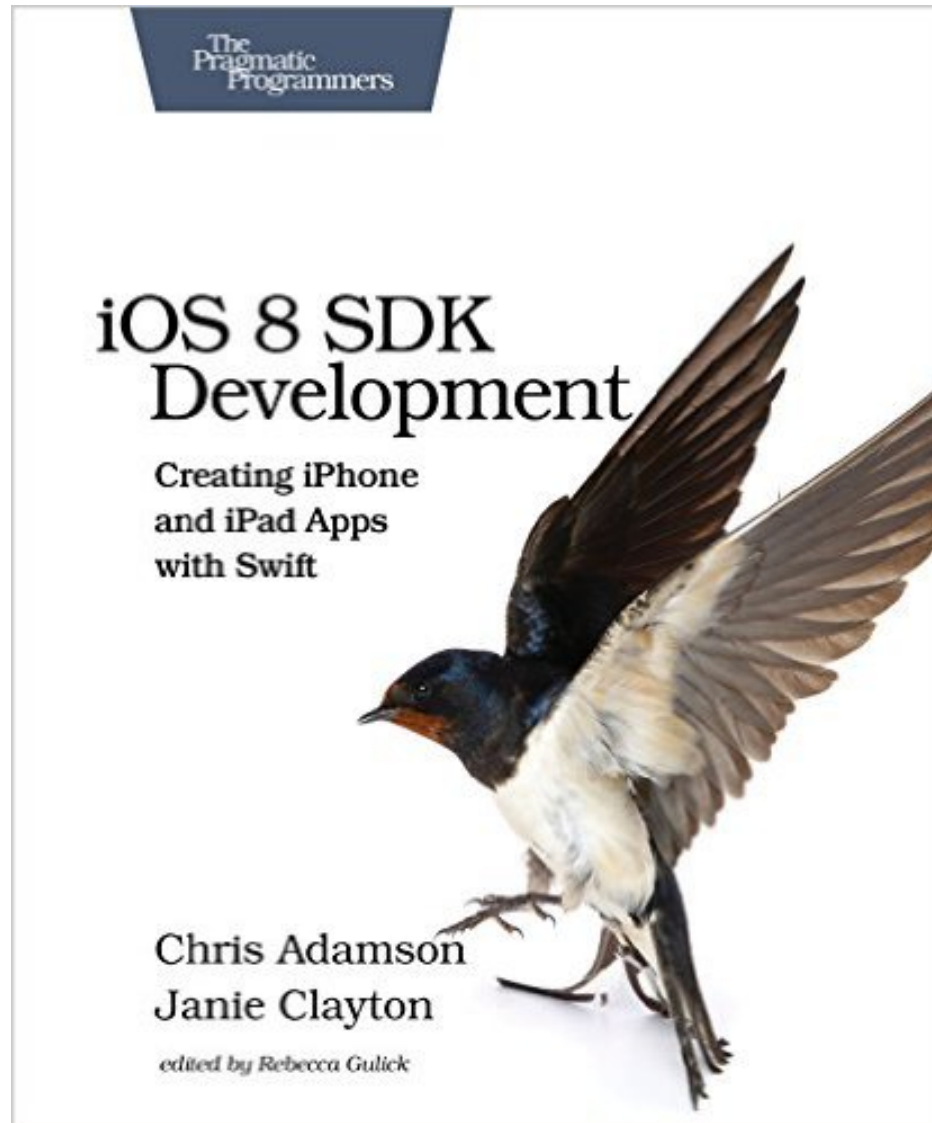
with HTML, CSS, and JavaScript

O'REILLY®

Jonathan Stark

Copyrighted Material

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>

App Development Comparison



Native Apps



Hybrid Apps



Web Apps





Course Syllabus

Tamkang University

Academic Year 104, 1st Semester (Fall, 2015)

- Course Title: Social Media Apps Programming
- Instructor: Min-Yuh Day
- Course Class: TLMXM1A (MIS MBA)
 - Master's Program, Department of Information Management, 1A
- Details
 - Selective
 - One Semester
 - 2 Credits
- Time & Place: Wed 9,10 (16:10-18:00) B310



Department Teaching Objectives

- Devoting to the integration and research of information technology and business management knowledge
- Cultivating for society, middle and higher level managers with both information capabilities and modern management skills



Department Core Competences

1. Use of modern management knowledge
2. Logical thinking
3. Critical analysis
4. Integration of information technology and business management
5. Research and innovation
6. Theory and applications data analysis
7. Information and communication security management
8. Verbal and writing communication skills

Course Introduction



- This course introduces the **fundamental concepts and practices** of **social media** and **mobile apps programming**.
- Topics include
 - Introduction to **Android / iOS apps programming**,
 - Developing **Android native apps with Java (Eclipse)**,
 - Developing **iPhone / iPad apps native apps with Swift (XCode)**,
 - **Mobile apps using HTML5/CSS3/JavaScript**,
 - **jQuery Mobile**,
 - Create **hybrid apps with Phonegap**,
 - **Google Cloud Platform**,
 - **Google app engine, Google map API**,
 - **Facebook API**,
 - **Twitter API**,
 - **Case study on social media apps programming and marketing in Google Play and App Store.**



Teaching Objectives

Students will be able to understand and apply the fundamental concepts and practices of social media and mobile apps programming



