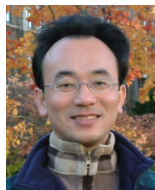




Social Media Apps Programming

Course Orientation and Introduction to Social Media and Mobile Apps Programming

1031SMAP01
TLMXM1A (8687) (M2143) (Fall 2014)
(MIS MBA) (2 Credits, Elective) [Full English Course]
Thu 8,9 (15:10-17:00) V201



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

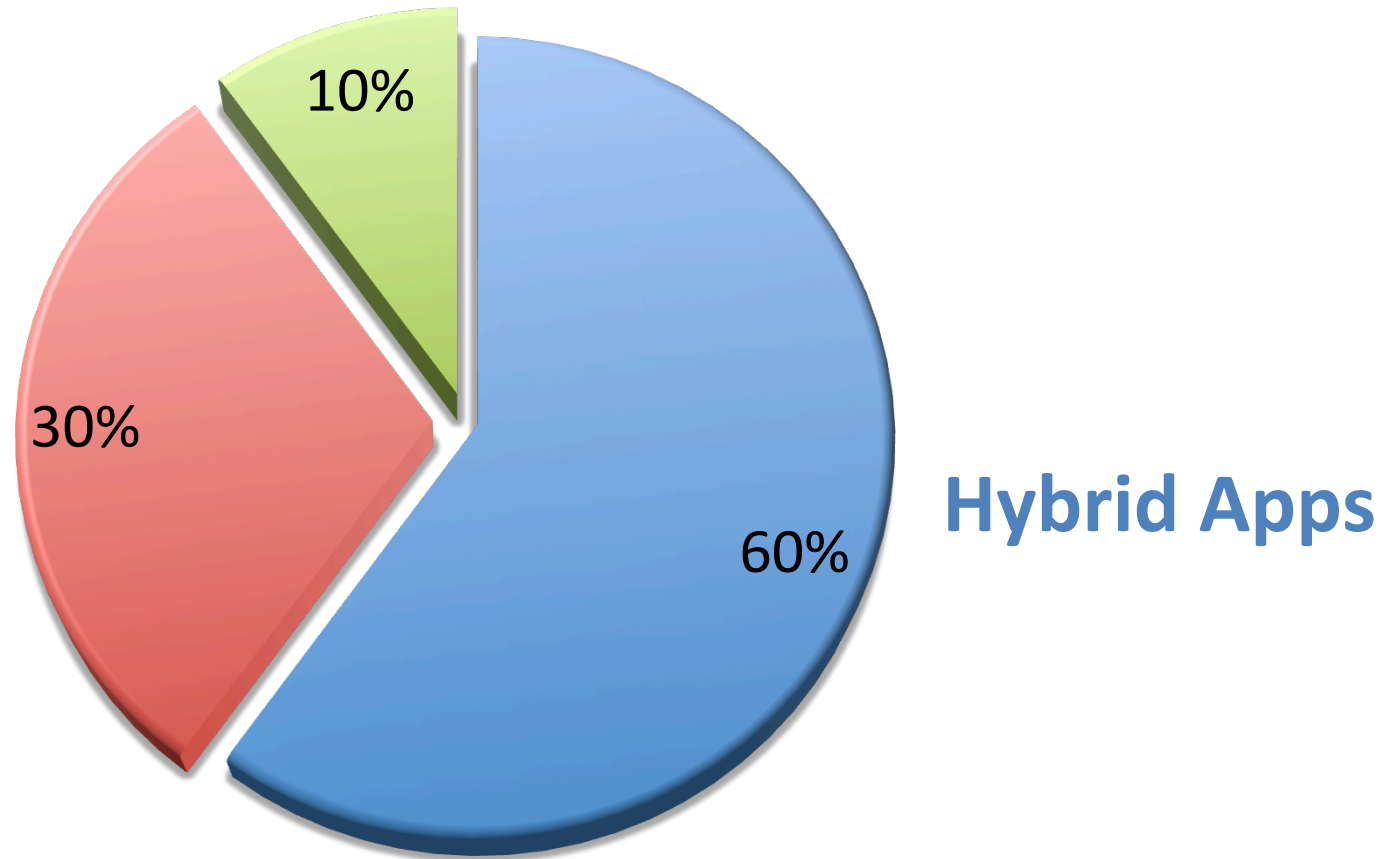
Hybrid Apps

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

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Jonathan Stark

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App Development Comparison



Native Apps



Hybrid Apps



Web Apps





Course Syllabus

Tamkang University

Academic Year 103, 1st Semester (Fall, 2014)

- 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 8,9 (15:10-17:00) V201



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/ Objective-C (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 | 2014/09/17 | Course Orientation and Introduction to Social Media and Mobile Apps Programming |
| • 2 | 2014/09/24 | Introduction to Android / iOS Apps Programming |
| • 3 | 2014/10/01 | Developing Android Native Apps with Java (Eclipse) (MIT App Inventor) |
| • 4 | 2014/10/08 | Developing iPhone / iPad Native Apps with Swift / Objective-C (XCode) |
| • 5 | 2014/10/15 | Mobile Apps using HTML5/CSS3/JavaScript |
| • 6 | 2014/10/22 | jQuery Mobile |

Course Schedule (2/3)

