

Continuous Requirements Management

Outline

- Introduction
- Continuous requirements management
- Linguistic engineering
- Conclusion

Introduction

Classical Requirements Mgt

- Customer/need initiates a Project
- Requirements Engineering is a Phase of the Project
 - Different specification process models
- E. g. implementation starts when RE is finished (linear model)
- Project initiated requirements engineering

Market Driven Development is different!

- Requirements initiated development
 - Requirements come from
 - Market analysis (trends)
 - Competitors
 - Customers
 - Markets are frequently changing environments
- Continuous RE is needed

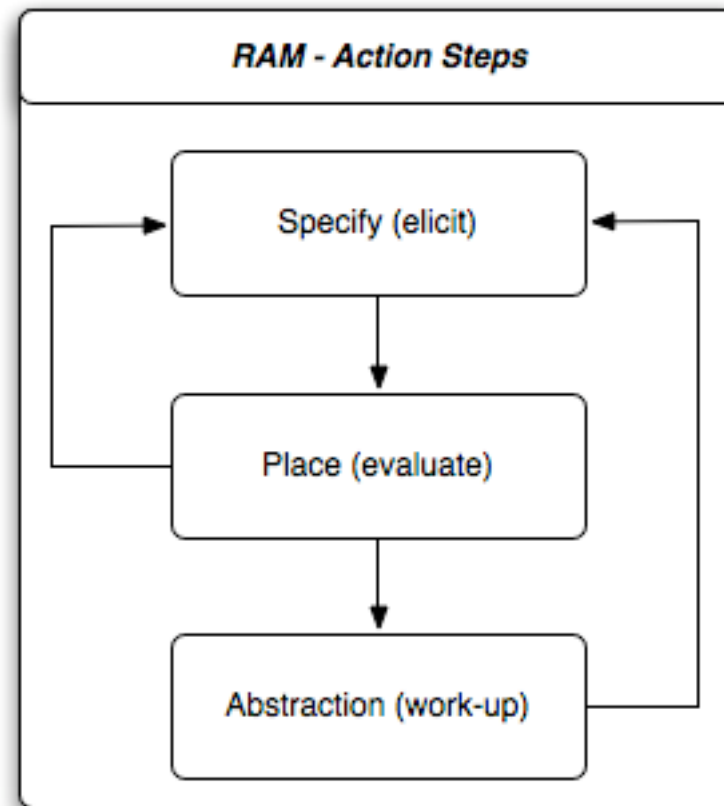
Applying

Continuous Requirements Management

Overview

- Processes of market driven RM:
 - RAM (Danaher Motion Särö AB)
 - RDEM (Ericsson Radio Systems AB)
 - REPEAT (Telelogic AB)
- Introduced because of
 - Problems with delayed product releases
 - Reducing lead time
- Gorschek and Wohlin 2005
- Carlshamre and Regnell 2000

