

TopDocs: Using Software Architecture Knowledge Base for Generating Topical Documents

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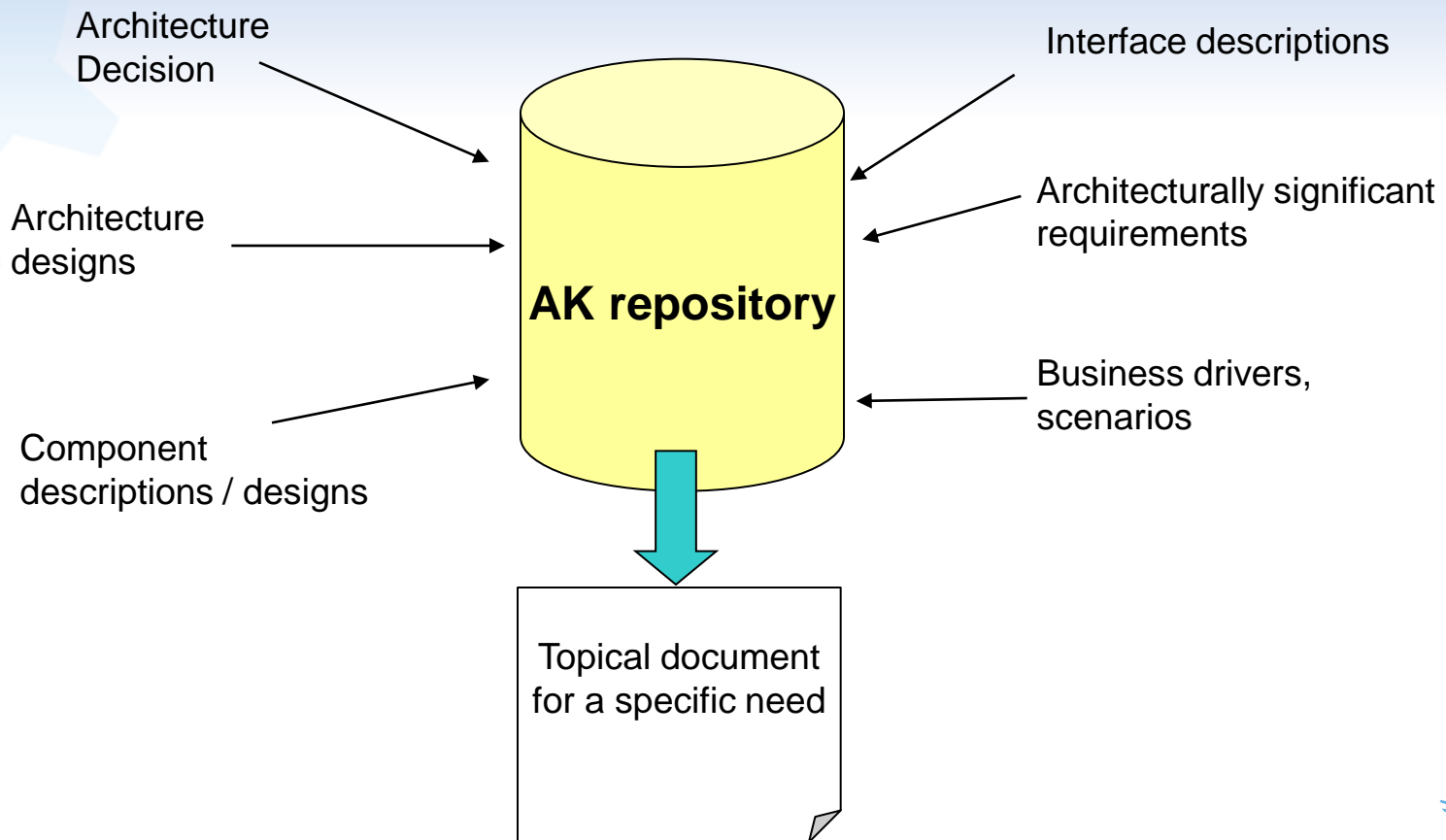


Challenges

- Architectural information is fragmented
 - Meeting memos, e-mails, presentations, etc
- Architecture documentation gets easily outdated
- Architects may not have time to document
- Agile methods do not promote documentation
- Many producers and consumers of AK
 - No time for face-to-face communication



TopDocs approach



Benefits

- No fragmentation
 - All information in one place
- Automatic architecture document generation for a specific need
- Documents and information are always up-to-date
- Documents can have links to other material
- Version management can be automated by the repository