Teaching Methods

- Lecture
- Discussion
- Simulation
- Practicum
- Problem Solving

Assessment

- Practicum
 - Report
- Participation

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)

Grading Policy

- Mark of Usual: 50%
- Final Apps Project: 50%
 - Midterm Project Report
 - Final Project Report

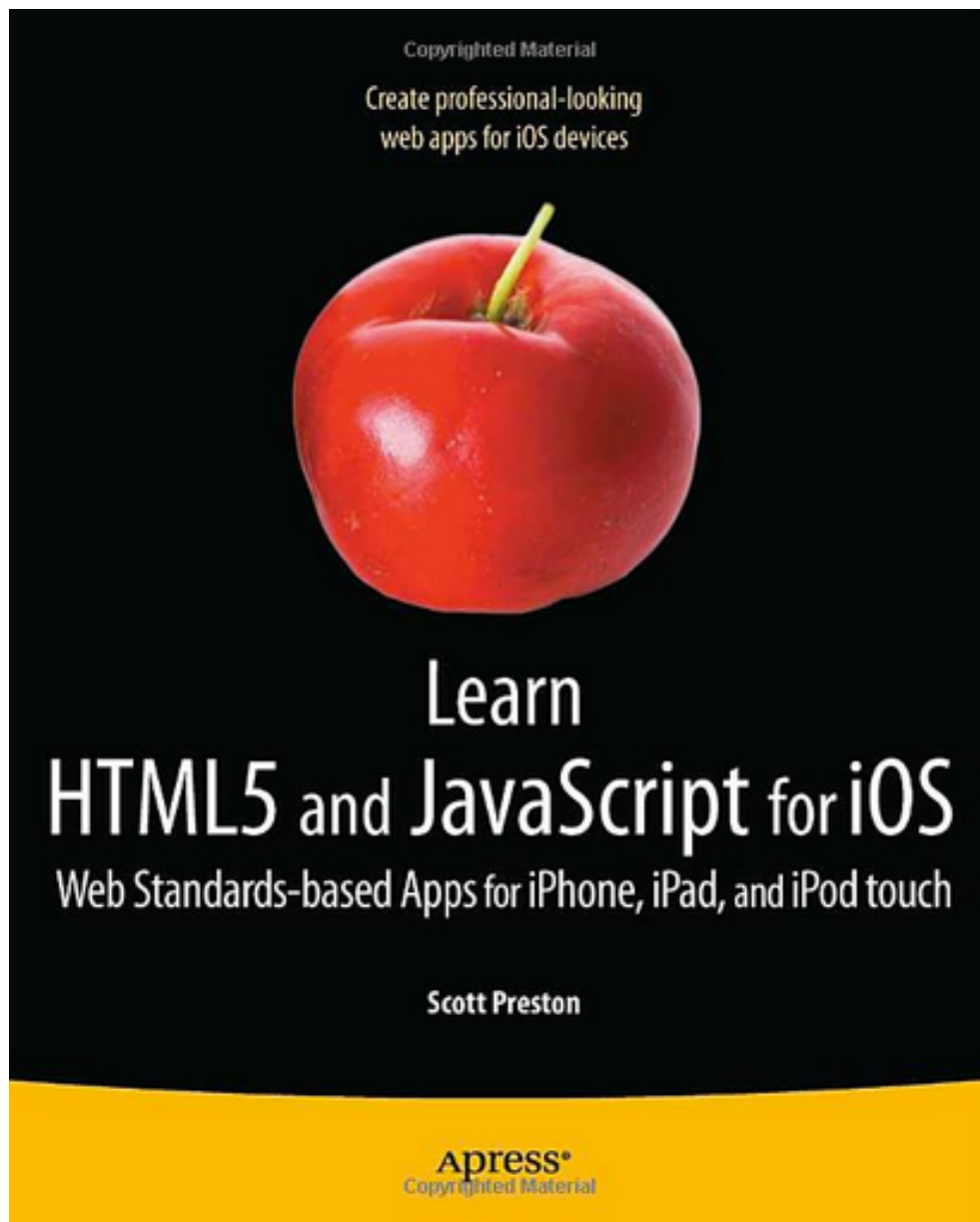
Textbooks and References

- **Textbook: Slides**
 - <http://mail.tku.edu.tw/myday/teaching.htm#1041SMAP>
- Jonathan Stark, Building iPhone Apps with HTML, CSS, and JavaScript: Making App Store Apps Without Objective-C or Cocoa, O'reilly, 2010.
- Rohit Ghatol and Yogesh Patel, Beginning PhoneGap: Mobile Web Framework for JavaScript and HTML5, Apress, 2012.
- Jon Reid, jQuery Mobile, O'reilly, 2012.
- Chris Adamson and Janie Clayton, iOS 8 SDK Development: Creating iPhone and iPad Apps with Swift, Pragmatic Bookshelf, 2nd Edition, 2015

References

- jQuery Mobil: <http://jquerymobile.com/>
- PhoneGap: <http://phonegap.com/>
- MIT App Inventor: <http://appinventor.mit.edu/>
- Apple Developer: <https://developer.apple.com/>
- Android Developer: <http://developer.android.com/>
- Facebook Developers: <https://developers.facebook.com/>
- Twitter Developers: <https://dev.twitter.com/>
- Google App Engine: <https://developers.google.com/appengine/>
- Gephi: Social Network Analysis and Visualization:
<https://gephi.org/>
- Netvizz: Facebook Netvizz app:
<https://apps.facebook.com/netvizz/>