RAM – A Framework for Continuous RM

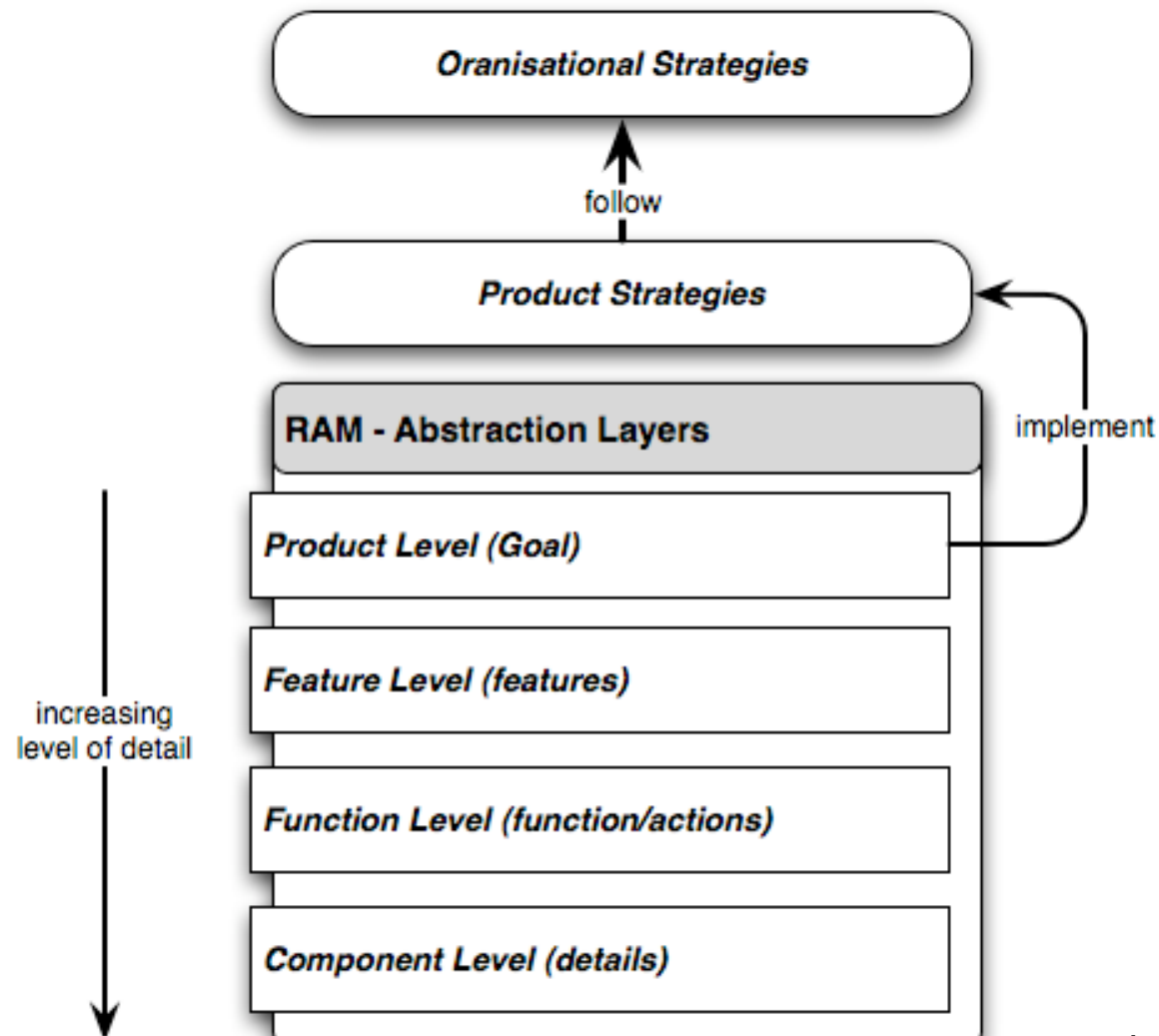


[Gorschek and Wohlin 2006]

Specifying Requirements

- Description (< 5 sentences)
 - Reasons, Benefits & Rationale
 - Why is a req. specified?
 - What is its benefit?
 - Restrictions & Risks
 - Title
- Form a basic understanding in cooperation with the Requirements Owner

Placing Requirements



Vgl. [Gorschek and Wohlin 2006]