- | Week | Date | Subject/Topics |
|------|------------|--|
| • 7 | 2014/10/29 | Create Hybrid Apps with Phonegap |
| • 8 | 2014/11/05 | jQuery Mobile/Phonegap |
| • 9 | 2014/11/12 | jQuery Mobile/Phonegap |
| • 10 | 2014/11/19 | Midterm Exam Week
(Midterm Project Report) |
| • 11 | 2014/11/26 | Case Study on Social Media Apps
Programming and Marketing in
Google Play and App Store |
| • 12 | 2014/12/03 | Google Cloud Platform |

Course Schedule (3/3)

Week	Date	Subject/Topics
• 13	2014/12/10	Google App Engine
• 14	2014/12/17	Google Map API
• 15	2014/12/24	Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)
• 16	2014/01/31	Twitter API
• 17	2015/01/07	Final Project Presentation
• 18	2015/01/14	Final Exam Week (Final Project Report)

Grading Policy

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

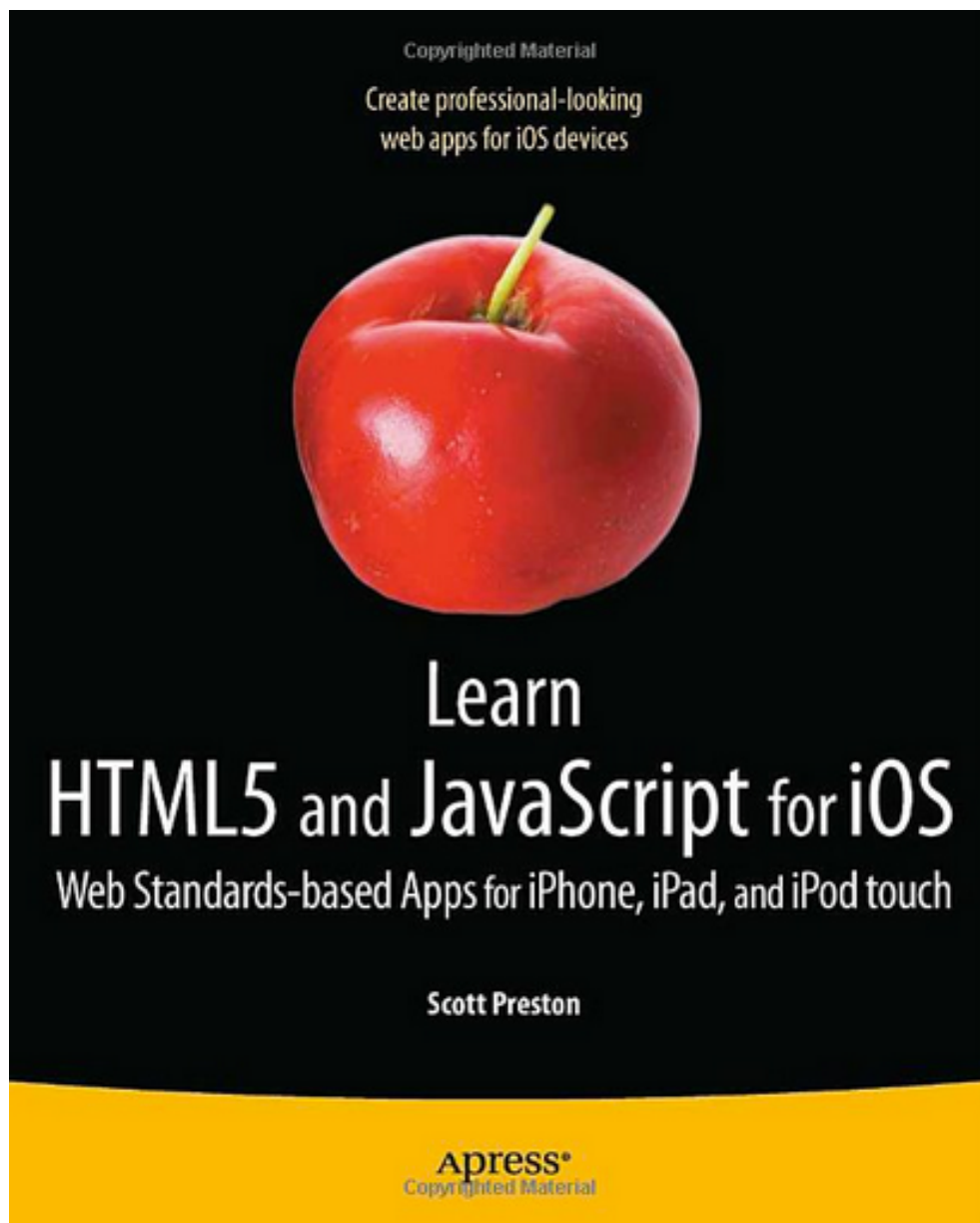
Textbooks and References

- **Textbook: Slides**
 - <http://mail.tku.edu.tw/myday/teaching.htm#1031SMAP>
- 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/>

