Tamkang University

Social Media Apps Programming

Course Orientation and Introduction to Social Media and Mobile Apps Programming

1061SMAP01
TLMXM1A (8648) (M2143) (Fall 2017)
(MIS MBA) (2 Credits, Elective) [Full English Course]
Fri 8,9 (15:10-17:00) B206

Min-Yuh Day, Ph.D.
Assistant Professor
Department of Information Management
Tamkang University

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

2017-09-22

Android /iOS Apps Programming

Native Apps

Hybrid Apps

Mobile Web Apps

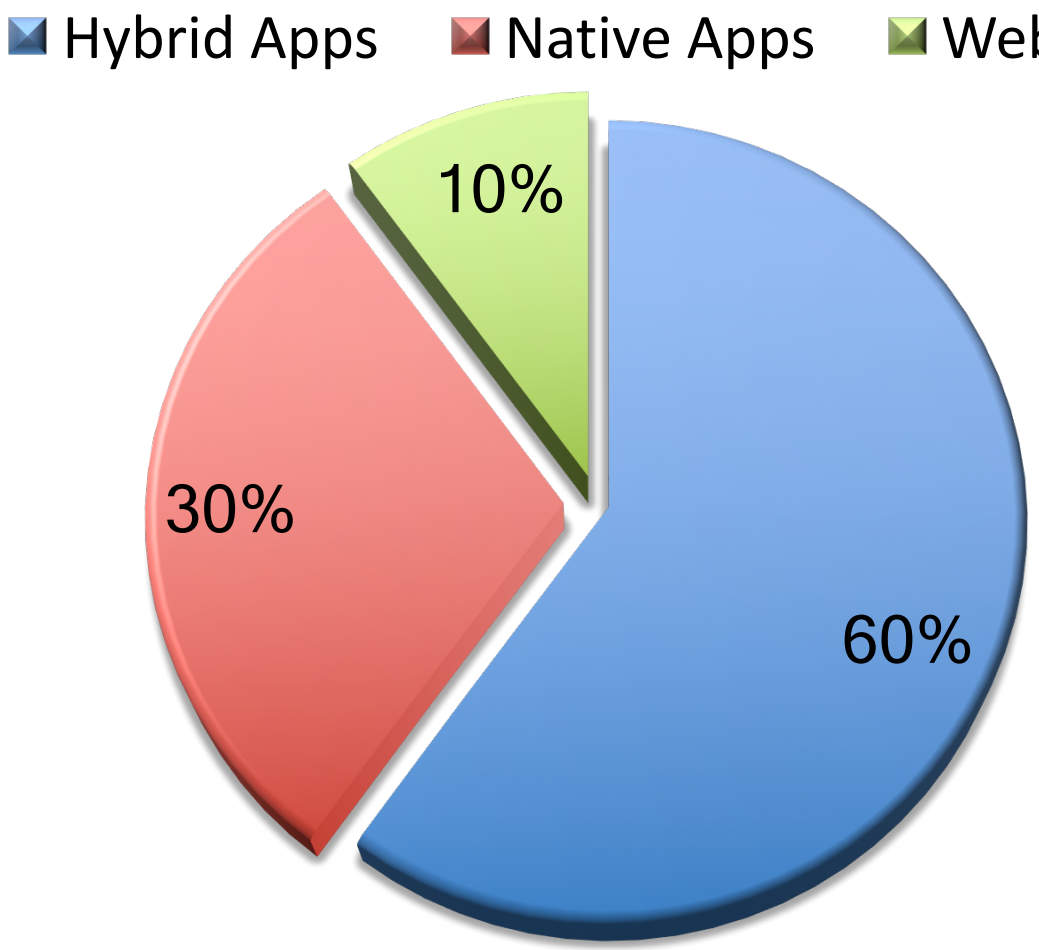
Native Mobile App
Hybrid Mobile App
Responsive Web App
Progressive Web App (PWA)

Source: http://srishta.com/blog_hybrid.html

Progressive Web App (PWA)
Responsive Web Apps
Responsive Design
HTML5/CSS3/JavaScript

Source: http://www.ihealthspot.com/ResponsiveWebsiteDesign.aspx

Enterprise Apps in 2015

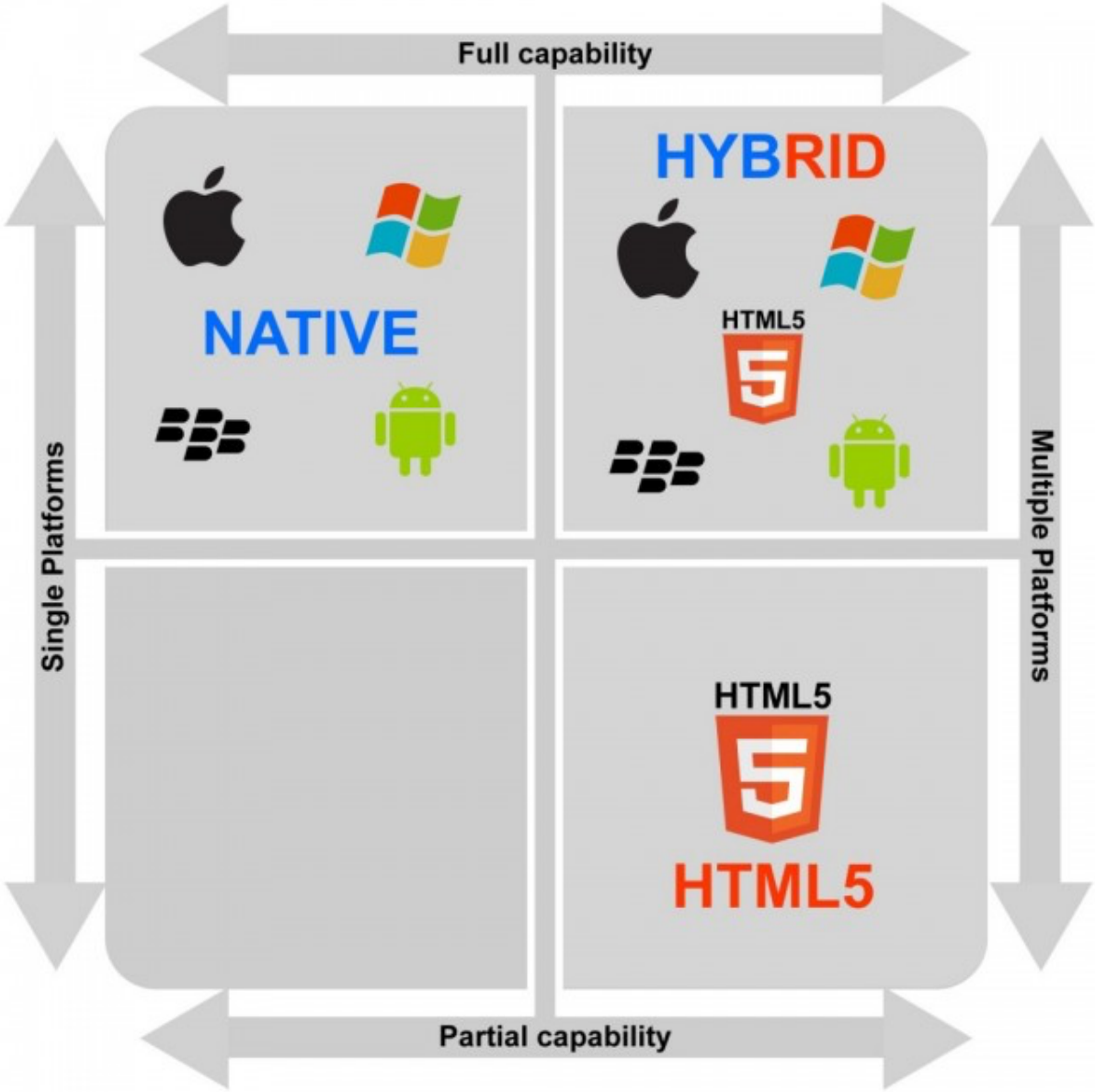


Hybrid Apps

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

Source: http://blog.commontime.com/hybrid-apps-the-right-response-to-byod-in-business/

