Homework 3
Architecting assignment
Homework 3 – goal and task

• The goal of this exercise is to design a moderately complex architecture that satisfies given requirements

• Actual task
  – Design an architecture for an instant messaging and information sharing system
  – to be used in a large company where members of a team need to cooperate in real-time and need to access shared data.
  – Groups of users can be created according to needs of various projects in company.
  – Different users in a group may have different access rights (e.g. group moderator, member with restricted access, supervisor, member with full access..)
  – Different users have different concerns (marketing view, process management view…) besides the regular architectural concerns.
  – Particular items can be shared with selected groups or individuals
Homework 3 – use cases

• New employee installs the application and registers
• Registered employee can login in into the system
• Employee can ask to be added to a group (e.g. related to project he is assigned to). Group leader can acknowledge / deny such request and will determine access rights of the user
• Logged in employee can access data for which it has access rights and can store own data in group repository
• Logged in employee can find out which members from groups in which he participates are on-line
• An online person from same group can be asked for a chat session – the chat session proceeds until either party stops or until chat session is inactive for a while and fixed maximum idle interval times out

* For missing elements in the problem description, a reasonable choice may be taken. Address key use cases with scenarios.
Homework 3 – instructions

- Structure the architecture using views (e.g. Kruchten’s views)
- Define clearly **stakeholders** and their **requirements** – assign unique identifiers to every requirement and stakeholder (e.g. Req17 & St11). Note that stakeholders may share requirements
- Select appropriate architecture & interaction styles
- Address 2 key QAs (quality attributes)….take into consideration. You may also select QAs that were not presented in slides (look at the additional slide set on QA lecture on the site).
- Define processes and components
- Think of naming different entities (hierarchical, flat…). Is there a need for name servers? What type of service discovery would be appropriate and why?
- Provide (in bulleted lists) motivation for key architectural choices in note pages
Homework 3 – additional remarks

- Deliver results as up to 20 PowerPoint slides containing diagrams and key explanations. All text should be clearly visible without a need to zoom in. Also text in diagrams should be clearly visible.

- Slides should be self-explanatory. Think of how would you present slides to stakeholders.

- Slides can contain bulleted lists, UML diagrams and/or block diagrams.

- Keep explanations simple and short …