

User Interaction: Intro to Android

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A brief history of Android

- Originally a startup that “developed software for mobile phones”
- Business Week quote from founder Andy Rubin in 2003:
 - "Rubin said there was tremendous potential in developing smarter mobile devices that are more aware of its owner's location and preferences.

What is Android?

- “Android is a software stack for mobile devices that includes an operating system, middleware and key applications. The Android SDK provides the tools and APIs necessary to begin developing applications on the Android platform using the Java programming language.”

ANDROID



A brief history of Android

- Rumors of the “gPhone” started about the time the iPhone launched
- Google dropped the bomb on 11/5/2007
 - It wasn't working on a handset
 - It was working on an operating system
 - to compete with Microsoft, Symbian, telephone companies. Who else ?



A brief history of Android

- Why would Google do this?
 - It doesn't want to be locked out of mobile advertising
 - It's the same reason they support Firefox
 - It's the same reason they built Chrome
 - It's the same reason they bought YouTube
 - It's about maintaining access to advertising channels
 - Competitors don't need to let Google advertise



A brief history of Android

- Actually it wasn't just Google
- It was the Open Handset Alliance (OHA)
 - including HTC, LG, Samsung, T-Mobile and more
 - pushing
- Based on Linux
 - optimized for mobile devices

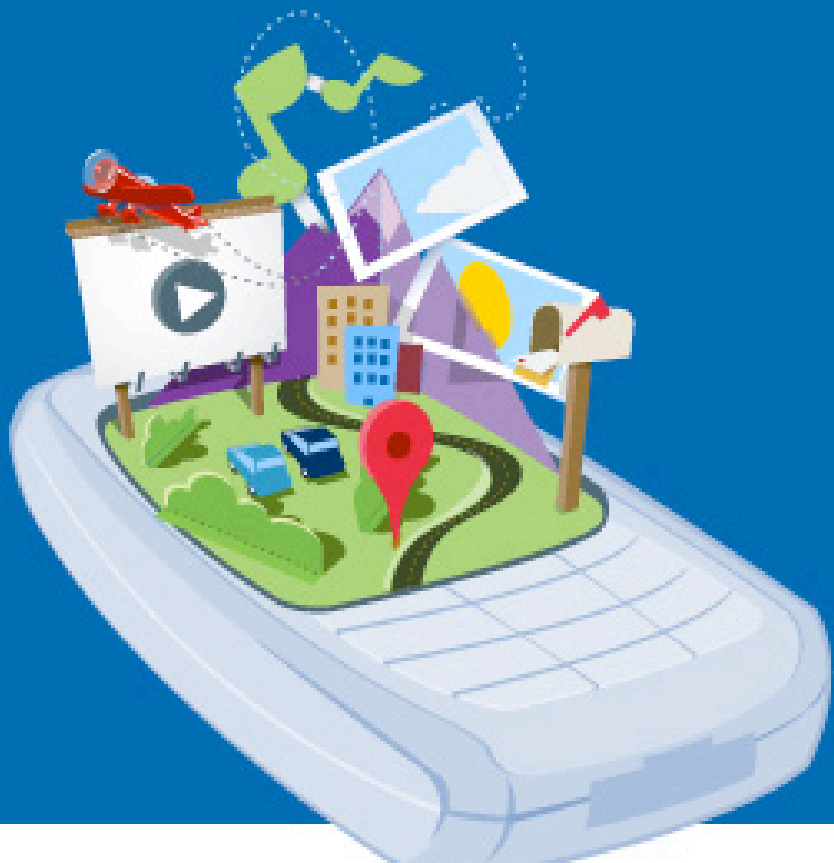


A brief history of Android

- The architecture is highly modular
 - “Location” can come from many places
 - Text messaging handling can be done by any software component
- It is predominantly open-source
- It is predominantly Java-based



A brief history of Android



What would it take to build a better mobile phone?

A commitment to openness, a shared vision for the future, and concrete plans to make the vision a reality.

Welcome to the Open Handset Alliance™, a group of 47 technology and mobile companies who have come together to accelerate innovation in mobile and offer consumers a richer, less expensive, and better mobile experience. Together we have developed Android™, the first complete, open, and free mobile platform.

We are committed to commercially deploy handsets and services using the Android Platform.

