Tamkang University

# Social Media Apps Programming

## Course Orientation and Introduction to Social Media and Mobile Apps Programming

1071SMAP01
TLMXM1A (8550) (M2143) (Fall 2018)
(MIS MBA) (2 Credits, Elective) [Full English Course]
Thu 8,9 (10:10-12:00) B206

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

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

2018-09-13

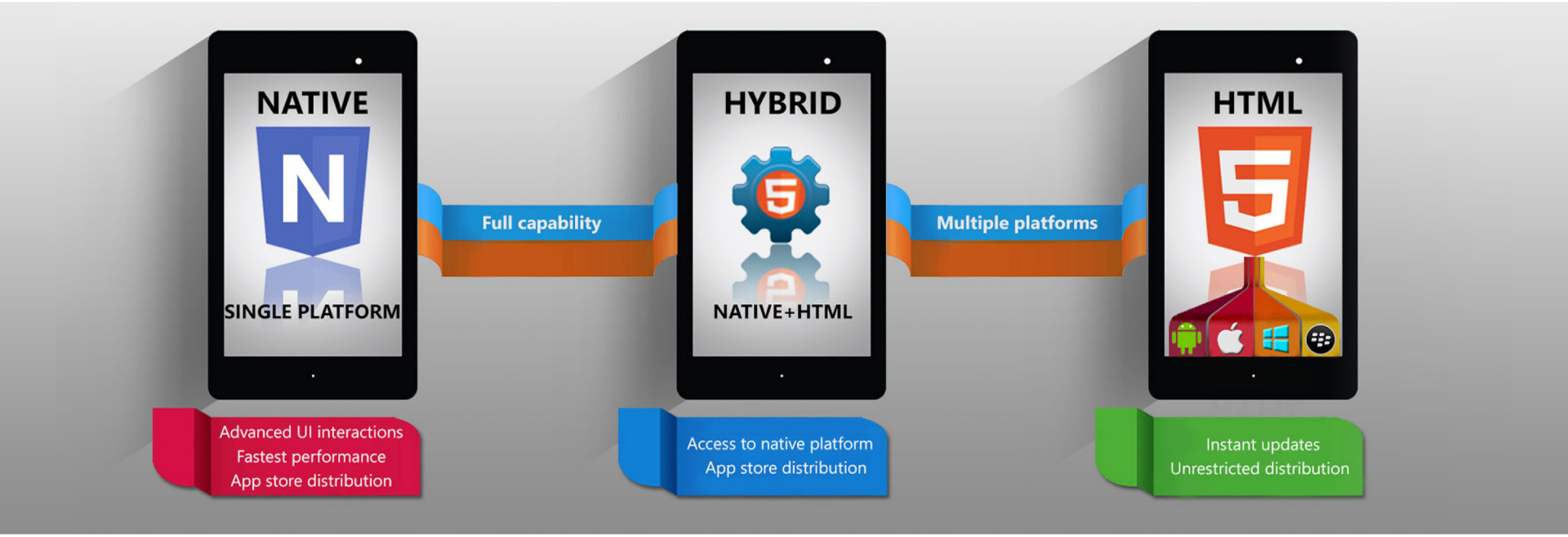
# Android /iOS Apps Programming

Native Apps

Hybrid Apps

Mobile Web Apps

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

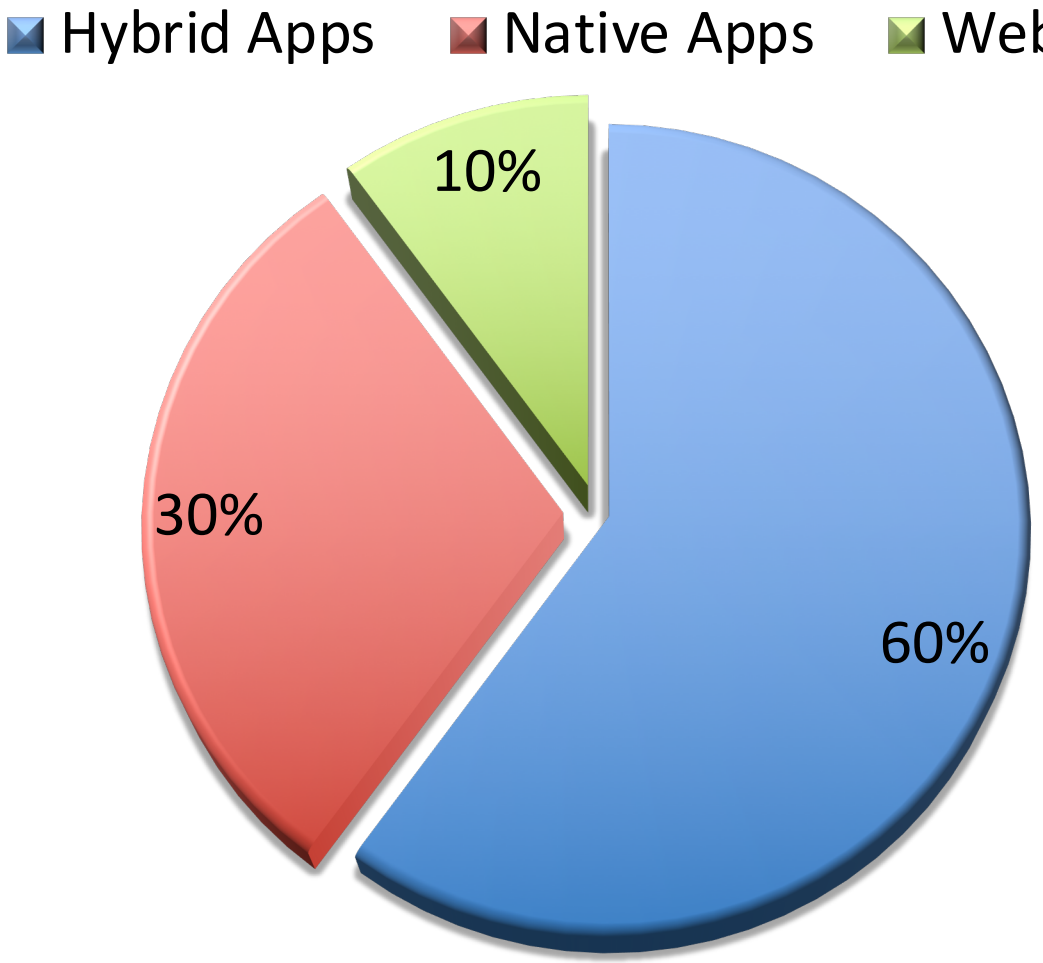



Source: http://srishta.com/blog_hybrid.html

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

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

# Enterprise Apps in 2015

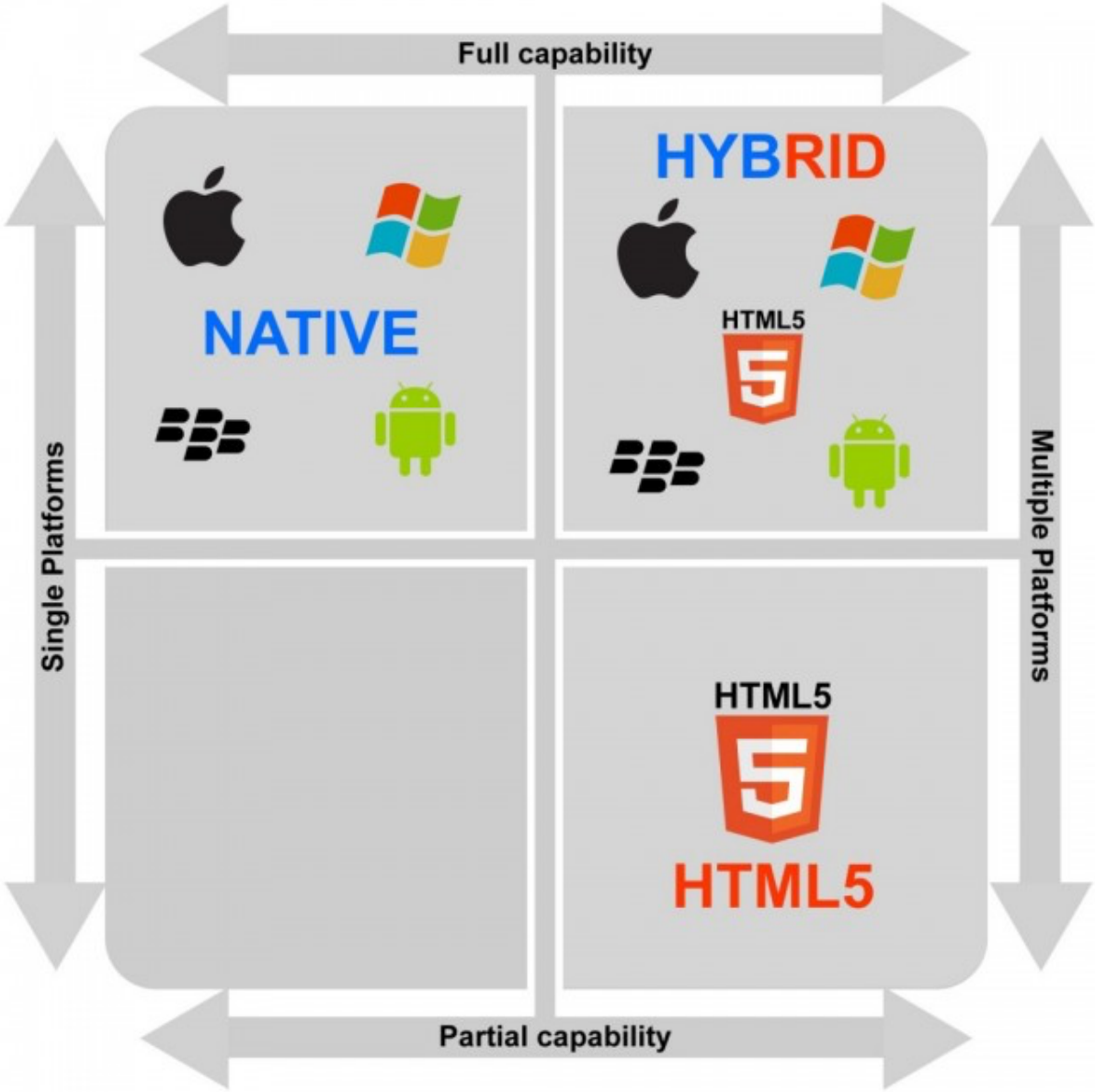



**Hybrid Apps**

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

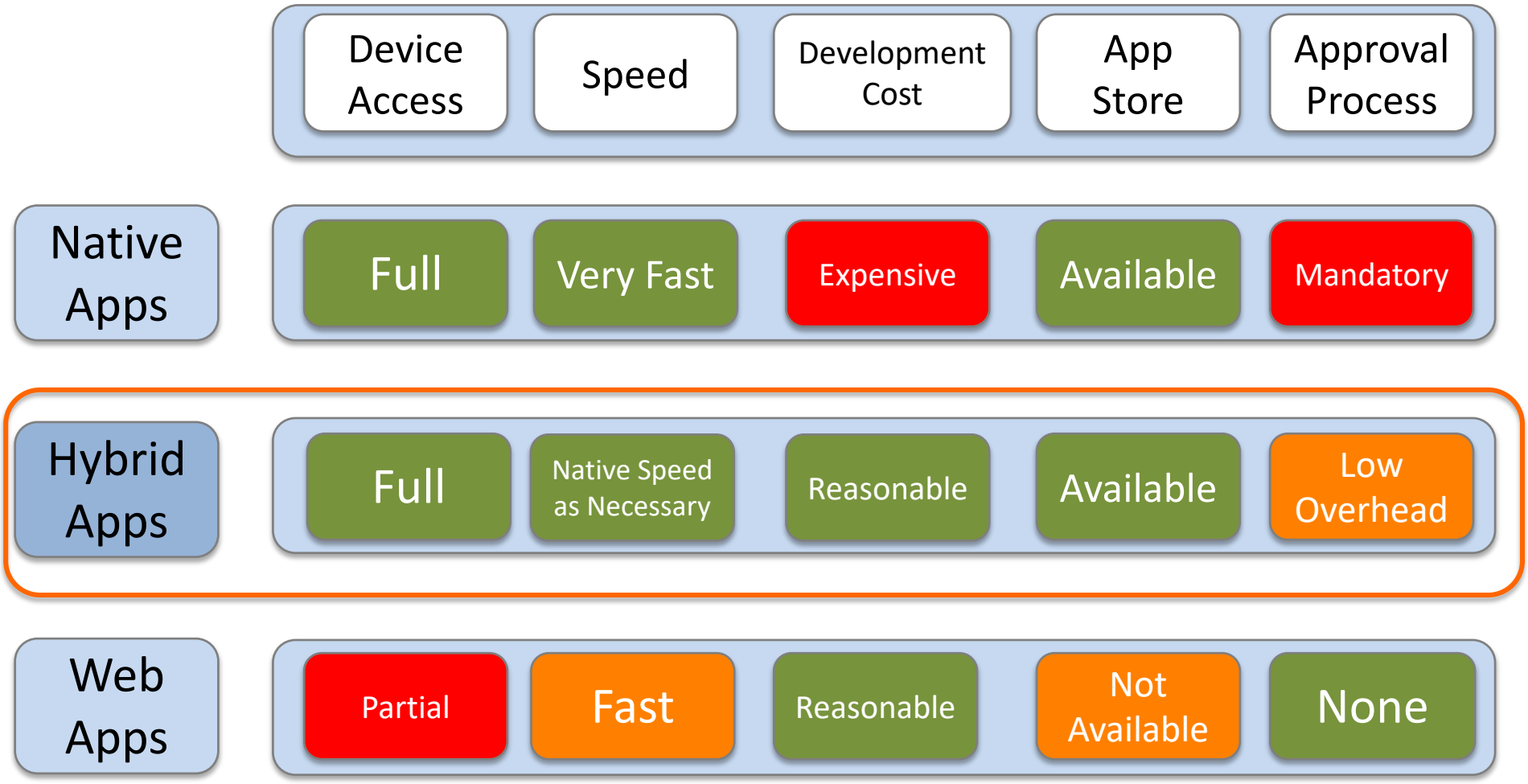
Source: http://blog.commontime.com/hybrid-apps-the-right-response-to-byod-in-business/

# Enterprise Apps (Hybrid HTML5) in 2016




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

# App Development Comparison




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

# Course Syllabus

Tamkang University

Academic Year 107, 1st Semester (Fall, 2018)

- 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: Thu 8,9 (10:10-12:00) 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 | 2018/09/13 | Course Orientation and Introduction to Social Media and Mobile Apps Programming |
| 2 | 2018/09/20 | Introduction to Android / iOS Apps Programming |
| 3 | 2018/09/27 | Developing Android Native Apps with Java (Android Studio) |
| 4 | 2018/10/04 | Developing iPhone / iPad Native Apps with Swift (XCode) |
