

Requirements Engineering II

Tools for Requirements
Management

Contents

- Requirements for Requirements Management Tools
- Requirements for Product Line Requirements

Requirements for RE tools (Developers)

- **Information Model**
 - Changeable, uniquely identifiable objects, automatic propagation of changes in hierarchical models
- **Views**
 - Various configurable views, centralized and personalized
 - Modification in views to simplify navigation
- **Multimedia**
 - Possibility to enrich req. to avoid static amendments

Requirements for RE tools (Developers)

- Change Management / Collaboration
 - Collaborative, on/offline work
 - Tool-supported formal change requests
 - Annotations to document rationale behind changes
- Versioning / History
 - Tracking modification to enable browsing of a versioned history, reverting to versions, portray change reports
 - Baselines
 - collection of objects with a certain version
 - serves as starting-point for future development
 - “Major revision”

Requirements for RE tools (Developers)

- **Traceability**
 - Good tool support for traceability fosters linking among requirements
 - As noted in previous presentations, traceability is integral part of RE
- **Interfaces**
 - Importing document-based requirements
 - Exporting requirements to other RE tools or SDK
 - Document / Report generator

Requirements for RE tools (PMs)

- Central deployment
 - Project Managers require a centralized panel to map RE and to process specifications, etc
- Restrictions
 - Users, Roles, Rights
 - Enforce privileges across projects & user roles.
 - Multiple stakeholders, permissions restrict their actions
 - Size
 - The tool must not be the limiting factor (users, requirements, files, hard disk storage)

Requirements for RE tools (PMs)

- Extensibility
 - Adapt to organizational evolution
 - Project-specific or domain-specific requirements may require adaption of the tool

Requirements for RE tools (TAs)

- Database
 - Usage of appropriate database technology (possibly interchangeable)
 - Different DB requirements
 - Transactions, ACID
 - Backup
 - Distributed storage
 - Performance
- Security
 - Unreadable information by those without permission
 - Communication between Server/Client encrypted

Requirements for Product Line Eng.

Tool-support for product lines has a few requirements in addition to basic RE tools

- Basic variation & configuration management
- Multi-project status reporting
- Tool-based communication among users
 - Larger, more distributed teams
- Shared multi-project models
 - Single model, local changes update globally

Requirements for Product Line Eng.

- Possibility to model variations / variability
- Multi-dimensional prioritization of requirements
- Management of dependencies among projects
 - Avoid multiple implementations of the same thing
 - Distributed teams can work on multiple projects at the same time

Questions / Discussion

