Investigating software security practices

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About us

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Our research goal

Create

- Representations
- Analysis techniques
- Tools

for managing

- Security and privacy requirements
- Security and privacy design solutions
Imagine…

Extract model

Analyze

Warning: Data encrypted in transit is stored unprotected in: …

Warning: Interceptor needs key to read encrypted requests

Fix: add encryption, authentication

Warning: Client-side session data used but not verified for integrity.

Success. The following components are crucial for ensuring the confidentiality of credit card data: …

Note: According to NIST recommendations, your selected key size provides protection until 2030.

Generate security documentation

Generate security implementation
We’re getting there

- Research approaches exist that offer (parts of) this
  - Secure Tropos / Si*
  - UMLsec
  - SecureUML
  - Secure xADL
  - Secure Object Flows
  - …

- But (as far as we can see) they do not seem to be widely used *in practice*
  - Do you use them?
We want to

- Discover *why* existing approaches are *not* used in practice
  - Which features are most interesting?
  - What is missing?

- Develop techniques that can be used in practice
  - Solve actual problems
  - Take real context into account
Step 1: Discover

What?
Collect data on current state of practice

How?
Ask questions to practitioners

Who?
People with *insight* into how their organization handles security and privacy in *requirements and design*
It has been done before

For example, there are studies on

- Quality requirements
- Architectural Description Languages (ADLs)
- Model-Driven Engineering (MDE)
- UML
- Formal methods
- …

in an industrial setting, based on interviews and questionnaires.
Just one problem

We need access to the right people from industry that want to help us! You?
What’s in it for you?

- **Influence on research track**
  - Make our research matter for your organization

- **Influence on education track**
  - We deliver your next junior employees
  - We can teach them better if we know what they’ll do later

- You will be kept informed of the results
  - Allows you to compare to the rest of the industry

- We cannot do this without you
  - So we try to limit the effort required from you
Yes, but...

- “We just do what everybody else does”
- “We don’t have explicit security requirements”
- “We don’t do anything with security at the design level”
- ...

We want a representative overview of the state of practice, so your input matters!
Just to be clear

We do not

- perform a complete BSIMM/OpenSAMM-style assessment
- rank or compare organizations
- provide advice to your organization
- tell your competitor what you do
  - Nor do we tell you what your competitor does ;-)
- sell you anything
Also, we promise that

- your name
- your organization’s name
- the raw response data

remain confidential
Interested?

- Think about who can help us
  - It may be you
  - It may be someone you know

- Practical
  - in-person interview or online questionnaire

- Time investment
  - We aim at less than 1 hour

Interested? Please contact us!

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Questions?

Thank you!