- **Develop Android applications:** [Get the SDK](#)
- **Contribute to the Android Open Source Project:** [Get the source code](#)

- <http://www.openhandsetalliance.com>
- <http://www.youtube.com/watch?v=7Y4thikv-OM>



A brief history of Android

- First SDK was released on 11/12/2007
- Main conceptual competitor is LiMO
 - Linux for Mobile
 - Verizon and Mozilla key initial players
 - Many partners in both projects
 - Outside Asia, no one cares



A brief history of Android

- 6/24/2008 Nokia announces purchase of Symbian from Sony Ericsson in response
 - starts the Symbian Foundation to open-source their main platform
- 10/21/2008, Google puts all of Android into open source using the Apache License
- 12/9/2008 Sony Ericsson joins the OHA
 - Google denies rumors of the gPhone at the same time



<http://www.engadget.com/2008/06/24/nokia-buys-symbian/>

A brief history of Android

- 8/12/2010 Oracle sues Google over intellectual property in Java



<http://www.engadget.com/2008/06/24/nokia-buys-symbian/>

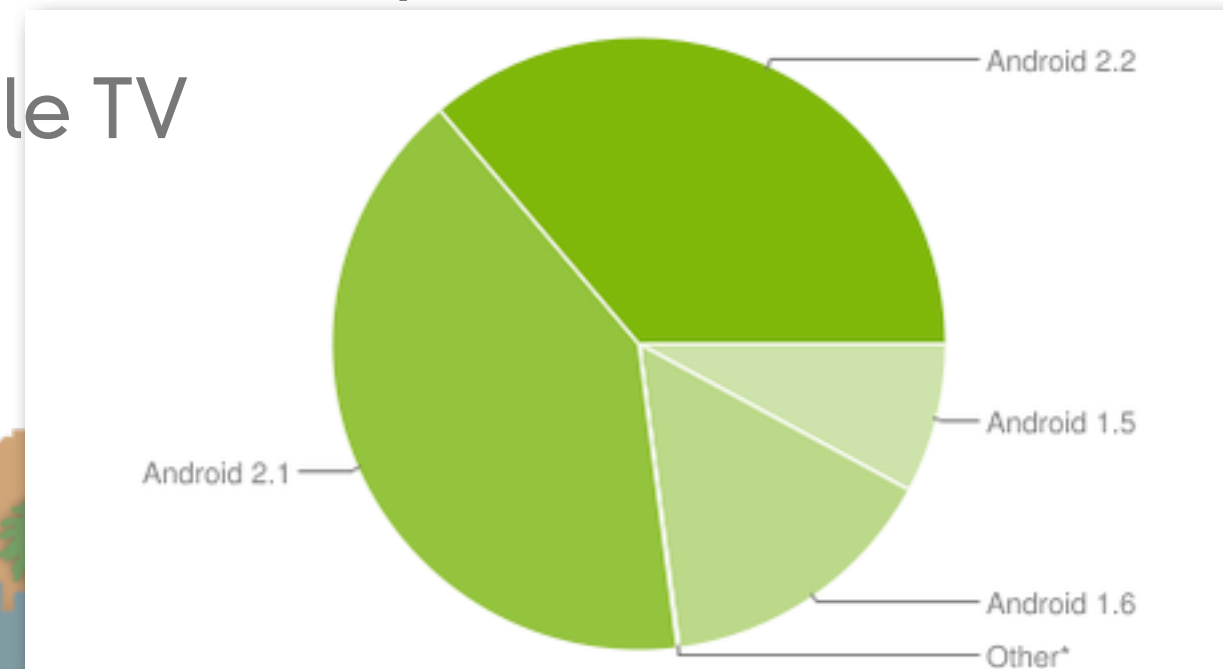
Overview of Android

- Platforms running Android
 - in 2009
 - T-Mobile G1 phone
 - HTC developer phone
 - in 2010
 - Hundreds



Overview of Android

- Various code revisions are named after pastries (sort of)
 - Cupcake (released on 4/30/2009) v1.5
 - Donut (released on 9/15/2009) v1.6
 - Eclair (released on 10/26/2009) v2.1
 - Froyo (released on 5/20/2010) v2.2
 - <http://www.youtube.com/watch?v=yAZYSVr2Bhc&NR=1>
- Gingerbread (?) NFC, Google TV
- Honeycomb (?)
- Ice Cream (?) Android 4.0



Overview of Android

- Android Marketplace
 - Place to get 3rd-party android apps
 - Utilizes Google Checkout for payment
 - Optimized for mobile use
 - web interface is almost useless
 - Not exclusive source for applications
 - Applications are not “blessed” at all by Google
 - It is merely a convenience for developers

A stylized illustration of a city skyline at the bottom of the slide. It features various buildings in shades of orange, brown, and blue, with green palm trees and foliage in the foreground. The URL is overlaid on the right side of this illustration.

<http://www.android.com/market/>

Android Market

This is a showcase for some of the featured and top ranked applications and games available on Android Market. For a comprehensive, up-to-date list of the tens of thousands of titles available, check out Android Market on your handset.