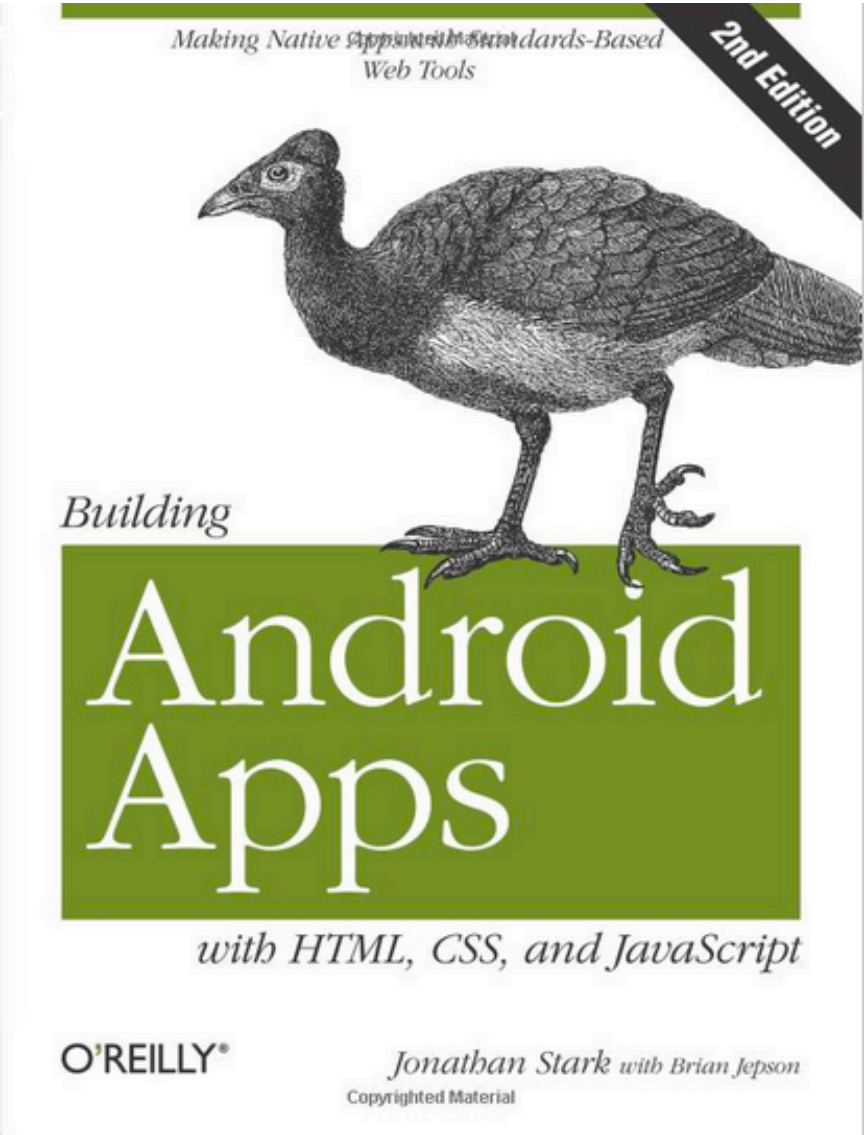
Enterprise Apps (Hybrid HTML5) in 2016



Source: http://justcreative.com/2016/03/17/html5-vs-native-apps-whats-best-for-2016/

Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools,

Jonathan Stark & Brian Jepson, O'reilly, 2012



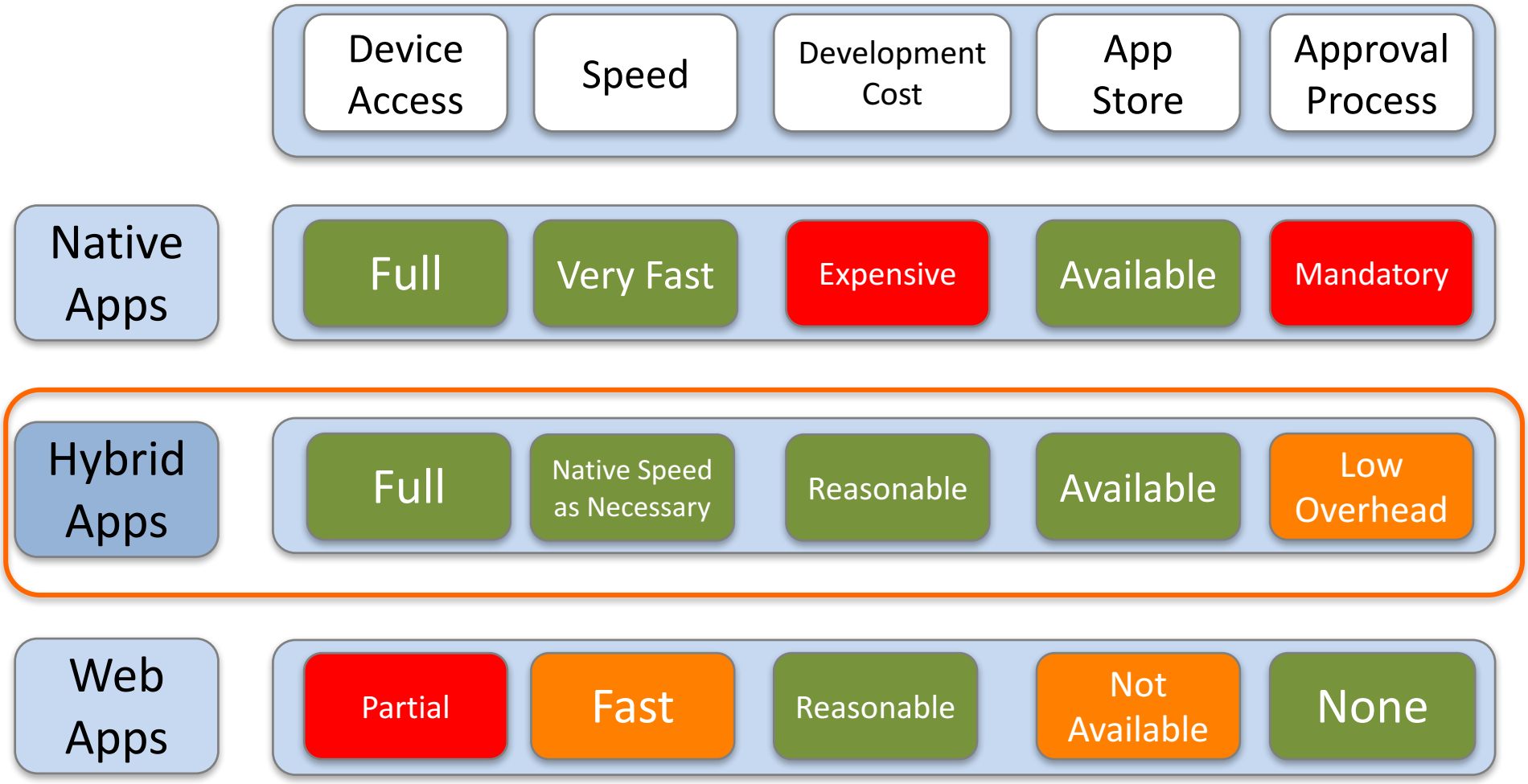
Source: http://www.amazon.com/Building-Android-Apps-HTML-JavaScript/dp/1449316417

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

Jonathan Stark, O'reilly, 2010

Source: http://www.amazon.com/Building-iPhone-Apps-HTML-JavaScript/dp/0596805780

App Development Comparison



Source: http://www.scribd.com/doc/50805466/Native-Web-or-Hybrid-Mobile-App-Development

Course Syllabus

Tamkang University

Academic Year 106, 1st Semester (Fall, 2017)

- 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: Fri 8, 9 (15:10-17:00) B206

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

Tamkang University

- 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 (Android Studio),
  - 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 (1/2)

Tamkang University

Week	Date	Subject/Topics
1	2017/09/22	Course Orientation and Introduction to Social Media and Mobile Apps Programming
2	2017/09/29	Introduction to Android / iOS Apps Programming
3	2017/10/06	Developing Android Native Apps with Java (Android Studio)
4	2017/10/13	Developing iPhone / iPad Native Apps with Swift (XCode)
5	2017/10/20	Mobile Apps using HTML5/CSS3/JavaScript
6	2017/10/27	jQuery Mobile
7	2017/11/03	Create Hybrid Apps with Phonegap
8	2017/11/10	jQuery Mobile/Phonegap
9	2017/11/17	jQuery Mobile/Phonegap

Course Schedule (2/2)

Tamkang University

Week	Date	Subject/Topics
10	2017/11/24	Midterm Project Report
11	2017/12/01	Case Study on Social Media Apps Programming and Marketing in Google Play and App Store
12	2017/12/08	Google Cloud Platform
13	2017/12/15	Google App Engine
14	2017/12/22	Google Map API
15	2017/12/29	Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)
16	2018/01/05	Twitter API
17	2018/01/12	Final Project Presentation
18	2018/01/19	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#1061SMAP
- 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.

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/

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

Jonathan Stark, O'reilly, 2010

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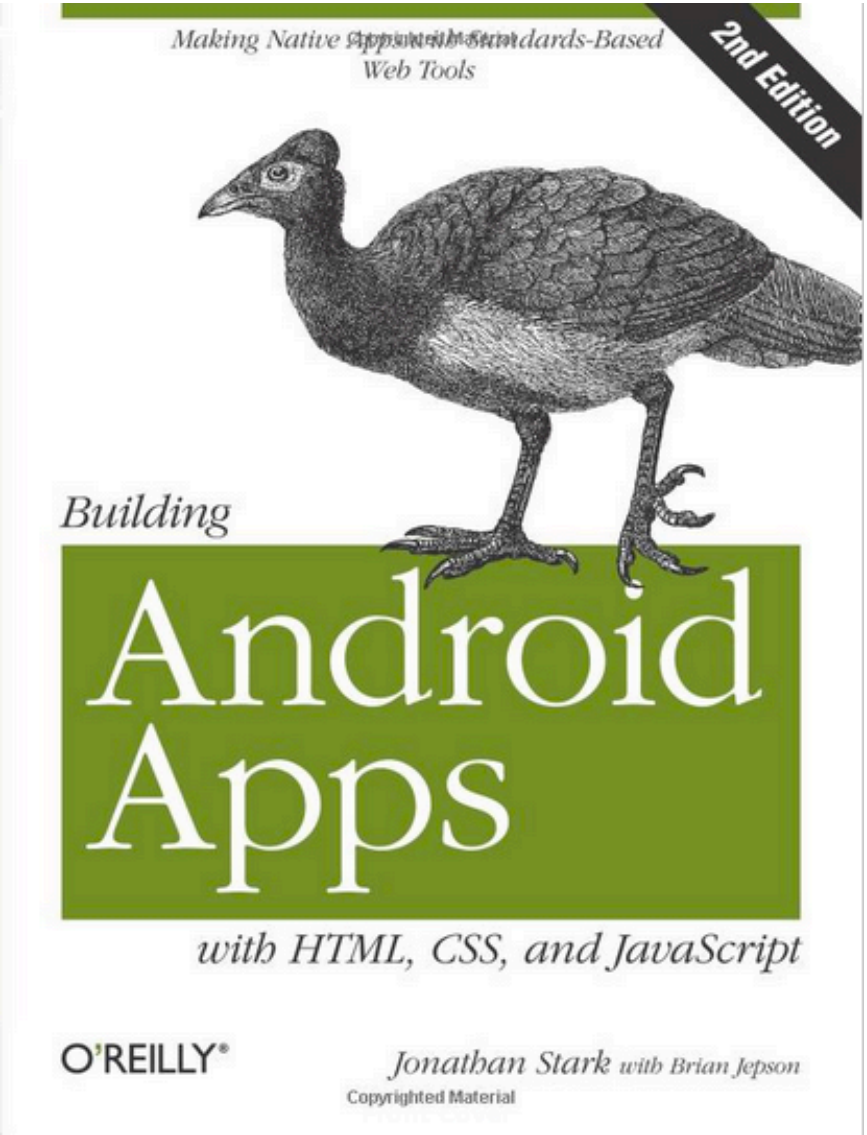

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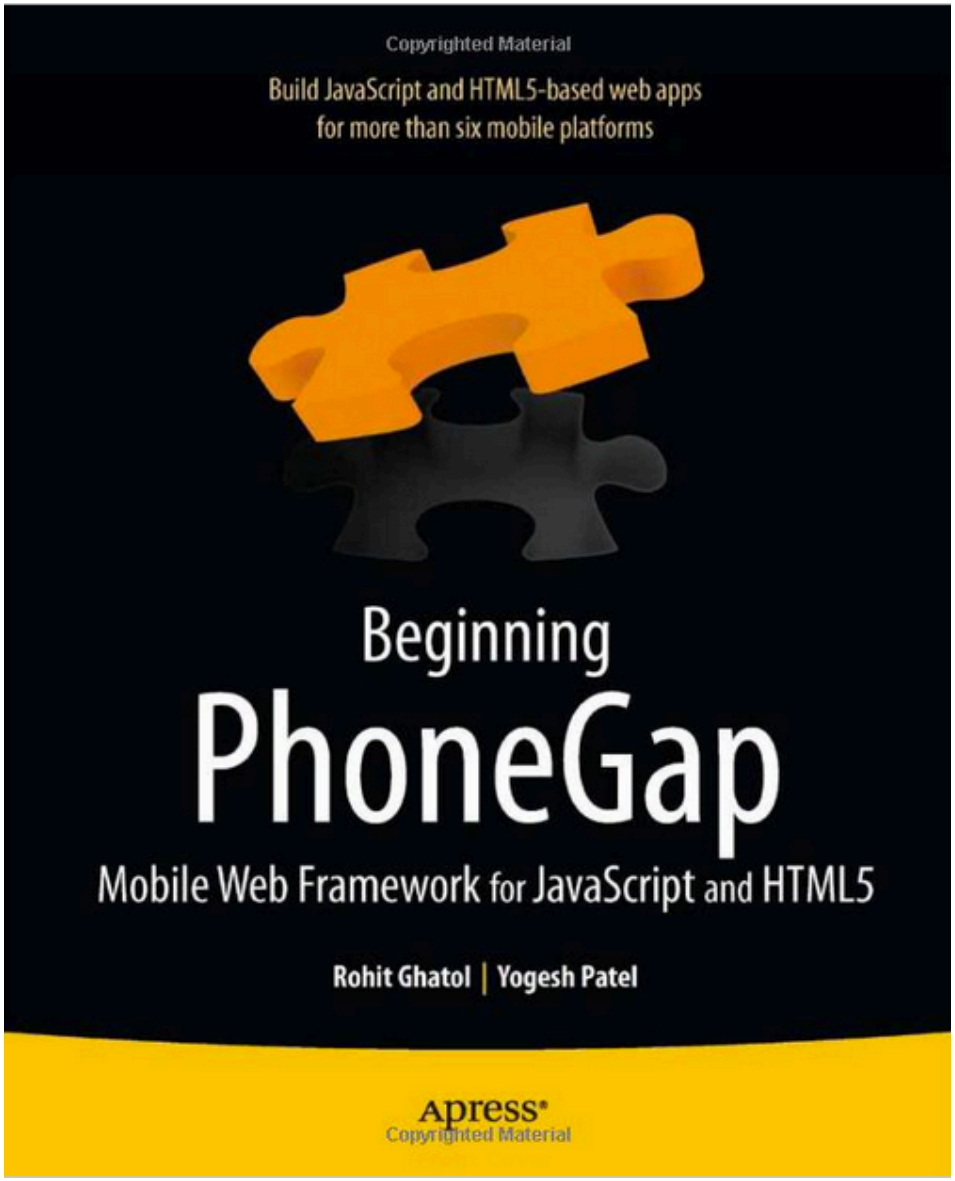
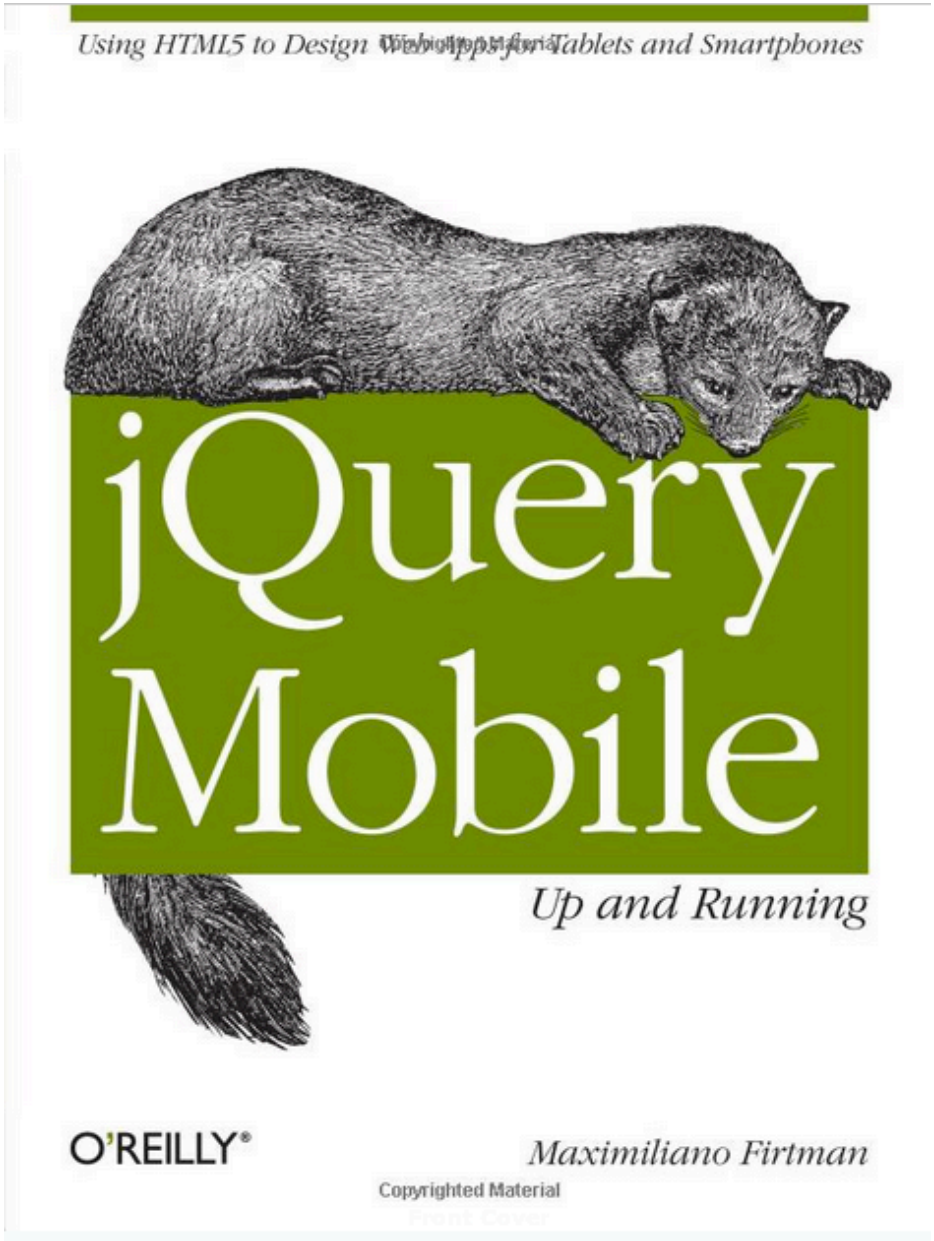
Rohit Ghatol and Yogesh Patel, Beginning PhoneGap: Mobile Web Framework for JavaScript and HTML5, Apress, 2012



Source: http://www.amazon.com/Beginning-PhoneGap-Mobile-Framework-JavaScript/dp/1430239034

Jon Reid, **jQuery Mobile**, O'reilly, 2012



Source: http://www.amazon.com/jQuery-Mobile-Running-Maximiliano-Firtman/dp/1449397654

jQuery Mobile

http://jquerymobile.com/

jquerymobile.com

Plugins | Contribute | Events | Support | jQuery Foundation

jQuery mobile

Your donations help fund the continued development and growth of **jQuery.**

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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.