| 5 | 2018/10/11 | Mobile Apps using HTML5/CSS3/JavaScript |
| 6 | 2018/10/18 | jQuery Mobile |
| 7 | 2018/10/25 | Create Hybrid Apps with Phonegap |
| 8 | 2018/11/01 | jQuery Mobile/Phonegap |
| 9 | 2018/11/08 | jQuery Mobile/Phonegap |

# Course Schedule (2/2)

Tamkang University

| Week | Date | Subject/Topics |
|---|---|---|
| 10 | 2018/11/15 | Midterm Exam Week / Project Presentation |
| 11 | 2018/11/22 | Case Study on Social Media Apps Programming and Marketing in Google Play and App Store |
| 12 | 2018/11/29 | Google Cloud Platform |
| 13 | 2018/12/06 | Google App Engine |
| 14 | 2018/12/13 | Google Map API |
| 15 | 2018/12/20 | Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps) |
| 16 | 2018/12/27 | Twitter API |
| 17 | 2019/01/03 | Final Project Presentation |
| 18 | 2019/01/10 | Final Exam Week / Final Project Presentation |

# Grading Policy

- Mark of Usual: 40%
- Final Apps Project: 60%
  - Midterm Project Report
  - Final Project Report

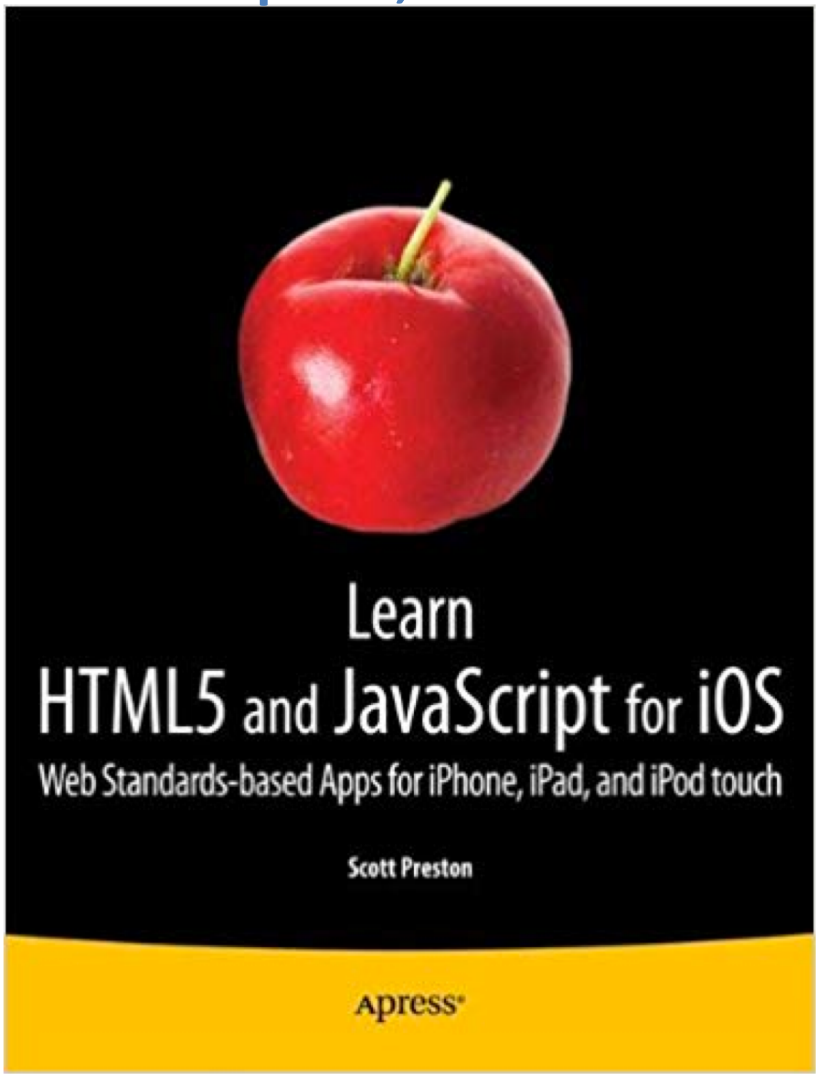
# Textbooks and References

- Textbook: Slides
  - http://mail.tku.edu.tw/myday/teaching.htm#1071SMAP
- References
  - Scott Preston, Learn HTML5 and JavaScript for iOS: Web Standards-based Apps for iPhone, iPad, and iPod touch, Apress, 2012
  - Jonathan Stark, Brian Jepson and Brian MacDonald, Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools, O'Reilly Media, 2012
  - Zainul Setyo Pamungkas, PhoneGap 4 Mobile Application Development Cookbook, Packt Publishing, 2015
  - Kerri Shotts, Mastering PhoneGap Mobile Application Development, Packt Publishing, 2016
  - Chris Griffith, Mobile App Development with Ionic 2: Cross-Platform Apps with Ionic, Angular, and Cordova, O'Reilly, 2017

