

KNOWLEDGE MANAGEMENT BASED ON DECISIONS

Decision properties (1)

- Motivator
 - Design Problem, concern or issue
- Alternatives
 - Solution candidates that was considered
- Choice
 - Solution alternative that was selected
- Status
 - Decision status ()
- Constrains
 - Restrictions about the motivator-solution
- Drivers
 - Principles that address the decision

Decision properties (2)

- Assumptions
 - something that the decision responsible assumes to be true, even without proof.
- Argument
 - Reasons behind the decision
- Responsible
 - Role that make the decision
- Support
 - Source that support the decision
- Position
 - Point of view to evaluate the solution
- Implication
 - Impact on architectural elements and others decisions

Decision properties (3)

- Keywords
 - Words that allow identifying decision families
- Criteria
 - Aspects that was used to evaluate the solution candidates.
- Related with
 - Decisions that are related
- Design principle
 - Principles that address the decision
- Pattern
 - Pattern that serves as solution
- Tactic
 - Tactic adopted to solve the motivator

SCENARIOS

Previous definition of scenarios

- Conflict detection among decisions
- Detection of wrong knowledge on decisions
- Detection of wrong requirement understanding
- Detection of infeasible feasible requirements
- Detection of reusable software architecture elements
- Detection of conflicts among new and old decisions
- Sharing knowledge related with alternatives existence
- Sharing knowledge about decision validation
- Design verification and evaluation
- Design coordination
- Documentation for several stakeholders
- Evaluation of requirement change impact

Scenario 1

- *Actor /Rol*
 - Leader architect
- *Goal*
 - Conflict detection among decisions
- *Architecture phase*
 - Architectural evaluation
- *Constraints/Environment*
 - Several designers
 - Existence of relations among decisions of different designers
- *Result*
 - Decisions
 - A set of decisions in conflict

Scenario 2

- *Actor*
 - Clients
 - Managers
- *Goal*
 - Detection of infeasible /feasible requirements
 - Traceability
- *Architecture phase*
 - Architectural analysis
- *Constraints/ Environment*
 - Conflicting and complex requirements
- *Result*
 - A set of impacted decision

Scenario 3

- *Actor*
 - Managers
- *Goal*
 - Detection of reusable software architecture elements
- *Architecture phase*
 - Architectural syntesis
- *Constraints/Environment*
 - Software system or business characterized by high probability of change in requirements
- *Result*
 - A set of architectural elements and its decisions

Scenario 4

- *Actor*
 - Designer Architect
- *Goal*
 - Detection of conflicts among new and old decisions
- *Architecture phase*
 - Architectural evaluation
- *Constraints/Environment*
 - Maintenance of a built system
- *Result*
 - A set of decisions in conflict

EXAMPLES

Query browse

- Browse one software architecture decision by refined by/ forces/ is compatible relations
- Browse software architecture over time
- Add/Modify one architectural decision
- Show all properties about one architectural decision
- Get the impact of a decision
- Known the dependence decisions on a specific decision
- Identify unresolved concerns/issues
- Perform review of a specific concern