



Programming with Android: Module Overview

Luca Bedogni

Marco Di Felice

Dipartimento di Scienze dell'Informazione
Università di Bologna



Android ... **Why?**

GOALS OF THE MODULE:

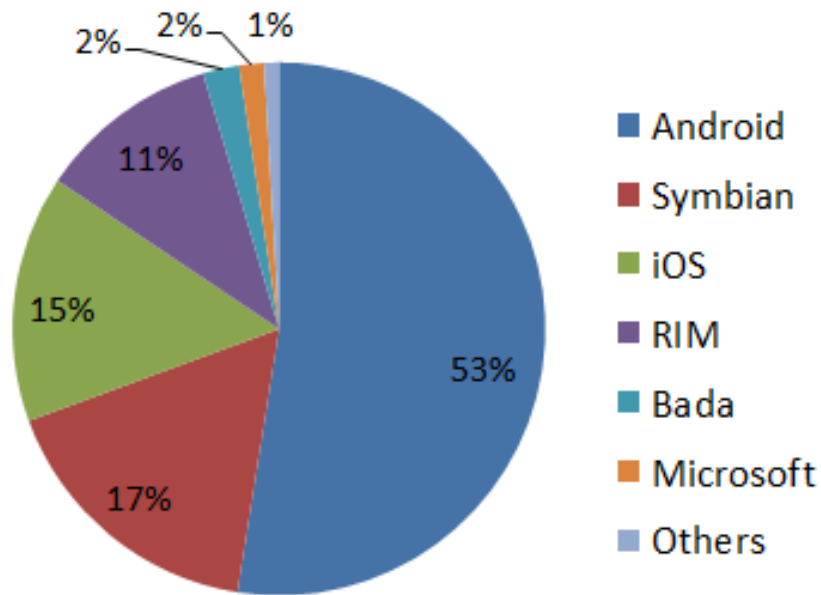


- Introduce the Android architecture
- Implement Android applications
- Think in *Android terms*



Android ... Why?

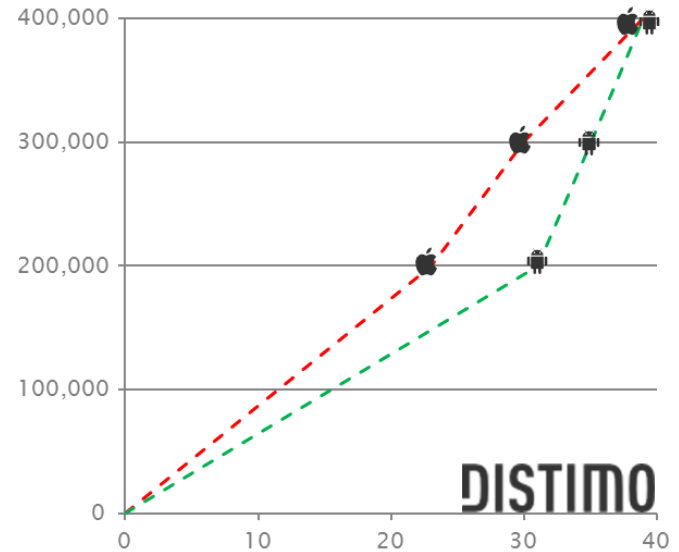
SMARTPHONE OPERATING SYSTEMS



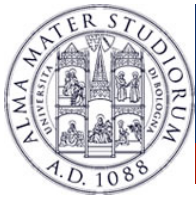
<http://www.gartner.com/it/page.jsp?id=1848514>

