

Requirements Management for Software Products

Requirements Engineering II

Agenda

- Market Driven Requirements Engineering
- RE ProcEss At Telelogic (REPEAT)
- Requirement States
- Requirements Abstraction Model

MDRE

- Developing software for a marketplace
- Requirements must be selected based on foreseen enduser needs

RE ProcEss At Telelogic

- Example of a market-driven requirements engineering process
- Manages requirements throughout a whole release cycle
- Is instantiated for each release and each process instance has a fixed duration
- Process is divided into 4 phases: ***elicitation, selection, change management*** and ***conclusion***

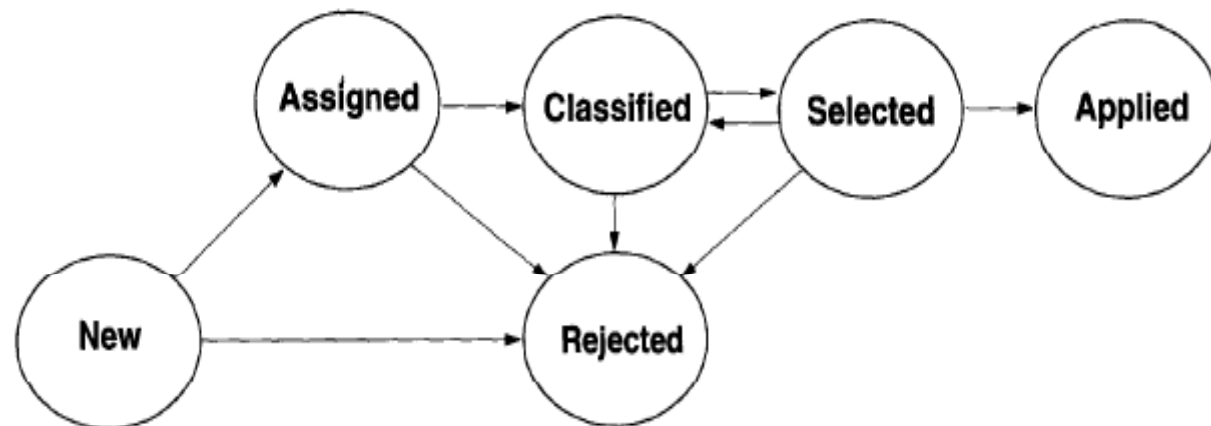
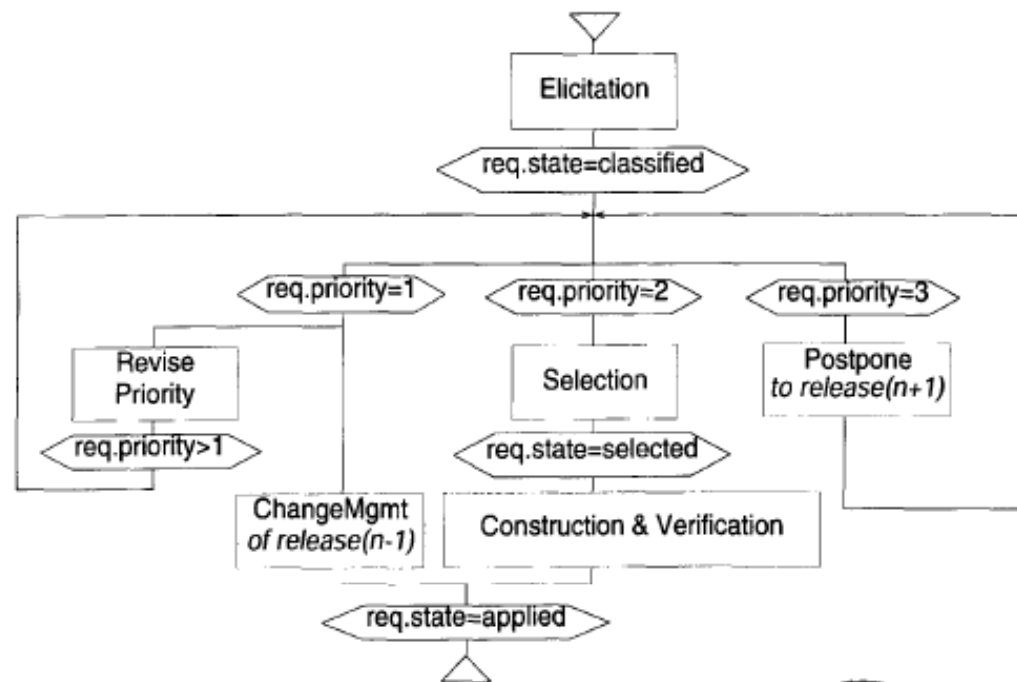
REPEAT phases I

