

T-110.7111 Mobile Middleware (3 cr)

20.5.2011 Examination

Choose 3 of the 4 topics below and write essays on them. Each topic has additional questions that should be considered in your essay. Discuss other relevant issues as well. Remember to consider what is important and what is not when writing your essay. You may write your essays in Finnish, Swedish, or English.

Remember to include the following information in your paper: the course name, date, student ID, name, and signature.

1. Design of a mobile application runtime

Outline a design for a modern mobile application runtime for the client device. Present the key technologies and interfaces that are used and the highlights of your design. Justify design choices. Address issues such as the requirements of the mobile environment, the requirements of applications, and the software developer viewpoint. What are the challenges of deploying the platform? You motivate your choices by referring to existing platforms.

2. Design patterns for synchronization in mobile software

Present two key design patterns for data and state synchronization that are especially useful for mobile software. Consider the benefits and liabilities of the patterns.

3. Mobile cloud: cloud integration in Android and Windows Phone 7

Discuss how Android and Windows Phone 7 integrate with cloud services. What are the benefits of using cloud services and what are the limitations? Give an example of cloud based service offloading.

4. Converged communications

Explain the notion of converged communications. How do SIP and IMS relate to this topic? What are the main applications in converged communications?