# References

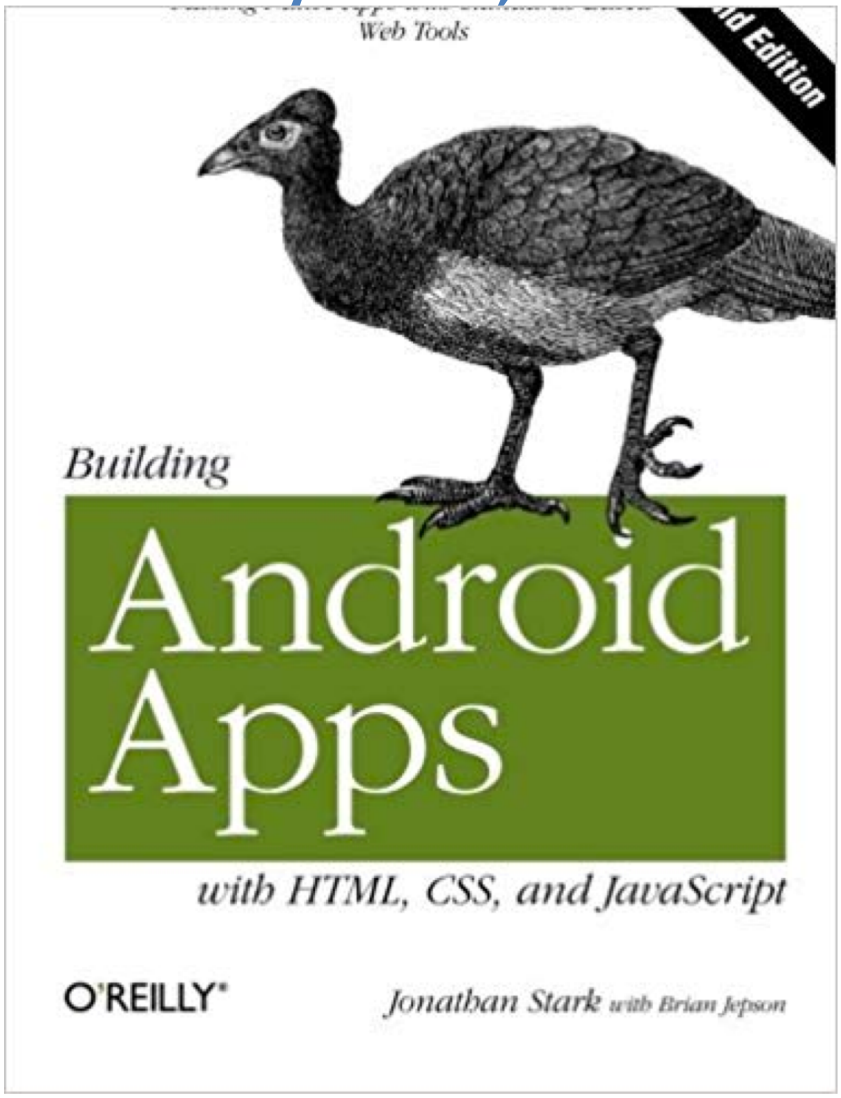

- jQuery Mobil: http://jquerymobile.com/
- PhoneGap: http://phonegap.com/
- Apple Developer: https://developer.apple.com/
- Android Developer: http://developer.android.com/
- Facebook Developers: https://developers.facebook.com/
- Twitter Developers: https://dev.twitter.com/
- Google App Engine: https://developers.google.com/appengine/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

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



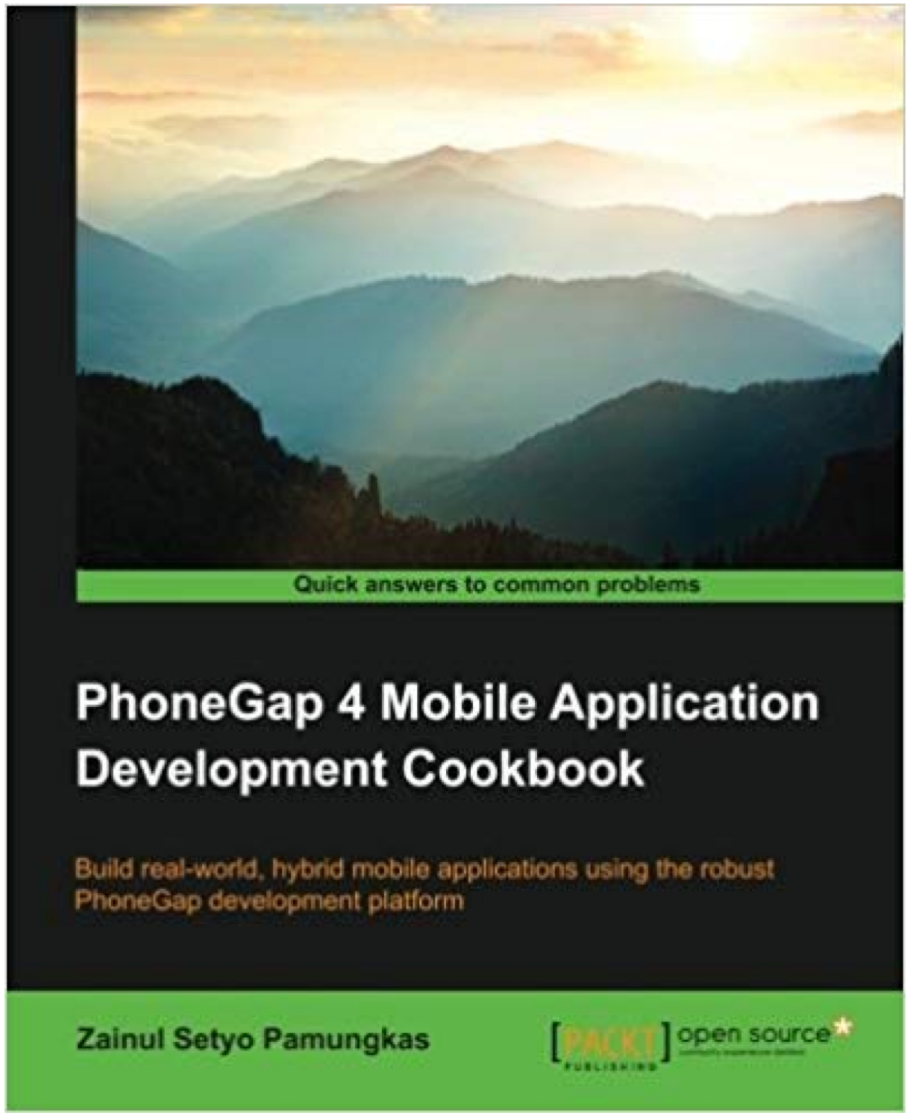

Source: https://www.amazon.com/Learn-HTML5-JavaScript-iOS-Standards-based/dp/1430240385/

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



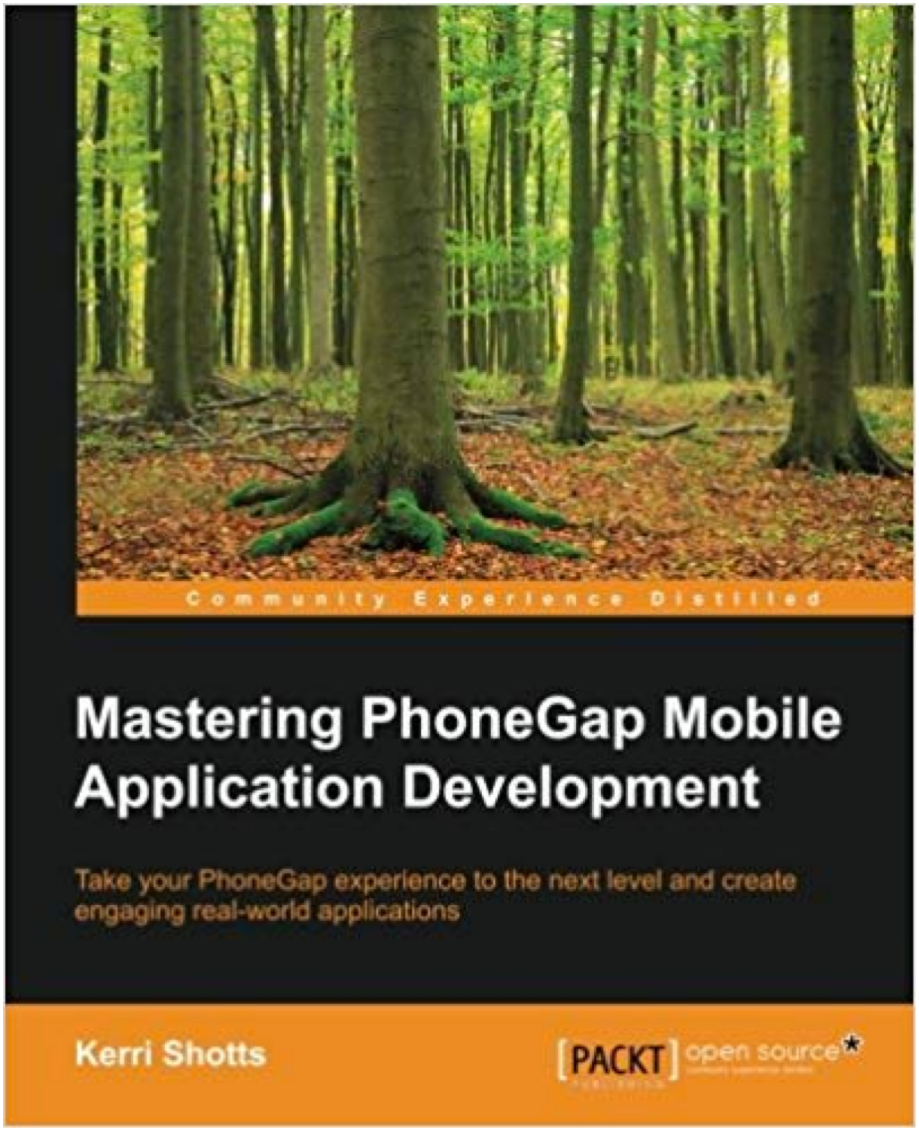

Source: https://www.amazon.com/Building-Android-Apps-HTML-JavaScript/dp/1449316417