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

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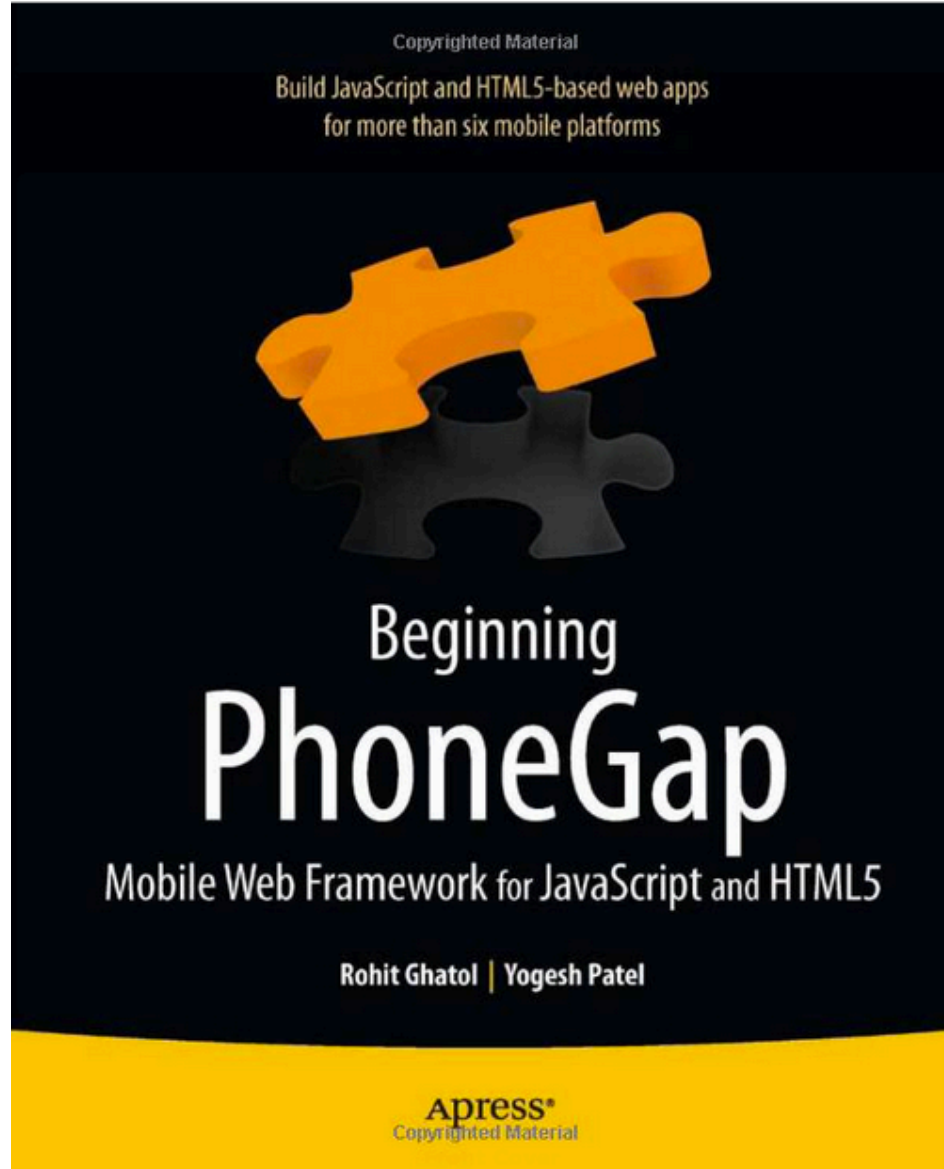
Jonathan Stark

