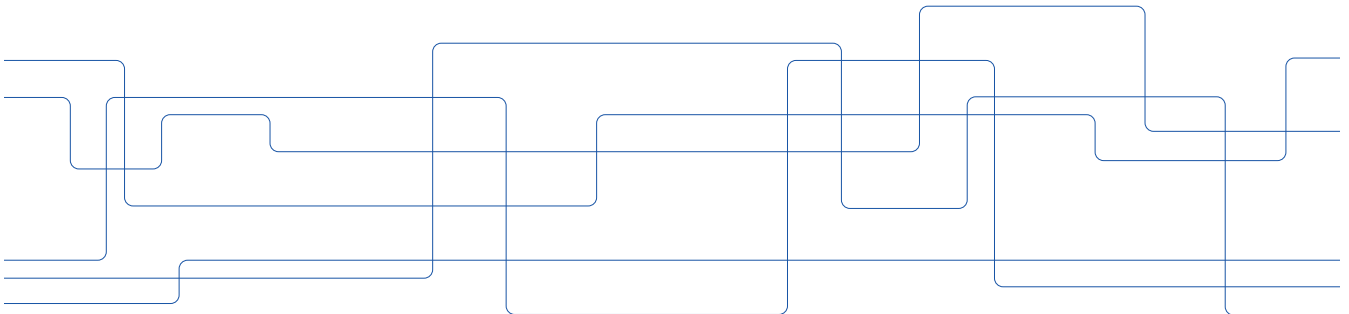




Towards a Catalog of EA Smells

Johannes Salentin and Simon Hacks

15th International Conference on Wirtschaftsinformatik





EA Debts

Enterprise Architecture Debt is a metric that depicts the deviation of the currently present state of an enterprise from a hypothetical ideal state.



Problem

How to measure EA Debts?



Code Smells

- Fowler and Beck:

“certain structures in the code that suggest (sometimes they scream for) the possibility of refactoring”

- Common bad habits
- Impair quality of software (architecture)
- Compromise
 - Precise metrics
 - Subjective evaluation



Transforming of Code Smells

- Collection of 56 Code Smells
 - Existing SLRs
- Transformed to 45 EA Smells
 - Directly applicable
 - Adaptions required
 - Combination of different smells
 - Inspired smells



Catalog

Enterprise Architecture Smells Sorting 45/45

i This website serves as a knowledge base for Enterprise Architecture Smells.

Category

- technology
- business
- application

Tags

- All
- The Bloaters
- The Change Preventers
- The Couplers
- The Dispensables

Ambiguous Viewpoint

Analysis and design models are often presented without clarifying the viewpoint represented by the model. Mixed viewpoints don't allow the fundamental separation of concerns, confusing blueprints of abstractions and implementation details.

[🔗](#) [📄](#) [”](#) [↩](#)

Architecture by Implication

This antipattern is characterized by the lack of architecture specifications for a system under development. Usually, the architects responsible for the project have experience with previous system construction, and therefore assume that documentation is unnecessary.

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Big Bang

A strategy often preferred by large vendors where an entire Enterprise Architecture Model is built "at once".

[🔗](#) [📄](#) [”](#) [↩](#)

Business Process Forever

A high number of operations is required

Chatty Service

Combinatorial Explosion



Catalog

Ambiguous Viewpoint



Also known as

Description

Analysis and design models are often presented without clarifying the viewpoint represented by the model. Mixed viewpoints don't allow the fundamental separation of concerns, confusing blueprints of abstractions and implementation details.

Context

Derived from: "Ambiguous Viewpoint"
Models can be less useful if they don't focus on the required perspective(s). A perspective applies filters to the information. It can also be the case that multiple viewpoints are maintained, although no stakeholder is responsible for this unused viewpoint. Then viewpoints are created just for the sake of having viewpoints.

Consequences

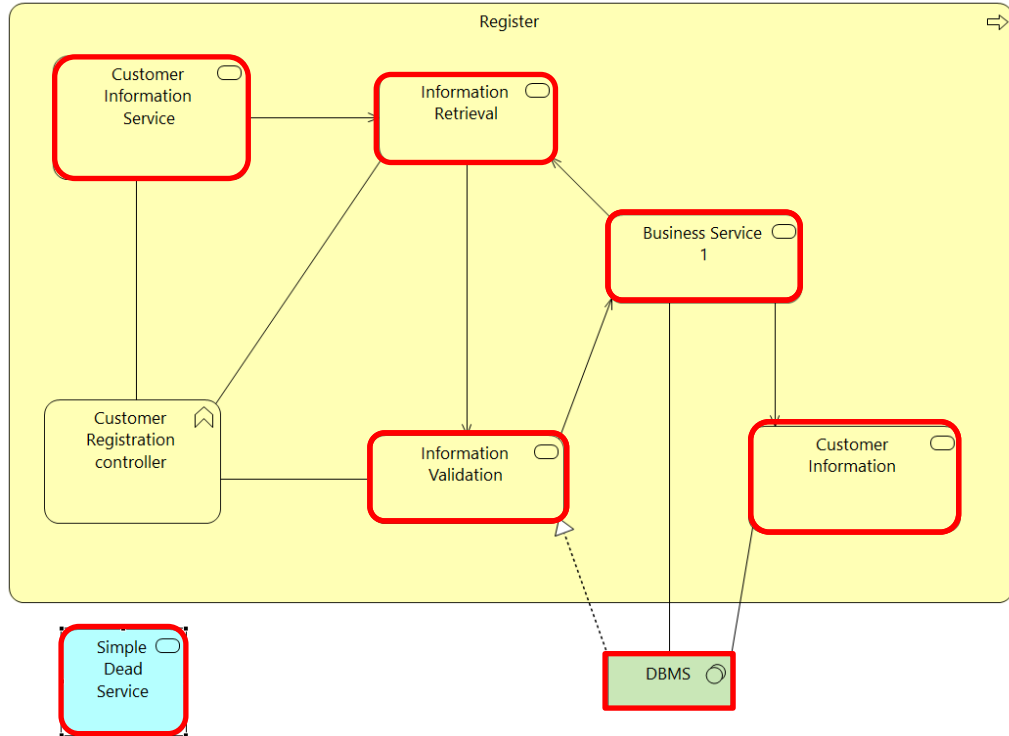
Different viewpoints emphasize different aspects, which can also cause disregard of some crucial factors of other viewpoints.

Cause

It is hard to specify every important aspect from all possible viewpoints. Thus, it is important to state the taken viewpoint which should be elaborated extensively.

Exemplary EA Smells

Special Dependency
 Strict Layers Violation



Limitation and Future Work

Limitation

- Based on existing Code Smells
- EA Model related
- Evaluation missing
- Just a subset implemented in prototype



Future Work

- Consider other types of smells
- Conduct explorative studies to identify new smells
- Interrelation of smells
- Implementation/evaluation in practice



Conclusion



Problem

How to measure EA Debts?

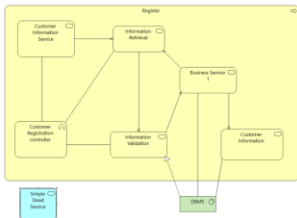


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Exemplary EA Smells



Catalog



Limitation and Future Work

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