

Tools for Requirements Management

Requirements for Requirements Management Tools

Hoffmann, Matthias; Kühn, Nikolaus; Weber, Matthias; Bittner, Margot

2004; 12th IEEE International Requirements Engineering Conference (RE'04)

Summary

- The paper tried to elicit a complete catalog of requirements for requirements management tools
(The author's background is rooted in the automotive, aircraft and defense system industry but the findings should be applicable to all domains)
- They found over 100 requirements and ordered them into 3 Stakeholder categories:
 - Requirements from developers
 - Requirements from projects administrators
 - Requirements from tool administration
- And further broke those 3 categories down into multiple criterias
- They assigned a priority between high and low to each of the requirements

Using Requirements Management Tools in Software Product Line Engineering: The State of the Practice

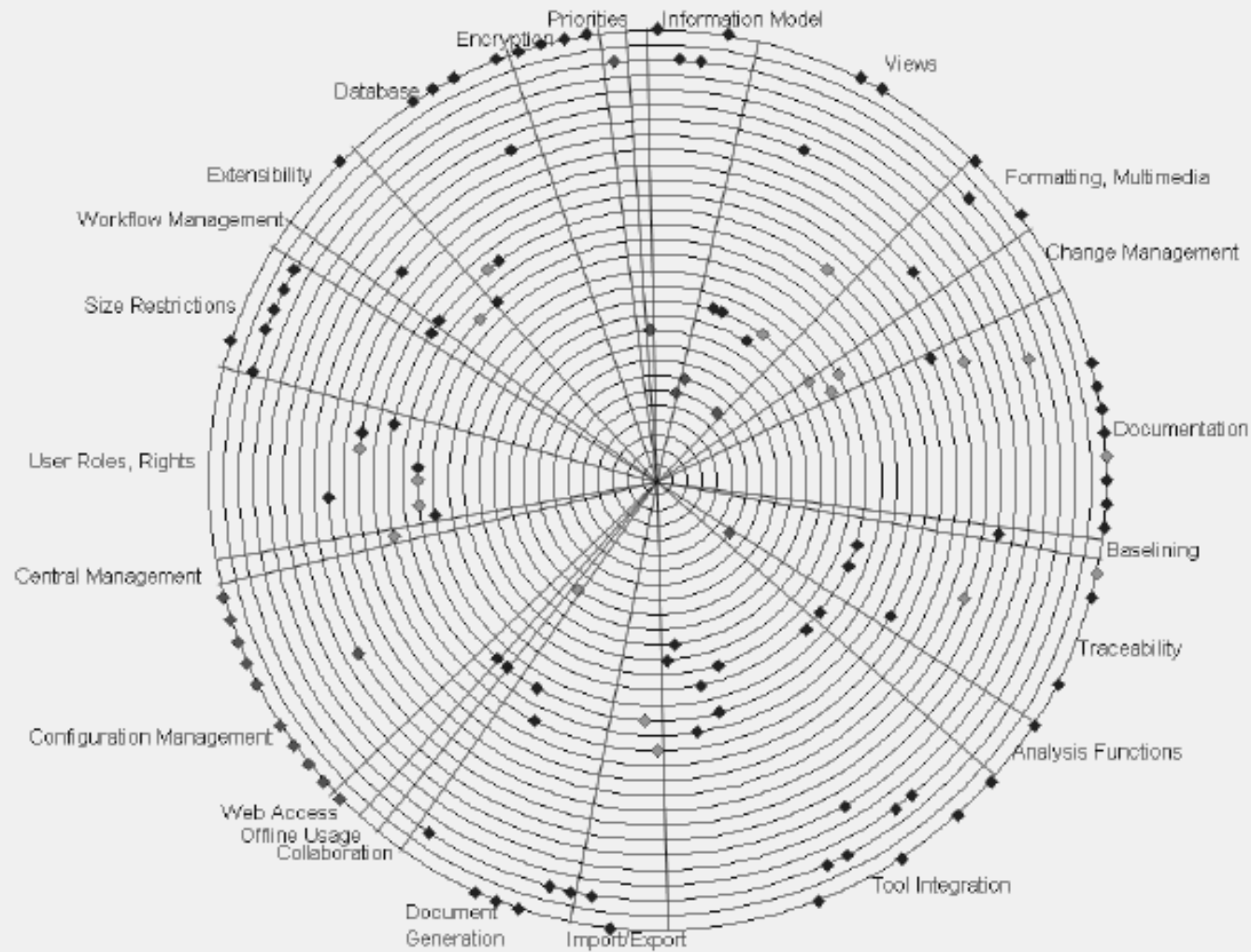
Beuche, Birk, Dreier et al.