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

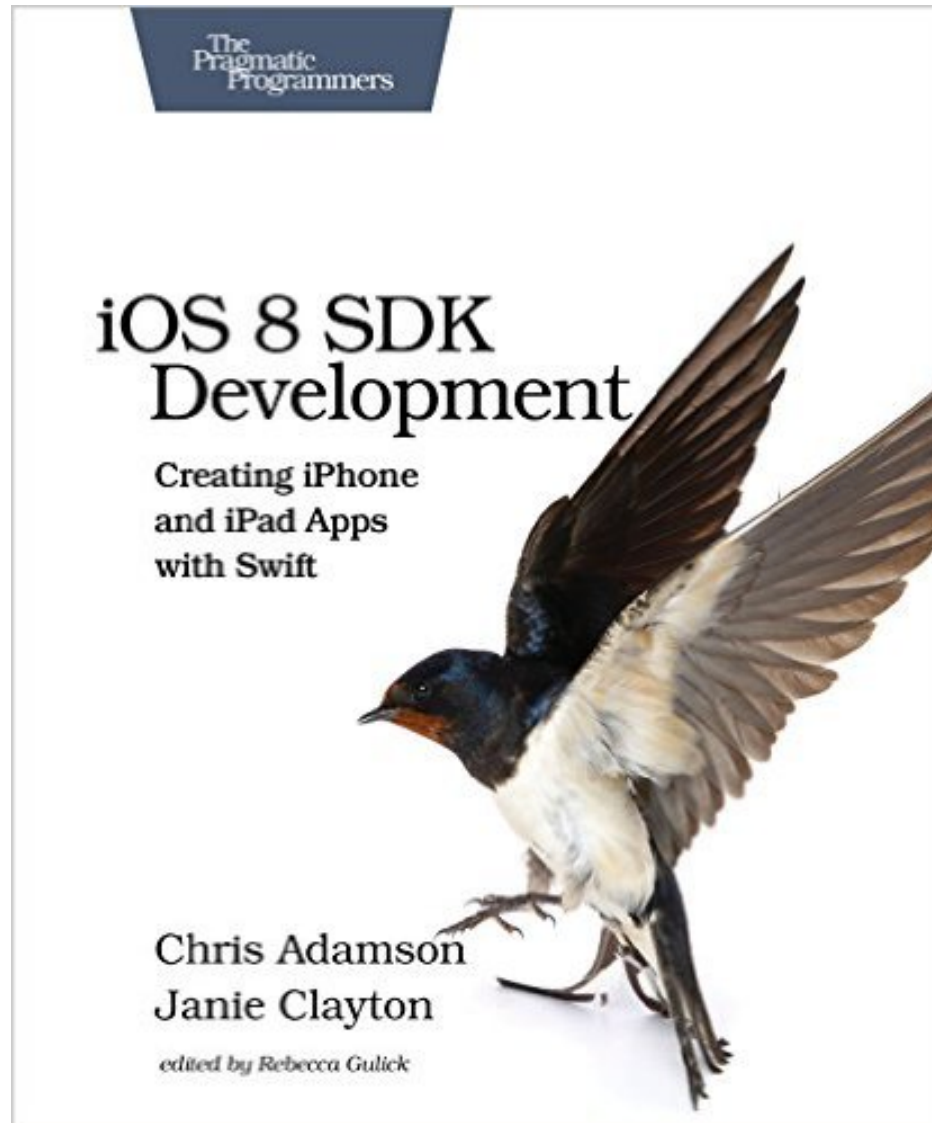


Jon Reid, jQuery Mobile, O'reilly, 2012



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



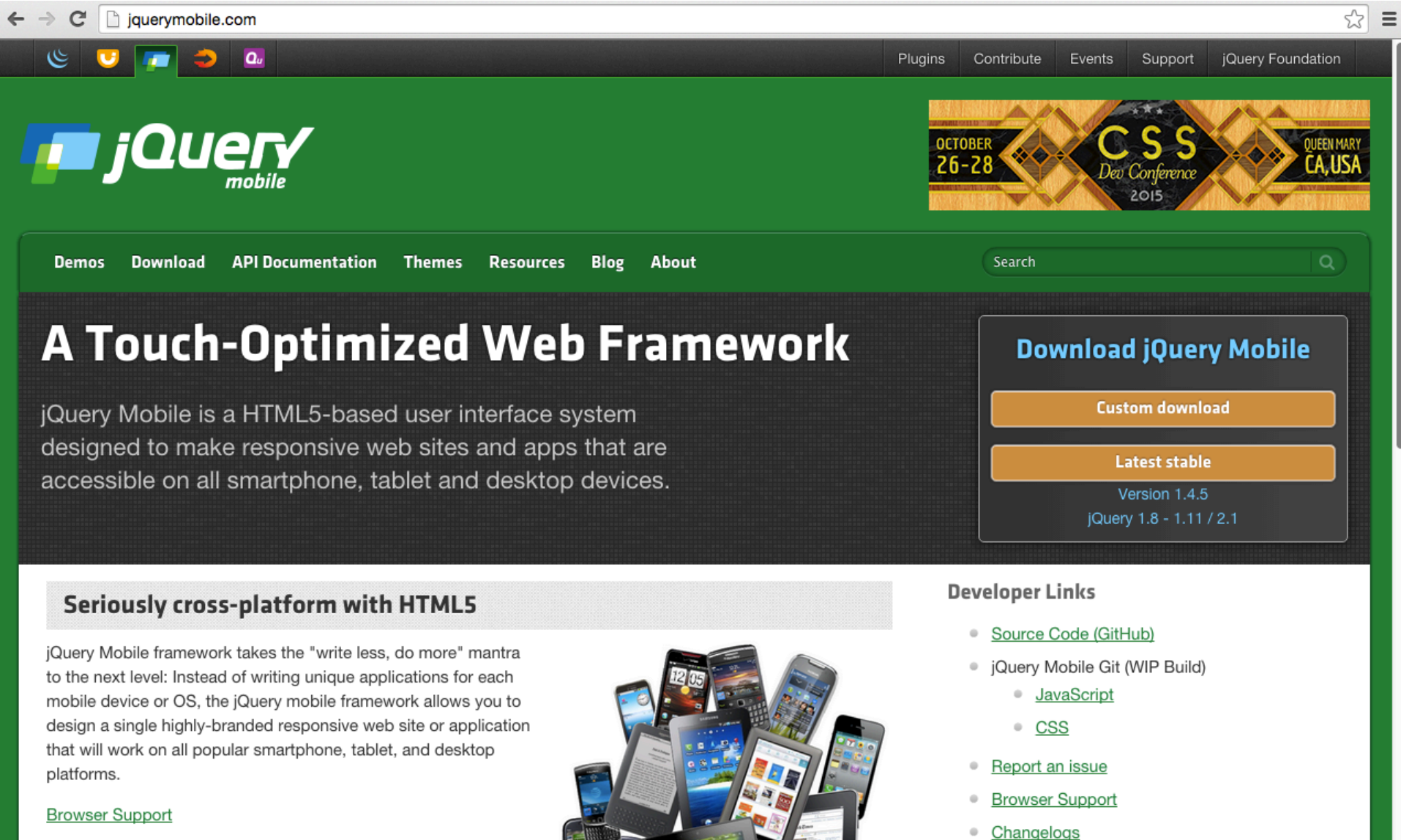
Source: <http://www.amazon.com/gp/product/1941222641>