# Zainul Setyo Pamungkas, PhoneGap 4 Mobile Application Development Cookbook, Packt Publishing, 2015



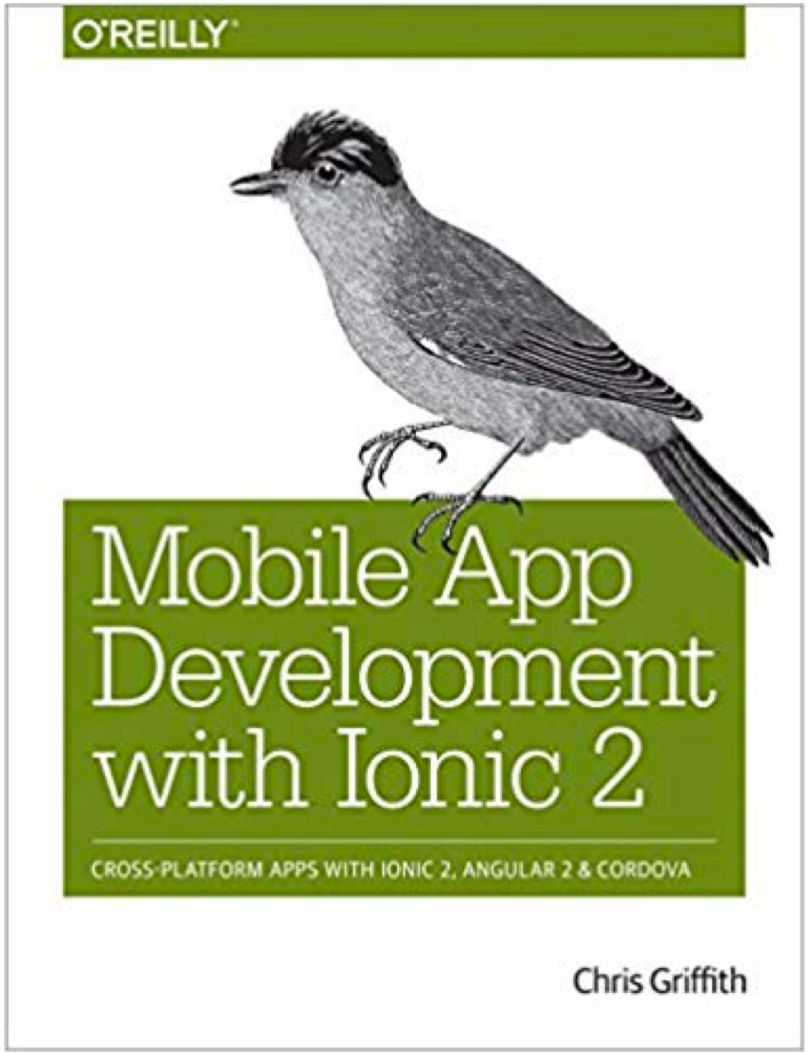

Source: https://www.amazon.com/PhoneGap-Mobile-Application-Development-Cookbook/dp/1783287942

# Kerri Shotts, Mastering PhoneGap Mobile Application Development, Packt Publishing, 2016



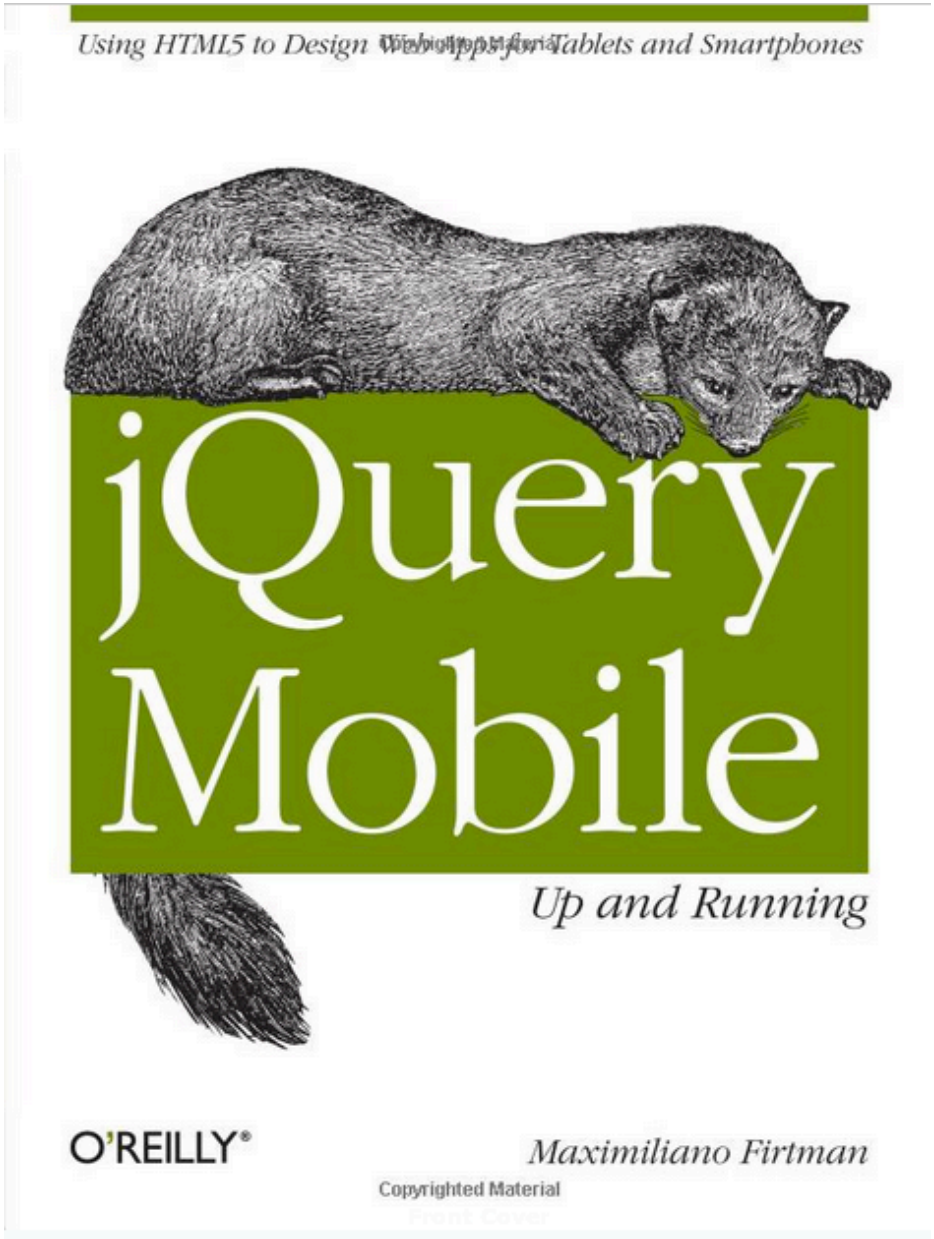

Source: https://www.amazon.com/Mastering-PhoneGap-Mobile-Application-Development/dp/1783288434

## Chris Griffith,
## Mobile App Development with Ionic 2: Cross-Platform Apps with Ionic, Angular, and Cordova,
## O'Reilly, 2017




Source: https://www.amazon.com/Mobile-App-Development-Ionic-Cross-Platform/dp/1491937785

# 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.**

SUPPORT THE PROJECT

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.

