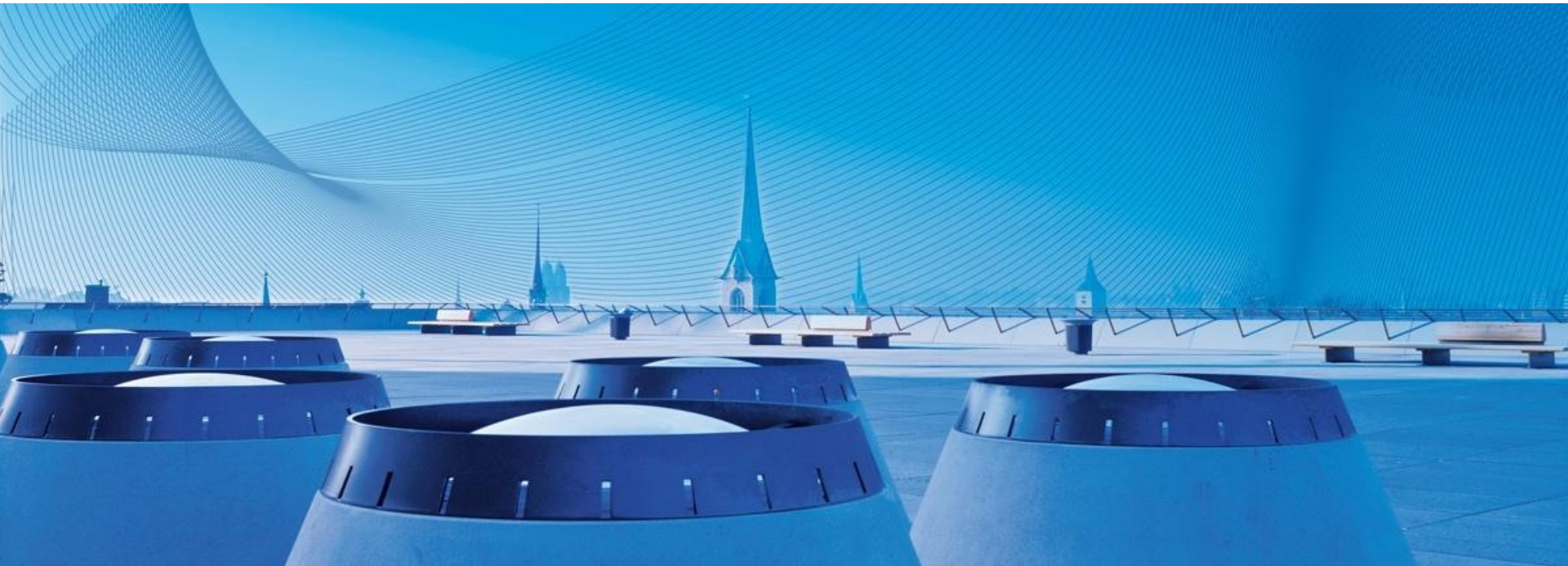


Distributed Systems – Practical

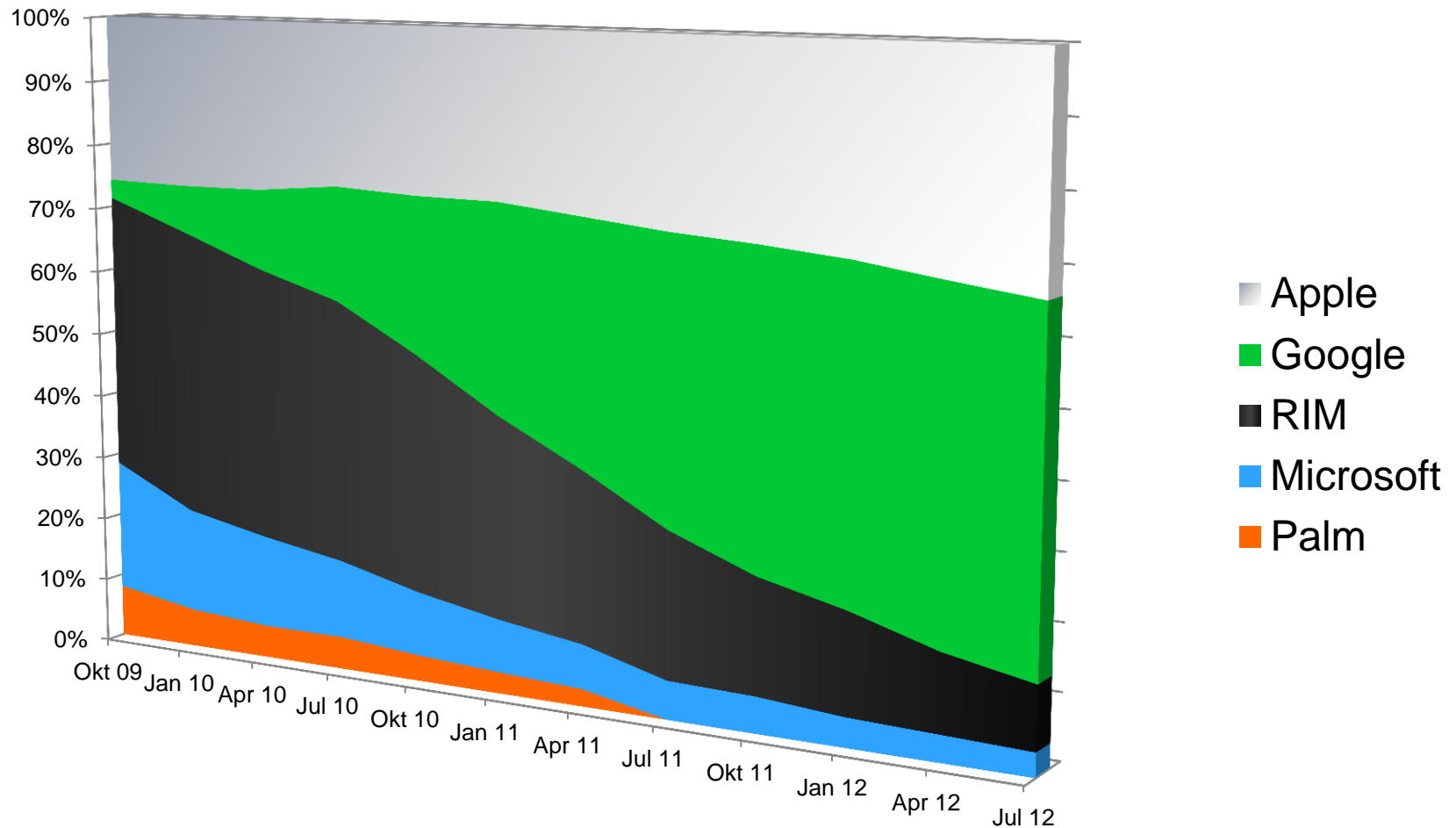
Matthias Kovatsch





ANDROID

Android Smartphone Market Share (U.S. 13+)



Source: www.comScore.com

Team



Matthias Kovatsch



Gábor Sörös



Anwar Hithnawi



Wilhelm Kleiminger

Exercises

- **Practical**
 - Programming for Android
 - Three assignments
 - One open project
 - 20% of the final grade
(45 points + 180 points in the exam)
 - Can be carried forward from last year
- **Theoretical Exercises**
 - Preparation for the exam
 - Available at the end of the semester



Practical

- Organization
 - Teams of two (sometimes three)
 - Develop with the emulator
 - Test on the actual phone
 - Document your work in a report

- Grading
 - Per group
 - «Save-Points»
Practical cannot decrease your final grade
when all marked exercises were solved



Schedule

- A1: GUI and hardware
 - 01 Oct 2012 – 12 Oct 2012 (1.5 weeks)

- A2: Client/server, Web services, and the Cloud
 - 12 Oct 2012 – 26 Oct 2012 (2 weeks)

- A3: Group communication and logical time
 - 26 Oct 2012 – 09 Nov 2012 (2 weeks)

- A4: Open project (with presentation)
 - 09 Nov 2011 – 17 Dec 2011 (5.5 weeks)

HOMEWORK

Create Groups

- Log in to submission system
 - <https://www.vs.inf.ethz.ch/edu/vs/submissions/>
- Leader starts a group
- Add partner(s)
- Specify which phone you will be using
 - Own device
 - One of our HTC Desires
- Join our Google group for questions
 - <https://groups.google.com/d/forum/vs-hs2012>

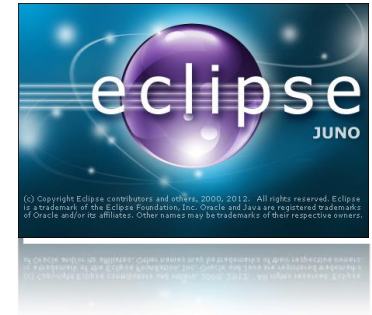


Get a Phone

- 22 HTC Desires available
- Updated to CyanogenMod 7.2 (Android 2.3.7)
- Issued in CNB H 108
 - Tuesday
 - Wednesday
 - Thursday } 2pm – 4pm
- Activate debugging