Abstracting Requirements

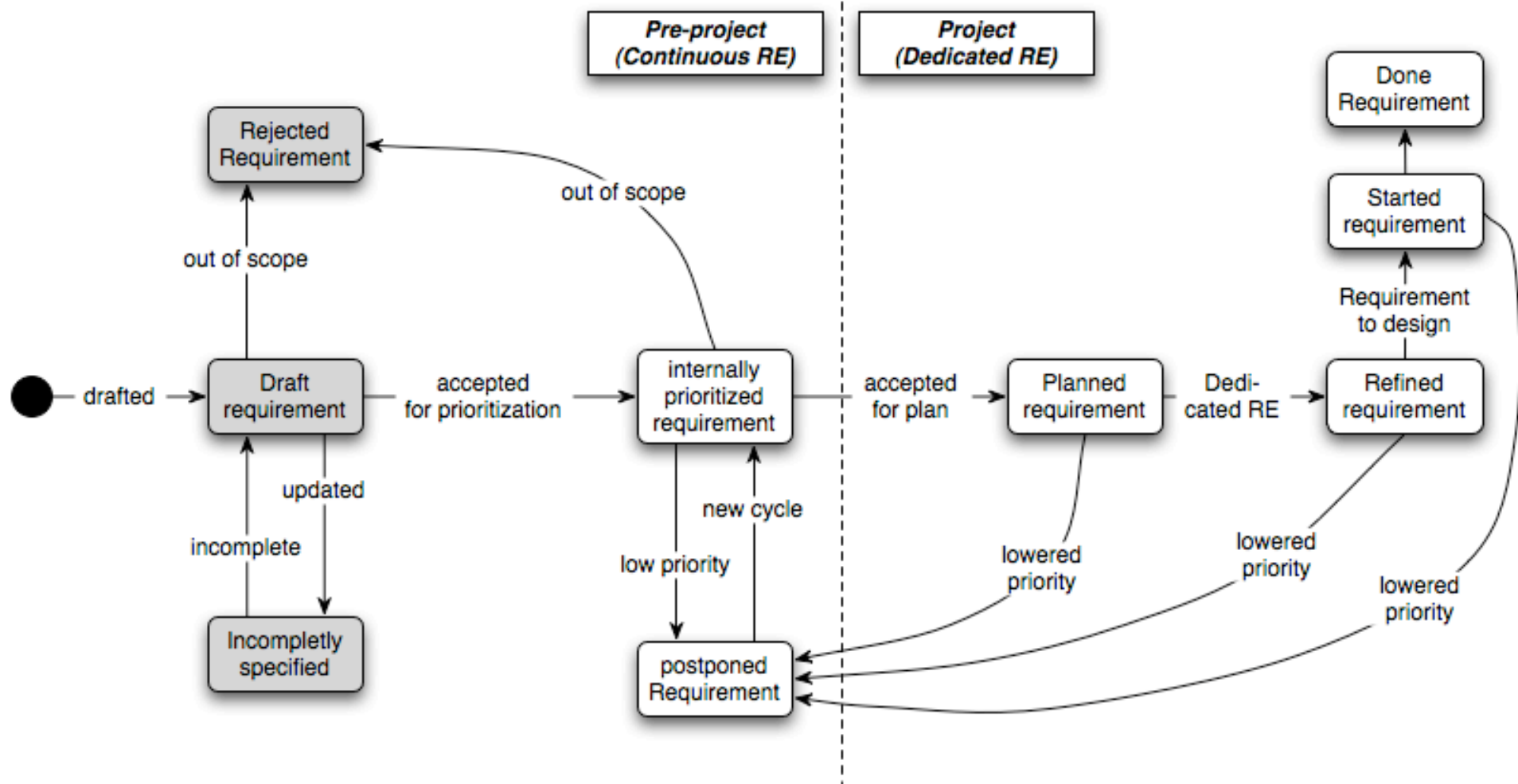
- After the original placement
- Complete requirements abstraction layers
 - new Requirements are created
- No requirement may exist without having a connection to the Product Level
- All requirements have to be broken down to Function Level

[Gorschek and Wohlin 2006]

Further Actions

- Define additional requirements attributes
 - Requirements Source / Owner / Manager
 - State of the Requirement (rejected, accepted,...)
 - Reject reason
 - Due date
 - ...

Requirements States in RAM



Vgl. [Gorschek and Wohlin 2006]

Requirements Lifecycle Models

RDEM

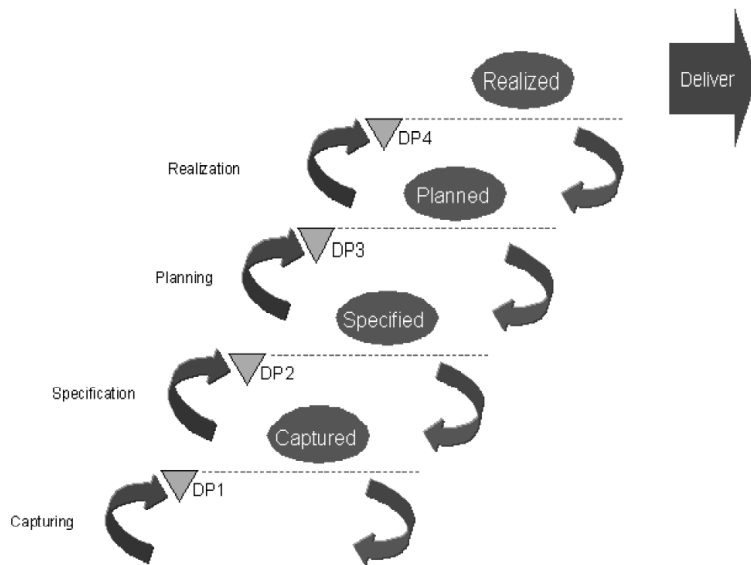


Figure 1. The RDEM requirements lifecycle model.