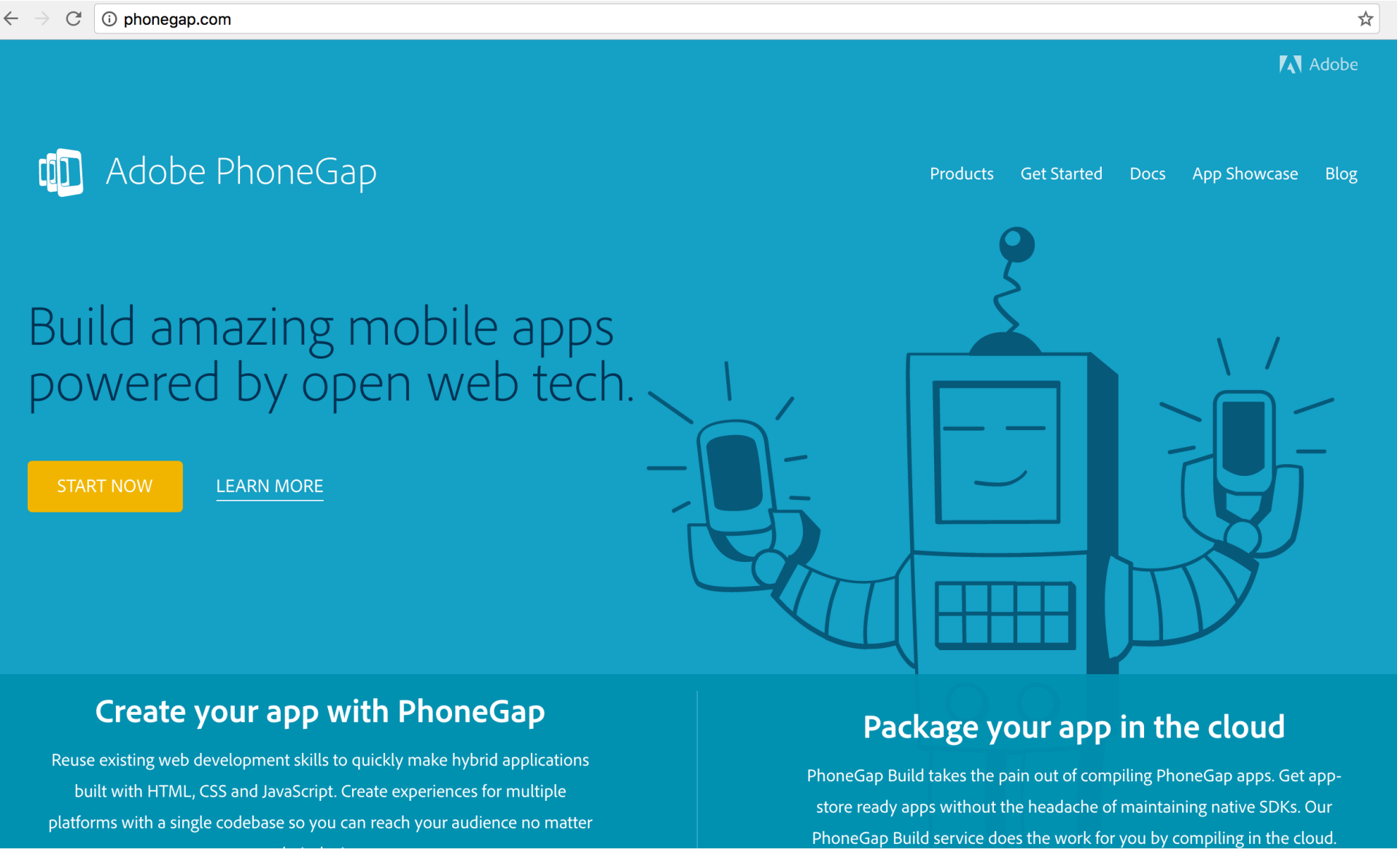
Browser Support

Developer Links

- Source Code (GitHub)
- jQuery Mobile Git (WIP Build)
  - JavaScript
  - CSS
- Report an issue
- Browser Support

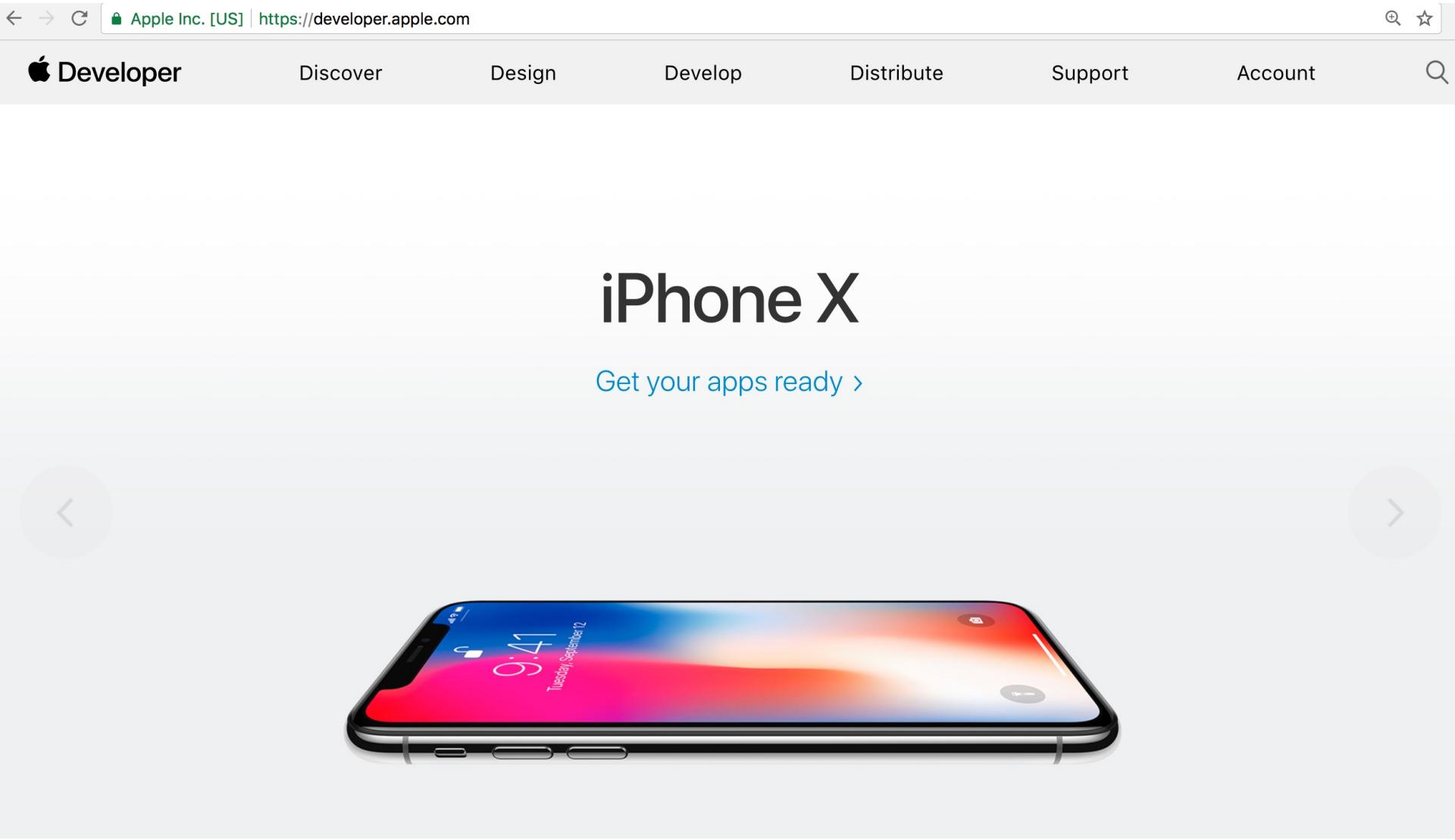
PhoneGap

http://phonegap.com/



Apple Developer

https://developer.apple.com/



Apple Swift for iOS

Apple Inc. [US] | https://developer.apple.com/swift/

Developer | Discover | Design | Develop | Distribute | Support | Account

Swift | Overview | Swift Playgrounds | Resources | Blog

Swift 4

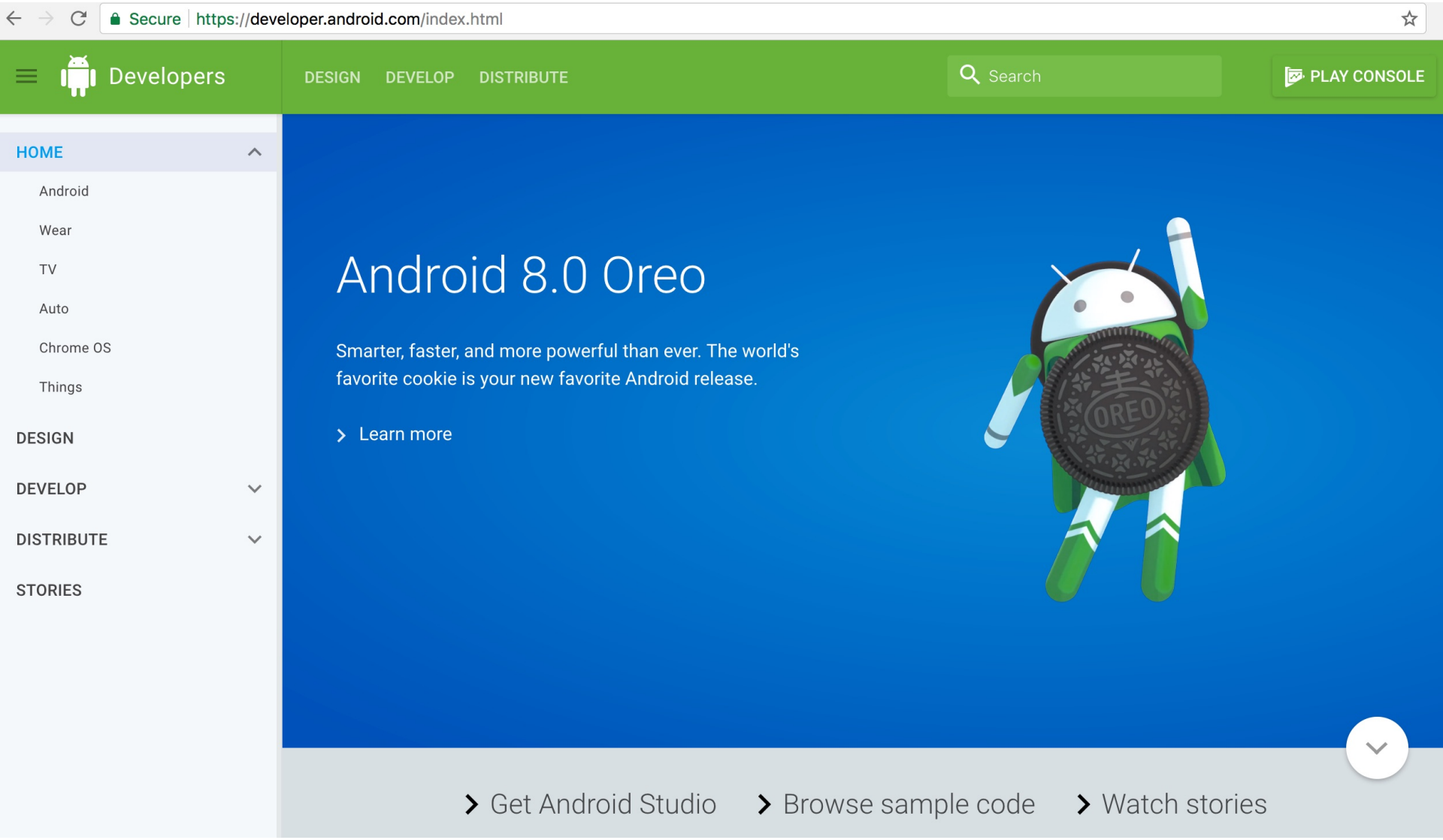
The powerful programming language that is also easy to learn.

Swift is a powerful and intuitive programming language for macOS, iOS, watchOS and tvOS. Writing Swift code is interactive and fun, the syntax is concise yet expressive, and Swift includes modern features developers love. Swift code is safe by design, yet also produces software that runs lightning-fast.

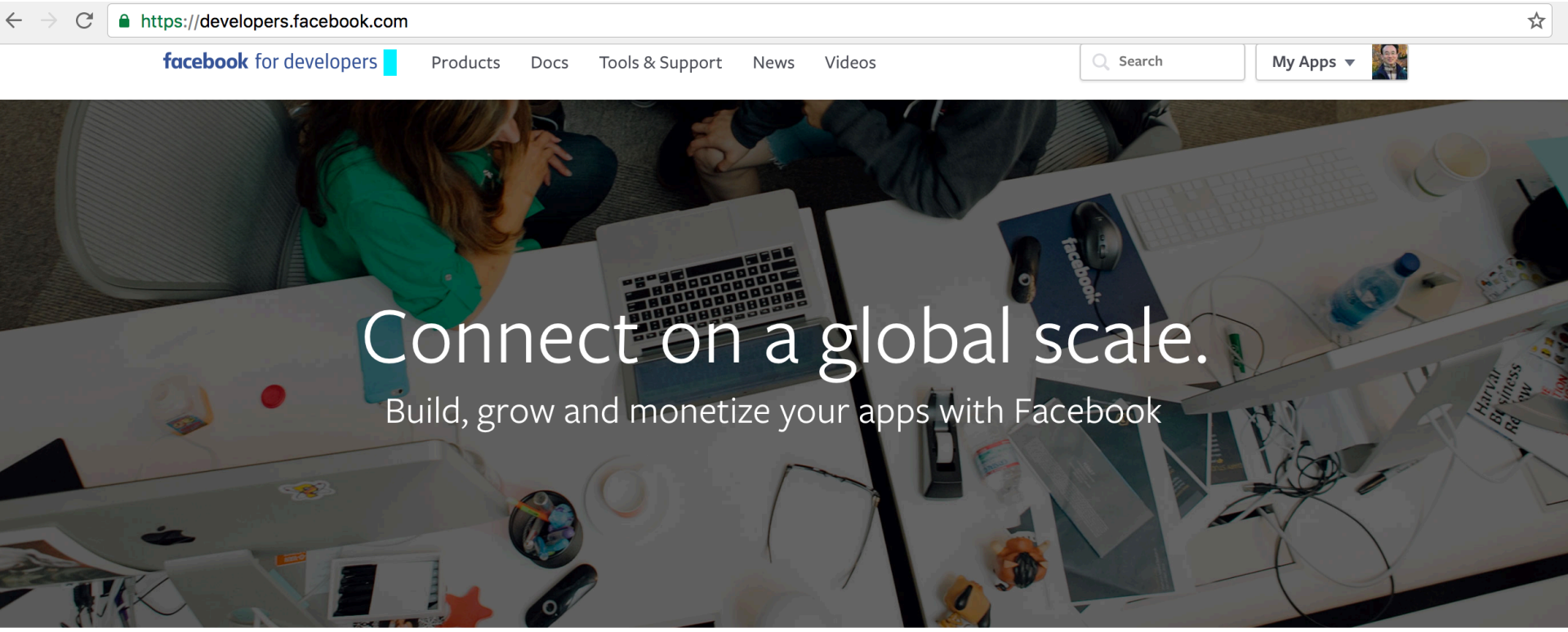
Source: https://developer.apple.com/swift/

Android Developer

http://developer.android.com/



Facebook Developers



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

https://developers.facebook.com/docs/ios/

Integrate Facebook with your native Android apps.

Android

Integrate Facebook with your native Android apps.

https://developers.facebook.com/

Facebook SDK for Android

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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