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, which includes the dates October 26-28 and the location Queen Mary, CA, USA. A dark green navigation bar contains links for Demos, Download, API Documentation, Themes, Resources, Blog, and About, along with a search box. The main content area features a large heading "A Touch-Optimized Web Framework" and a paragraph describing jQuery Mobile as a HTML5-based user interface system. To the right of this text is a "Download jQuery Mobile" section with buttons for "Custom download" and "Latest stable" (Version 1.4.5, jQuery 1.8 - 1.11 / 2.1). Below the main text is a section titled "Seriously cross-platform with HTML5" with a paragraph 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 displaying different web interfaces.

jQuery Mobile

OCTOBER 26-28 CSS Dev Conference 2015 QUEEN MARY CA, USA

Demos Download API Documentation Themes Resources Blog About Search

A Touch-Optimized Web Framework

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.

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 browser's address bar shows 'phonegap.com'. The website's navigation bar includes links for 'PhoneGap', 'About', 'Developer', 'Community', 'Apps', and 'Enterprise', 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 is a paragraph: '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'. A video player is embedded on the right, with a 'Watch Intro' button. At the bottom, there are two dark blue sections: 'Adobe PhoneGap Enterprise' and 'The PhoneGap Developer App'.

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 ▶

Watch Intro

Adobe PhoneGap Enterprise

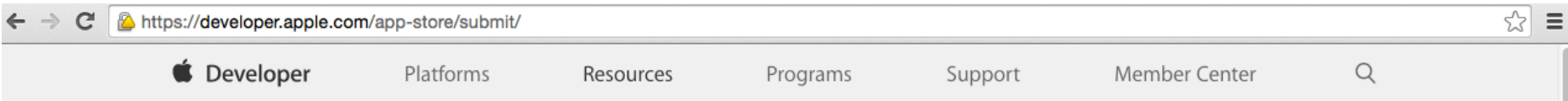
Enterprise mobile application development and management across channels and platforms

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/>

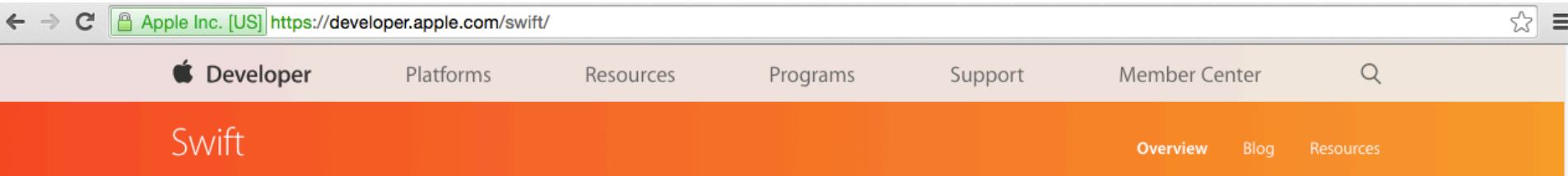


Prepare your apps for the App Store.

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.

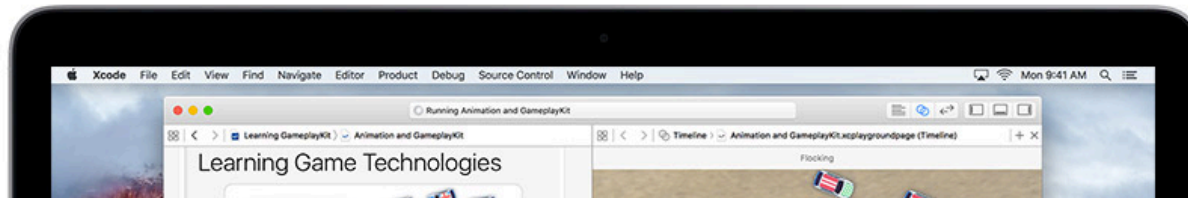


Apple Swift for iOS



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

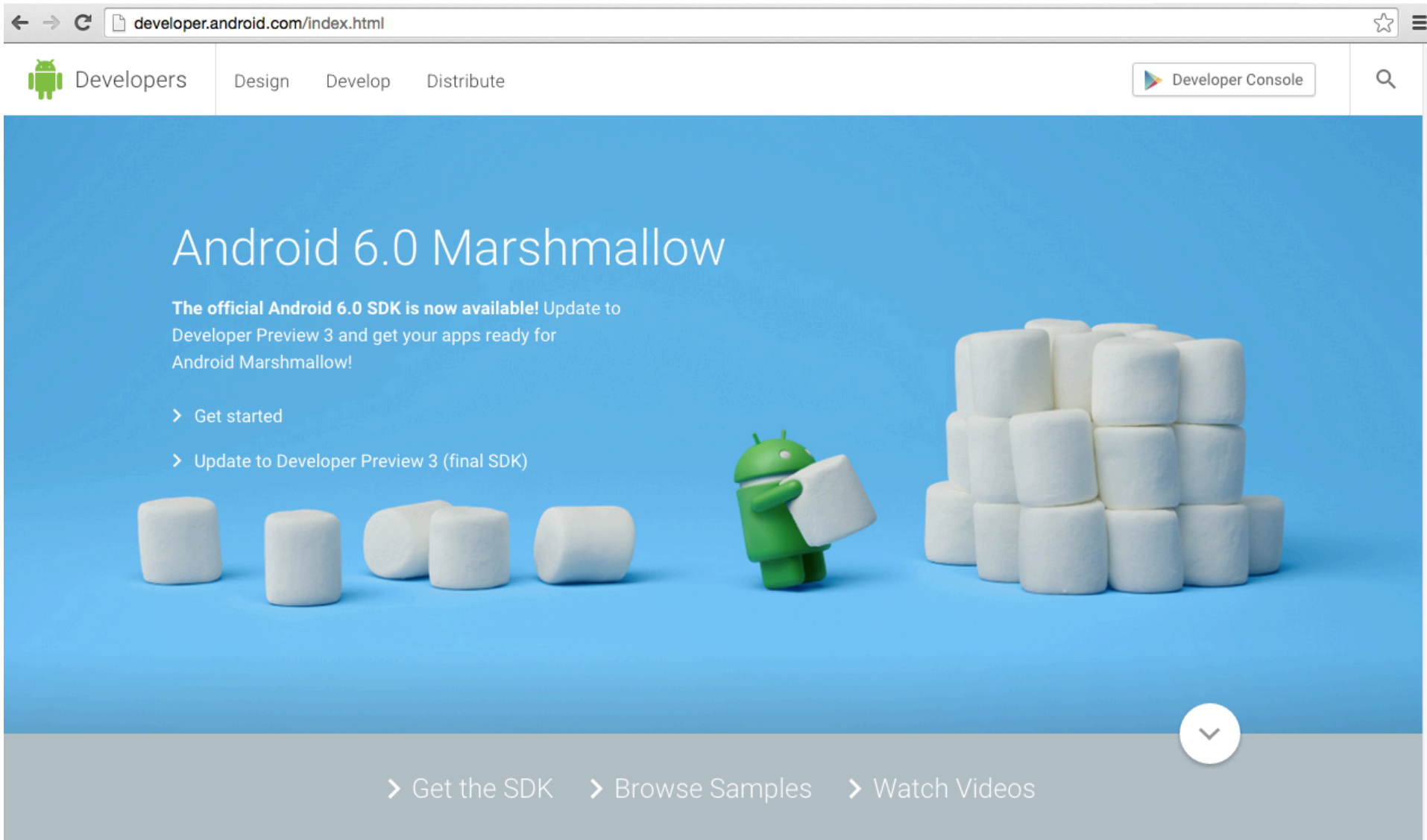
Swift is a powerful and intuitive programming language for iOS, OS X, and watchOS. Writing Swift code is interactive and fun, the syntax is concise yet expressive, and apps run lightning-fast. Swift is ready for your next project — or addition into your current app — because Swift code works side-by-side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

Facebook Developers

My Apps Products Docs Tools & Support News

Search in docs

Facebook Analytics for Apps

Understand how your customers use your app across all of their devices.

[Learn More](#)

Overview

ACTIVE USERS

INSTALLS +15.1% 4,224

DAILY ACTIVE USERS +14.2% 209,571

APP LAUNCHES +15.1% 1.9M

PURCHASES -2.4% 21,602

AVERAGE TIME IN APP

INSTALLS

PURCHASES

App Monetization

Monetize with ads and publisher tools

[Learn More](#)

App Invites

Let people recommend your app to friends

[Learn More](#)

Social Plugins

Easily make your app or website social

[Learn More](#)

Messenger

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.

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

In iOS SDK

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.