Featured

Top Free

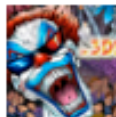
Top Paid



VoterMap



Dialer One

Starfield 3D Live
WallpaperKeeper Password &
Data Vault3D CARNIVAL OF
SOULS #1

Paper Toss

NCIS: The TV
Game - SALE!Wyse PocketCloud
RDP/VNC/View

Nike BOOM



MOTOR TREND

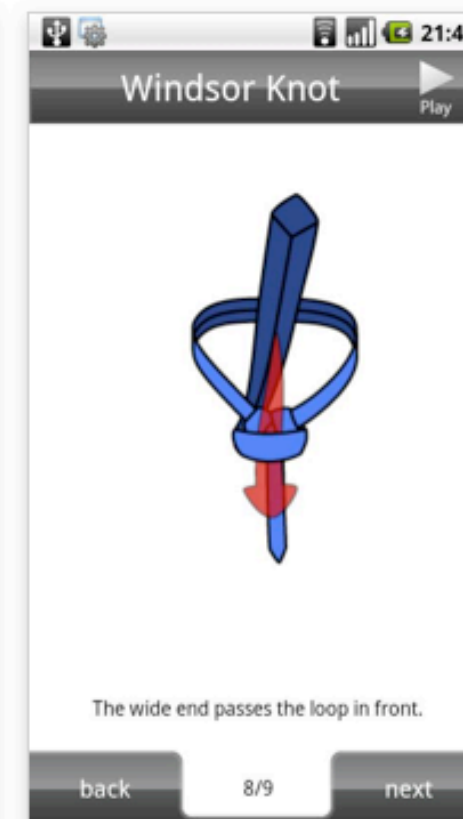
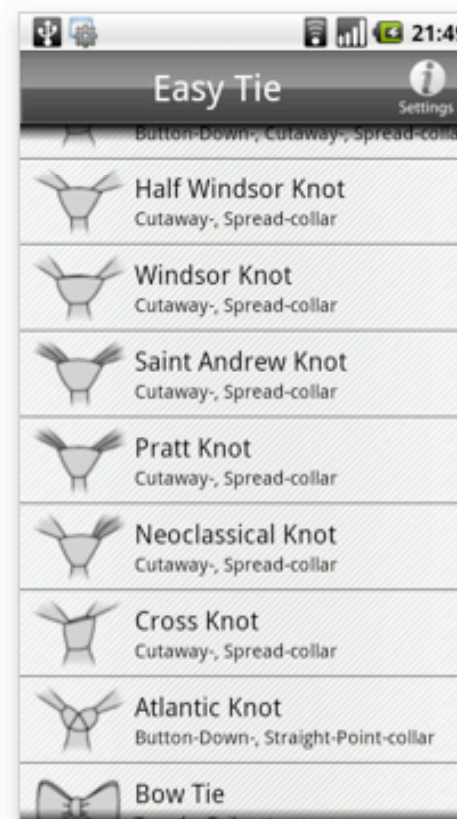
Guitar Hero™:
Warriors of Rock

Best Buy

Easy Tie

Developer: [basesign](#)

Easy Tie is an app that shows you step-by-step how to tie a necktie. Knots included: -Simple Knot -Double K. -Small K. -Half Windsor K. -Windsor K. -Saint Andrew K. -Pratt K. -Neoclassical K. -Cross K. -Atlantic K. -Bow Tie v1.6: ready for FroYo, new descriptions for 5 different collars, 3 new knots



If you are a developer, learn about publishing your application [here](#).

[Site Terms of Service](#) - [Privacy Policy](#) - [Brand Guidelines](#) - [Legal Information](#) - [Help](#)

Android Features (hardware dependent)

- Application Framework
 - enabling reuse and replacement of components
- Dalvik virtual machine
 - optimized for mobile devices
- Integrated browser
 - based on the open source WebKit engine
- Optimized graphics
 - powered by a custom 2D graphics library; 3D graphics based on the OpenGL ES 1.0 specification

<http://developer.android.com/guide/index.html>

Android Features (hardware dependent)

- SQLite
 - for structured data storage
- Media support
 - (MPEG4, H.264, MP3, AAC, AMR, JPG, PNG, GIF)
- GSM Telephony
- Bluetooth, EDGE, 3G, and WiFi
- Camera, GPS, compass, and accelerometer



<http://developer.android.com/guide/index.html>

Android Features (hardware dependent)

- Multi-touch
 - brief concern about patent infringement with Apple
- Multi-tasking support
- Tethering
 - What is this?