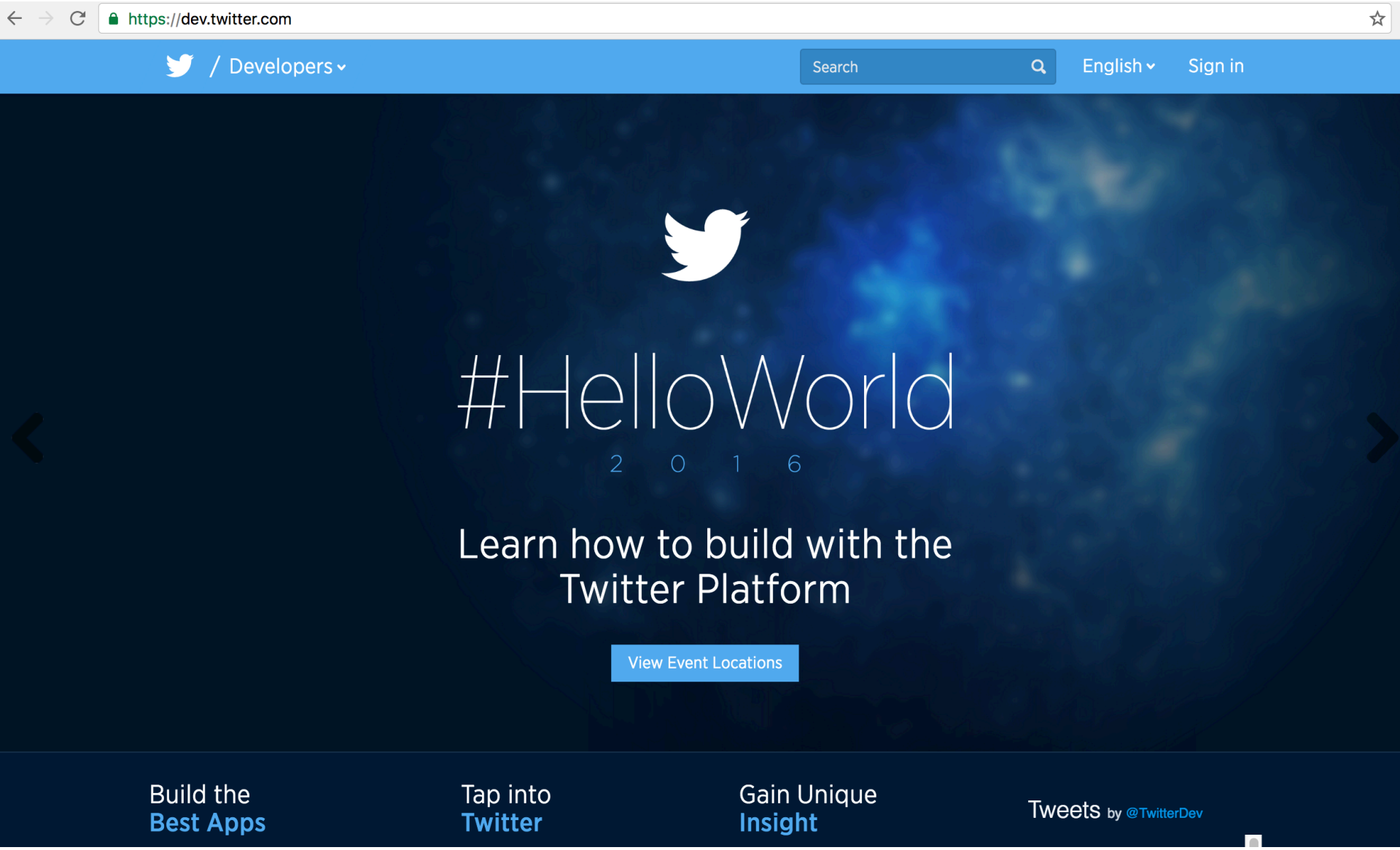
Login
People can easily sign in to your app with their

Share
People using your app can share or send a

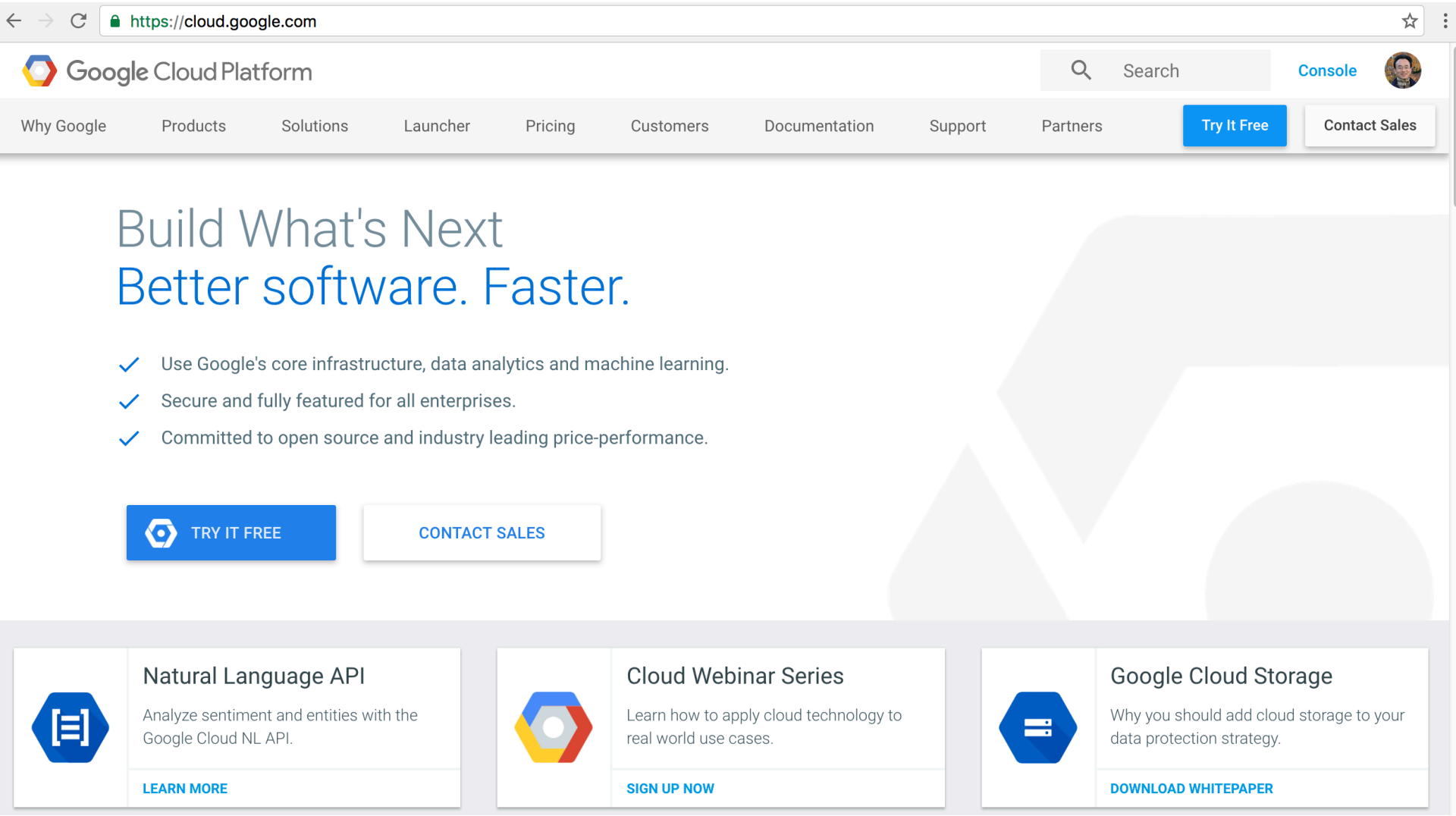
Source: https://developers.facebook.com/docs/android

Twitter Developers

https://dev.twitter.com/



Google Cloud Platform



https://cloud.google.com/

Google App Engine

https://cloud.google.com/appengine/

Google Cloud Platform | Search | Console

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APP ENGINE

A powerful platform to build web and mobile apps that scale automatically

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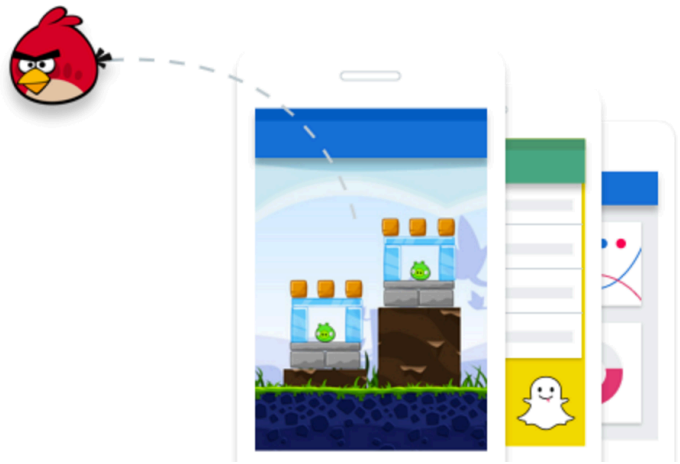
Build Apps, Scale Automatically

Google App Engine is a platform for **building scalable web applications and mobile backends**. App Engine provides you with built-in services and APIs such as **NoSQL datastores, memcache, and a user authentication API**, common to most applications.



https://cloud.google.com/appengine/

Google Cloud Datastore

https://cloud.google.com/datastore/

Google Cloud Platform

Search Console

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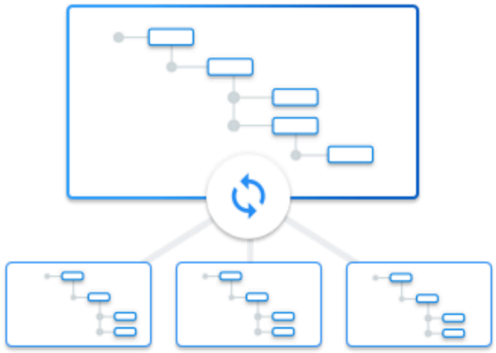
CLOUD DATASTORE

Cloud Datastore is a highly-scalable NoSQL database for your web and mobile applications

