



## Requirements Engineering II

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## Assignment 5: RE for Software Product Management

### 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.
- You are a product manager responsible for an industrial software product. You can find the list of pending features, which have been evaluated for development cost and stakeholder value, on the web-page of the course. You can invest approximately 1'200'000 \$ per development project. Create a release plan for a sequence of two development projects, which maximizes the overall product value for both stakeholders. The release plan is created by allocating selected features to the development projects. You are expected to achieve fairness for the stakeholders by first serving one stakeholder and then the other one. For the purpose of the exercise you can ignore the dependencies between the features. You hand in the release plan together with the rationale for your results.

### 2. Reading list

#### Mandatory reading

[Ebert 2006] gives an overview on software product management and describes its impact. [Regnell and Brinkkemper 2005] introduce requirements engineering for software product management]. [van de Weerd et al 2006] describe how continuous requirements management, product roadmapping, and release planning are interrelated.

#### Theme-specific reading

[Regnell et al 1998], [Gorschek and Wohlin 2006]: Requirements Management for Software Products  
[Lindgren et al 2008], [Carlshamre 2002]: Product Release Planning  
[Phaal et al 2004], [Lehtola et al 2007]: Product Roadmapping

### 3. Questions

- What are the key practices of software product management, what is their impact?
- What is the structure of a generic market-driven requirements management process?
- What are the differences between RE for software product management and RE in development projects?
- What are the roles of release planning and of roadmapping for a software product?

#### 4. Themes for presentation

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

##### A. Requirements Management for Software Products

(What is the structure of a market-driven requirements engineering process? How are requirements used to align a software product with needs and company strategy?)

##### B. Product Release Planning

(What are the objectives and the process of software release planning? What constraints are typically used to decide whether a feature is part of a software release or not? How is a release plan used in other requirements engineering activities?)

##### C. Product Roadmapping

(What are the objectives and the process of software product roadmapping? How is a product roadmap represented, and what can be read out of a product roadmap? How is a product roadmap used in other requirements engineering activities?)

#### References

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- Lehtola, L., M. Kauppinen, J. Vähäniitty (2007). Strengthening the Link between Business Decisions and RE: Long-term Product Planning in Software Product Companies. *15<sup>th</sup> IEEE International Requirements Engineering Conference (RE'07)*. New Delhi, India. 153-162.
- Lindgren, M., R. Land, C. Norström, A. Wall (2008). Key Aspects of Software Release Planning in Industry. *19<sup>th</sup> Australian Conference on Software Engineering (ASWEC'08)*. Perth, Australia. 320-329.
- Phaal, R., C. Farrukh, D. Probert (2004). Technology Roadmapping – A Planning Framework for Evolution and Revolution. *Technological Forecasting and Social Change* **71**, 1 (Jan.-Feb. 2004). 5-26.
- Regnell, B., S., Brinkkemper (2005). Market-Driven Requirements Engineering for Software Products. In Aurum, A., C. Wohlin (eds.). *Engineering and Managing Software Requirements*. Springer. 287-308.
- Regnell, B., P. Beremark, Ol. Eklundh (1998). A Market-Driven Requirements Engineering Process: Results from an Industrial Process Improvement Programme. *Requirements Engineering* **3**, 2 (June 1998). 121-129.
- van de Weerd, I. S. Brinkkemper, R. Nieuwenhuis, J. Versendaal, L. Bijlsma (2006). On the Creation of a Reference Framework for Software Product Management: Validation and Tool Support. *1<sup>st</sup> International Workshop on Software Product Management (IWSPM'06)*. Atlanta, GA, USA.