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<http://developer.android.com/guide/index.html>

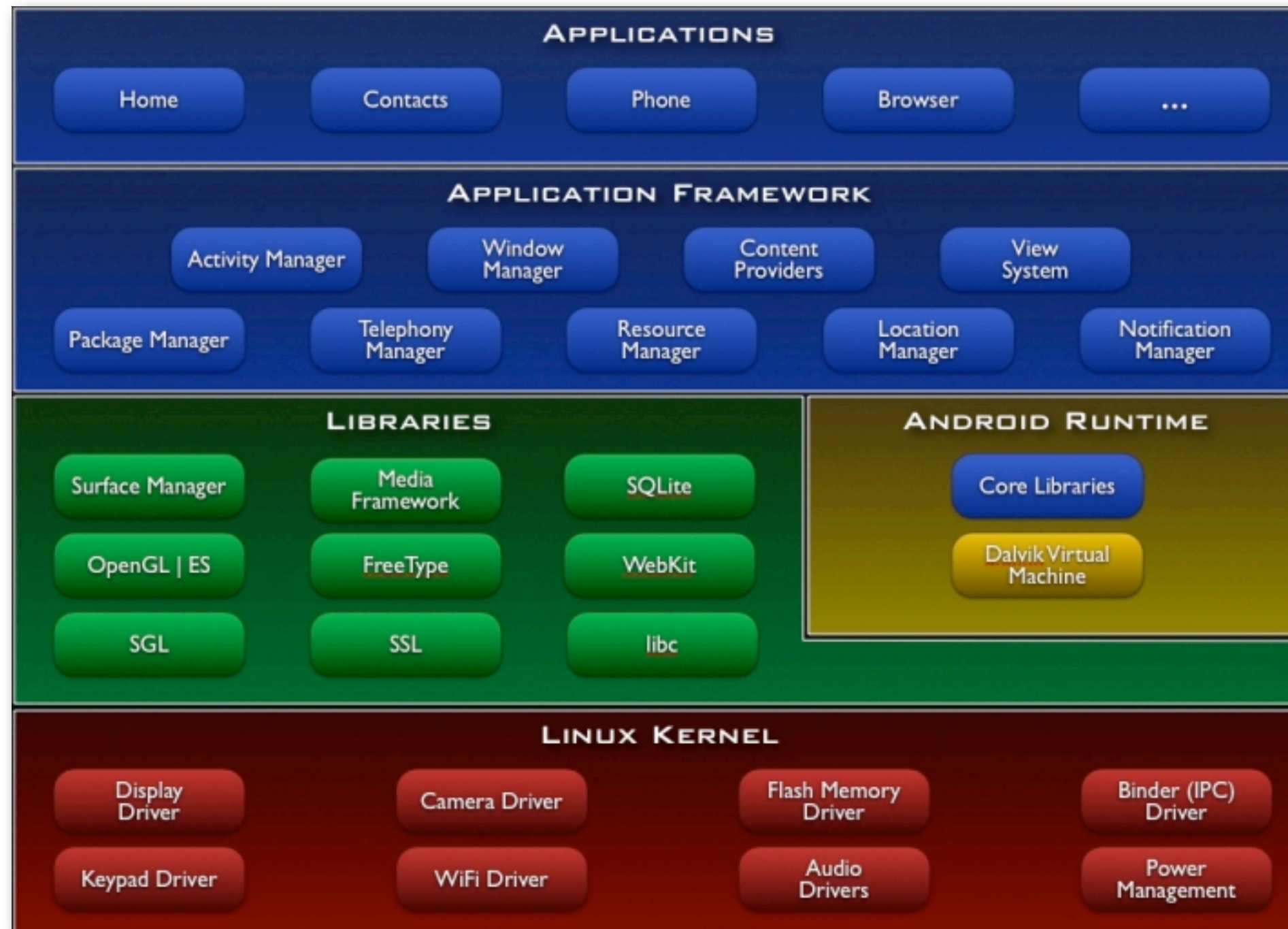
Android Features (hardware dependent)

- Rich development environment
 - a device emulator
 - tools for debugging
 - tools for memory profiling
 - tools for performance profiling
 - plugin for Eclipse IDE

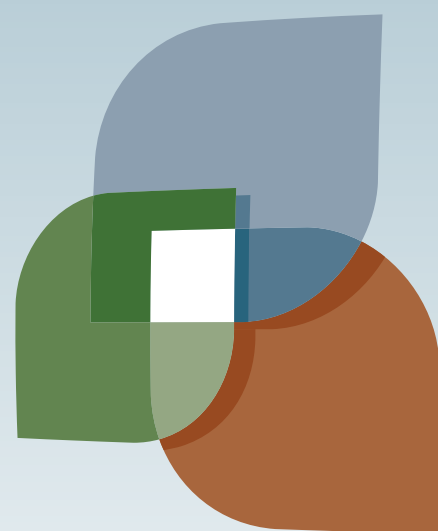


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