TRY IT FREE

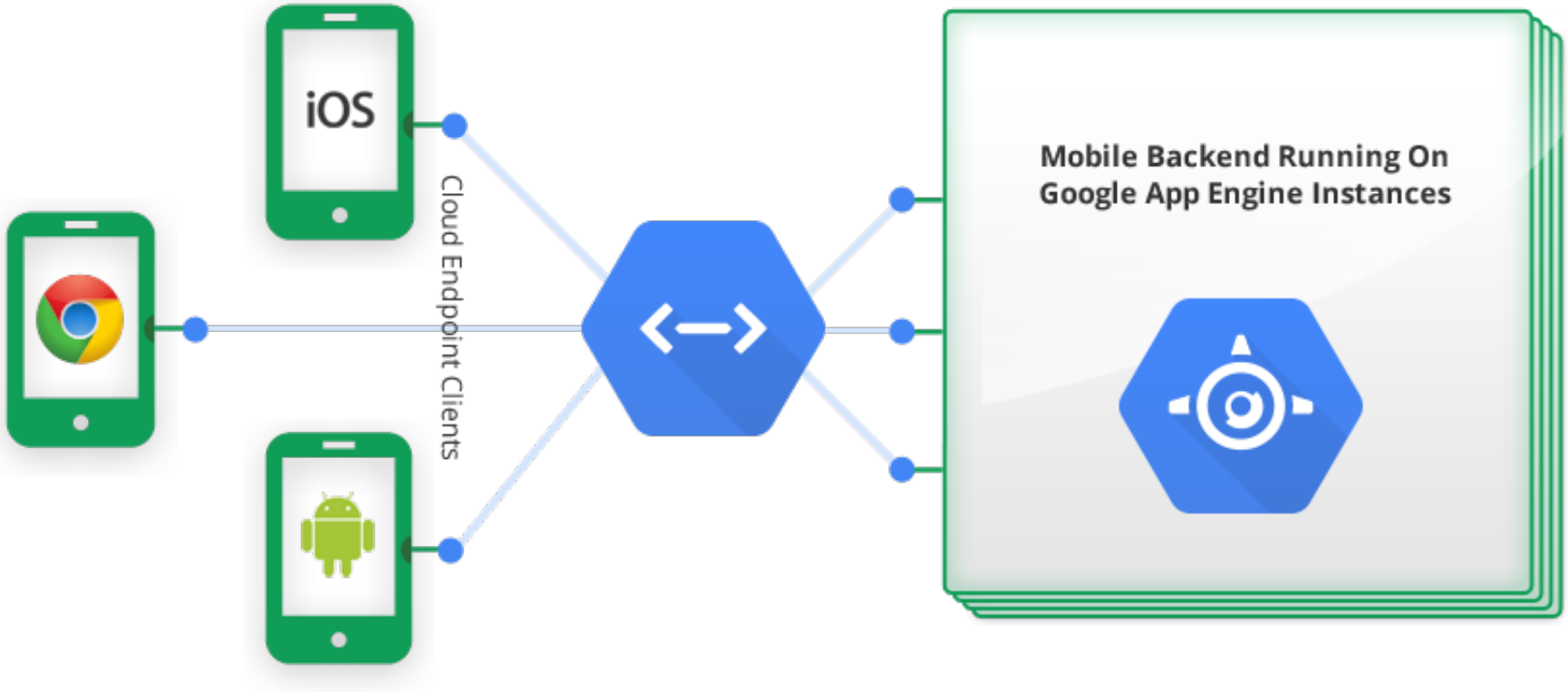
Highly Scalable NoSQL Database

Cloud Datastore is a highly-scalable NoSQL database for your applications. Cloud Datastore **automatically handles sharding and replication**, providing you with a highly available and durable database that scales automatically to handle your applications' load. Cloud Datastore provides a myriad of capabilities such as **ACID transactions, SQL-like queries, indexes and much more**.



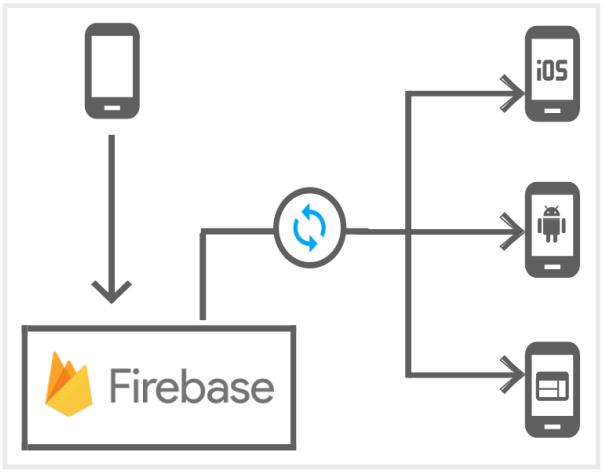
https://cloud.google.com/datastore/

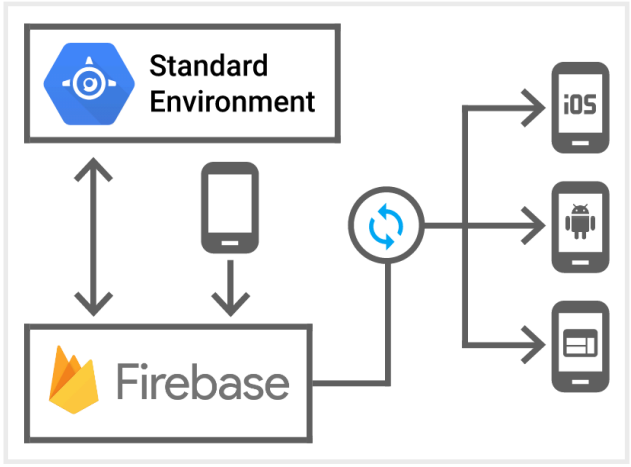
Google Cloud Endpoints

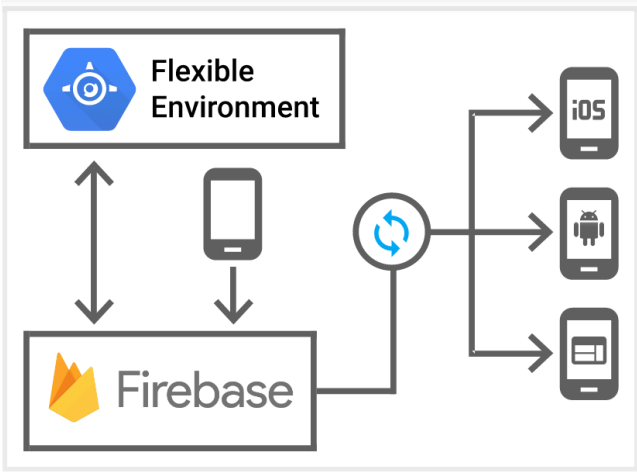


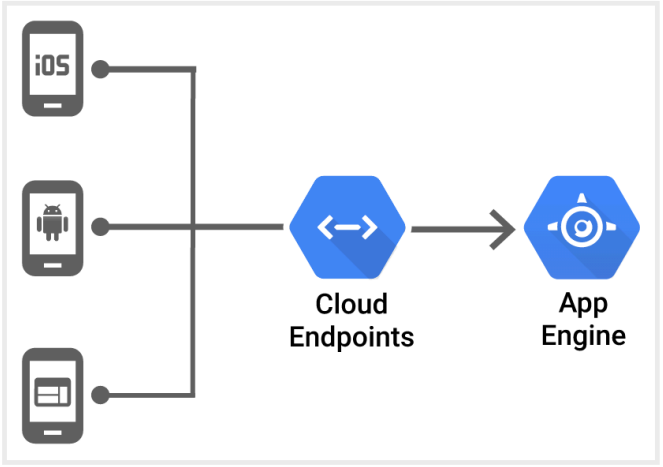
https://developers.google.com/appengine/docs/java/endpoints/

