Mobile Application Development with Android

Felix Naumann
Alexander Albrecht

2010-04-19
MAD with Android

• MAD Seminar
• Application Development
• Android Demo
Motivation
Motivation

• Open Handset Alliance

Android: Building a Mobile Platform to Change the Industry, Richard Miner, Co-founder of Android
Seminar

• Each team (2 students) develops a novel application for Android
• Android Dev Phones are provided by HPI

• Monday, 11:00, A-1.1
• 25.04.10 Seminar application deadline, please email Alexander
Timetable

• Team presentations
  – 31.05.2010 project ideas
  – 12.07. & 19.07.2010 final presentations

• Workshop
  – 26.04.2010 Application development - walkthrough
  – 03.05.2010 Storage, persistence, communication
  – 10.05.2010 Android best practices
  – 17.05.2010 Cross platform development

• Info
  – 26.05. & 27.05.2010 droidcon 2010, Berlin
Requirements

• Experience?
  – Android
  – Java
  – Mobile
  – Web
MAD with Android

• MAD Seminar
• Application Development
• Android Demo
# Android Stack

<table>
<thead>
<tr>
<th>Layer</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Applications</td>
<td></td>
</tr>
<tr>
<td>Application Framework</td>
<td></td>
</tr>
<tr>
<td>Libraries</td>
<td>Runtime (Dalvik Virtual Machine)</td>
</tr>
<tr>
<td>Linux Kernel</td>
<td>(Hardware Abstraction Layer)</td>
</tr>
</tbody>
</table>
Android SDK Features

- Storage and persistence
- Maps and location-based services
- Media and graphic support
- Hardware access
- Communication
- Background services
- ...
Setting Up Android SDK

- Installing the Android SDK and setting up
  - Install SDK starter package
  - Install ADT (Android Development Tools) Plugin
  - Add Android platforms to SDK
Create Android Project

<table>
<thead>
<tr>
<th>Project name</th>
<th>Hello World</th>
</tr>
</thead>
<tbody>
<tr>
<td>Build Target</td>
<td>Android 1.6</td>
</tr>
<tr>
<td>Application name</td>
<td>Hello World</td>
</tr>
<tr>
<td>Package name</td>
<td>de.fgis.hello</td>
</tr>
<tr>
<td>Create Activity</td>
<td>HelloWorld</td>
</tr>
<tr>
<td>Min SDK Version</td>
<td>4 (API level)</td>
</tr>
</tbody>
</table>
Create AVD (Emulator)
DEMO
Useful Links

- Developer Resources
  - http://developer.android.com/resources/

- Google I/O
  - http://sites.google.com/site/io/

- Question
  - http://stackoverflow.com/