ANDROID_MARKET VS APPLE_STORE

MONTHS TO REACH MILESTONES FROM LAUNCH

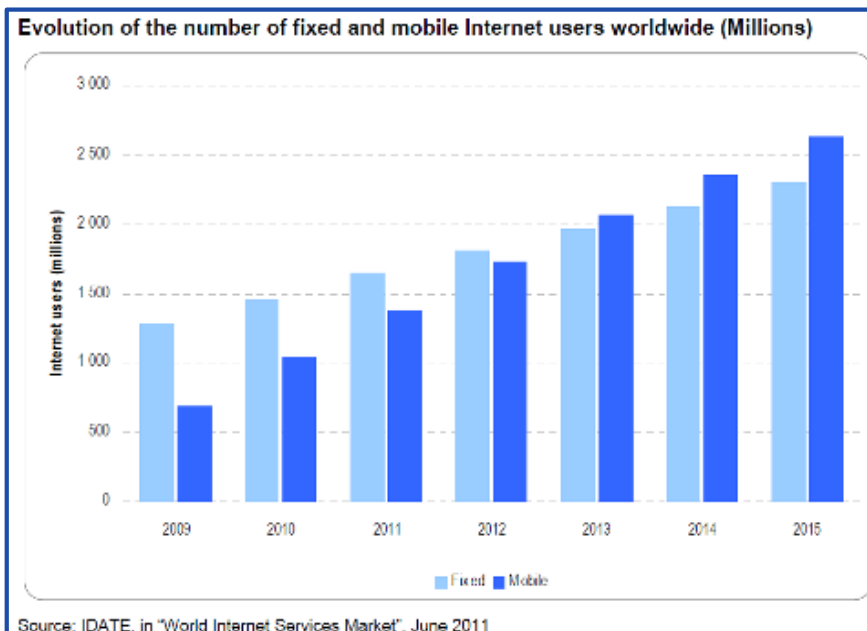


<http://www.email-marketing-reports.com/wireless-mobile/smartphone-statistics.htm>

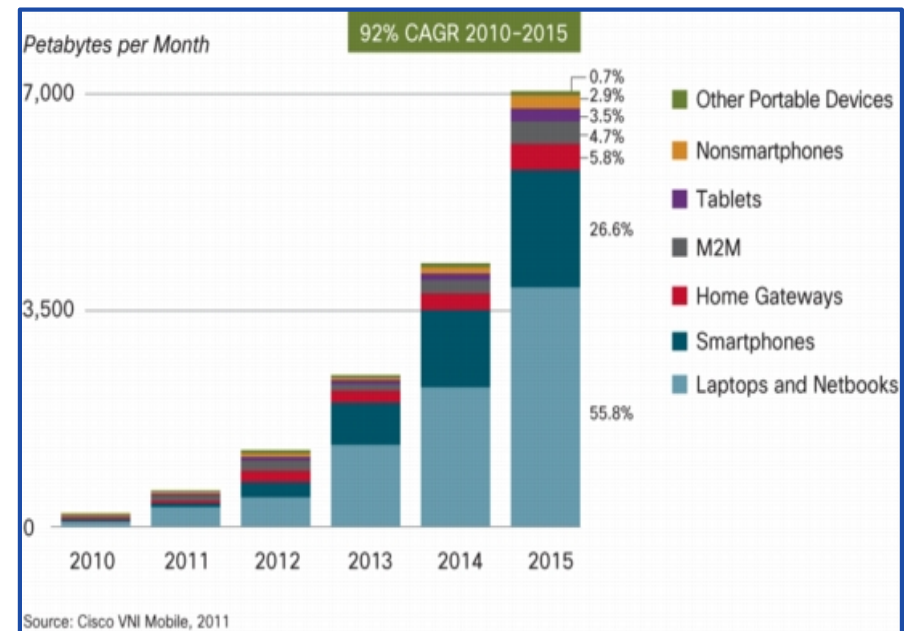


Android ... Why?

MOBILE INTERNET USERS WORLDWIDE

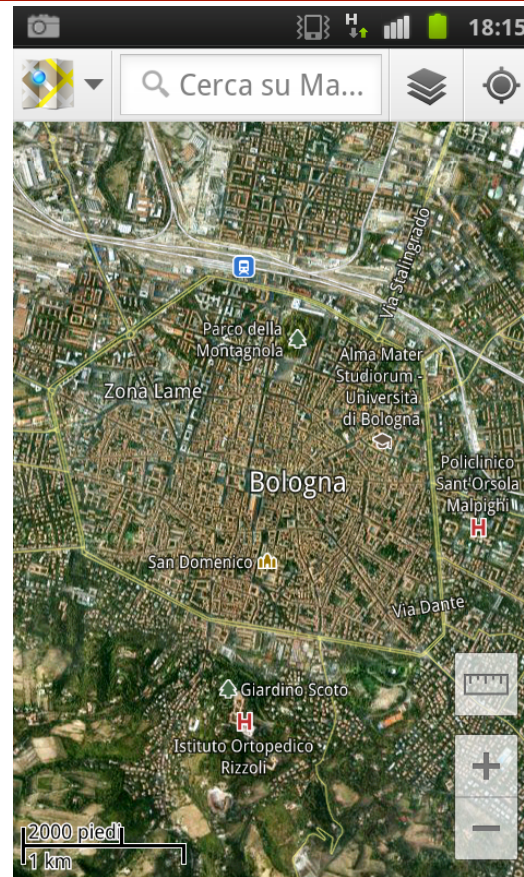


MOBILE DEVICE DIVERSIFICATION





Android: Some Examples ...





Android: **Some Examples ...**





Android: where is the business?