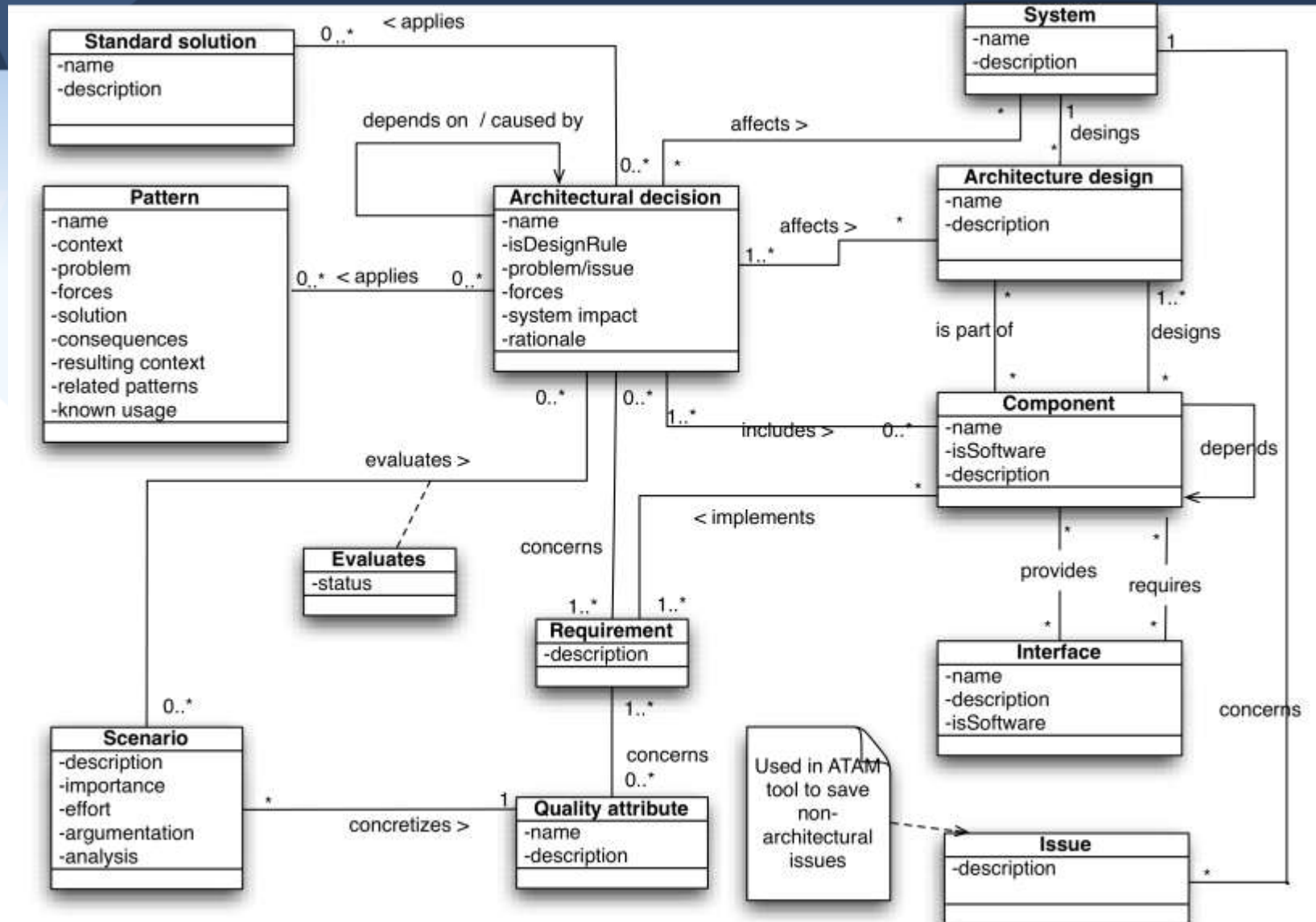


TopDocs

- Architecture knowledge repository implemented on top of Polarion platform
- Tool support for different activities, e.g. ATAM
 - Tools populate the DB “behind the scenes”
- Can generate **topical documents** from the input knowledge to answer certain stakeholder need
- Supports extentions



