Capturing and Maintaining Architectural Knowledge using Context Information

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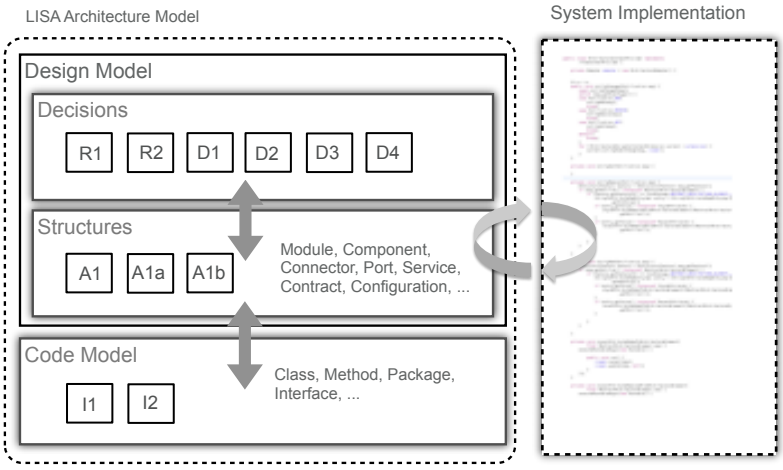
AKM in LISA



Capturing and maintaining AK

- Problems
  - High effort in capturing knowledge [Lee 1997][Capilla 2008]
  - Lack of motivation [Lee 2007]
  - Cost/benefit relationship [Tang 2006]
  - Lack of time and budget [Tang 2006]
  - Difficult to capture and describe design decisions during development process [Lee 2007]
  - Difficult to embed new decisions in the existing decision tree
- Idea
  - Use context information for capturing AK

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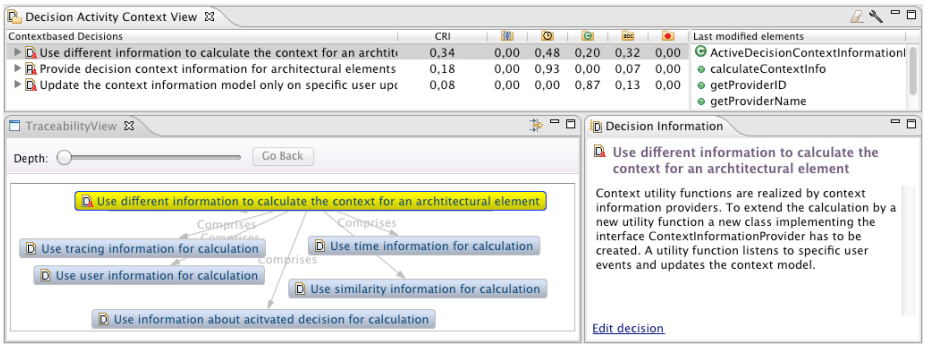
Kinds of context information

- Time
- User
- Tracing
- Textual similarity
- Working context

Example View



Experiences and further work

- Different context information providers are not equally useful
- Depending on application scenario

- Validate with controlled setting in student projects
- Very interested in potential cooperation regarding validation
- Support architecture reviews of SOA-based applications

Thank you for your attention

References

[Lee 1997] J. Lee, Design Rationale Systems: Understanding the Issues, IEEE Intelligent Systems. 12 (1997) 78-85.

[Tang 2006] A. Tang, M.A. Babar, I. Gorton, and J. Han, A survey of architecture design rationale, Journal of Systems and Software. 79 (2006) 1792-1804.

[Lee 2007] L. Lee, and P. Kruchten, Capturing Software Architectural Design Decisions, Electrical and Computer Engineering, 2007 CCECE 2007 Canadian Conference on DOI - 10.1109/CCECE.2007.176. (2007) 686-689

[Capilla 2008] R. Capilla, F. Nava, and C. Carrillo. Effort Estimation in Capturing Architectural Knowledge, Proceedings of the 2008 23rd IEEE/ACM International Conference on Automated Software Engineering (ASE '08). (2008) 208-217.