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®

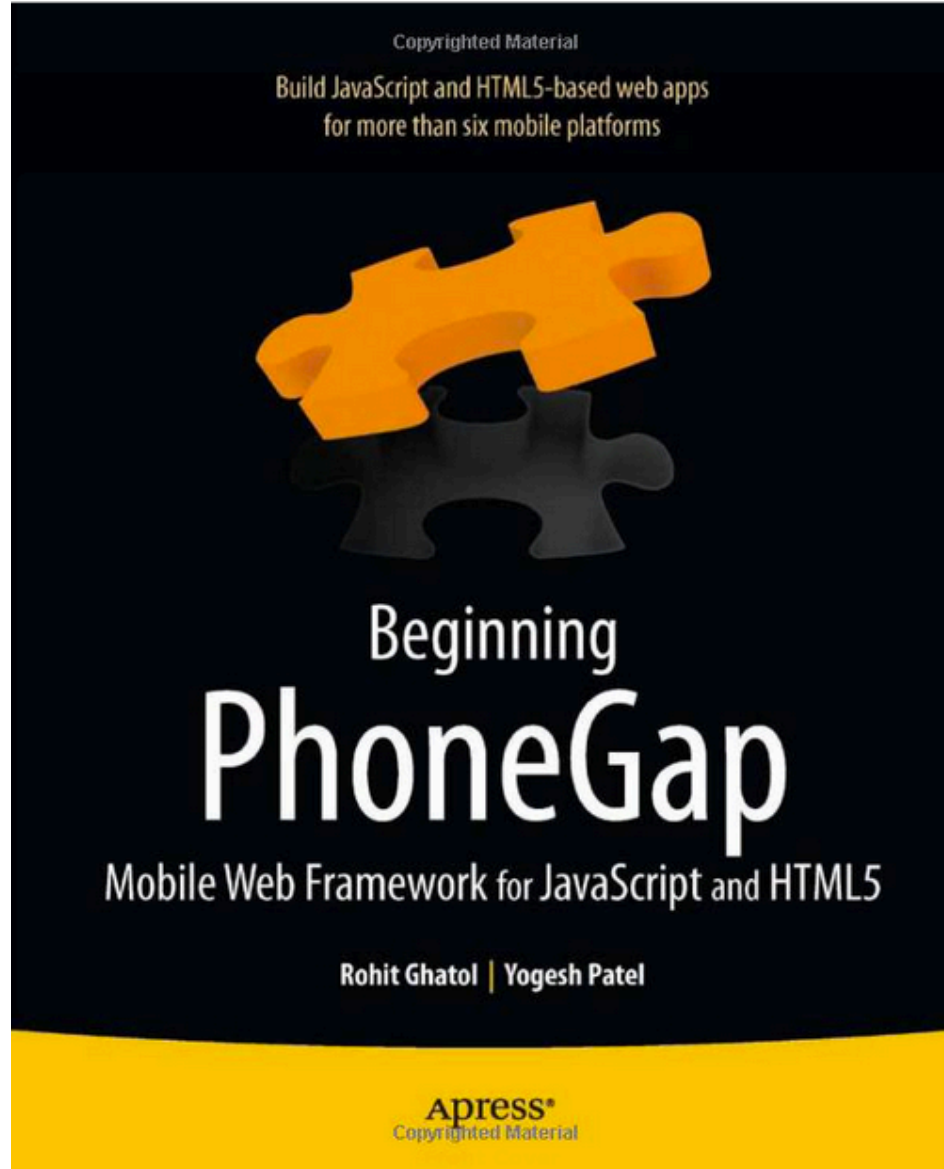
Jonathan Stark

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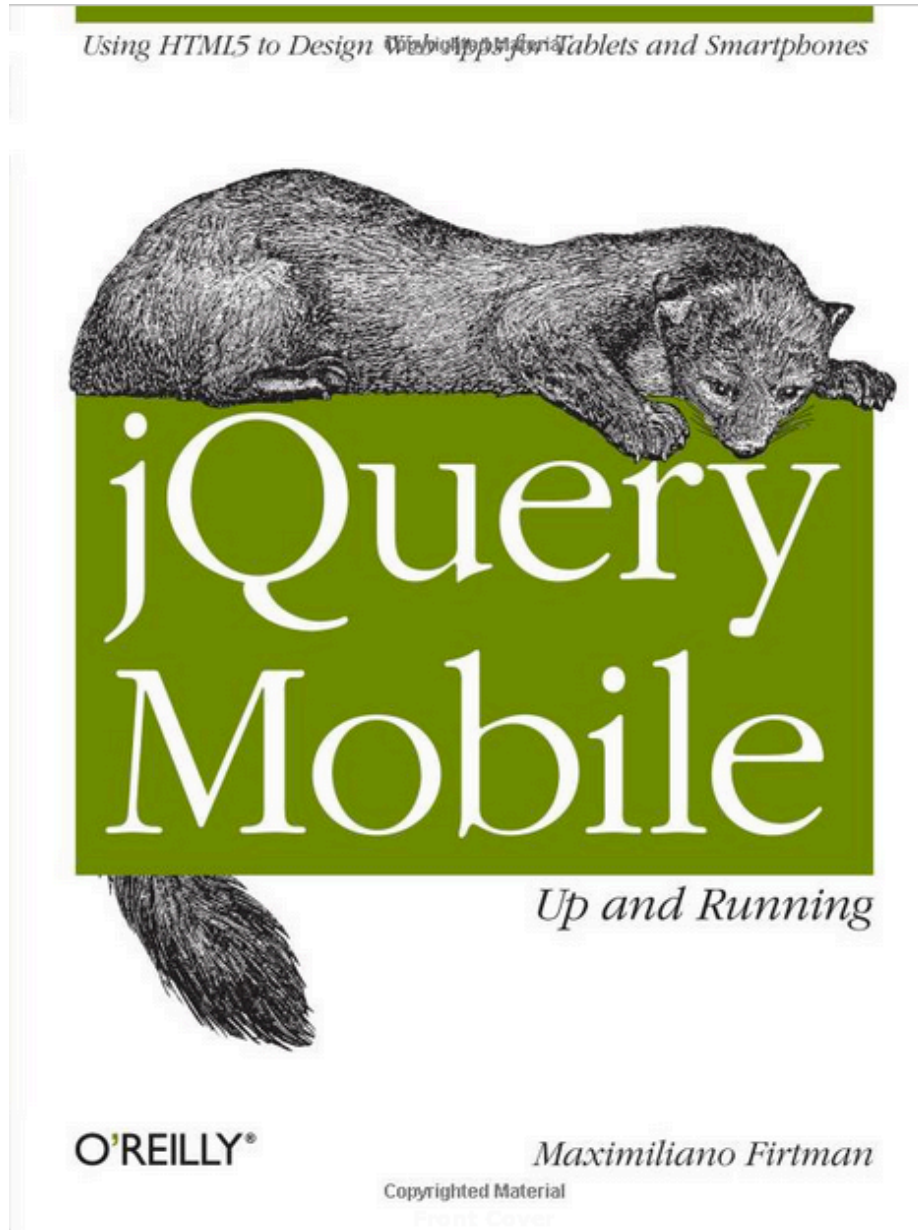
Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools, Jonathan Stark & Brian Jepson, O'reilly, 2012



