

Softgoals and Quality Requirements

Gruppe 1

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Agenda

- Soft goals – Definition and analysis
- Relation soft goals and quality requirements
- Specifying quality requirements

Definition of Softgoals

- No distinct definition
- Two possible meanings
 - Preferences, Wish [van Lamsweerde, Pohl]
 - Choice between alternatives
 - Not established in a clear-cut sense
 - Kind of Non-Functional Requirement [Chung]
 - Goals need to be clarified, not directly implementable
 - Also operationalizing and claim softgoals

Analysis of (Soft-)goals

How are goals analyzed that cannot be proven to be satisfied?

- Depends on the project (understanding, impact, ...)

Most cases:

- Define a hierarchical structure and break into smaller goals (subgoals, decomposition)
- Revealing of dependency between subgoals
- Building priorities for conflicting subgoals
- Selecting the best alternative to fulfil the goals



Relation Soft Goals and Quality Requirements

- Soft Goals
 - describe preferences among alternative system behaviors
 - cannot be established in a clear cut sense
- Quality Requirements
 - requirements that concern a system's attributes
 - performance requirement or specific quality requirement



Relation Soft Goals and Quality Requirements

- often defined imprecisely
- ambiguity should be avoided
- soft goal can be quality requirement and vice versa

Specifying Quality Requirements (1)

- Decomposition [Chung, 2000]
 - Main quality requirements as softgoals
 - *Decomposition* into sub-softgoals
 - *Operationalization* of sub-softgoals
 - Model elements can be justified with *Claims*
- + Decisions and rationale are traced
- + Correlations between softgoals are identified
- Operationalization may be a design choice !

Specifying Quality Requirements (2)

- Risk-oriented approach [Glinz, 2008]
 - Level of understanding between Developer / Stakeholder
 - choice of representation
 - If risk is high : quantify the requirement
 - choice of verification method
 - + Specification effort is proportional to risk
- Approaches can complement each other