Android Development

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Abstract

Slides from the talk follow.
# Android Development

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## Android History

- **Android, Inc. 2003**
  - Andy Rubin – Danger, Inc.
    - T-Mobile Sidekick (Hiphop)
- **Google acquires in 2005**
  - Not much is public at this point

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## More History

- 2007-11-05 “Open” Handheld Alliance
- 2008-09-23 T-Mobile G1 released – Android 1.0
- Open Source releases lag

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## Android Architecture

- Operating System
  - Kernel / ramdisk (/)
  - OS /system
  - Userdata /data
  - SD /sdcard
- Mix of native and java
- bionic – originally BSD C lib
- Dalvik

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## Android Application

- Install apk using adb, web download, etc.
- **Window / Activity**
  - Each application is a new user
- **View**
  - Each visible “page” of an application
- **Widget**
  - text, image, drop down, etc.
More Android Arch

- Activities
  visible UI as an activity. Launching application starts activity
- Services
  persist for a long time, ie: networked application
- Content providers
  manage access to persisted data, ie: SQLite database
- Broadcast receivers
  process data or respond to event

Android OS builds

- Google releases lag
- CyanogenMod very popular
- Supports many devices
- Also supports emulator!
  - Well, for most things
- Different than application builds
  - repo / git / jdk / etc

Development

- SDK releases for app development
- adb attaches to devices and/or emulators
- Eclipse + ADT allow live debugging
- JDK
- Linux / Windows / OS X
- Android NDK – ARMv5/ARMv7

Steps to build CM

- x86_64 Linux / OS X supported
- Install native packages, JDK, etc.
- Install Android SDK
- Install repo / repo sync -j<n> (8GB+)
  - (backup files)
- ROM Manager now required
- Lunch / mka to build (5GB)
- Copy ramdisk, system, userdata sometimes

Links:

- http://developer.android.com/