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