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>

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



The image shows a screenshot of the jQuery Mobile website homepage. At the top, there is a navigation bar with links for jQuery, UI, Mobile (which is underlined), Plugins, Meetups, Forum, Events, About, and Donate. Below this is the jQuery mobile logo and a secondary navigation bar with links for Demos, API, Download, Platforms, Themes, Resources, and Blog. The main content area features a yellow banner announcing 'JQUERY MOBILE 1.4.0 BETA RELEASED!'. Below this is the title 'jQuery Mobile: Touch-Optimized Web Framework for Smartphones & Tablets' and a paragraph describing it as a unified, HTML5-based user interface system. A link for the 'Latest stable version - 1.3.2' is provided, along with legacy versions 1.2.1, 1.1.2, and 1.0.1. To the right of the text is an image of various mobile devices (a tablet, a smartphone, and a feature phone) displaying the jQuery Mobile logo. Below the image is a section titled 'Seriously cross-platform with HTML5' and a paragraph explaining that the framework allows for a single design that works across different devices and operating systems. A link for 'Device support' is also included.

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 the headline 'Easily create apps using the web technologies you know and love: HTML, CSS, and JavaScript'. Below this is a sub-headline: '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, a workflow diagram illustrates the process: 'Wrap your app with PhoneGap' (represented by a box containing JS, CSS, and HTML icons) followed by 'Deploy to mobile platforms!' (represented by 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.

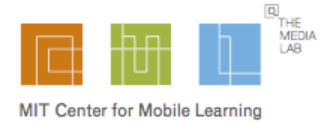
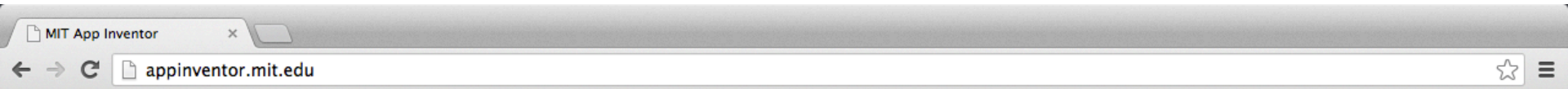
Install PhoneGap ▶ Getting Started Guides ▶

Watch Intro

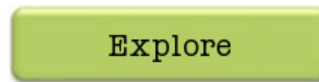
Wrap your app with PhoneGap

Deploy to mobile platforms!

MIT App Inventor: <http://appinventor.mit.edu/>



Educator Resources



Information & Tutorials



Create Mobile Apps

© 2012 [Massachusetts Institute of Technology](http://www.mit.edu/)

[Contact Us](#)

Apple Developer

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

 Developer

Technologies

Resources

Programs

Support

Member Center



See what's new for developers.

Learn about all the new technologies and powerful capabilities available in iOS 8, OS X Yosemite, and the new programming language, Swift, available in Xcode 6.

Apple Swift for iOS



Swift

A new programming language for iOS and OS X.

Overview

Blog

Resources

Introducing Swift

Swift is an innovative new programming language for Cocoa and Cocoa Touch. Writing code is interactive and fun, the syntax is concise yet expressive, and apps run lightning-fast. Swift is ready for your next iOS and OS X project — or for

Android Developer

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

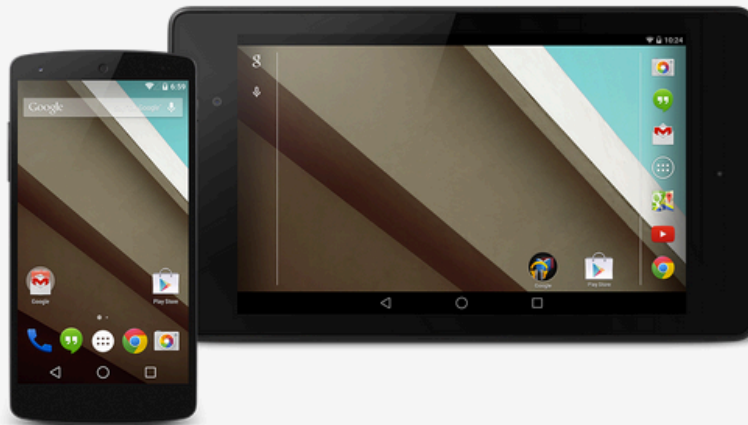


Developers ▾

Design

Develop

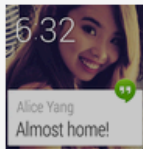
Distribute



L Developer Preview

The L Developer Preview lets you design and develop against the next major release of Android. Take the time to test and build your app before the platform officially launches.

