

Requirements Management Tool

Group 2

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Agenda

- Introduction
- Requirements for RM management tools
- Using Requirements Management Tools in Software Product Line Engineering

Why is it needed?

- To handle complexity
- Helps to achieve the goals of systematic RM

Requirements for RM management tools

- Requirements from the Developers
- Requirements from the Project Administrators
- Requirements from the Tool Administrators

Requirements from the Developers

- Information Model (++)
- Views (++)
- Formatting, Multimedia and External files (++)
- Change Management and Comments (++)
- Documentation of the History (++)
- Baselining (++)
- Traceability (++)
- Analysis Functions (+)
- Tool Integration (++)
- Import (+)
- Document Generation (++)
- Collaborative Working on the Same Development Task (++)
- Checking out for Offline Use (++)
- Web Access (+)

Requirements from the Project Administrators

- Central Installation and Administration of Projects (++)
- Users, Roles and Rights (++)
- Size Restrictions (++)
- Workflow Management (-)
- Extensibility (++)

Requirements from the Tool Administrators

- Database (++)
- Encryption (++)

RE tools for Product Lines

- Product Line
 - Set of software products sharing a set of common features satisfying the needs of a particular market
 - Developed from a common set of core assets
 - Share most essential functions
 - Adapted to different needs through selecting/modifying features
- Differences in requirements
 - They live longer & evolve more
 - Multiple projects use a common set of requirements concurrently

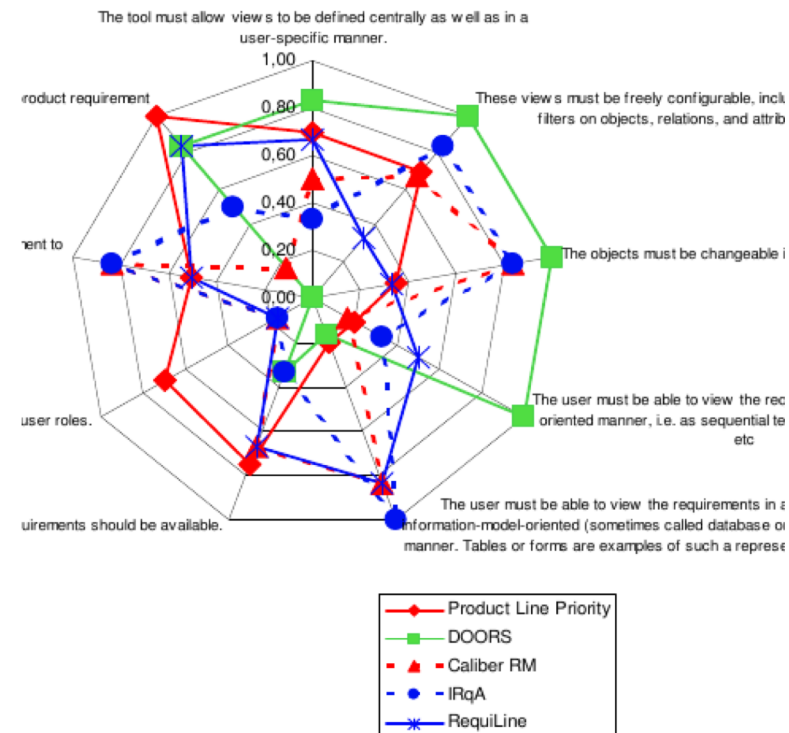
Why product line tools

- Challenges
 - Bigger upfront cost for preparing reusable parts
 - Managing/testing these multiple products
 - Most/all RE tools focus on a single project

Product line tools evaluation criteria

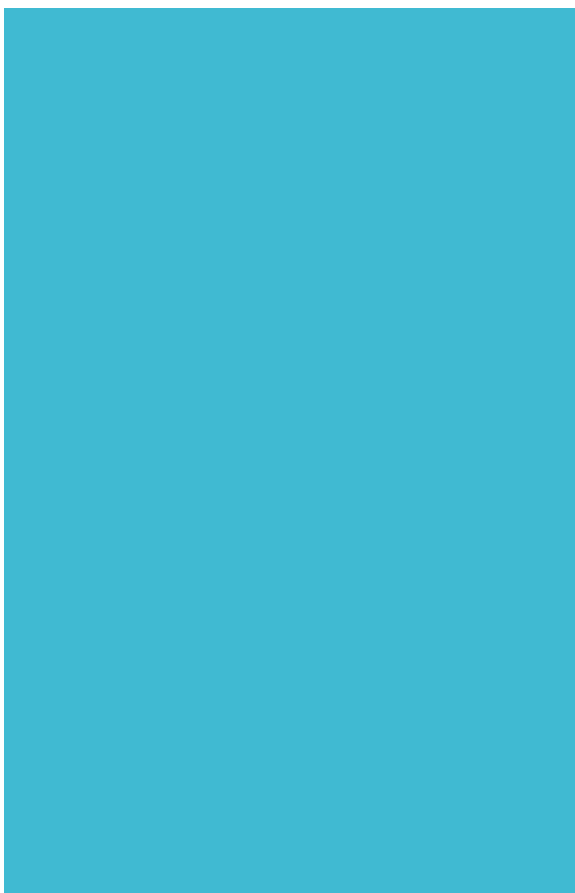
- Information Model
 - Multi-project/product requirement information models
 - Variability mechanisms
 - Set of valid feature combinations
- History documentation
 - Track changes
 - Version objects
- Traceability
 - Define attributes
 - Rules for what objects have what types of links
 - User friendly representation
- Analysis functions
 - Inconsistency detection
 - Provide status of projects or products
- Tools integration
 - Interoperability with other tools

Product line tools conclusions



Product line tools conclusions

- Usable but not out of the box
 - Tools can be used but only with amounts of extra effort
 - Customization
 - Extensions
 - Workarounds
- Organizational processes can be analyzed
 - Then the adequate tool can be selected.



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