Programming with Android:
Module Overview

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GOALS OF THE MODULE:

- Introduce the Android architecture
- Implement Android applications
- Think in Android terms
Android ... Why?

Smartphone Operating System Market Share

China April 2015

China April 2015

USA April 2015

Source: Kantar World Panel
Android ... Why?

Global market share held by the leading smartphone operating systems in sales to end users from 1st quarter 2009 to 4th quarter 2015

Operating systems: the years ahead

Source: Statista
© Statista 2016
Additional Information: Worldwide, Gartner
Android ... Why?

MOBILE INTERNET USERS WORLDWIDE

MOBILE DEVICE DIVERSIFICATION

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**MOBILE INTERNET USERS WORLDWIDE**

**MOBILE DEVICE DIVERSIFICATION**

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*Source: Morgan Stanley Research.*

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*Source: Business Insider.*

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Android: Some Examples ...
Android: Some Examples ...
RATIONAL: Focus on amount of applications sold, not on price of single applications ...
Android: versions

2008: Alpha
2009: Beta
2009: Cupcake
2009: Donut
2009: Eclair
2010: Froyo
2010: Gingerbread
2011: Honeycomb
2011: Ice Cream Sandwich
2012: Jellybean
2013: Kitkat
2014: Lollipop
2015: Marshmallow
2016: Nougat
2017: Oreo
Android: versions
1. The Android Project
2. Android Architecture and Components
3. Android Component: Activities
4. Android Component: Intents
5. Android Resources System
6. Android Layout: View and ViewGroups
7. Android Event Management Systems
8. Android Animation, Menu, Dialog
9. Android Data Management
10. Android **Network** Management System

11. Android and Google **Maps**

12. Android **Gesture** and **TextSpeech**

13. Android **System** Services

14. Android and **Bluetooth**

15. Android for **Tablets**
Android ... How?

Textbook

*Android: Guida per lo sviluppatore*

Author

*Massimo Carli*

Other resources:

- Slides
- Online Tutorials
- Newsgroups
Android ... How?

Textbook

*Learning Android (O’Reilly)*

Author

*Margo Margenta*

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Android ... How?

PRE-REQUISITES:

- **Object-Oriented Programming**
  
  *(We will use **Java** for Android applications coding ...)*

- **XML Essentials**
  
  *(We will mix *declarative* and *programmatic* approaches)*
Android ... Contacts

WEBSITE

- **http://cs.unibo.it/projects/android**
  Slides, projects proposals, useful links

- **lbedogni@cs.unibo.it**
  For meetings, questions, thesis
Register at:
  - www.piazza.com

Class URL
  - https://piazza.com/class#spring2018/lam
Android ... Piazza
Possible to ask questions (class-wide or specific)

Web and App interfaces

Will be used to deliver all the information concerning the class
Students Projects

Fausto Di Natale
Collaborative Dynamic Adaptive Video Streaming
Students Projects

**Fabio Franzoso**

Espiel – Floor level recognition
Usin atmospheric pressure

Erik Minarini
Heterogeneous indoor Localization using WIFI Fingerprints
Students Projects

Alain Di Chiappari, Davide Crestini, Valentina Tosto
Sensquare, an heterogeneous platform for the IoT