[Learn More](#)



Building Apps for Wearables

Learn how to build notifications, send and sync data, and use voice actions.



Material Design

Learn how to apply material design to your apps.



Android Studio

Learn about the new features in the beta release of our new IDE.

[Get the SDK >](#)

[Browse Samples >](#)

[Watch Videos >](#)

[Manage Your Apps >](#)

Facebook Developers

Home - Facebook Develop x
https://developers.facebook.com

facebook developers Search Facebook Developers Docs Tools Support News Apps Min-Yuh Day

Facebook SDK for Unity

Simple cross-platform development.
Immersive full-screen game experience.

[Download the SDK](#) or [Learn More](#)

iOS
Integrate Facebook with your native iOS apps.

Android
Integrate Facebook with your native Android apps.

Web
Integrate Facebook with your website or host your apps in Facebook.com.

Latest Updates

- Platform Status:** Facebook Platform is Healthy
- Introducing App Center Videos**
December 20 by Niket Biswas
- Platform Updates: New Unity SDK Case Study and Updated iOS Developer Center**
December 19 by Brian Jew

[More](#)

Object API

Object API

Create Open Graph Objects

Easily integrate Open Graph objects into your apps. Works on mobile and web - no web server needed! [Learn more](#)

Showcase

See how companies make their sites personalized and social with Facebook

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

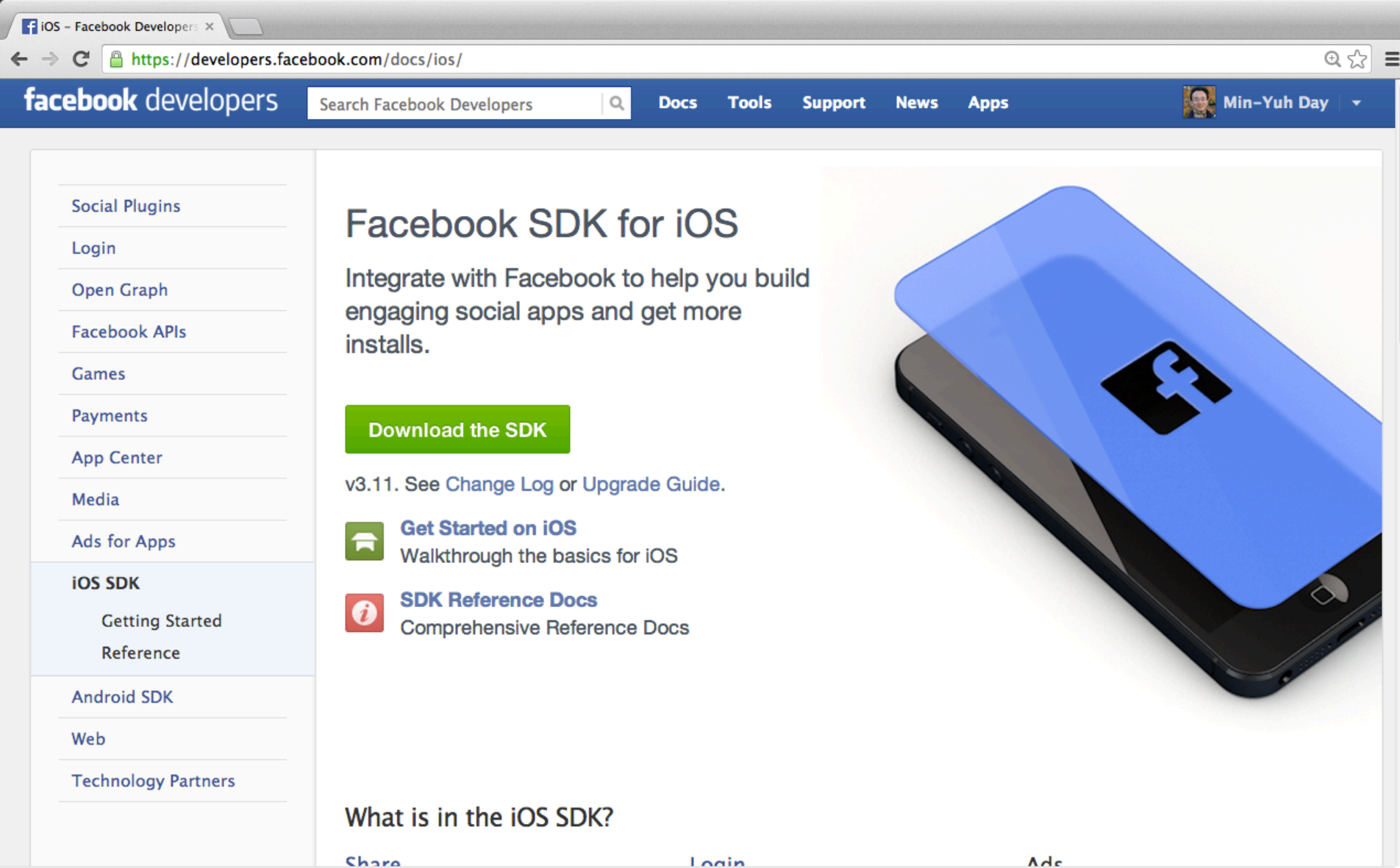
Integrate Facebook with your native iOS apps



iOS

Integrate Facebook with your native iOS apps.

