University of Zurich[UZH]

Requirements Engineering II

Assignment 1

Requirements Elicitation and Innovation

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I. Task

Individual Tasks

- Read the mandatory items in the reading list
- Prepare two questions about each paper to ask your classmates. These questions can, for example, be about aspects of the paper that are not clear to you, or about your classmate's opinion on interesting aspects.
- Be prepared to give a short summary of each paper in class. This summary should address the following questions:
    - What is the main message of the paper?
    - What are the expected benefits of the proposed method or the paper in general?
    - What are weaknesses of the paper in your opinion?
- 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 and choose two persons from your group to present it.
    - At the beginning of your presentation, relate your topic to the session's topic (as represented by the mandatory reading)
    - 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 described situation. Send in your solution as a pdf to Anne Koziolek before or on the day of the assignment discussion.

II. 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] deals 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
[Maiden 2007a], [Maiden 2007b]: Elicitation of Requirements on Site
[Maiden 2005], [Gorschek 2010]: Creativity and Product Innovation

III. 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?

IV. Themes for Presentation

Themes will be assigned by the 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 on Site

What are the benefits of walking through scenarios in situ rather than in an elicitation workshop? How should mobile technologies be used for requirements elicitation?

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.

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 (2010). A Lightweight Innovation Process for Software Intensive Product Development. *IEEE Software* **27**, 1 (Jan./Feb. 2010). 37-45.

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.

N . Maiden, C. Ncube, S. Kamali, N. Seyff, and P. Grünbacher (2007a). Exploring Scenario Forms and Ways of Use to Discover Requirements on Airports that Minimize Environmental Impact. *15th IEEE International Conference on Requirements Engineering (RE'07)*. New Dehli, India, 29-38.

N . Maiden, N. Seyff, P. Grünbacher, O. Otojare, and K. Mitteregger (2007b). Determining Stakeholder Needs in the Workplace: How Mobile Technologies Can Help. *IEEE Software* **24**, 2 (March/April 2007). 46-52.

Potts, C., K. Takahashi, A. Antón (1994). Inquiry-based Requirements Analysis. *IEEE Software* **11**, 2 (March/April 1994). 21-32.

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.