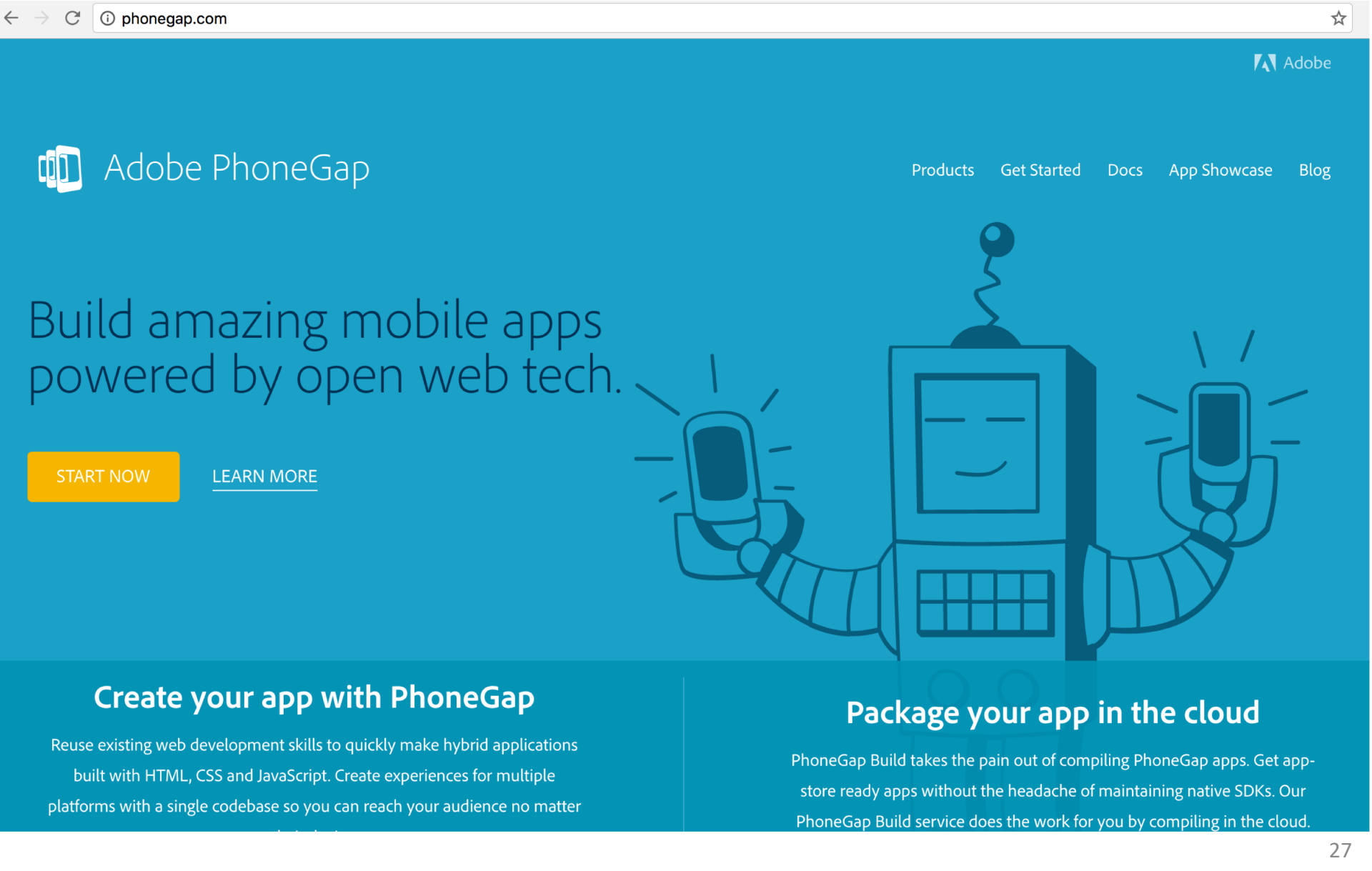
Browser Support

### Developer Links

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

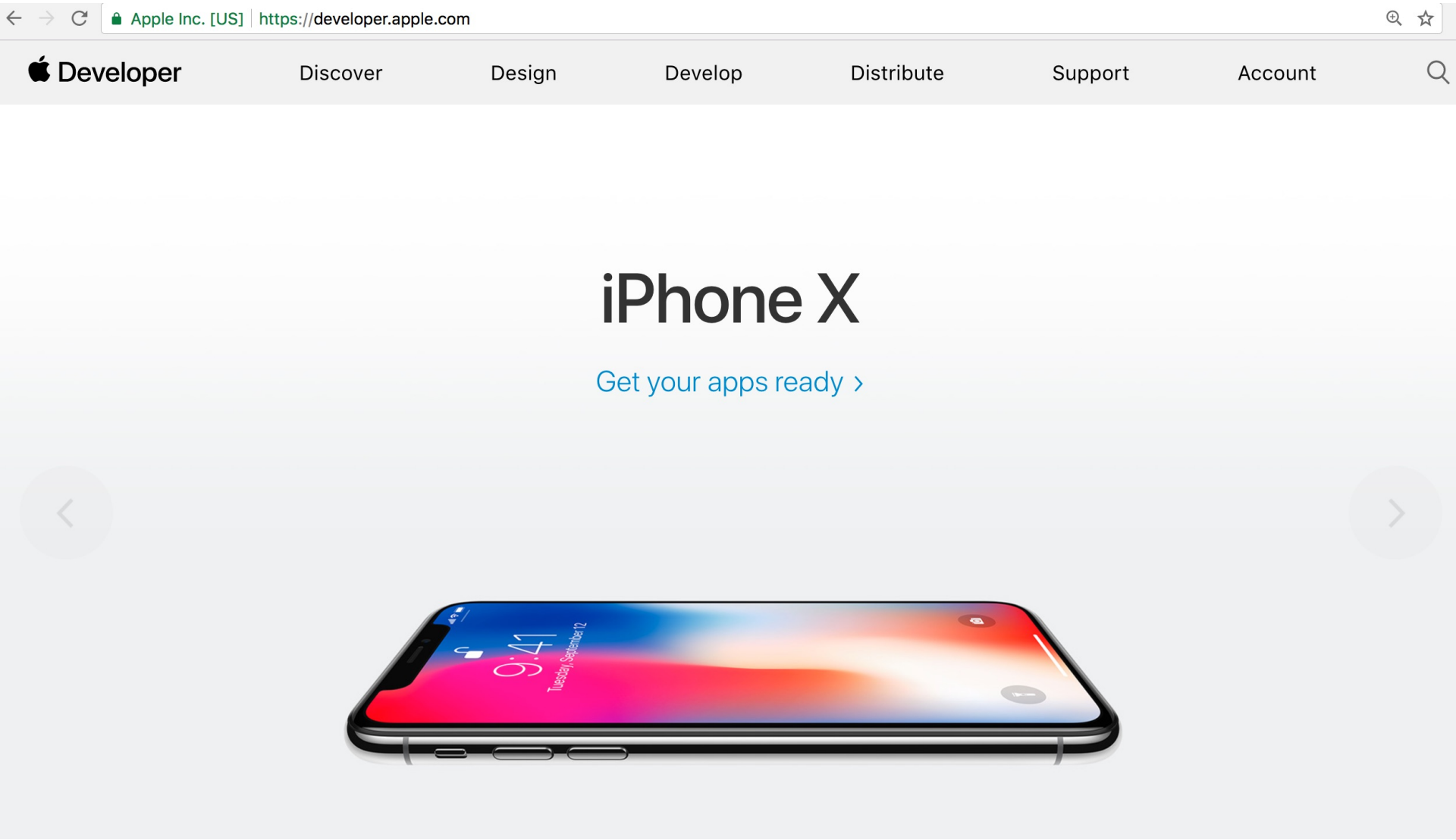
# PhoneGap

http://phonegap.com/

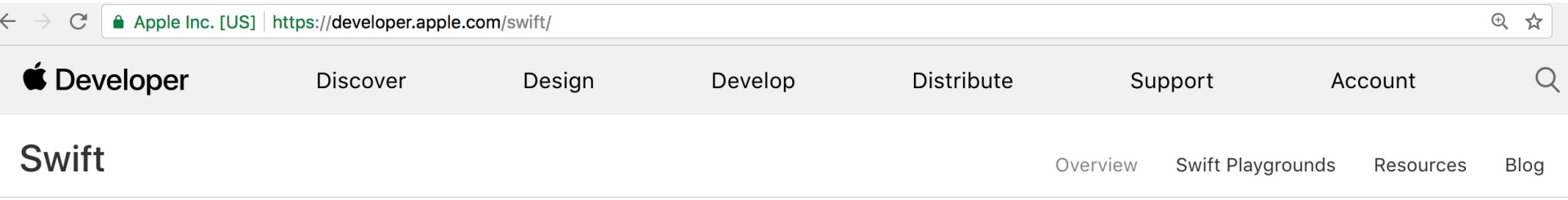


# Apple Developer

https://developer.apple.com/



# Apple Swift for iOS




## Swift 4

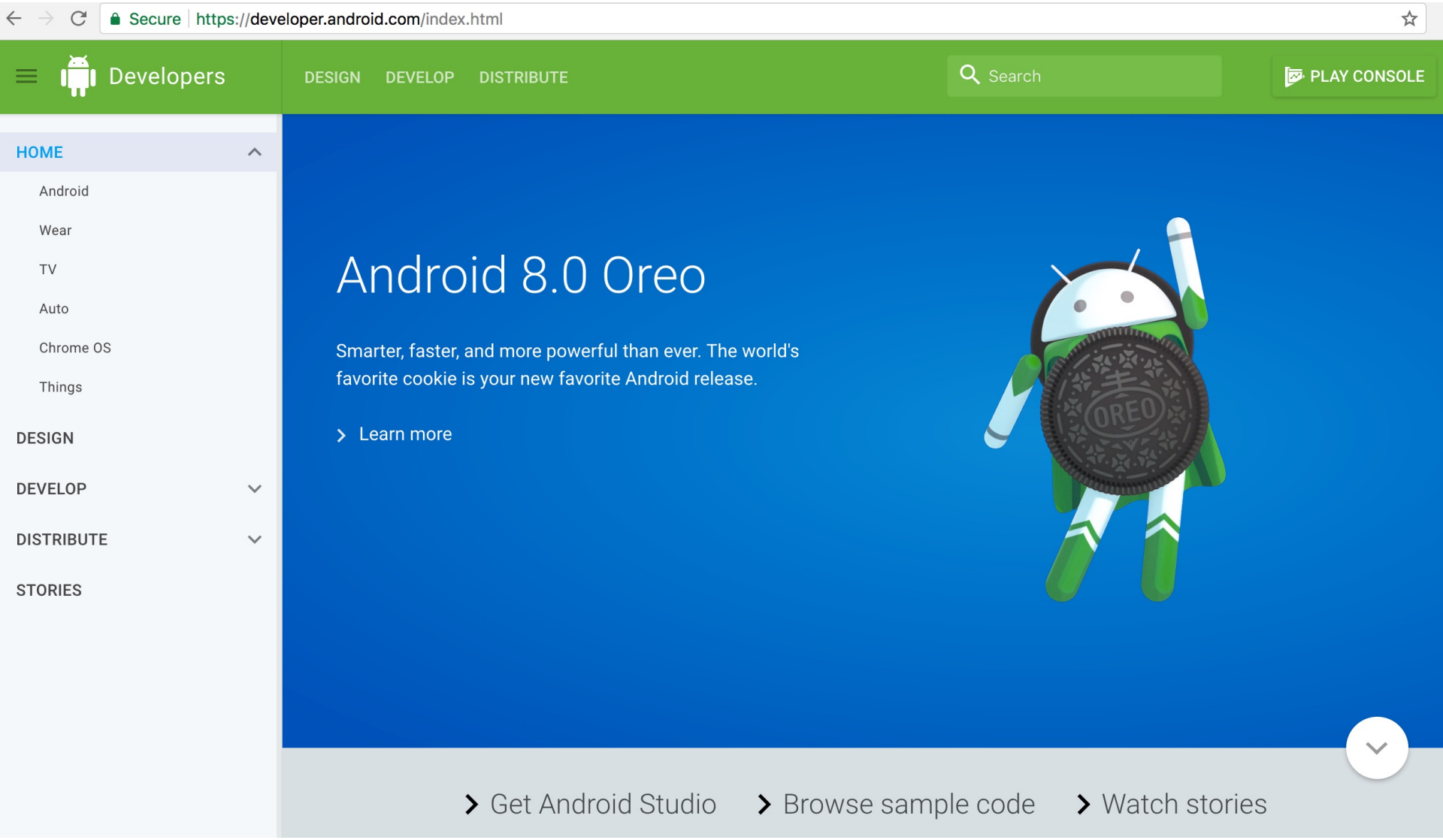
### The powerful programming language that is also easy to learn.

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.