Facebook SDK for iOS



The screenshot shows the Facebook Developers website for the iOS SDK. The browser address bar displays <https://developers.facebook.com/docs/ios/>. The navigation bar includes the 'facebook developers' logo, a search bar, and links for 'Docs', 'Tools', 'Support', 'News', and 'Apps'. A user profile for 'Min-Yuh Day' is visible in the top right. The left sidebar contains a menu with categories: Social Plugins, Login, Open Graph, Facebook APIs, Games, Payments, App Center, Media, Ads for Apps, iOS SDK (highlighted), Android SDK, Web, and Technology Partners. Under 'iOS SDK', 'Getting Started' and 'Reference' are listed. The main content area features the title 'Facebook SDK for iOS', a sub-headline 'Integrate with Facebook to help you build engaging social apps and get more installs.', and a prominent green 'Download the SDK' button. Below the button, it states 'v3.11. See Change Log or Upgrade Guide.' and provides two links: 'Get Started on iOS' (with a book icon) and 'SDK Reference Docs' (with an information icon). The bottom of the page shows the start of a section titled 'What is in the iOS SDK?' and the beginning of a 'Share' section.

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

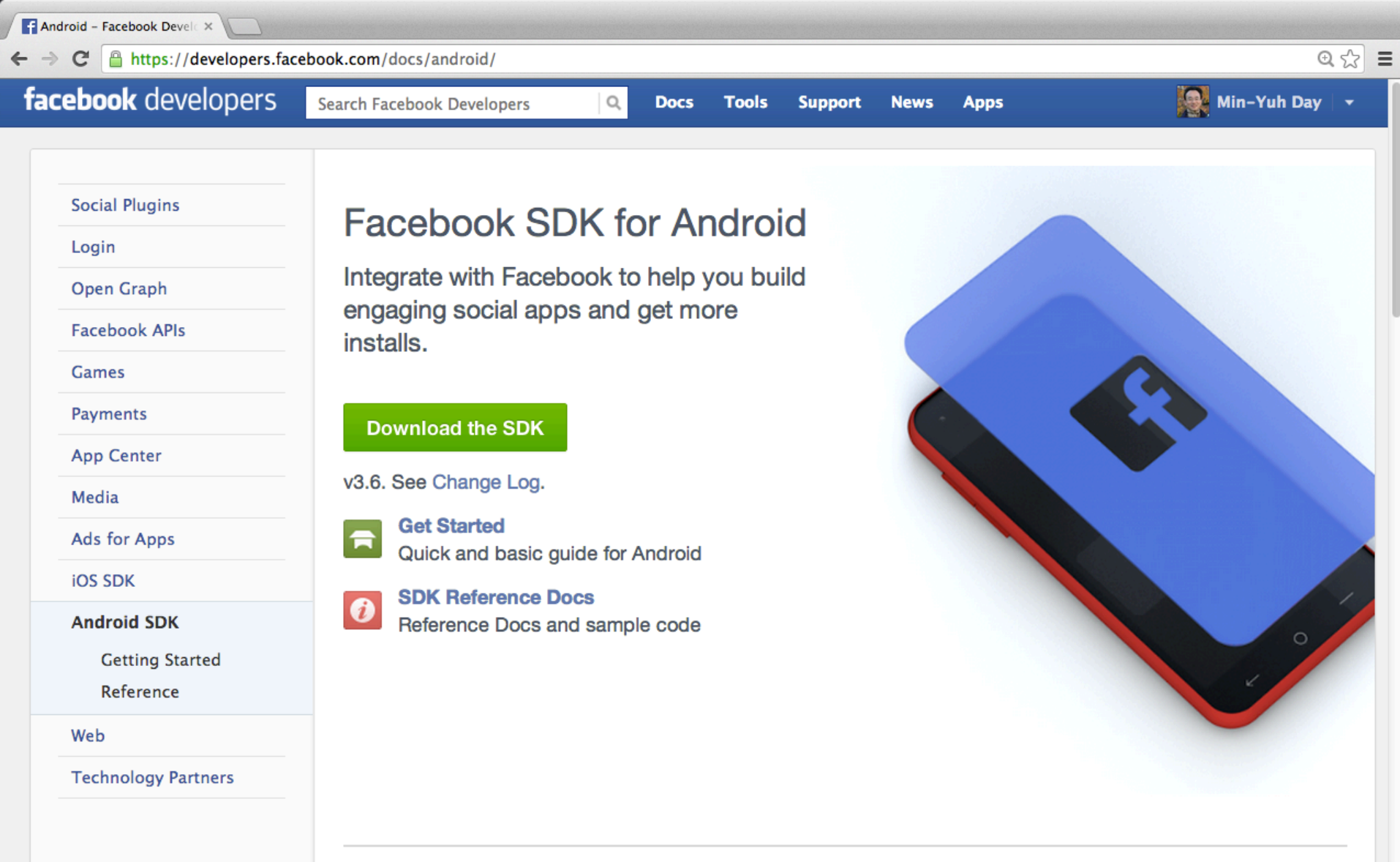
Integrate Facebook with your native Android apps.



Android

Integrate Facebook with your native Android apps.

