Probing the Front Lines: Pollworker Perceptions of Security & Privacy

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Outline

- Motivation
- Methodology
- Findings
- Discussion/Recommendations

Motivation

- Pollworkers literally are the "front line"
- Much scrutiny of machines, processes
- Relatively little study of pollworkers
  - Training is important!
    - But not everyone is trained. :(
  - Voter confidence / pollworker perceptions
  - Integrity of voting systems, processes are at the mercy of pollworker competence

Methodology

- Goal: explore voters' mental models of polling place security and privacy.
- Two-part *qualitative* methodology:
  - Observe issues in a live election
  - Interview pollworkers about those issues.

A Note on Qualitative Methods

- Our reviewers need a primer on qualitative methods.
- Qualitative methods seek to discover phenomena, not measure them.
  - Rarely test hypotheses
  - Rarely result in generalizable findings
  - But help us know where to look further!

Methodology: Observations

- Sought to observe a wide range of polling places in a single county
- Observed 4 polling places: 2 high SES and 2 low SES
- Spend about 2 hours at each
- Observers trained to notice security and privacy issues

Methodology: Interviews

- Interviewed 20 pollworkers from observed, plus 4 additional sites
- First, "primed" interviewees
- Second, lead them through 10 vignettes
- Third, general questions about security and privacy

Findings: Observations

- Leadership Models
  - Site 1: Micromanaged hierarchy
  - Site 2: Anarchy!!!
  - Site 3: Delegated hierarchy
  - Site 4: Cooperative, network

Findings: Observations

- Security and Privacy issues
    - Open auxiliary scanner door
    - Misplaced scanner head
    - Managing auxiliary bin overflow
    - Photography in the polling place
    - Smartphone usage in the polling place
    - Pollworkers looking at marked ballot faces

Close-up: Auxiliary Bin

Close-up: Tamper Seal

Findings: Interviews

- **Security Perceptions**
  - Pollworkers not familiar with security issues
    - Except for two-person rule
  - Don't understand why we seal
  - Don't view the scanner as vulnerable asset
  - First order "security" is physical safety
  - Chain-of-command is not important
  - Created their own modifications

Findings: Interviews

- **Privacy Perceptions**
  - Much more intuitive grasp of privacy
  - Desire to help can trump privacy
  - Clearly had problems with photography
  - Mixed perceptions of smartphones

Discussion

- Security vs. Privacy:
  - Security: distributed value, rarely triggered
  - Privacy: is more individual, often encounter
  - Smartphones are reference tools
    - Worrisome in terms of undue influence
    - Is influence is gone from collective memory?
  - Ad-hoc reactions could be useful
    - Not clear how to train/develop such skills

Discussion

- Leadership models
  - With just four sites, we saw four models!
    - Correlated with S&P issues
  - Leadership model seems to drive how Chief PI seeks to instill a sense of trust in actors.
  - Hierarchy controls and centralizes risk
    - Micromanagement can undermine team trust
  - Cooperative seems promising
    - But lacks clear checks and balances

Recommendations

- Training designed around risks, not just managing bureaucracy
  - Team needs to be trained to recognize risks to privacy and security
- Leadership models may be key
  - Only need to train one leader very well to manage delegation