REPEAT

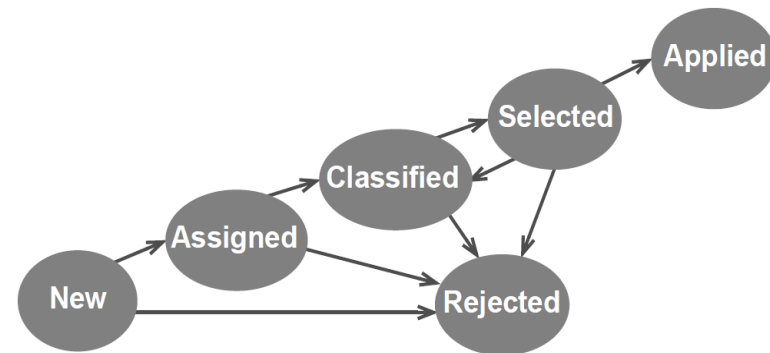


Figure 2. The REPEAT requirements lifecycle model.

Comparison

SIMILARITIES

- Lifecycle models
- Roles and Responsibilities

DIFFERENCES

- Driving forces
- Type of attributes
- Release scheduling
- Requirements bundeling

Possible role of

Linguistic engineering

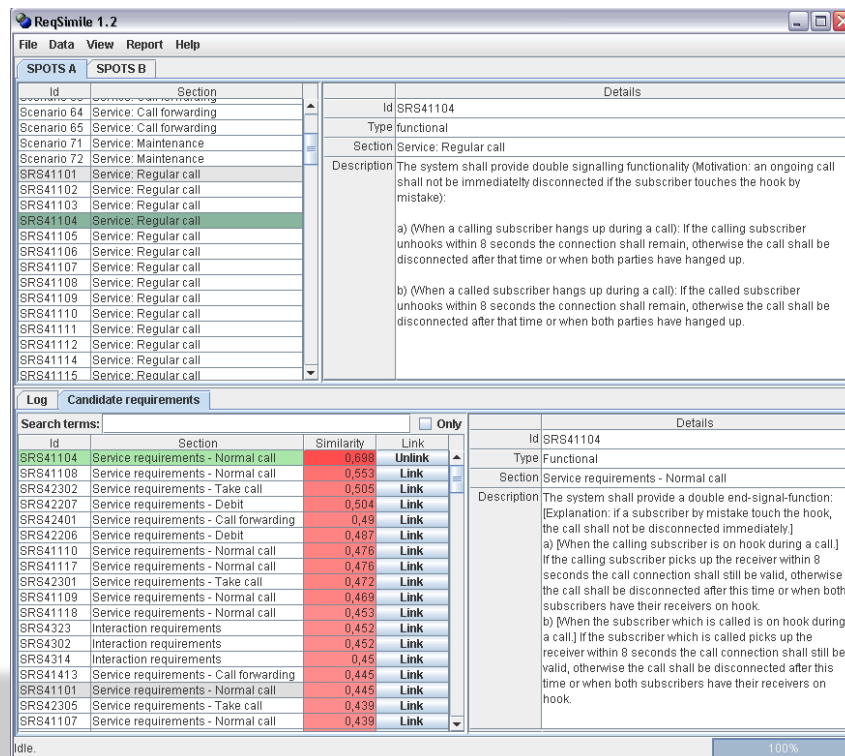
Problem

- „the sheer number of textual requirements presents specific challenges“ (Natt och Dag et al 2005)
- Two major groups of requirements
 - Customer wishes
 - Product requirements
- Two requirements can be expressed in a different style and vocabulary.

A linguistic-engineering approach

- Enable „semi-automatic“ linking
 - Suggest potential links
- Process
 - Preprocessing
 - Flattening, Tokenization, Stemming, Stop words removal
 - Storing the final text as a vector
 - Calculating cosine measure for the requirements

ReqSimile



- Open source tool
- <http://reqsimile.sourceforge.net/>

Lets come to an

end

Conclusion

- Continuous Requirements Management is used and has several benefits
- Linguistic engineering can save time (and therefore money)