Facebook SDK for Android



The image shows a browser window displaying the Facebook Developers page for the Android SDK. The browser's address bar shows the URL <https://developers.facebook.com/docs/android/>. The page header includes the "facebook developers" logo, a search bar, and navigation links for Docs, Tools, Support, News, and Apps. A user profile for "Min-Yuh Day" is visible in the top right. The main content area features the title "Facebook SDK for Android" and a sub-headline: "Integrate with Facebook to help you build engaging social apps and get more installs." A prominent green button labeled "Download the SDK" is positioned below the sub-headline. Underneath the button, the text "v3.6. See Change Log." is displayed. Two links are provided: "Get Started" (with a book icon) and "SDK Reference Docs" (with an information icon). A sidebar on the left lists various developer resources, with "Android SDK" highlighted. To the right of the text, there is a graphic of a smartphone with a blue overlay featuring the Facebook logo.

Android - Facebook Developer x

← → ↻ <https://developers.facebook.com/docs/android/> 🔍 ☆ ☰

facebook developers Search Facebook Developers 🔍 Docs Tools Support News Apps Min-Yuh Day ▾

Social Plugins

Login

Open Graph

Facebook APIs

Games

Payments

App Center

Media

Ads for Apps

iOS SDK

Android SDK

- Getting Started
- Reference

Web


Technology Partners


Facebook SDK for Android


Integrate with Facebook to help you build engaging social apps and get more installs.

[Download the SDK](#)

v3.6. See [Change Log](#).

 **Get Started**
Quick and basic guide for Android

 **SDK Reference Docs**
Reference Docs and sample code



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

The screenshot shows the Twitter Developers website. At the top, there is a navigation bar with the Twitter logo, the word "Developers", and links for "API Health", "Blog", "Discussions", and "Documentation". A search bar and a "Sign in" button are also present. The main content area features a large heading: "More downloads for your app with Twitter Cards". Below this, a paragraph explains that Twitter Cards offer a fast and easy way to grow a user base for mobile apps by allowing users to download and launch an app directly from a tweet. A diagram illustrates this process: a tweet containing a card with an "INSTALL" button is shown, with arrows pointing to an App Store interface and another card with an "INSTALL" button. Below the main text, there are five icons representing different Twitter features: "Twitter Cards", "Embedded Timelines", "Embedded Tweets", "Tweet Button", and "Follow Button". At the bottom, there is a section for "Recent posts from Twitter Developer Blog" with a post dated "Sep 12" titled "Streaming SSL certificate updates". To the right of this section, there is a call to action: "Create applications that integrate Twitter" and "Get started with the platform".

Twitter Developers

API Health Blog Discussions Documentation

Search

Sign in

More downloads for your app with Twitter Cards

Twitter Cards offer a fast and easy way to grow your user base for mobile apps. Simply add some new markup to your pages: when users tweet links to your domain, Cards will let other users viewing those Tweets to download and launch your app across a number of mobile platforms.

[Learn More](#)

Twitter Cards Embedded Timelines Embedded Tweets Tweet Button Follow Button

Recent posts from Twitter Developer Blog

Sep 12 [Streaming SSL certificate updates](#)

Create applications that integrate Twitter


[Get started with the platform](#)

Google Cloud Platform

The image shows a browser window displaying the Google Cloud Platform homepage. 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 'Get Started' button and a section titled 'Google Compute Engine now generally available' with a 'Learn More' link. To the right of this section is a graphic of blue hexagons containing icons for server racks, a grid, a CPU chip, 'SQL', and a magnifying glass.

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 Google Cloud Platform logo is on the left, and navigation links for 'Go to my console' and 'Sign out' are on the right. A search bar is also present. Below the navigation, there are links for 'Why Google', 'Products', 'Solutions', 'Customers', 'Developers', 'Support', and 'Partners'. On the right side of the navigation, there are links for 'Contact sales' and 'Try it now'. The main content area features a large image of server racks. Overlaid on this image is the App Engine logo, the text 'App Engine', and a sub-headline: '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 at the bottom left of the main content area.

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/

Go to my console | Sign out Search this site

Why Google **Products** Solutions Customers Developers Support Partners Contact sales or Try it now

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.