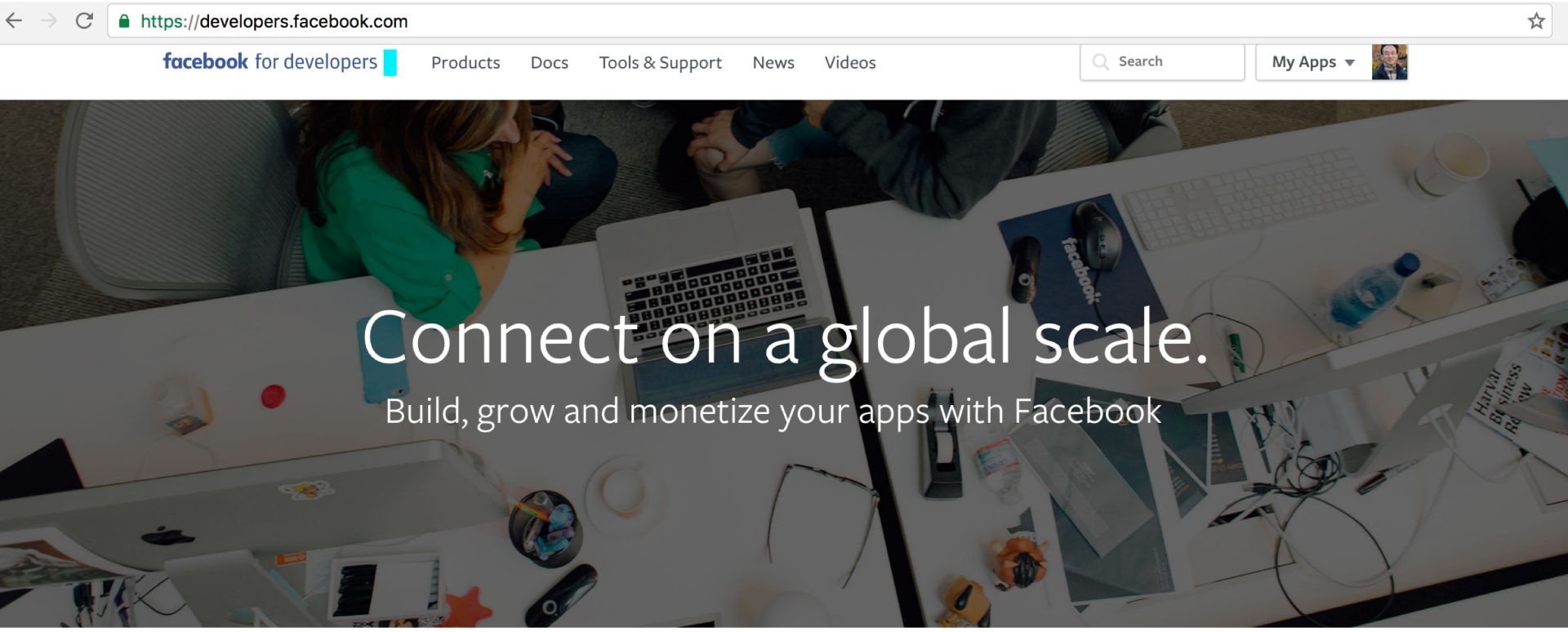
Source: https://developer.apple.com/swift/

# 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

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

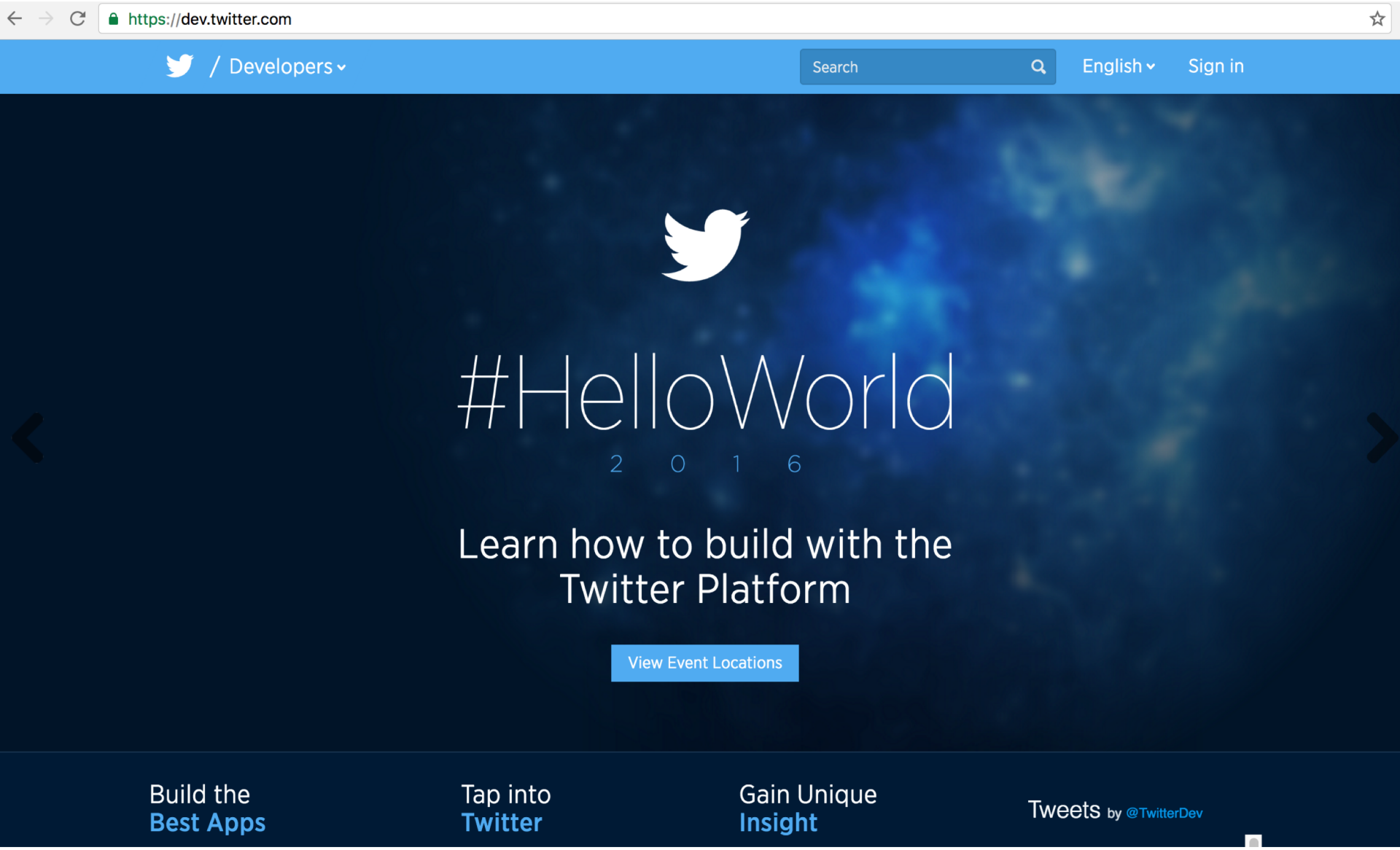
**Login**
People can easily sign in to your app with their

**Share**
People using your app can share or send a

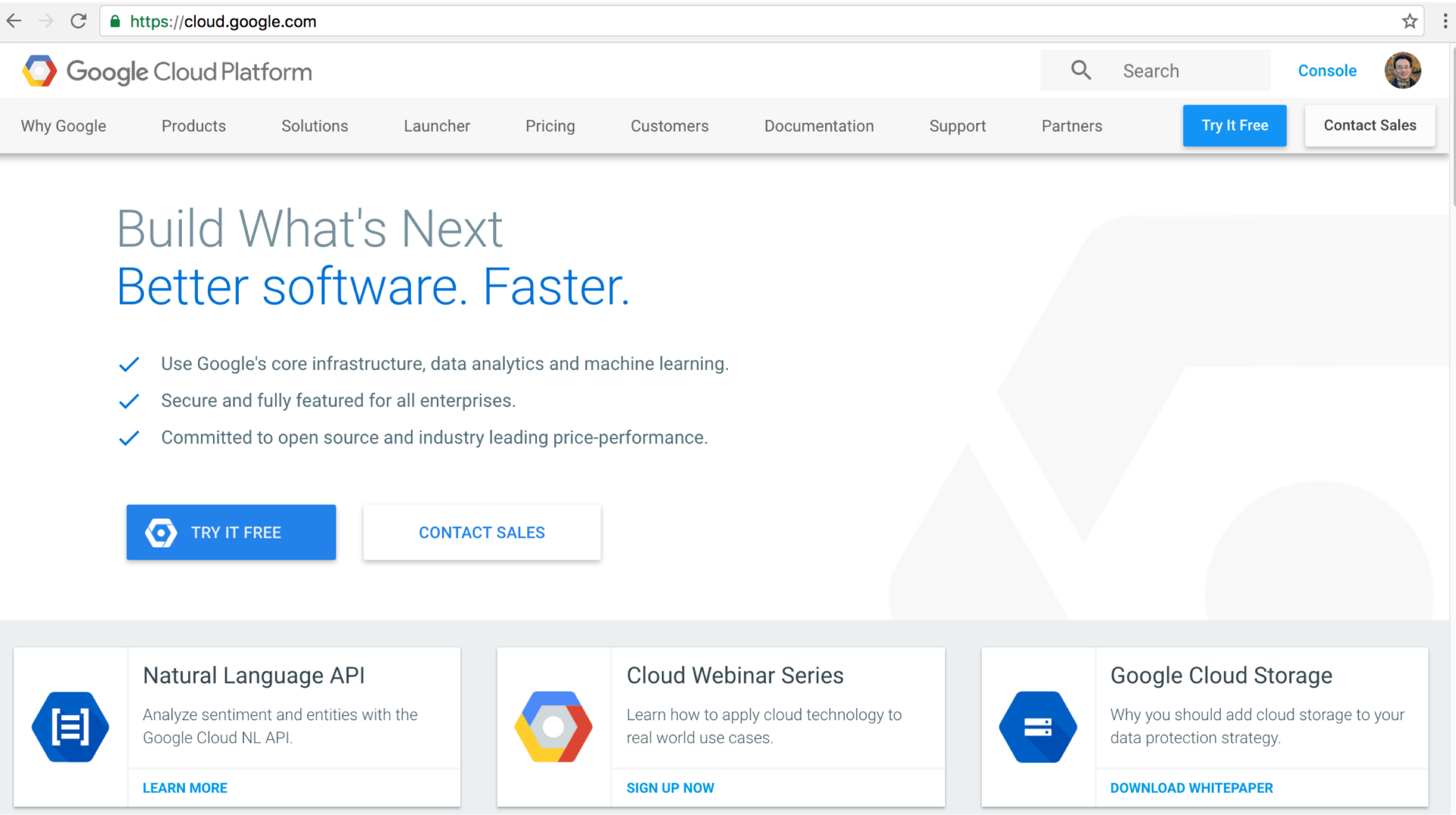
Source: https://developers.facebook.com/docs/android

# 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

Why Google | **Products** | Solutions | Launcher | Pricing | Customers | Documentation | Support | Partners | Try It Free | Contact Sales

