



# Assignment 7

## RE Tools

*Prof. Dr. Martin Glinz*

*Dr. Norbert Seyff*

*Irina Todoran*

## I. Tasks

### 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 20 minutes presentation and discussion 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.
  - Send your presentation to Norbert and Irina after the session to share it with others.

## II. Reading List

### Mandatory reading

[Kitchenham 1997] describes and validates a method for systematic tool evaluation. [Farmer 2006] describes a checklist for introducing a new tool to an organization. [Bruckhaus 1996] has evaluated the impact of requirements management tools on productivity. [Seyff 2010] describes ideas on how to strengthen end-user participation in requirements elicitation at low costs.

### Theme-specific reading

[Sinha 2006], [Decker 2007]: Tools for Requirements-Centered Collaboration  
[Luisa 2004], [Campos 2007]: Tools for Requirements Elicitation and Analysis  
[Hoffmann 2004], [Beuche 2007]: Tools for Requirements Management

### III. Questions

- What techniques can be employed for evaluating RE tools? How do these techniques compare with respect to efficiency, rigor, and situational fit?
- What are important pitfalls for successful RE tool adoption in a development organization?
- How do requirements tools affect work efficiency? In which situations do they bring improvements, when not?

### IV. Themes for Presentation

Themes will be assigned by the assistant who tutors this course; your group can apply for a theme.

#### A. Tools for Requirements-Centered Collaboration

How can requirements tools support collaboration in a software project? How does Wiki-based support differ from support by traditional requirements management tools?

#### B. Tools for Requirements Elicitation and Analysis

What are the most important tools for the design of graphical user interfaces? What is the influence of the development process on tool choice? What are possible applications of natural language processing in RE? According to [Luisa 2004], is there a market for a CASE (computer-aided software engineering) tool supporting natural language processing? In this market study, which software activities have been perceived as crucial?

#### C. Tools for Requirements Management

What are requirements for requirements management tools? How does Focal Point satisfy these requirements? What are tool requirements specific for product line requirements management?

### References

- Beuche, D., A. Birk, H. Dreier, A. Fleischmann, H. Galle, G. Heller, D. Janzen, I. John, R. Kolagari, T. von der Massen, A. Wolfram (2007). Using Requirements Management Tools in Software Product Line Engineering: The State of the Practice. *11<sup>th</sup> International Software Product Line Conference (SPLC 2007)*. Kyoto, Japan.
- Bruckhaus, T., N. Madhavji, I. Janssen, J. Henshaw (1996). The Impact of Tools on Software Productivity. *IEEE Software* **13**, 5 (Sep 1996). 29-38.
- Campos, P., N. Nunes (2007). Practitioner Tools and Workstyles for User-Interface Design. *IEEE Software* **24**, 1 (Jan/Feb 2007). 73-80.
- Decker, B., E. Ras, J. Rech, P. Jaubert, M. Rieth (2007). Wiki-Based Stakeholder Participation in Requirements Engineering. *IEEE Software* **24**, 2 (March/April 2007). 28-35.
- Farmer, E (2006). The Gatekeeper's Guide, or How to Kill a Tool. *IEEE Software* **23**, 6 (Nov/Dec 2006). 12-13.
- Hoffmann, M., N. Kuhn, M. Weber, M. Bittner (2004). Requirements for Requirements Management Tools. *12<sup>th</sup> International Requirements Engineering Conference (RE'04)*. Kyoto, Japan.
- Kitchenham, B., S. Linkman, D. Law (1997). DESMET: a methodology for evaluating software engineering methods and tools. *Computing & Control Engineering Journal* **8**, 3 (June 1997). 120-126.
- Mich, L., Franch, M., Novi Inverardi, P. L. (2004). Market research for requirements analysis using linguistic tools. *Requirements Engineering* **9**, 1 (Feb. 2004). 40-56.

Seyff, N., Graf, F., Maiden, N. (2010). Using mobile RE tools to give end-users their own voice. *Proceedings of the 18th IEEE International Requirements Engineering Conference (RE 2010)*, Sydney, Australia.

Sinha, V., B. Sengupta, S. Chandra (2006). Enabling Collaboration in Distributed Requirements Management. *IEEE Software* **23**, 5 (Sept/Oct 2006). 52-61.