Market

ATIS PIÙ REDDITIZIE NUO

Rank	App Name	Developer	Price
1.	Document...	DataViz, Inc.	€ 10,99
2.	SPB Shell 3D	SPB Software	€ 10,45
3.	PES 2012 Pro Evolution Soc...	Konami Digital E...	€ 4,20
4.	NAVIGON Europe	NAVIGON	€ 59,95
5.	Zynga Poker	Zynga	Gratis
6.	Paradise Island	Game Insight...	Gratis
7.	Texas Poker	KamaGames	Gratis
8.	Camera ZOOM FX	androidslide	€ 1,99
9.	Smurfs' Village	Beeline Interact...	Gratis
10.	Quickoffi...	Quickoffice	€ 11,57
11.	Drag Racing	Creative Mob	
12.	WeatherP...	MapGroup	

Applicazioni

DocumentsToGo Full V

DATAVIZ, INC. € 10,99

Slideshow To Go - Presentation.ppt

4:14 PM

Widget	Northeast	Northwest	Southeast	Southwest
Blue Widget	~4000	~6000	~8000	~10000
Red Widget	~4000	~6000	~8000	~10000
Yellow Widget	~4000	~6000	~8000	~10000
Green Widget	~4000	~6000	~8000	~10000

★★★★★ 14.314 ottobre 21, 2010
500.000+ download 57,49KB

TOP DEVELOPER

+1 4,1K persone hanno fatto +1.

DESCRIZIONE

Nota: per sbloccare tutte le funzioni della



Android: **yes, business!**

- (at least) 500 k * 10.99 = **5.495 k**
- 70% to the developer, 30% to others, such as carriers
- 70% of 5.495k = **3.846,5 k**
- **3.846.500** euro from a single application
- RATIONALE: *Focus on amount of applications sold, not on price of single applications ...*



Android ... **How?**



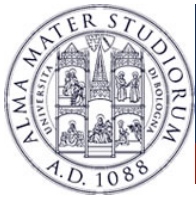
1. The Android **Project**
2. Android **Architecture** and **Components**
3. Android Component: **Activities**
4. Android Component: **Intents**
5. Android **Resources** System
6. Android **Layout**: View and ViewGroups
7. Android **Event** Management Systems
8. Android **Animation**, **Menu**, **Dialog**
9. Android **Data** Management



Android ... **How?**



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

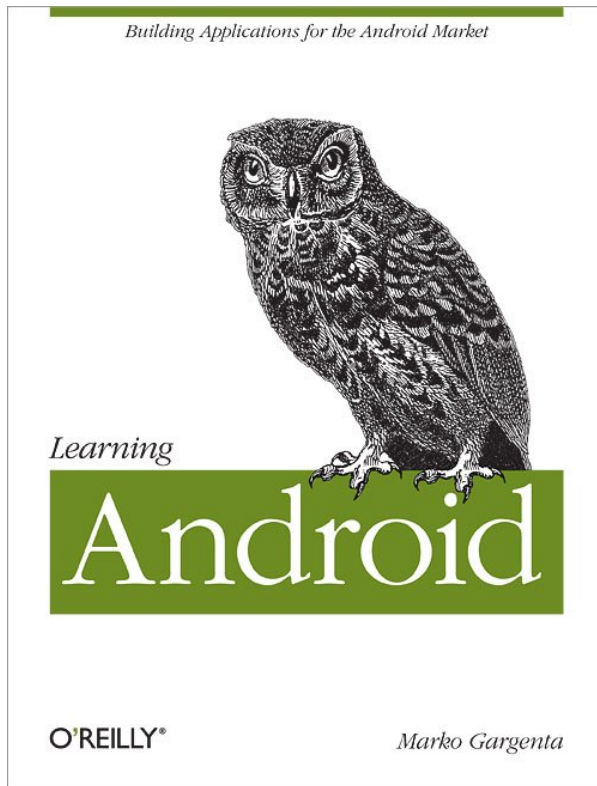
Massimo Carli

Other resources:

- **Slides**
- **Online Tutorials**
- **Newsgroups**



Android ... How?



Textbook

Learning Android (O'Reilly)

Author

Marko Margenta

Other resources:

- **Slides**
- **Online Tutorials**
- **Newsgroups**



Android ... **How?**

PRE-REQUISITES:

➤ Object-Oriented Programming

(We will use **Java** for Android applications coding ...)

➤ XML Essentials

(We will mix *declarative* and *programmative* approaches)

➤ (PREFERRED) Experience with Java SDK Tools (**Eclipse**)

(We will use Android **Eclipse-plugins** for SW developing)



Android ... **Where?**

- Download Android SDK for your platform:

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

- Execute (and then select the Android API version):

[android-sdk-xxx/tools/android](http://developer.android.com/sdk/index.html)

- Install the ADT plugin for Eclipse:

<http://www.eclipse.org/downloads/>

<https://dl-ssl.google.com/android/eclipse>