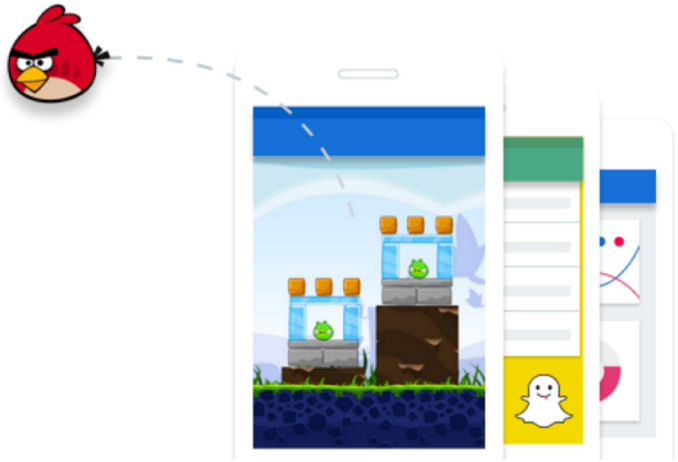
## APP ENGINE

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

TRY IT FREE

## 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

Why Google | Products | Solutions | Launcher | Pricing | Customers | Documentation | Support | Partners | Try It Free | Contact Sales

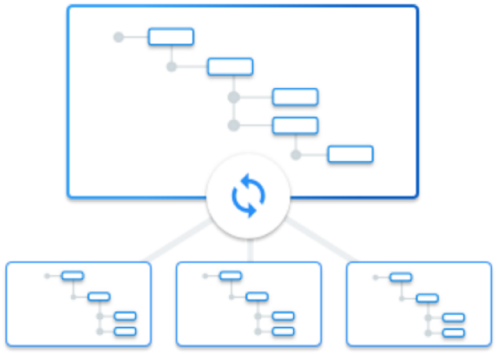
## CLOUD DATASTORE

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

TRY IT FREE

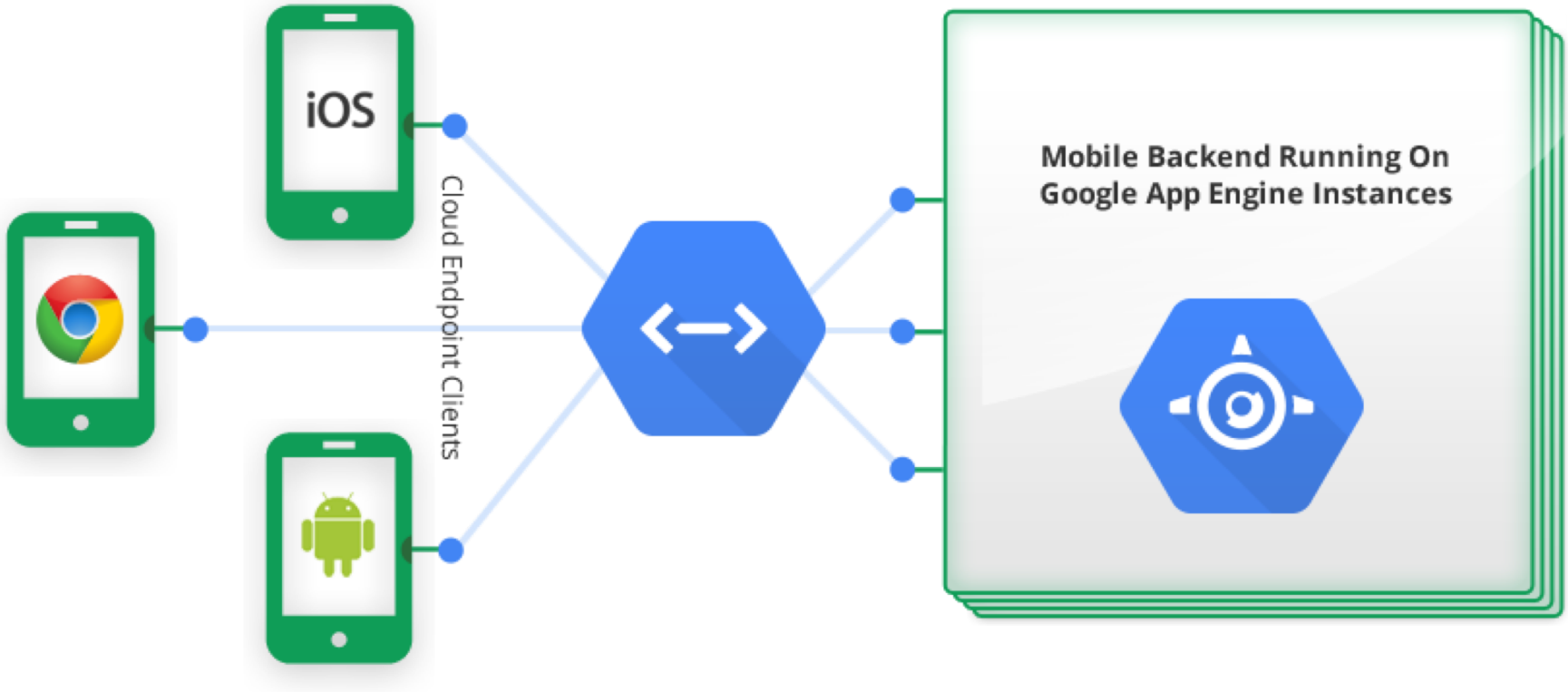
## Highly Scalable NoSQL Database

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**.



