

Towards Developing Usability Heuristics for Evaluation of IT Security Management (ITSM) Tools

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Motivation

- IT Security Management (ITSM) tools play an important role in ITSM activities.
- Empirical usability evaluation of ITSM tools is hard (recruitment of expert subjects for lab/field study, time consuming process).

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Heuristic evaluation

- Heuristic evaluation is the most widely used usability inspection method.
- An evaluator looks at the interface and identifies problems based on a set of heuristics.
- Typically, *Nielsen's usability heuristics* are used for evaluation.
- Nielsen's heuristics are based on the theory of action which does not account for socially distributed and collaborative activities.

Developing heuristics for ITSM tools

- Two known methods for developing heuristics for a specific software family:
 - Extending Nielsen's heuristics.
 - Using other theories as the basis for heuristics.
- We developed heuristics based on *activity theory* which accounts for the socially distributed activity of ITSM.

Usability heuristics for ITSM Tools

- **Visibility of activity status**
"For ITSM tools, provide users with information about the status of the activity system including artifacts, progress toward activity objective, cues about individual actions, other involved stakeholders, rules and division of labour."
- **Flexible mediation**
"For ITSM tools, allow the external representation of the internal state to be changed based on the target audience and their task. Allow tools to provide input/output interfaces for flexible combination with other tools."
- **Allow sharing and discovery of knowledge**
"ITSM tools should enable knowledge sharing with the community. Tools should facilitate discovery of the required knowledge for their subjects."
- **Allow verification of knowledge**
"For critical ITSM actions, tools should help SPs verify the result of an action and revise their knowledge about the action by means of externalization and verification."
- **Enforce rules and division of labour**
"ITSM tools should be able to promote organizational rules, norms, and culture. Tools should facilitate the division of labour between stakeholders involve in the activity."
- **Provide history of artifacts**
"For ITSM tools, support the capture of the sequence of stakeholders' actions on artifacts and provide a means for search and analysis of this historical information."