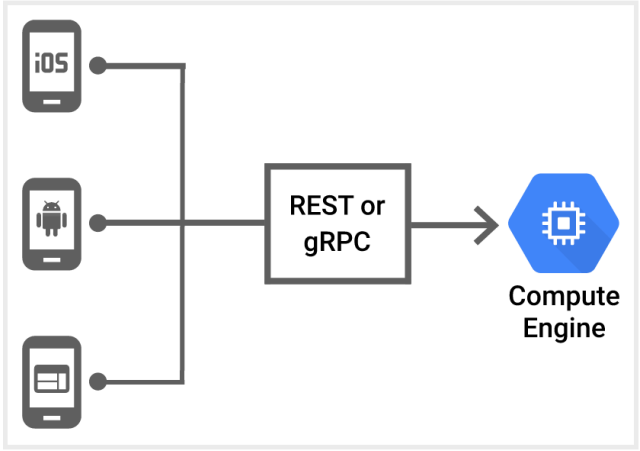
Mobile App Backend Services





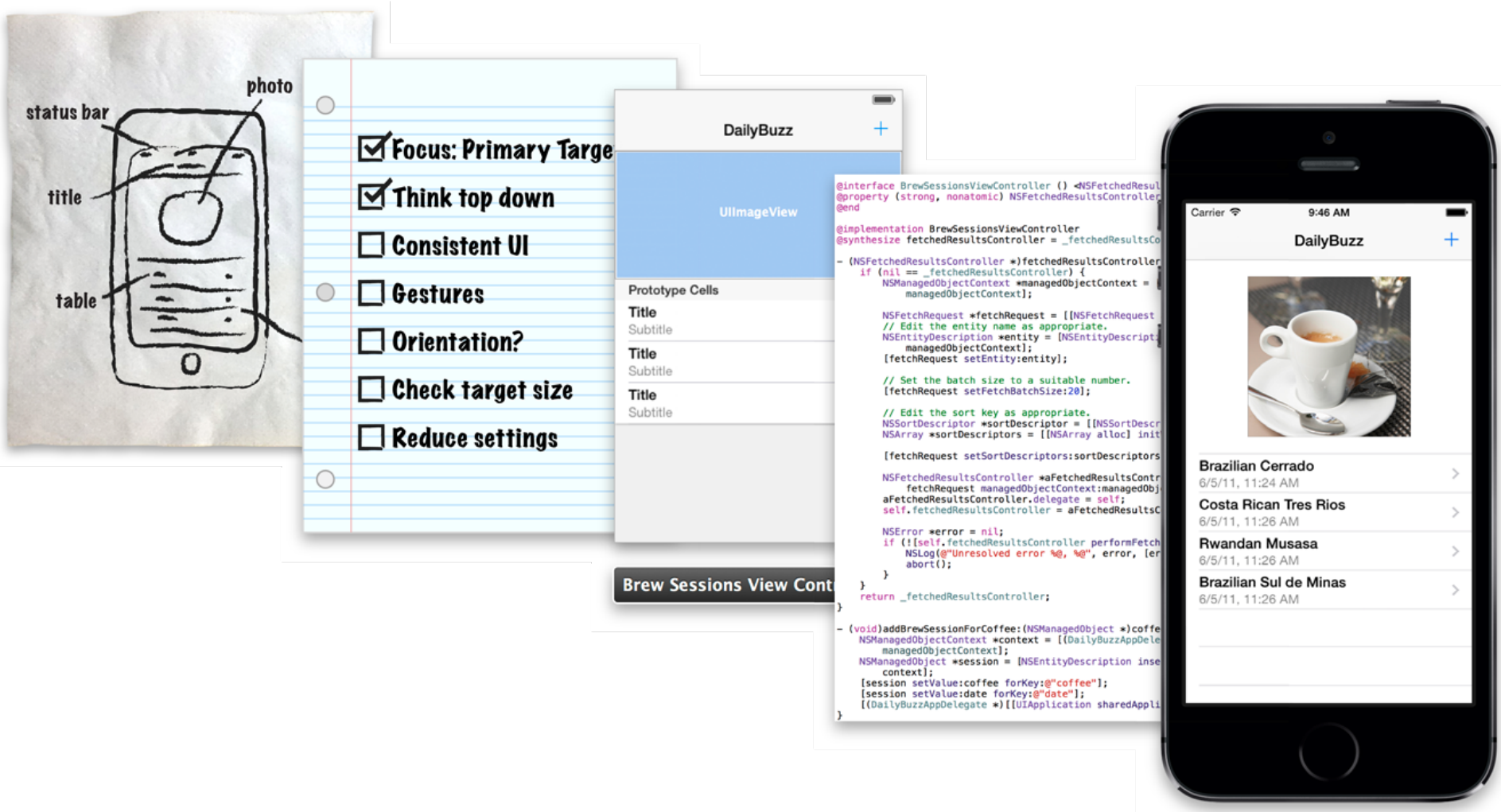






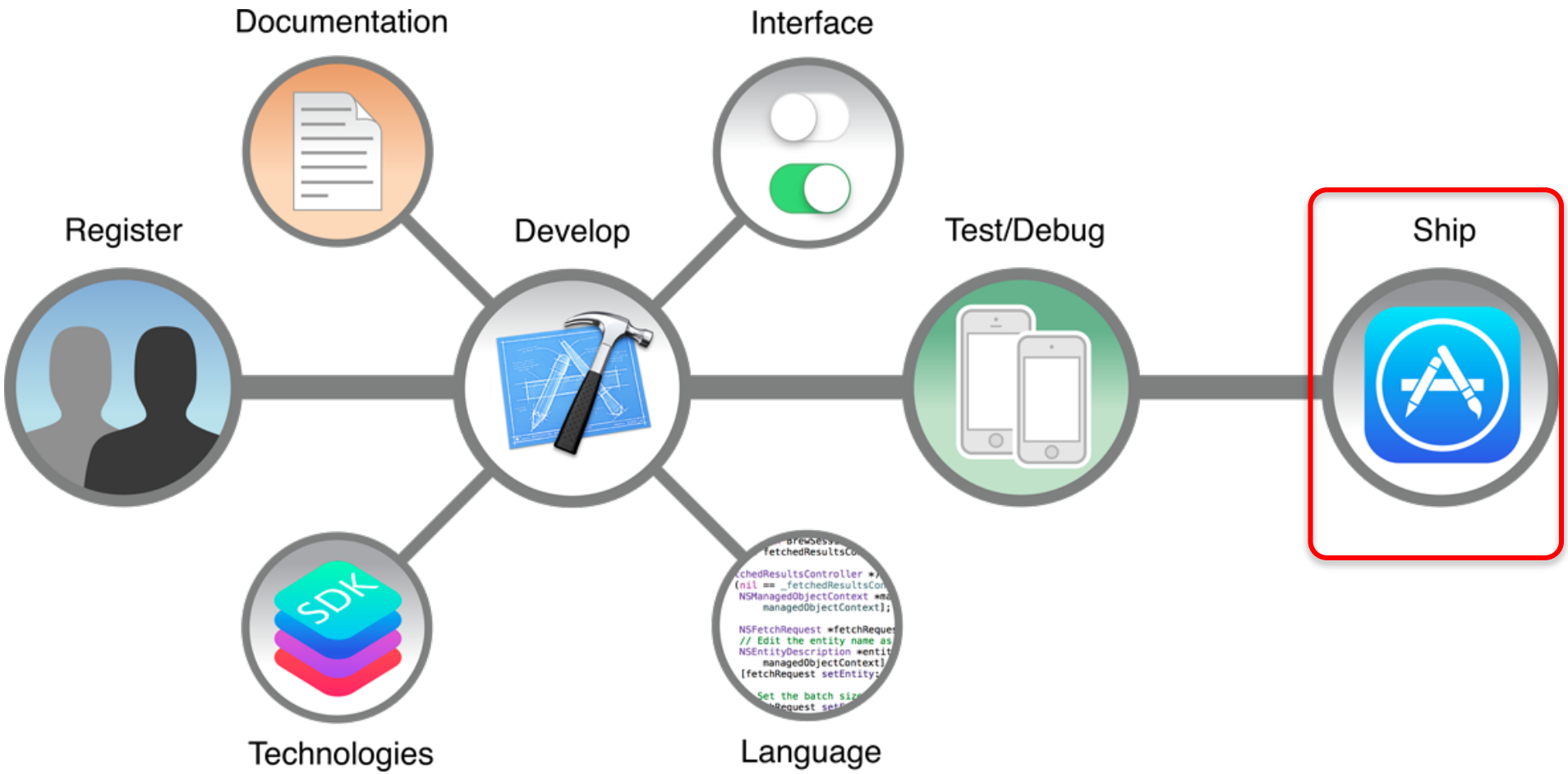
Source: https://cloud.google.com/solutions/mobile/mobile-app-backend-services

iOS App Development Process



Source: https://developer.apple.com/library/ios/referencelibrary/GettingStarted/RoadMapiOS/AppDevelopmentProcess.html

Apps Development Life Cycle



Source: https://developer.apple.com/library/ios/referencelibrary/GettingStarted/RoadMapiOS/WhereToGoFromHere.html

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

Gephi, an open source gra

https://gephi.org

Gephi
makes graphs handy

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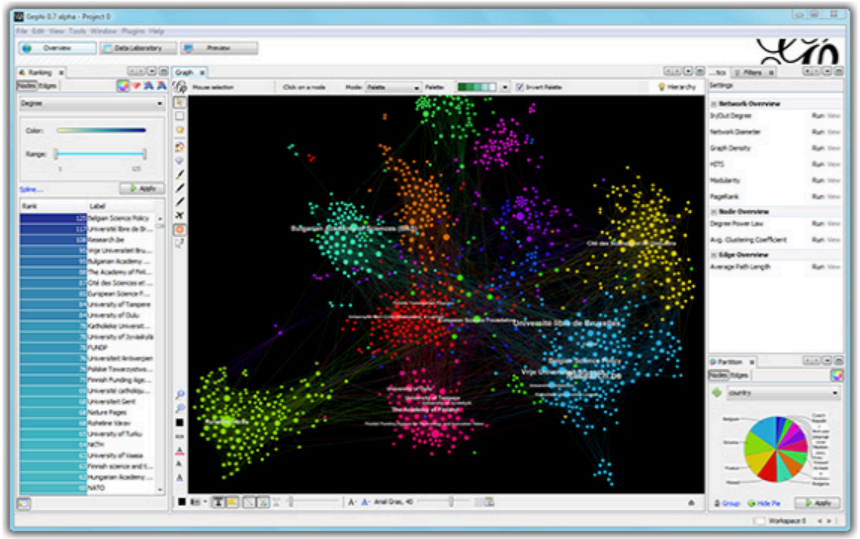
The Open Graph Viz Platform

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 »



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Gephi 0.8.2-beta

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

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Summary

- This course introduces the fundamental concepts and practices of social media and mobile apps programming.
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Tamkang University

Social Media Apps Programming

Contact

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