

Mobile Cloud Computing

Mikko Vulli
missile@cs.tut.fi

OHJ-1860 Ohjelmistotekniikan
seminaari: Pilvilaskenta

Mobile Cloud Computing

- Motivation
- Promises
- Potential Problems
- Current reality
- Example: Amazon Web Services for Android

Motivation

- Provide rich applications on a relatively thin mobile client
 - Smartphones, netbooks, iPads...
- Smartphone/mobile hype + cloud computing hype = Mobile cloud computing hype

Promises

- “According to the latest study from Juniper Research, the market for cloud-based mobile applications will grow 88% from 2009 to 2014. The market was just over \$400 million this past year, says Juniper, but by 2014 it will reach \$9.5 billion. “
http://www.readwriteweb.com/archives/mobile_cloud_computing_95_billion_by_2014.php

Promises

- “...the number of users the technology has the power to reach: far more than the number of smartphone users alone.”
- “Currently, mobile applications are tied to a carrier. If you want an iPhone app, for example, you have to first have a relationship with the mobile operator who carries the iPhone. If you want a Blackberry app, the same rule applies. But with mobile clouding computing applications, as long as you have access to the web, you have access to the mobile application.”

<http://ipcommunications.tmcnet.com/topics/ip-communications/articles/59519-abi-research-mobile-cloud-computing-next-big-thing.htm>

Promises

- “Cloud Computing will definitely leverage the mobile handsets to the level of Super Duper Smart with no foggy future ahead.” <http://shahneil.com/tag/cloud-phones/>

Promises

- Potential use cases
 - Social networks
 - Games
 - mBanking
 - Remote access
 - ...

Potential Problems

- How to access the cloud if you don't have 3G or wlan?
 - Does HTML5 & local caching solve this?
 - How about new wireless technologies?
- How about data security, privacy, authentication and authorization scenarios
- Multiple players → multiple platforms → multiple “standards” / APIs → multiple problems (?)

Potential Problems

- Do we really have potential use cases and / or users
 - (Apart from Facebook)

Current reality

- Cloud computing vs. web application vs. web widget
 - Could this be just marketing hype..?

Current reality

- Potential players:
 - Amazon (AWS for Android / iOS)
 - Google (Google API for Mobile, Google maps, gmail, google sync...)
 - Salesforce (Salesforce mobile)
 - ...

Example: AWS for Android

- Amazon Web Services For Android (also available for iOS)
- Complete SDK
- Call AWS APIs directly from mobile app
 - HTTP connection, error handling etc are handled under the hood
- Access storage (S3), database (SimpleDB), messaging (Simple Queue Service, Simple Notification Service)
- Relatively easy way to turn existing AWS apps to mobile apps
- <http://aws.amazon.com/about-aws/whats-new/2010/12/09/announcing-mobile-sdks/>