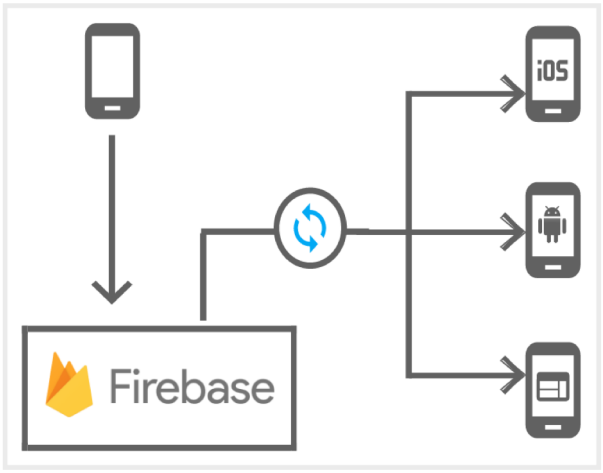
https://cloud.google.com/datastore/

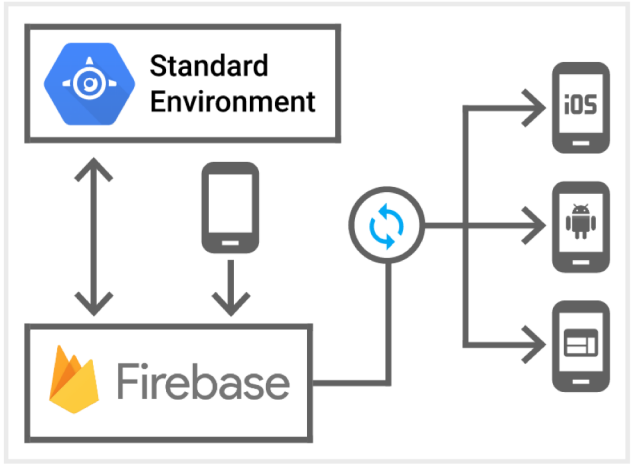
# Google Cloud Endpoints

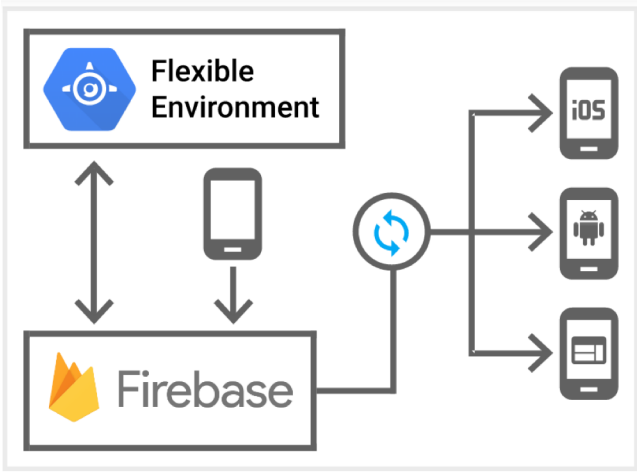


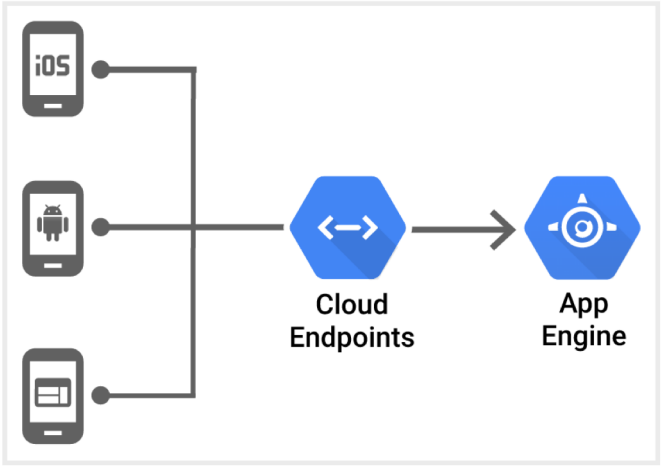

https://developers.google.com/appengine/docs/java/endpoints/

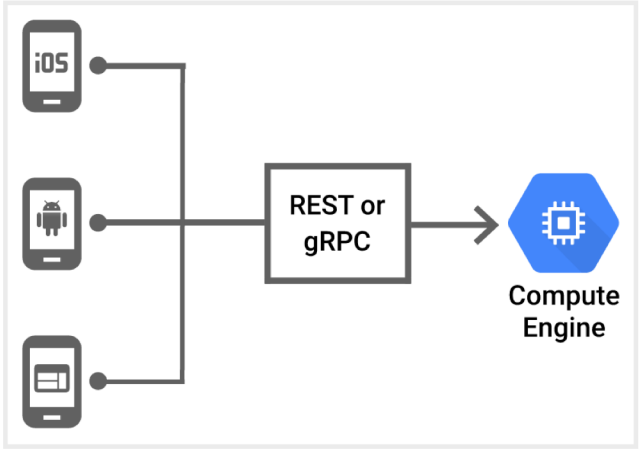
# Mobile App Backend Services



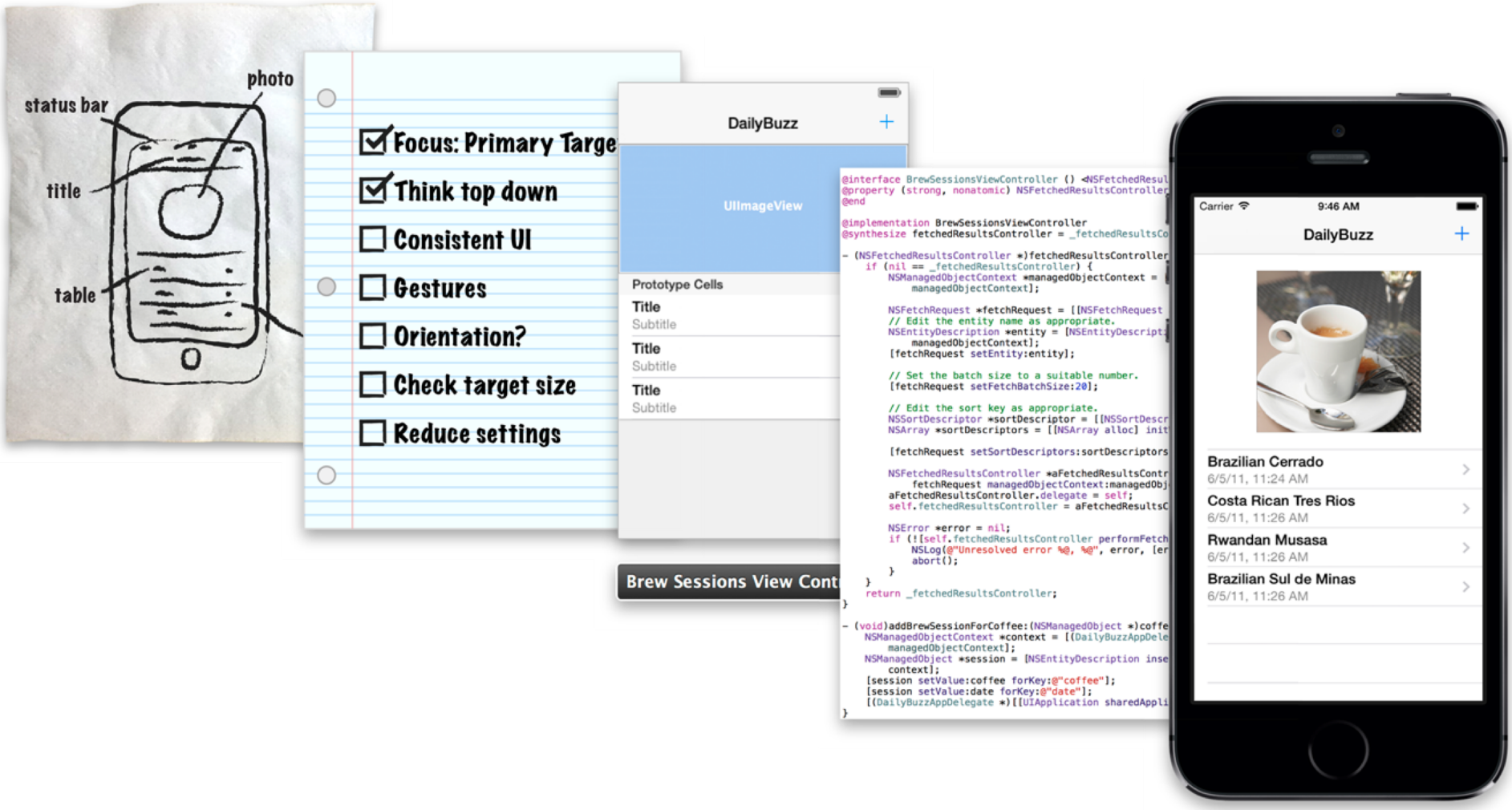



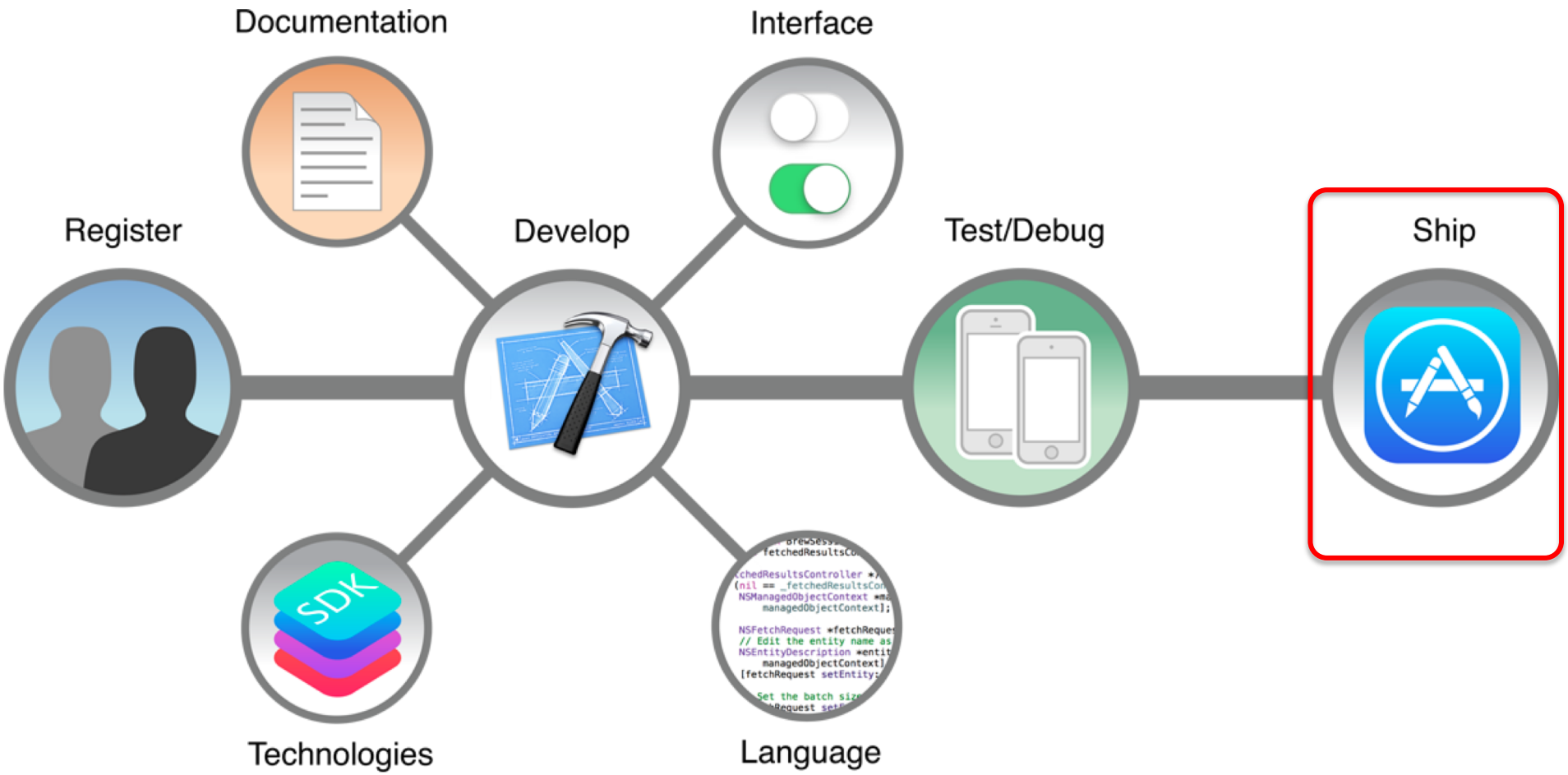

Source: https://cloud.google.com/solutions/mobile/mobile-app-backend-services

# 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

Download Blog Store Wiki Forum Support Bug tracker

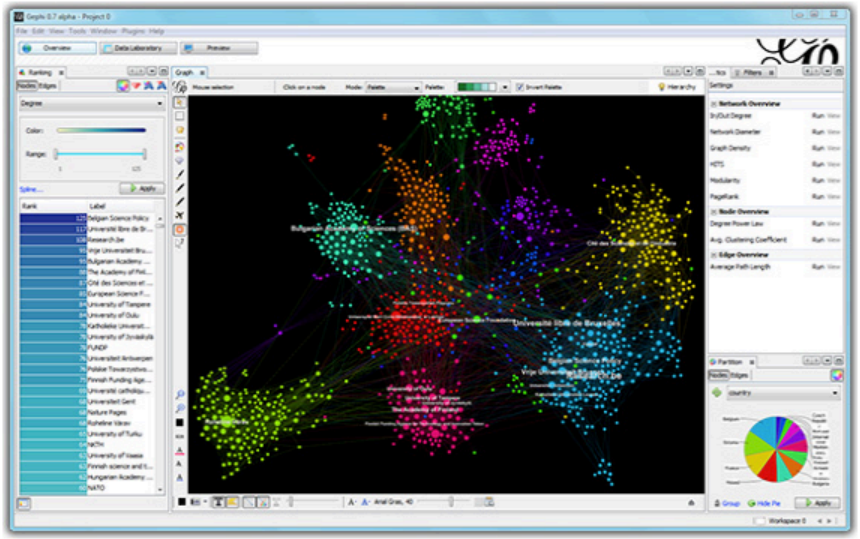
Home Features Learn Develop Plugins Services Consortium

## 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 »



Download FREE
Gephi 0.8.2-beta

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€:**

Donate

### 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

### PAPERS

# Summary

- 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.

Tamkang University

# Social Media Apps Programming

## Contact

**Min-Yuh Day, Ph.D.**

Assistant Professor

Department of Information Management, Tamkang University

Tel: 886-2-26215656 ext. 2846

Fax: 886-2-26209737

Office: B929

Address: No.151, Yingzhuan Rd., Danshui Dist., New Taipei City 25137, Taiwan (R.O.C.)

Email: myday@mail.tku.edu.tw

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