TopDocs Metamodel

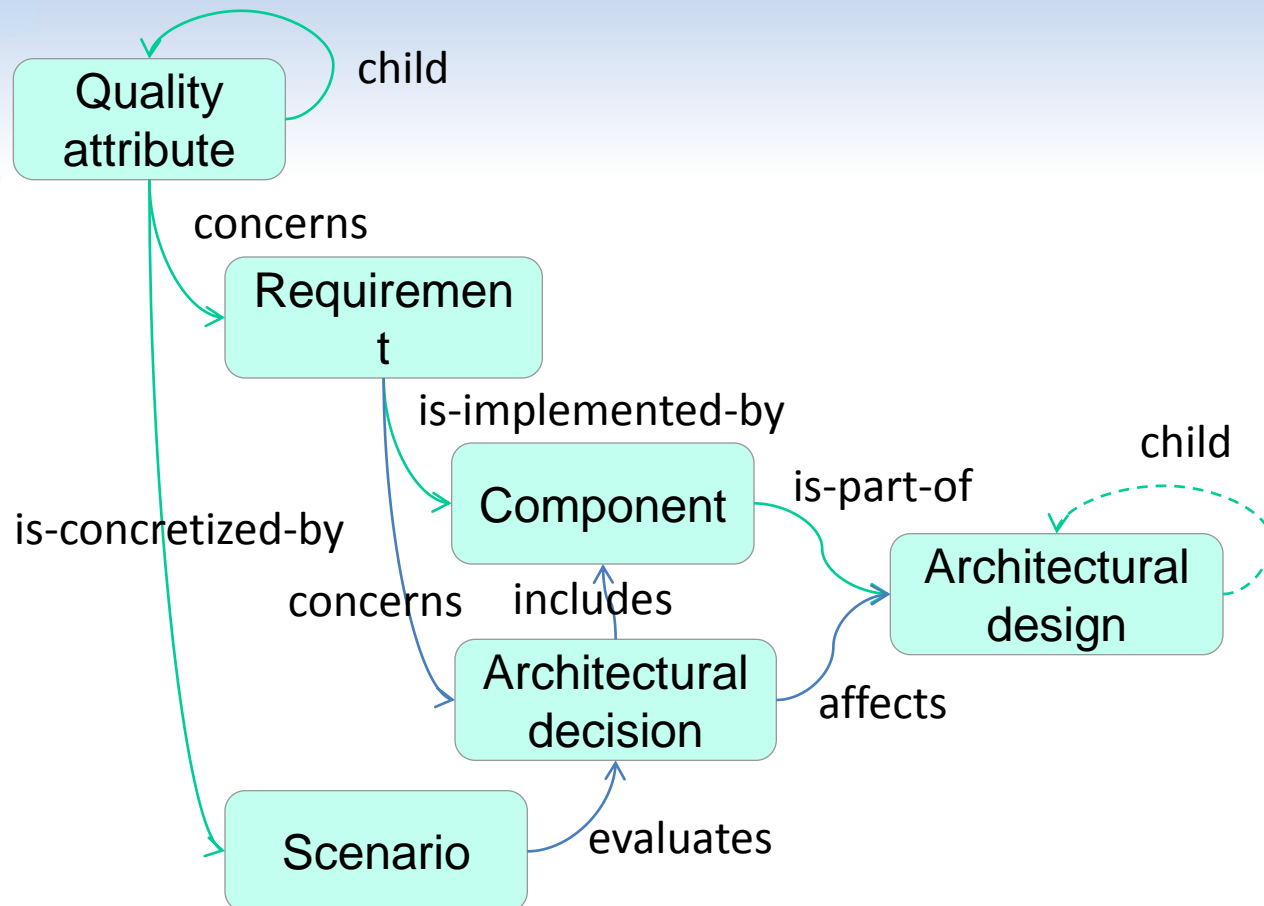


Topical documents

- **Generated in three steps**
 - 1) Identifying which key element(s) in the metamodel satisfy the stakeholder concern
 - 2) Identify which information contents inferable from the selected key should be included in a topical document
 - 3) Present the information in a convenient form



Example – quality-centered topical document



Topical documents

- Concise
 - User can select the desired level of details
- Targeted for a specific need or for a specific stakeholder
- Looks like traditional document – not like generated one
 - Still some room for improvement here
- Information can also be searched from the repository
- Document versions managed by the repository



Ongoing / Future work

- Getting more experiences of the proposed approach from the industry
- Developing new views (~=topical documents), input tools, etc
- Aligning AK repository with agile processes



Questions ?

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