 - «Settings > Applications > Development > Android debugging»
- Familiarize yourself with the device



Install the Toolchain



- Java SE JDK 7
 - <http://www.oracle.com/technetwork/java/javase/downloads/index.html>
- Android SDK
 - <http://developer.android.com/sdk/index.html>
 - Get «Tools», «Google USB Driver», and «**API 10**» packages
- Eclipse 4.2 «**Juno**» («Classic» or «Java Developers»)
 - <http://www.eclipse.org/downloads/>
 - Add ADT plugin («Help > Install New Software...»)
 - «Work with» location <https://dl-ssl.google.com/android/eclipse/>
 - Configure SDK («Window > Preferences > Android»)

Ubuntu Linux

- Create `/etc/udev/rules.d/51-android.rules` as superuser

```
SUBSYSTEM=="usb", SYSFS{idVendor}=="0bb4", MODE="0666", GROUP="plugdev"
```

- 0bb4 is for HTC devices
- Adapt for own devices accordingly

<http://developer.android.com/guide/developing/device.html>

- Change Permissions

```
chmod a+r /etc/udev/rules.d/51-android.rules
```

Windows

■ Driver problems?

1 Device Manager

2 Update Driver Software - ADB

3 Update Driver Software - ADB

4 Update Driver Software - ADB

5 Update Driver Software - ADB

6 Update Driver Software - ADB

7 Update Driver Software - ADB

Siehe auch <http://developer.android.com/sdk/win-usb.html>

Test Your Toolchain

- Create an AVD in the «Android Virtual Device Manager»
 - Target: Android 2.3.3 - API Level 10
 - Skin: WVGA800
 - Device ram size: 512
- Create an «Android Sample Project» in Eclipse
 - Target: Android 2.3.3
 - Sample: ApiDemos
- Run the project as Android application
 - On the AVD
 - On your phone

Android Tutorial

- Monday, 01 October 2012
- Introduction to Android programming
- «Live-Hacking» together with you
→ Be prepared!
- First Assignment