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

Facebook SDK for Android

Facebook 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

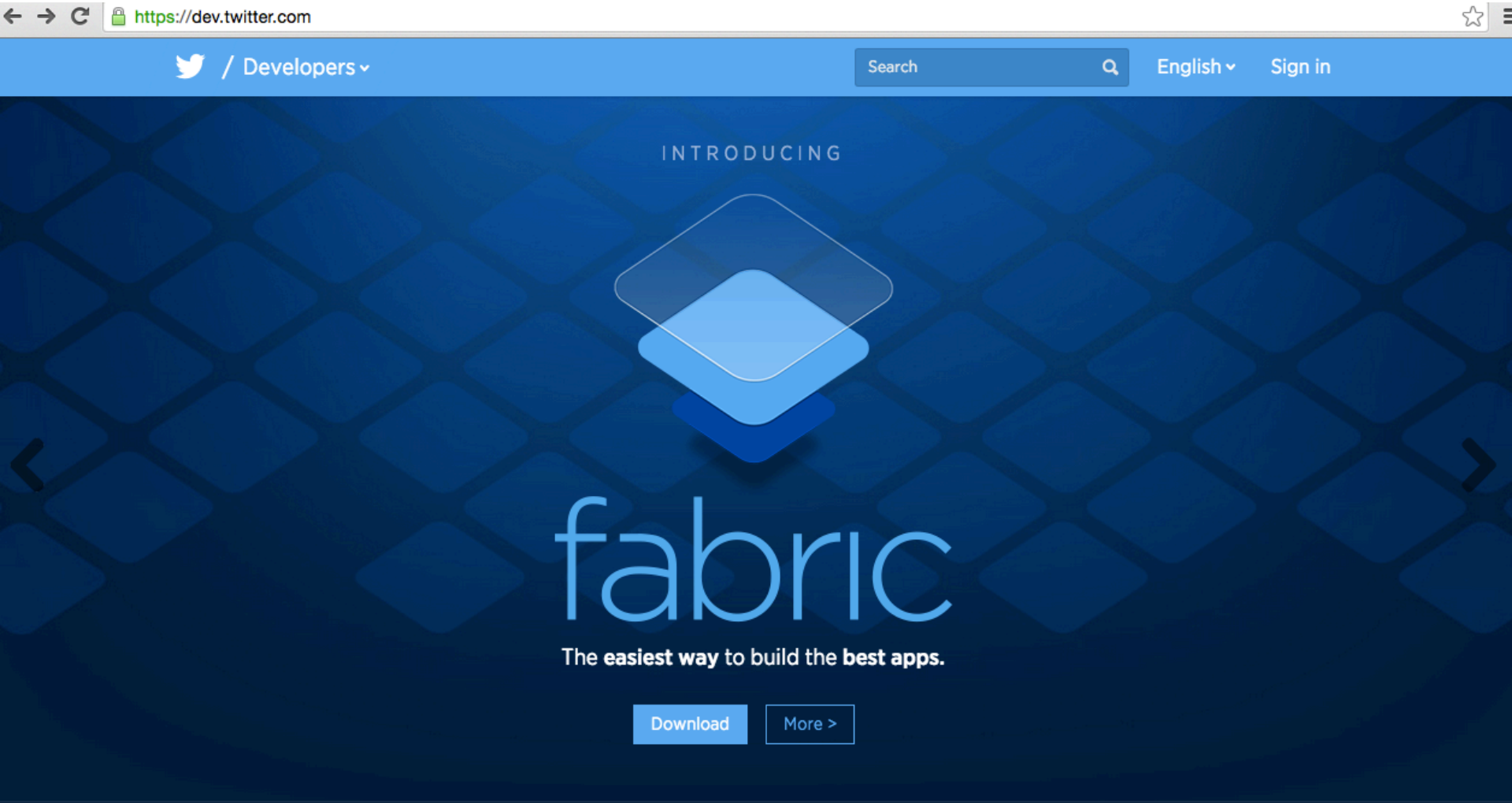
In Android SDK

Login | **Share**


People can easily sign in to your app with their | 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 dark blue background with a diamond-shaped grid pattern. At the top, there is a navigation bar with the Twitter logo, a dropdown menu for "Developers", a search bar, and links for "English" and "Sign in". The main content area is centered and contains the text "INTRODUCING" above a graphic of three overlapping, semi-transparent blue diamonds. Below the graphic, the word "fabric" is written in a large, lowercase, light blue font. Underneath "fabric" is the tagline "The easiest way to build the best apps." At the bottom of the main content area, there are two buttons: "Download" and "More >".

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

Google Cloud Platform

Home — Google Cloud Plat x

← → ↻ <https://cloud.google.com> ☆ ☰

 Google Cloud Platform

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


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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](#)

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 bar, 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

