Requirements Engineering II

Martin Glinz, Professor, Dr. rer. nat.
Samuel Fricker

Assignment 3: Requirements Elicitation and Product Innovation

1. Tasks

Individual Tasks
- Read the mandatory items in the reading list
- Be prepared to answer the questions given below in class

Group Tasks
- 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.
- Evaluate and select elicitation techniques for the case study presented in RE-I: select ten elicitation techniques that you evaluate in terms of strengths, possible obstacles, and recommendations for their application in the project situation that was characterized in the case study. Select three of these ten techniques and justify why you would apply them in the describe situation.

2. Reading list

Mandatory reading
[Zowghi 2005] provides an overview of requirements elicitation techniques. [Potts 1994] describes an inquiry-based elicitation and analysis process. [Beyer 1999] deal with the problem of how to understand stakeholders' needs. [Maiden 2004] describes how creativity can be fostered to support product innovation.

Theme-specific reading
[Hickey 2003], [Dieste 2008]: Selection of Elicitation Techniques
[Gottesdiener 2002], [Cohene 2005]: Elicitation Workshops and Interviews
[Maiden 2005], [Gorschek 2009]: Creativity and Product Innovation

3. Questions

- What are the most important categories of techniques for requirements elicitation?
- How does an understanding of work context help to identify the real stakeholder needs (beyond what they are telling)?
- Why does creativity matter in requirements engineering?
- How is requirements elicitation related to goal-oriented requirements engineering?

4. Themes for presentation

(Will be assigned by the research assistant who tutors this course; your group can apply for a theme)

A. Overview and Selection of Elicitation Techniques

(What categories of elicitation techniques are known? How are elicitation techniques selected? Which techniques are more successful than others?)

B. Elicitation Workshops

(What are the goals and key work results of an elicitation workshop? What are the ground rules for performing an elicitation workshop? What are the goals and key work results of interviews? Which factors need to be considered for effective interviews?)

C. Product Innovation

(How can innovative ideas for a software product be identified? What needs to be done to enable the realization of a feasible number of ideas?)

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. *13th IEEE International Requirements Engineering Conference (RE'05)*. Paris, Fance. 95-104.

Dieste, O., N. Juristo, F. Shull (2008). Understanding the Customer: What Do We Know about Requirements Elicitation? *IEEE Software* **25**, 2 (March/April 2008). 11-13.
(This publication has a web appendix, which surveys the papers investigated in the reported work: http://www2.computer.org/cms/Computer.org/dl/mags/so/2008/02/extras/mso2008020011x1.html)

Gorschek, K., S. Fricker, K. Palm, S. Kunsman (2009). Star Search – a Light-weight Innovation Process for Software Intensive Product Development. *IEEE Software* PrePrint.

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

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

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

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

Potts, C., K. Takahashi, A. Antón (1994). Inquiry-based Requirements Analysis. *IEEE Software* **11**, 2 (March/April 1994). 21-32.
(This publication was presented at the 1st IEEE International Conference on Requirements Engineering, but as one of three best papers published not in the conference proceedings, but in IEEE Software).

Zowghi, D., C. Coulin (2005). Requirements Elicitation: A Survey of Techniques, Approaches, and Tools. In Aurum, A., C. Wohlin. *Engineering and Managing Software Requirements*. Springer. 19-46.