User Centered Design of ITSM Tools
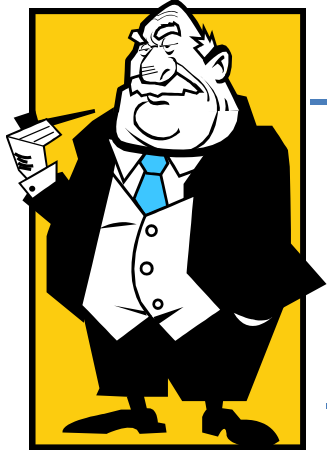
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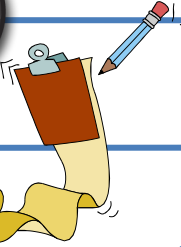University of British Columbia

Introduction

- IT Security Management (ITSM) is important for organizations
- ITSM context has three characteristics:
  - Complex
  - Collaborative
  - Diverse stakeholders
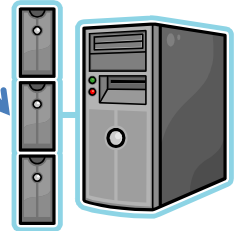
An Example From Our Case Study
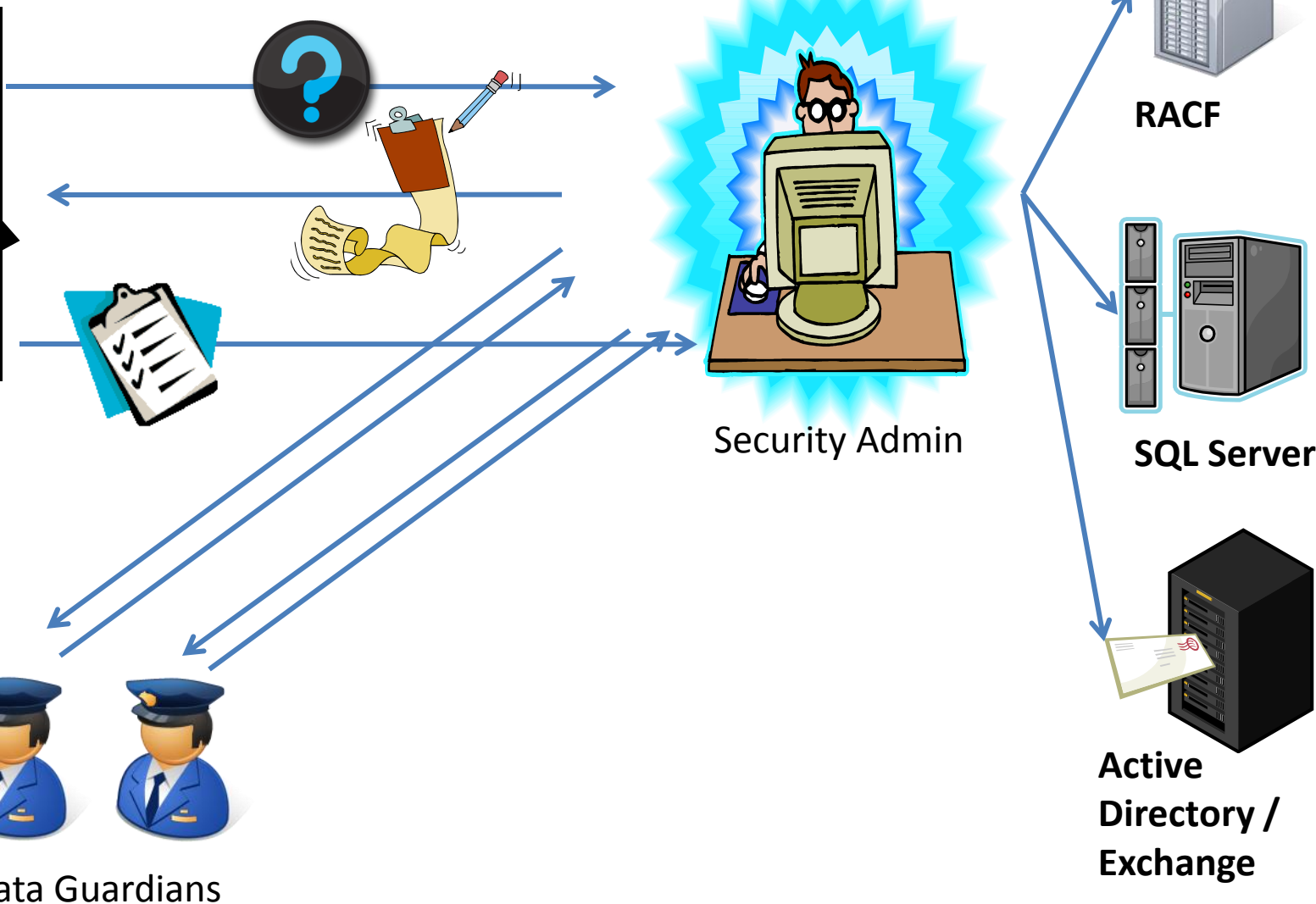

Manager

Security Admin

Data Guardians

RACF

SQL Server

Active Directory / Exchange

Usability Evaluation of ITSM Tools

- There are different techniques for usability evaluation
  - Lab usability study
    - Validity, participant recruitment
  - Field study
    - Time consuming, participant recruitment
  - Discount usability evaluation methods
    - Do not address specifics of IT security

Problem Definition

- Discount usability evaluation methods do not address specifics of IT security
  - Collaboration
  - Complexity
  - Stakeholder Diversity

- We focus on heuristic evaluation as a widely used discount usability evaluation technique

HEURISTIC EVALUATION OF ITSM TOOLS

Interpretation of Nielsen Heuristics for ITSM Tools

Nielsen's original heuristics

Related heuristics

Refined heuristics

Me... collabora...

...ing

"Error Prevention: *Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.*"

Error Prevention

- Nielsen's original heuristic: "*Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.*"

- In ITSM:
    - ITSM tools should facilitate the creation and use of cues and norms.
    - ITSM tools can prevent errors by involving other stakeholders.
    - ITSM tools can reduce errors by exposing the system at different levels of abstraction.

Future Work

- Testing heuristics
  - Recruit evaluators, perform a comparative study
  - Challenges: participant recruitment, complexity of the system
- Field study of IdM tools and practices
  - Challenges: participant recruitment, long process, broad area

• P. Jaferian, D. Botta, F. Raja, K. Hawkey, and K. Beznosov. **Guidelines for Designing IT Security Management Tools**. In CHIMIT '08: Proceedings of the 2008 symposium on Computer Human Interaction for the Management of Information Technology, pages 7:1-7:10. ACM, 2008.

• P. Jaferian, D. Botta, K. Hawkey, and K. Beznosov. **A case study of IdM adoption in an insurance organization**. Under review.

• P. Jaferian, D. Botta, K. Hawkey, and K. Beznosov. **Interpreting Nielsen's usability heuristics in consideration of the complex and cooperative nature of it security**. Under review.

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