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
Gartner recommend hybrid apps over native apps development for businesses

Enterprise Apps (Hybrid HTML5) in 2016

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
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 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

- 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
<table>
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<tr>
<th>Week</th>
<th>Date</th>
<th>Subject/Topics</th>
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<tr>
<td>1</td>
<td>2017/09/22</td>
<td>Course Orientation and Introduction to Social Media and Mobile Apps Programming</td>
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<tr>
<td>2</td>
<td>2017/09/29</td>
<td>Introduction to Android / iOS Apps Programming</td>
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<tr>
<td>3</td>
<td>2017/10/06</td>
<td>Developing Android Native Apps with Java (Android Studio)</td>
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<td>4</td>
<td>2017/10/13</td>
<td>Developing iPhone / iPad Native Apps with Swift (XCode)</td>
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<td>5</td>
<td>2017/10/20</td>
<td>Mobile Apps using HTML5/CSS3/JavaScript</td>
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<tr>
<td>6</td>
<td>2017/10/27</td>
<td>jQuery Mobile</td>
</tr>
<tr>
<td>7</td>
<td>2017/11/03</td>
<td>Create Hybrid Apps with Phonegap</td>
</tr>
<tr>
<td>8</td>
<td>2017/11/10</td>
<td>jQuery Mobile/Phonegap</td>
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<td>9</td>
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<td>jQuery Mobile/Phonegap</td>
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<td>Week</td>
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<tr>
<td>10</td>
<td>2017/11/24</td>
<td>Midterm Project Report</td>
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<td>11</td>
<td>2017/12/01</td>
<td>Case Study on Social Media Apps Programming and Marketing in Google Play and App Store</td>
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<tr>
<td>12</td>
<td>2017/12/08</td>
<td>Google Cloud Platform</td>
</tr>
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<td>13</td>
<td>2017/12/15</td>
<td>Google App Engine</td>
</tr>
<tr>
<td>14</td>
<td>2017/12/22</td>
<td>Google Map API</td>
</tr>
<tr>
<td>15</td>
<td>2017/12/29</td>
<td>Facebook API (Facebook JavaScript SDK) (Integrate Facebook with iOS/Android Apps)</td>
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<td>16</td>
<td>2018/01/05</td>
<td>Twitter API</td>
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<td>17</td>
<td>2018/01/12</td>
<td>Final Project Presentation</td>
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<td>18</td>
<td>2018/01/19</td>
<td>Final Exam Week (Final Project Presentation)</td>
</tr>
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</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#1061SMAP](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’reilley, 2010.


• Jon Reid, jQuery Mobile, O’reilley, 2012.
References

- jQuery Mobil: [http://jquerymobile.com/](http://jquerymobile.com/)
- PhoneGap: [http://phonegap.com/](http://phonegap.com/)
- Facebook Developers: [https://developers.facebook.com/](https://developers.facebook.com/)
- Twitter Developers: [https://dev.twitter.com/](https://dev.twitter.com/)
- Google App Engine: [https://developers.google.com/appengine/](https://developers.google.com/appengine/)
- Gephi: Social Network Analysis and Visualization: [https://gephi.org/](https://gephi.org/)
- Netvizz: Facebook Netvizz app: [https://apps.facebook.com/netvizz/](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

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

jQuery Mobile

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.

Developer Links

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

Browser Support
PhoneGap

http://phonegap.com/

Adobe PhoneGap

Build amazing mobile apps powered by open web tech.

Create your app with PhoneGap
Reuse existing web development skills to quickly make hybrid applications built with HTML, CSS and JavaScript. Create experiences for multiple platforms with a single codebase so you can reach your audience no matter where.

Package your app in the cloud
PhoneGap Build takes the pain out of compiling PhoneGap apps. Get app-store ready apps without the headache of maintaining native SDKs. Our PhoneGap Build service does the work for you by compiling in the cloud.
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 8.0 Oreo

Smarter, faster, and more powerful than ever. The world's favorite cookie is your new favorite Android release.

› Learn more

› Get Android Studio  
› Browse sample code  
› Watch stories
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

SDK Reference Docs
API Reference Docs

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.

v4.6.0. See Change Log or Upgrade Guide.

Get Started
Basic guide for Android

SDK Reference Docs
Reference Docs and sample code

In Android SDK

Login
People can easily sign in to your app with their

Share
People using your app can share or send a
Twitter Developers

https://dev.twitter.com/

#HelloWorld 2016

Learn how to build with the Twitter Platform

View Event Locations

Build the Best Apps

Tap into Twitter

Gain Unique Insight

Tweets by @TwitterDev
Build What's Next
Better software. Faster.

✓ Use Google's core infrastructure, data analytics and machine learning.
✓ Secure and fully featured for all enterprises.
✓ Committed to open source and industry leading price-performance.

https://cloud.google.com/
Google App Engine

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

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

- Focus: Primary Target
- Think top down
- Consistent UI
- Gestures
- Orientation?
- Check target size
- Reduce settings

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/

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 | Screenshots | Quick start | 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

PAPERS

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Summary

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• Topics include
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  – Case study on social media apps programming and marketing in Google Play and App Store.
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/