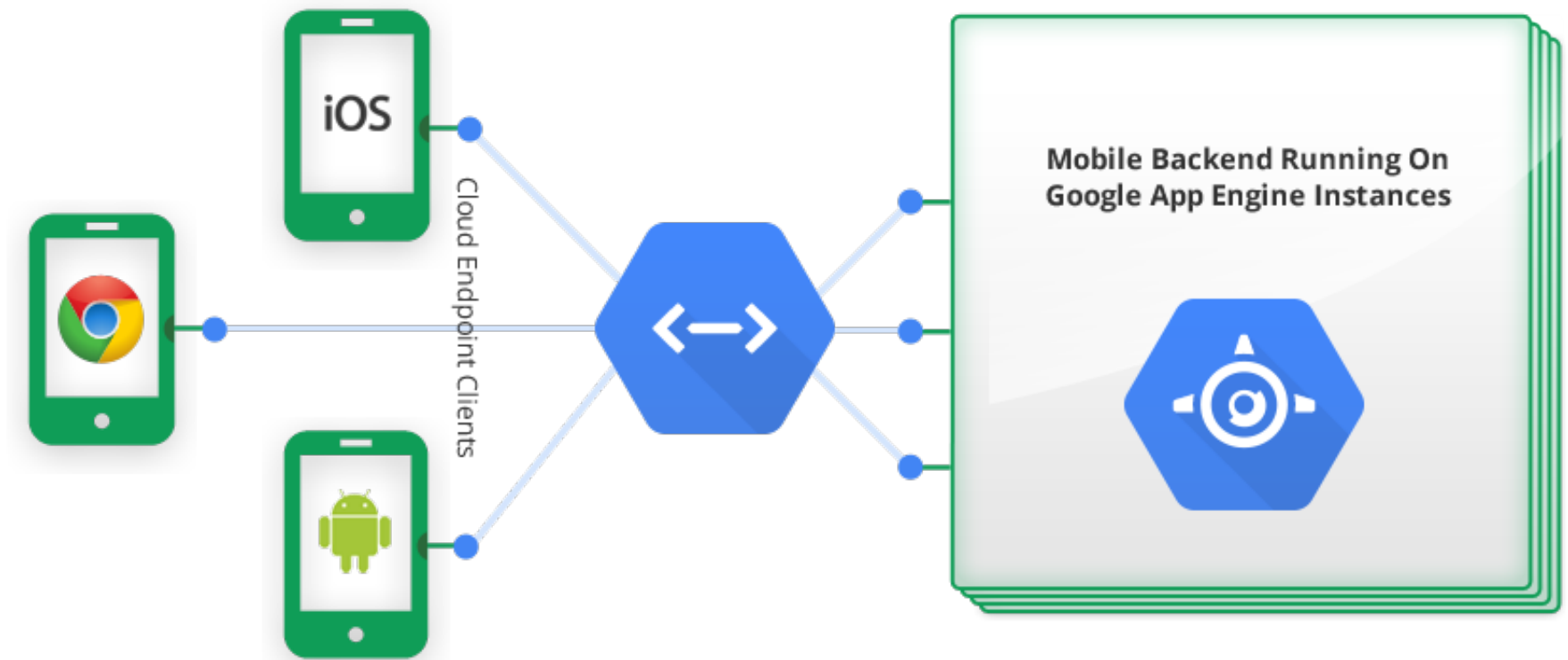
Cloud Datastore is fully managed. Google automatically handles sharding and replication in order to provide you with a highly available and consistent database.

Autoscale with your users

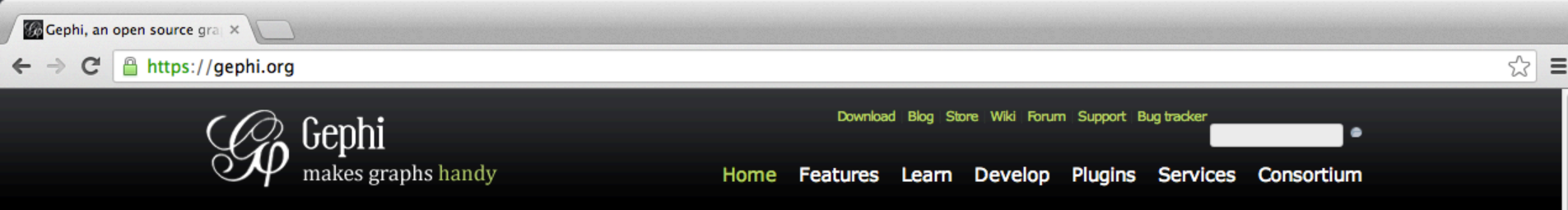
Cloud Datastore automatically scales depending on your needs. This allows you to focus on building your application and not on worrying about provisioning and load anticipation.

<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.

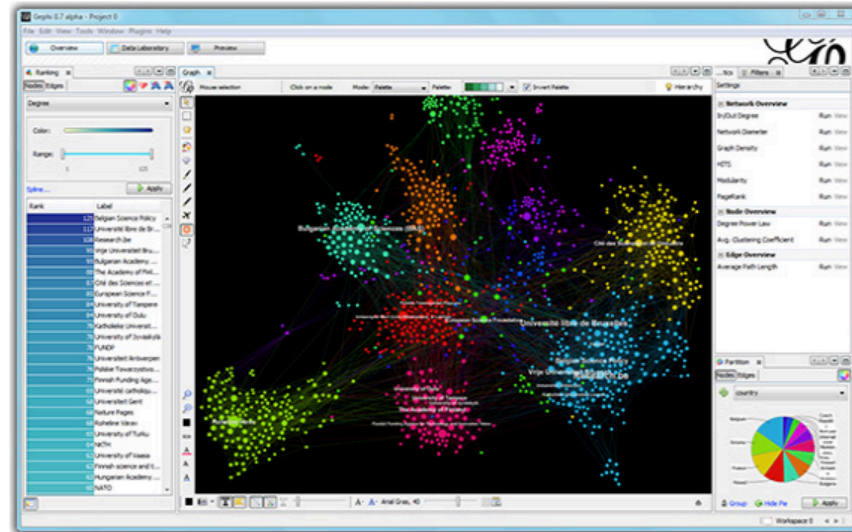
Runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

[Learn More on Gephi Platform >](#)



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

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



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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



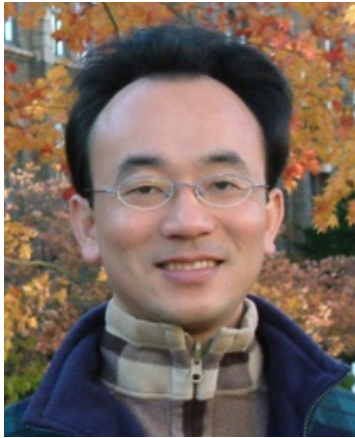
Summary

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Social Media Apps Programming

Contact



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