Android platform

- Open source mobile platform developed by Google
- Supported and maintained by Open Handset Alliance
  - 13 mobile operators
  - 22 handset manufacturers
  - 20 semiconductor companies
  - 17 software makers
- Uses an open-source kernel and a virtual machine designed for mobile hardware
- Commands the largest share of the smartphone market in the world
- Google Play contains over 1M apps
Distribution of worldwide smartphone sales in Q4 2012

Android: 69.7%
iOS: 20.9%
RIM: 3.5%
MS: 3.0%
Other: 2.8%

World Smartphone Sales to End Users
Gartner (Q4 2012)
Android software stack

Application Layer
- Native Apps (Contacts, Maps, Browser, etc.)
- Third Party Apps
- Developer Apps

Application Framework
- Location-Based Services
- Content Providers
- Window Manager
- Activity Manager
- Package Manager
- Telephony
- P2P/IM
- Notifications
- Views
- Resource Manager

Libraries
- Graphics (OpenGL, SGL, FreeType)
- Media
- SSL & WebKit
- Ilbc
- SQLite
- Surface Manager

Android Runtime
- Android Libraries
- Dalvik Virtual Machine

Linux Kernel
- Hardware Drivers (USB, Display, Bluetooth, etc.)
- Power Management
- Process Management
- Memory Management

Professional Android Application Development
Programming Android applications in Java

- Android encourages high-level app development
- Android uses Java as the main programming language
- Android inherits basic classes from conventional Java
  - String, Container, Math, IO, Network, …
- Android also adds new classes specific to mobile devices
  - Camera, Telephony, Map, GPS, Speech, …