Try it now

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

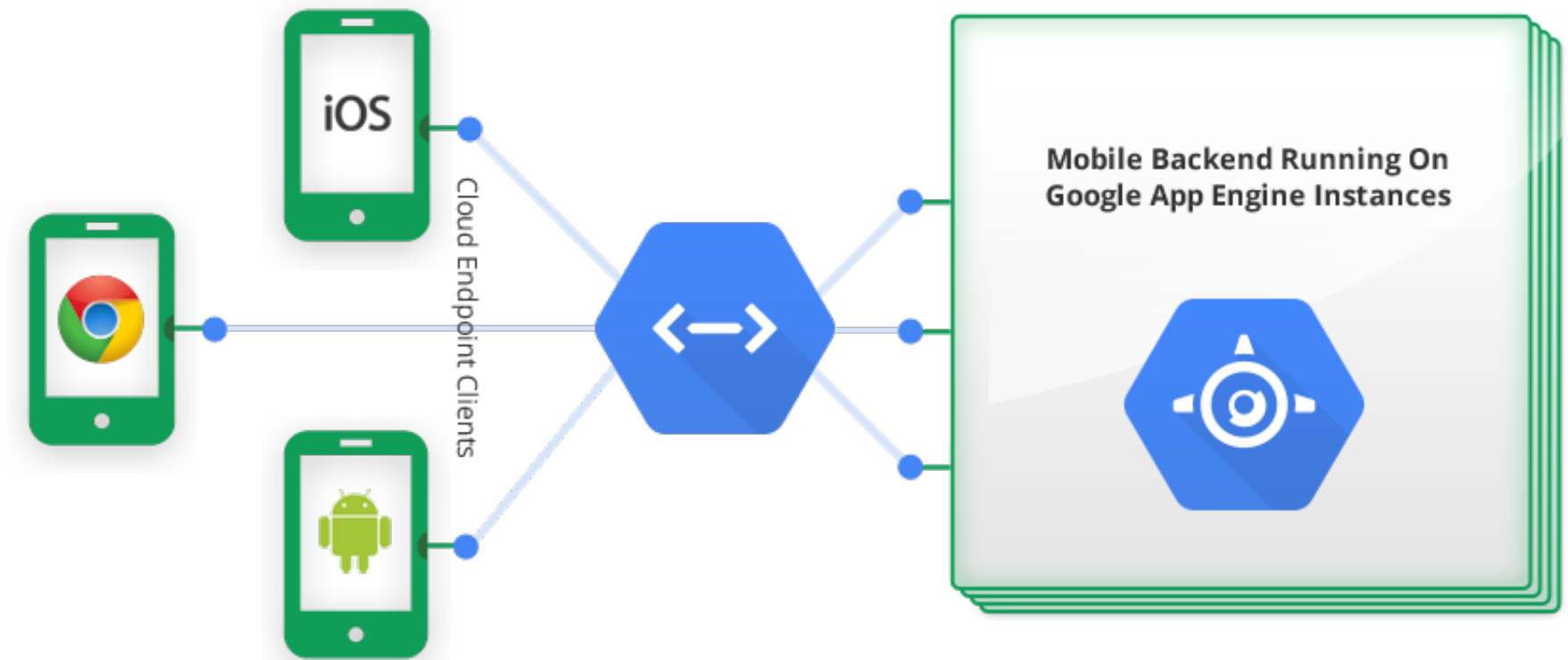
Cloud Datastore is fully managed. Google automatically handles sharding and replication in order to provide you with a highly available and consistent database.

Autoscale with your users

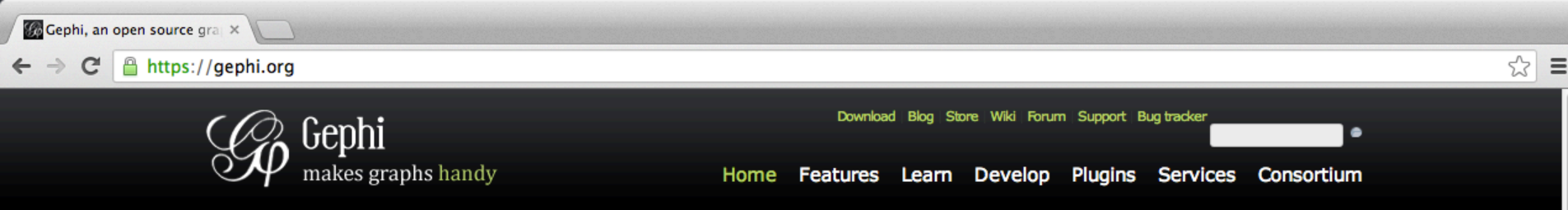
Cloud Datastore automatically scales depending on your needs. This allows you to focus on building your application and not on worrying about provisioning and load anticipation.

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

Google Cloud Endpoints



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

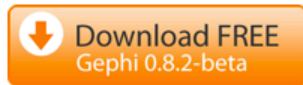


The Open Graph Viz Platform

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

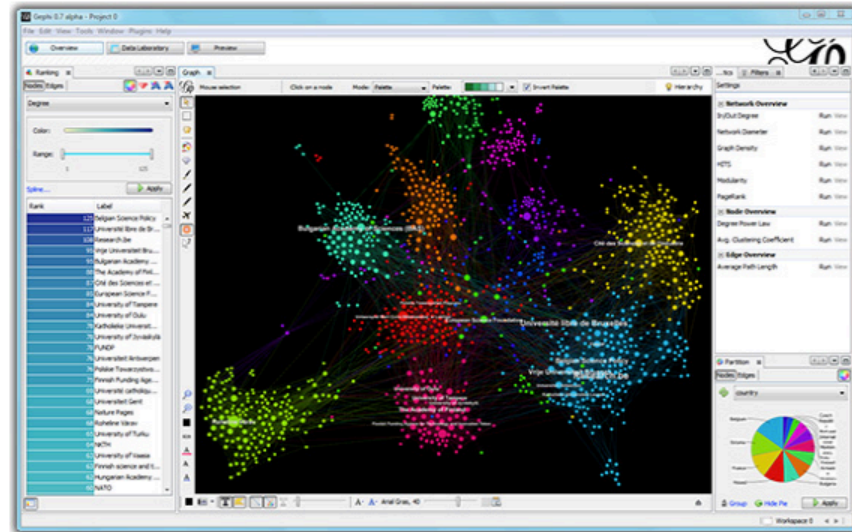
Runs on Windows, Linux and Mac OS X. Gephi is open-source and free.

[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



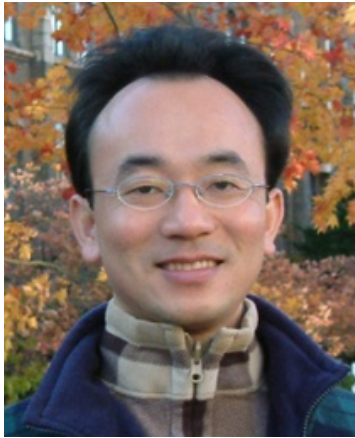
Summary

- 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/ Objective-C (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.**



Social Media Apps Programming

Contact



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Tamkang University](#)

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Email: myday@mail.tku.edu.tw

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

