

Analyzing Mobile Distributed Application Architectures

Area:

Mobile Applications
Telecom Applications
Web (2.0) Services

Prerequisites:

Mobile App / Internet App Development interest
Internet-based Web (2.0) Services and APIs interest
Software Architectures interest
Self-Motivated worker

Supervisor/in:

...

Advisor/in:

Christian Menkens (menkens@cdtm.de) (<http://www4.in.tum.de/~menkens>)

Problem Statement

The telecom industry is rapidly changing and telecom systems that had been closed proprietary systems for a long time shift towards a more open infrastructure in order to work together with new services and tools available on the internet such as Web (2.0) services and applications.

In parallel to this development mobile internet and mobile applications importance and usage increased rapidly with the introduction of the iPhone and Android in combination with Application Stores and fast wireless networks.

This leads to distributed systems/applications on the internet with various architectures, various types of application servers, various reusable services and various types of clients on various platforms on mobile devices, browsers or PC/Laptops/Tablets.

Unfortunately, so far it is not clear what application architectures fulfill most of the distributed architecture and mobile application requirements set by Communication Service Providers (CSP), Developers and Customers.

Goals of Thesis

This work should generate a thorough overview of software as well as distributed system architecture decisions of a selected set of popular product and prototype mobile applications (on various platforms such as Nokia, Apple, Android ...). After that, evaluate these product and prototype architectures plus common distributed architecture concepts in terms of fulfillment of mobile application requirements from CSPs, Developers and Customers. To conclude, the architectures that fulfill the requirements best need to be discussed in order to extract their best concepts and features and to propose a concept for an ideal architecture for distributed mobile applications.

Approach and Work Packages:

- Select popular mobile application products
- Select mobile application prototypes
- Develop a concept for architecture identification and comparison
- Identify common distributed architecture concepts
- Evaluate architectures in terms of requirements
- Discuss and extract best architecture concepts
- (optional) Summarize CSP, Developer and Customer goals
- (optional) Derive main requirements from goals
-
- ...

Previous Work and Literature:

- Trend Report Developer Platforms and Communities
- T-Labs Integrative Service Architecture Projects
- ...