

Tools for Requirements Management

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Group 1

Context

- Reasons for tools not to be applied frequently
 - Optional, sporadically used
 - Adopting a new tool is cumbersome
 - Too high expectations
- Challenges to foresee future problems
 - Development not guided by systematic approach incorporating all different views on a system and how they are interconnected
 - Traceability is key
 - Every project differs → tool needs to cover any situation

Requirements for RM Tools – Developers' View

- **Information Model (++)**
 - Requirements must be modelled freely in the tool
- **Views (++)**
 - Different views of the data needed for different work
- **Formatting, Multimedia, External Files (++)**
 - Similar possibilities like e.g. Word required
- **Change Management & Comments (++)**
 - Handle change requests: quick in the beginning, restrictive in late project phases
- **History Documentation (++)**
 - Versioning, Change History, Reports, Analysis, Comments, Undo, ... → Parallel work requires synchronisation
- **Baselining (++)**
 - Temporal snapshot of the state of a requirements database (subset)

Requirements for RM Tools – Developers' View

- **Traceability (++)**
 - Developers too lazy → needs to be very quick and simple
- **Analysis Functions (+)**
 - Linguistic analysis, link structure, project progress,... → saves costs & time
- **Tool Integration (++)**
 - Tight integration into existing tool environments required
- **Import (+)**
 - Of e.g. Word documents → retain content structure!
- **Document Generation (++)**
- **Collaborative Working on the Same Development Task (++)**
- **Checking out for Offline Use (++)**
- **Web Access (+)**

Requirements for RM Tools – Project Administrators' View

- **Especially important for large scale projects:**
 - **Central Installation & Administration of Projects (++)**
 - **Users, Roles, & Rights (++)**
 - **Size Restrictions (++)**
 - Must be able to handle large numbers of requirements, groups, users
 - **Extensibility (++)**
 - **Workflow Management (-)**

Requirements for RM Tools – Tool Administrators' View

- **Database (++)**
 - Must be reliable, available, maintainable, etc.
- **Encryption (++)**

Requirements for Product Line RM Tools

- **Configuration Management**
 - **Support for baselining of the requirements DB**
 - **Support for multi project/multi product status & progress reporting**
 - **Good support for tool-based communication among users**
 - **Definition of arbitrary, named subsets of requirements**

Requirements for Product Line RM Tools

- **Newly added**
 - **Variability Modelling**
 - Shared multi project & multi product information models
 - Expression of variability & variation
 - (Defined) variants must have a first class representation in the tool
 - Need for multidimensional prioritisation of requirements
 - **Relationships to Product and Project Management**
 - Product Management
 - Project Management