Requirements Engineering II

Martin Glinz, Professor, Dr. rer. nat.

Assignment 3: Requirements Elicitation

1. Tasks
- Read the mandatory items in the reading list
- Be prepared to answer the questions given below in class
- Prepare a 15 minutes presentation (5-10 slides) on the theme assigned to your course group. Browse/read additional papers and/or web pages where necessary.
- Compare [Maiden, Gitzikis and Robertson 2004] and [Maiden and Robertson 2005]. Identify the message and the intended audience for both papers. What are the commonalities and the differences? Estimate the percentage of overlap.

2. Reading list

Mandatory reading

[Gougen and Linde 1993] and [Hickey and Davis 2003] give an overview of requirements elicitation techniques and how to select appropriate techniques. [Potts, Takahashi and Antón 1994] describe an inquiry-based elicitation and analysis process. [Gottesdiener 2003] describes stakeholder collaboration in requirements workshops. [Beyer and Holtzblatt 1999] deal with the problem of how to understand the stakeholders' needs. [Robertson 2002] advocates out-of-the-box thinking when identifying stakeholders and their needs. [Maiden, Gitzikis and Robertson 2004] and [Maiden and Robertson 2005] deal with the issue of creativity in requirements engineering.

Optional reading

[Cohene and Easterbrook 2005], [Gottesdiener 2002], [Lloyd, Rosson and Arthur 2002], [Maiden and Gizikis 2001], [Nuseibeh, Kramer and Finkelstein 1993]

3.   Questions
- What are the most popular techniques for requirements elicitation?
- How do we select appropriate techniques in a given situation?
- How can we identify the stakeholders' real needs (beyond what they are telling us)?
- How do requirements elicitation workshops work?
- Why does creativity matter in Requirements Engineering?
- What are the relationships between requirements elicitation and goal-oriented Requirements Engineering?

4. Themes for presentation

(Will be assigned by the research assistant who tutors this course; your group can apply for the theme you would like to work on)

A. Requirements elicitation techniques, their selection and effectiveness

B. Capturing the stakeholders' needs in Requirements Engineering

C. The role of creativity in Requirements Engineering

References

Beyer, H., K. Holtzblatt (1999). Contextual Design. *Interactions* **6**, 1 (Jan/Feb 1999). 32-42.

Cohene, T. , S. Easterbrook (2005). Contextual Risk Analysis for Interview Design *Proceedings of the 13th IEEE International Requirements Engineering Conference (RE'05)*, Paris, France. 95-104.

Goguen, J. and C. Linde (1993). Techniques for Requirements Elicitation. *Proceedings of the First IEEE International Symposium on Requirements Engineering (RE'93)*, San Diego, USA. 152-164.

Gottesdiener, E. (2002). *Requirements by Collaboration: Workshops for Defining Needs*. Amsterdam: Addison-Wesley Longman.

Gottesdiener, E. (2003). Requirements by Collaboration: Getting It Right the First Time. *IEEE Software* **20**, 2 (Mar/Apr 2003). 52-55.

Gottesdiener, E. (2006). Requirements by Collaboration: Facilitating Workshops to Define Stakeholder Needs. *Mini-Tutorial held at the 14th IEEE International Requirements Engineering Conference (RE'06)*, Minneapolis, USA.

Hickey, A.M. and A.M. Davis, (2003). Elicitation Technique Selection: How Do Experts Do It? *Proceedings of the 11th IEEE International Requirements Engineering Conference (RE'03)*, Monterey Bay, USA. 169-178.

Lloyd, W.J., M.B. Rosson, J.D. Arthur (2002). Effectiveness of Elicitation Techniques in Distributed Requirements Engineering. *Proceedings of the IEEE Joint International Requirements Engineering Conference (RE'02)*, Essen, Germany. 311-318.

Maiden, N. and A. Gizikis (2001). Where Do Requirements Come From? *IEEE Software* **18**, 5 (Sept./Oct. 2001). 10-12.

Maiden, N., A. Gizikis, S. Robertson (2004). Provoking Creativity: Imagine What Your Requirements Could Be Like. *IEEE Software* **21**, 5 (Sept./Oct. 2005). 68-75.

Maiden, N. and S. Robertson (2005). Integrating Creativity into Requirements Processes: Experiences with an Air Traffic Management System. *Proceedings of the 13th IEEE International Requirements Engineering Conference (RE'05)*, Paris, France. 105-114.

Nuseibeh, B., J. Kramer, and A. Finkelstein (1993). Expressing the Relationships Between Multiple Views in Requirements Specification. *Proceedings of the 15th International Conference on Software Engineering (ICSE'93)*, Baltimore. 187-196

Potts C. , K. Takahashi, A. Antón (1994). Inquiry-Based Requirements Analysis. *IEEE Software* **11**, 2 (Mar/Apr 1994). 21-32. (Paper was presented at the First IEEE International Conference on Requirements Engineering, but as a one of three best papers published not in the proceedings, but in IEEE Software.)

Robertson, J. (2002). Eureka! Why Analysts Should Invent Requirements. *IEEE Software* **19**, 4 (Jul./Aug. 2002). 20-22.