

## Mobile Services (ST 2010)

Homework #4 | June 24, 2010

### Problem #12: Push Services

- a) What are Push services? Give a definition and present three typical application scenarios for them!
- b) What makes it difficult to realize push services in mobile environments?
- c) What are basic mechanisms for realizing mobile push services?

### Problem #13: Mobile P2P

You want to realize a Peer-to-Peer (P2P) solution for sharing photos you have made with the camera of your mobile device. The obvious solution would be to use one of the common platforms for sharing photos, e.g. Flickr. However, let's assume that you do not trust these platforms and therefore prefer a P2P solution where your friends and colleagues directly access your device for downloading them

- a) Give a definition of P2P and emphasize the differences to traditional client/server systems!
- b) Sketch a solution for P2P networks in mobile, cellular environments. What software components are required? What network- and application-layer services and service platforms are involved? What difficulties need to be addressed?
- c) Is the P2P paradigm in existing cellular networks applicable at all? What alternatives do you have?

### Problem #14: SIP

The paper *Schulzrinne and Wedlund: Application-Layer Mobility using SIP* provides an excellent summary of mobility support in SIP. The URL is

<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.95.3546&rep=rep1&type=pdf>

- a) Explain the main concepts SIP provides for terminal, personal, service, and session mobility!
- b) What are the differences between traditional terminal mobility mechanisms in cellular networks and those provided by SIP?