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

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Assistant Professor
Department of Information Management
Tamkang University

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

2015-09-16
Android /iOS Apps Programming

- Native Apps
- Hybrid Apps
- Mobile 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

Source: http://www.amazon.com/Building-iPhone-Apps-HTML-JavaScript/dp/0596805780
Chris Adamson and Janie Clayton,
iOS 8 SDK Development: Creating iPhone and iPad Apps with Swift,

Source: http://www.amazon.com/gp/product/1941222641
App Development Comparison

<table>
<thead>
<tr>
<th></th>
<th>Device Access</th>
<th>Speed</th>
<th>Development Cost</th>
<th>App Store</th>
<th>Approval Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Native Apps</td>
<td>Full</td>
<td>Very Fast</td>
<td>Expensive</td>
<td>Available</td>
<td>Mandatory</td>
</tr>
<tr>
<td>Hybrid Apps</td>
<td>Full</td>
<td>Native Speed as Necessary</td>
<td>Reasonable</td>
<td>Available</td>
<td>Low Overhead</td>
</tr>
<tr>
<td>Web Apps</td>
<td>Partial</td>
<td>Fast</td>
<td>Reasonable</td>
<td>Not Available</td>
<td>None</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Subject/Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>2015/10/28</td>
<td>Create Hybrid Apps with Phonegap</td>
</tr>
<tr>
<td>8</td>
<td>2015/11/04</td>
<td>jQuery Mobile/Phonegap</td>
</tr>
<tr>
<td>9</td>
<td>2015/11/11</td>
<td>jQuery Mobile/Phonegap</td>
</tr>
<tr>
<td>10</td>
<td>2015/11/18</td>
<td>Midterm Exam Week (Midterm Project Report)</td>
</tr>
<tr>
<td>11</td>
<td>2015/11/25</td>
<td>Case Study on Social Media Apps Programming and Marketing in Google Play and App Store</td>
</tr>
<tr>
<td>12</td>
<td>2015/12/02</td>
<td>Google Cloud Platform</td>
</tr>
</tbody>
</table>
## Course Schedule (3/3)

<table>
<thead>
<tr>
<th>Week</th>
<th>Date</th>
<th>Subject/Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>2015/12/09</td>
<td>Google App Engine</td>
</tr>
<tr>
<td>14</td>
<td>2015/12/16</td>
<td>Google Map API</td>
</tr>
<tr>
<td>15</td>
<td>2015/12/23</td>
<td>Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)</td>
</tr>
<tr>
<td>16</td>
<td>2015/12/30</td>
<td>Twitter API</td>
</tr>
<tr>
<td>17</td>
<td>2016/01/06</td>
<td>Final Project Presentation</td>
</tr>
<tr>
<td>18</td>
<td>2016/01/13</td>
<td>Final Exam Week (Final Project Presentation)</td>
</tr>
</tbody>
</table>
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](http://mail.tku.edu.tw/myday/teaching.htm#1041SMAP)


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

Source: http://www.amazon.com/Learn-HTML5-JavaScript-iOS-Standards-based/dp/1430240385
Building iPhone Apps with HTML, CSS, and JavaScript: Making App Store Apps Without Objective-C or Cocoa, Jonathan Stark, O’reilly, 2010
Building Android Apps with HTML, CSS, and JavaScript: Making Native Apps with Standards-Based Web Tools, Jonathan Stark & Brian Jepson, O’reilly, 2012


Jon Reid, jQuery Mobile, O’reilly, 2012

Chris Adamson and Janie Clayton,
iOS 8 SDK Development: Creating iPhone and iPad Apps with Swift,

Source: http://www.amazon.com/gp/product/1941222641
Responsive Design

HTML5/CSS3/JavaScript

Source: http://www.ihealthspot.com/ResponsiveWebsiteDesign.aspx
jQuery Mobil: http://jquerymobile.com/

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.

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/](http://phonegap.com/)

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](http://phonegap.com/install)
- [Getting Started Guides](http://phonegap.com/getting-started)

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**Adobe PhoneGap Enterprise**
Enterprise mobile application development and management across channels and platforms

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**The PhoneGap Developer App**
Develop locally then see the changes instantly on your mobile device with our cross-platform app
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 Developer
https://developer.apple.com/
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 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)
Facebook Analytics for Apps

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

Learn More

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

https://developers.facebook.com/
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

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.

https://developers.facebook.com/docs/ios/
Integrate Facebook with your native Android apps.

https://developers.facebook.com/
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.

v4.5.0. See Change Log or Upgrade Guide.

Get Started
Basic guide for Android

SDK Reference Docs
Reference Docs and sample code

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
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.

Get Started

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

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.

有多么

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
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

https://developers.google.com/appengine/docs/java/endpoints/
Gephi: Social Network Analysis and Visualization: [https://gephi.org/](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.

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

Applications

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

“Like Photoshop™ for graphs.” — the Community
Summary

• This course introduces the fundamental concepts and practices of social media and mobile apps programming.

• Topics include
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Contact

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