2007; 11th International Software Product Line Conference

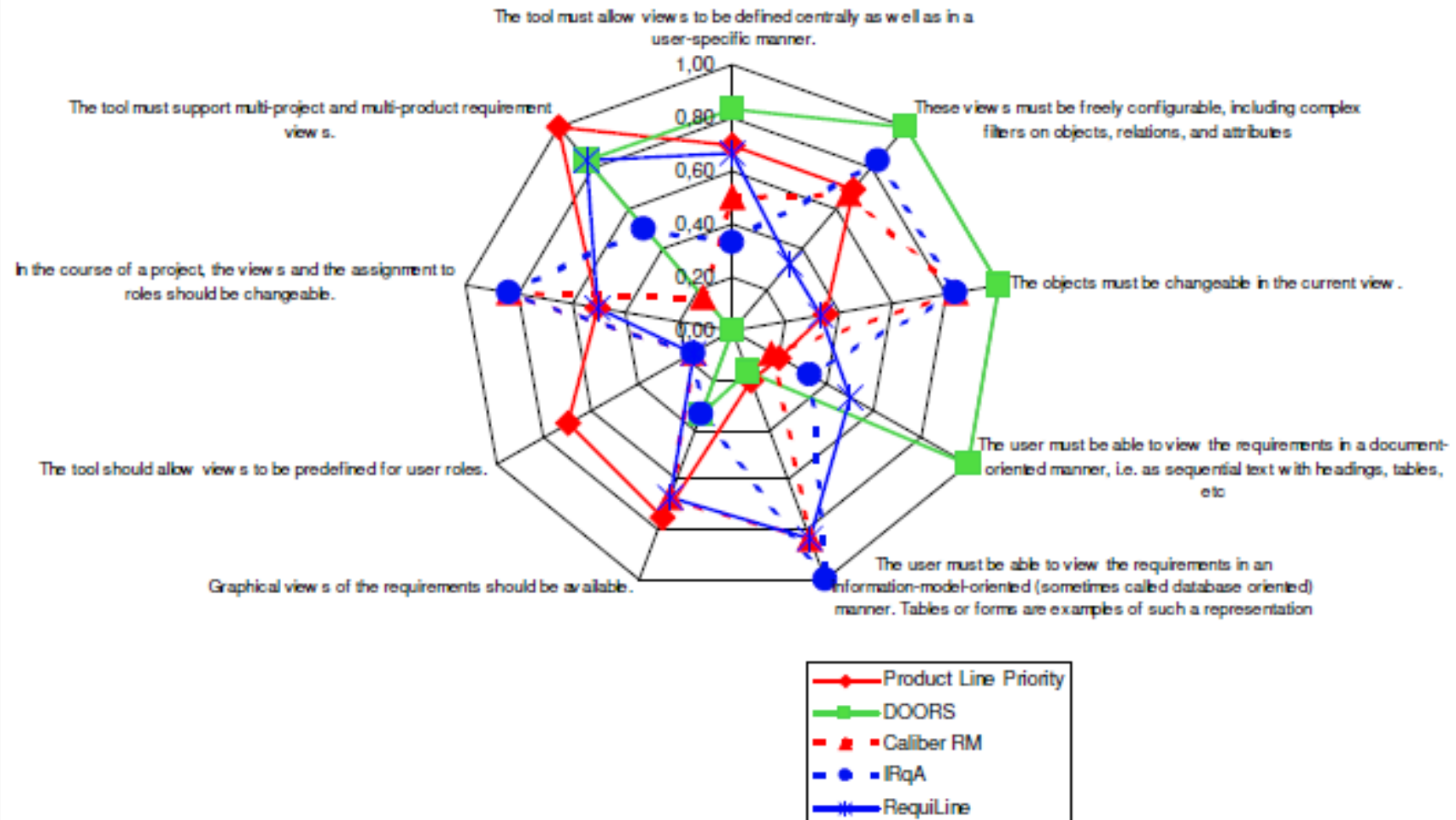
Summary

- This paper's viewpoint comes from different domains dealing with product line development
- It is using the requirements from the previous papers as a baseline
- The goal was to reevaluate the priorities on the requirements and find new requirements that are highly specific to product line requirements engineering
- Commonality and Variability
- Furthermore it evaluates a small number of requirements tools using its previously defined requirements as criterias

Prioritization of requirements in the context of product lines



Evaluation overview of the category 'View'



Similarities / Connections

No clear connection to the 3 mandatory papers

- Carillo → Pros/Cons of actual tools
- Kitchenham → DESMET for software and methodology evaluation
- Bruckhause → Effectiveness increase through RE software tools

Our papers → Needed requirements for Requirements Engineering tools and Product line Requirements Engineering Tools

What are requirements for requirements management tools?

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

What are tool requirements specific for product line requirements management?

Requirements specific to product line engineering

- Basic version and configuration management
- Support for baselining of the requirements database
- Support for multi project / multi product status and progress reporting
- Good support for tool-based communication among users
- Definition of arbitrary, named subsets of requirements

Requirements specific to variability modeling

- Shared multi project and multi product information models
- Expression of variability and variation
- Variants must have first class representation
- Support the variant creation process
- Need for multidimensional prioritization of requirements

Relationships to product and project management

- Support the product management by providing information about dependencies between features
- The coordination of product, project and requirements management is necessary to effectively handle variability in requirements

Contrast between classical requirements management tools (DOORS or Caliber RM) and issue trackers (Jira) for managing requirements

JIRA is customizable for Requirements Management (Atlassian Marketplace)

- R4J (Requirements Management for JIRA)
- RMsis (Requirement Management Extension for JIRA)
- Wikidsmart (Requirements and Test Case Management)

Discussion

- Have you been using Requirements Engineering tools or Issue Trackers in some of your Software Projects?
- Which ones did you prefer?
- Why do you believe that Issue trackers are more common in the workplace than Requirements Engineering tools?
- Do you believe that Issue Trackers will become more important in the future than Requirements Engineering tools?

Thank you for your attention!

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