- Elicitation:
 - Collection and classification of requirements
- Selection:
 - Selection of the requirements which are implemented in the current release
 - Specification of the selected requirements in more detail

REPEAT phases II

- Change Management (Construction & Verification):
 - High priority requirements are still accepted
- Conclusion
 - Collect metrics
 - Write final report

Process Overview & Requirement States



Requirements Abstraction Model

Make the way of working with requirements
market-driven and product-centered

Turn the incoming continuous stream of
requirements into a requirements hierarchy

Requirements on the same level are comparable
and become the basis for the product
managers decision making

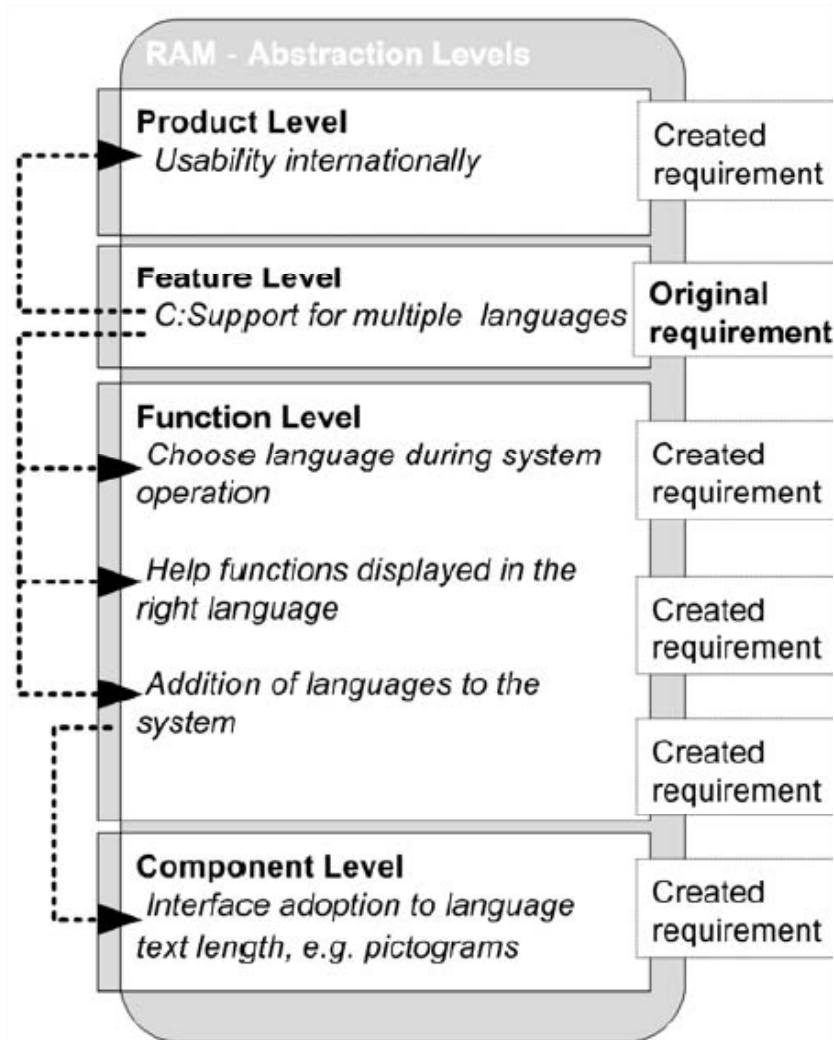
Specify, Place, Abstraction

Specify: Manually add or adapt the attributes of incoming requirements (e.g. title, description, reason/benefit, restrictions/risk) to have similar coverage

Place: Match the requirement to a defined abstraction level to make it comparable to other requirements of the same level

Abstraction: Complete the abstraction hierarchy of the requirement to have a rationale on all levels

Work-Up



Abstraction

↑ Rule 1
Place

Rule 2

Brakedown

- R1: No requirement may exist without having a connection to the product level
- R2: All requirements have to be broken down to function level

Benefits of RAM

- The hierarchy allows to compare requirements on a high level with the goals set by the management and the company strategy
- But are also broken down to a level where a project can be initiated
- Comparability is a prerequisite to effective release planning and prioritization
- Leads to a richer understanding of each requirement