



# Mobile Phone Programming

## *Lecture 3 - Android SDK Hello World*

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NTU CSIE

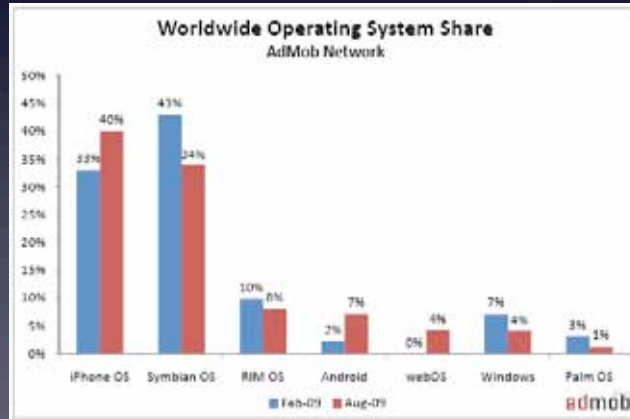
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## Announcements

- Join class Google Group
- Register your team
  - Register 2-3 person teams by next Fri (Oct 9).
  - TA will randomly fill partial teams to have 3 people
  - Auditors can form auditor-only groups
- HW2 (Android) due in 2 weeks (Oct 15)
- 8 lab hours every week
  - Tue-Thur in CSIE 430 starting next week

# News This Week

- 9/28: Apple App Store @ 2 billion downloads
- 9/28: 中国移动 (China Mobile) OPhone platform
- 10/1: 中国联通 (China Unicom) iPhone on sale



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## Overview

- Industry news
- Student project ideas (30)
- Guest speaker: Jackey Wang
- Android SDK
- Guest speaker: David Liu

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# Student Intro

- 60 seconds per person
  - name, research topics, interests/hobbies
  - 1-2 app ideas (not limited to your HWI ideas)
- 2min Q&A every 5 people

# Student Intro

溫在宇  
高慧姍  
鄭安容  
蔡明璋  
李明

莊智涵  
李明儒  
鐘翊瑜  
蔡宗諭  
蔡文傑

黃敏純  
巫峻儀  
周瑋慈  
江啟遠  
葛如鈞

鍾以千  
顏易程  
林君毅  
陳俊傑  
龔建瑞

謝長宏  
黃安達  
陳祺文  
曾翊寧  
黃智偉

周立晴  
韋伯俞  
釧有祥  
李孟翰  
詹力韋

# 10min break

## Guest Speaker

- Jackey Wang
  - [jackeywang@gmail.com](mailto:jackeywang@gmail.com)



# Android SDK

## Android Timeline

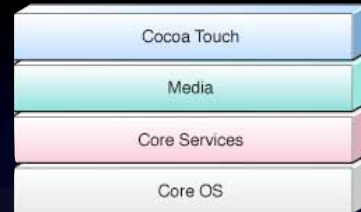
- 2007/11 - Android announced
- 2008/09 - SDK 1.0 (HTC Dream/G1)
- 2008/10 - Android Market (free)
- 2009/01 - Android Market (paid)
- 2009/04 - SDK 1.5 (HTC Magic)
- 2009/07 - HTC Hero w/ Sense UI
- 2009/09 - SDK 1.6



# iPhone/Android Software

- iPhone OS

- based on Mac OS X (Mach kernel)
- Cocoa + Objective-C (+ C++)



- Android

- Linux 2.6 kernel
- Dalvik Virtual Machine + Java
- C/C++, or Simple
- API: OpenGL, SQLite, WebKit, telephony, (multi-)touch...



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## Android Development

- Java (compiled for Dalvik Virtual Machine, .dex)
  - Can use C/C++ for performance
- Recommended development environment:
  1. Eclipse 3.5 ( <http://www.eclipse.org/> )
    - SVN plugin: Subclipse 1.6 ( <http://subclipse.tigris.org/> )
    - OS X Snow Leopard requires 64-bit Eclipse build
  2. Android SDK 1.6 ( <http://developer.android.com/sdk/> )
    - Android Development Tools (ADT) plugin
    - We'll use API Level 3 and Google API Level 3 (== SDK 1.5)

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# Android App Basic Layout

- `AndroidManifest.xml` - application declarations
- `src/` - application source code
- `res/` - resource files
  - `layout/` - XML files that compile into screen layouts
  - `drawable/` - image files (.png, .jpg, .9.png)
  - `values/` - XML files that define arrays, strings, colors, styles
- `gen/` - automatically generated. don't modify them.
  - `R.java`: generated resources that can be referenced from code
    - `mContext.getResources().getDrawable(R.drawable.my_image_id)`
    - `Resources.getText(R.string.my_title)`

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# Android Hello World

- File -> New -> Other -> Android -> Android Project
- Tips
  - `System.out.println("hello world");`
  - In Eclipse, turn on logcat view
    - Window -> Show View -> Other -> logcat
  - Use `Log.d("Main", "hello world");`
  - Eclipse, turn on logcat view

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Live Hello World Demo

10min break

# Guest Speaker

- David Liu
  - <http://wozai.cc/>
  - <http://change-mobile.com/>
  - <http://www.thinkgos.com/>



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## Next 2 Weeks

- Register your team on Google Group
- HW2 will be announced next week
- Topics:
  - User centered design
  - New product development
  - iPhone SDK
- Questions?

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