Trust Patterns in Modern Web-API based Service Architectures – more than technical security aspects

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Research Team

Research Topics

- Trustworthiness Software Development & Web-Services
- Trustworthy KI Web-Services
- Privacy in Web-Services
- Automated conflict resolution approaches für Web-Services
- https://blog.hwr-berlin.de/schmietendorf/forschungsthemen/
Agenda

- Introduction
- Related Work
- Concept
- Future Work
Introduction
Introduction

- rapid digitization of services is enabled by the use of WebAPIs
- must be trustworthy in order to be successful
- Trustworthiness is not only characterized by security measures
  - Vendor and user-related aspects must also be considered
  - A broader view is needed
- The trust of users is the aim
Related Work
McKnight brought together the various aspects and their dependencies on trust in one design [1]

distinguishes in trust in the institution through psychology and sociology, which influences the personal trust
Related Work

Trust Patterns

- Trust Patterns TH-Koeln [2]
- Warn-When-Unsafe
Related Work
Trust Patterns

- Trust Patterns TH-Koeln [2]
- Warn-When-Unsafe
- https://das.h-brs.de/usecured/patterns/warn-when-unsafe
Related Work
Evaluation

- Used Pattern Lifecycle for evaluation

[3, p. 4]
Related Work

Trustworthiness Attributes

- Trustworthiness attributes of web-based software identified by literature review [4] and survey [5]
Concept
• Holistic, multi-dimensional view of the trustworthiness of WebAPIs
  • Product view
  • Process view
  • Resource view
• Results can be Trust Patterns for each view
  • provide a good way to address non-functional and functional requirements
Trust Patterns

- Product
  - Security
    - Confidentiality
      - Non-Repudiation
    - Data Integrity
    - Data Validity
  - Data Quality
- Process
  - Compliance
    - Transparency
  - Cost
- Resource
  - Correctness
Future Work
Future Work
EUMOVE

Most important

Sociological System

A_{1;S_3}

A_{2;S_3}

A_{1;S_2}

A_{2;S_2}

Least important

Technical System

A_{1;S_1}

[6] p.4
Future Work
EUMOVE Project

• A multidomain Research team at HWR Berlin
• Multidimensionale Analyse of Tw
  • STEEPLE Analyse of Trustworthiness for WebAPIs
  • to find weights for several Attribute in several branch
• A set of trust patterns for WebAPIs is desirable as a result
Thank you.

We will gladly answer your questions by email:
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References: