

Cooperative Privacy and Security: Learning from People with Visual Impairments and Their Allies

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SALTLab
Social Computing Systems

Researcher Self Disclosure

1. Diverse team: variety of backgrounds/identities
2. Do not self-identify with visual impairments
3. Learned from our participants
4. Limited understandings of visual impairments

Take-aways

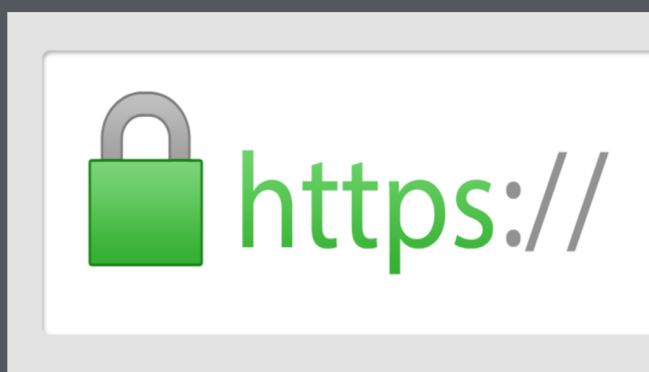
1 Multifaceted disability identities need to be considered

2 Interactions with allies important for privacy/security

3 Designs for cooperative privacy & security

Background and Motivation

1. Existing privacy solutions lack support for people with visual impairments
2. Long-term goal: design inclusive privacy solutions
3. Focus on people with visual impairments & allies



www.inclusiveprivacy.org

Research Questions

RQ1

What are the everyday privacy/security challenges and practices of people with visual impairments?

RQ2

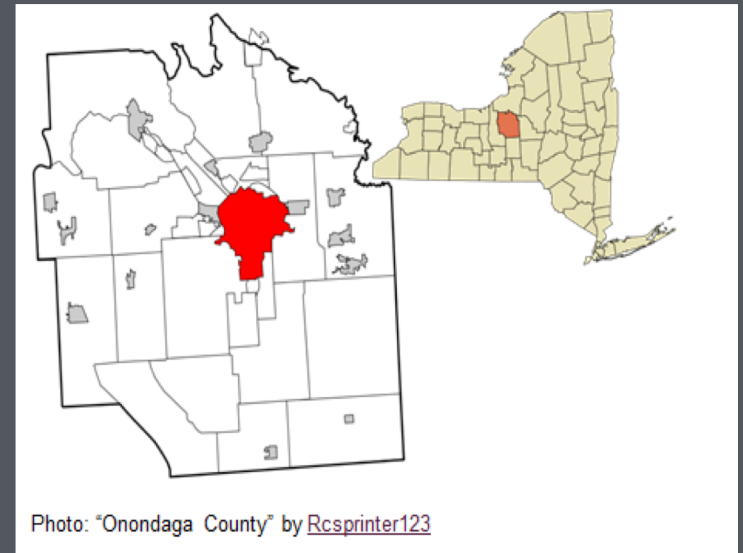
How do people with visual impairments interact with their allies?
What are the privacy or security implications of such interactions?

Methodology

- Ethnographic study (shadowing/observation)
- Semi-structured interviews with scenarios/tasks
- Total 13 sessions (observed participants for 2 days)
- Studied interactions with allies

Participant Recruitment

- 8 participants (4 male, 4 female)
- 3 blind, 2 low vision, 3 allies
- Age range 30-80+
- P1 to P5 (blind or low-vision)
- A1-P1, A2-P2, A3-P5 (allies)



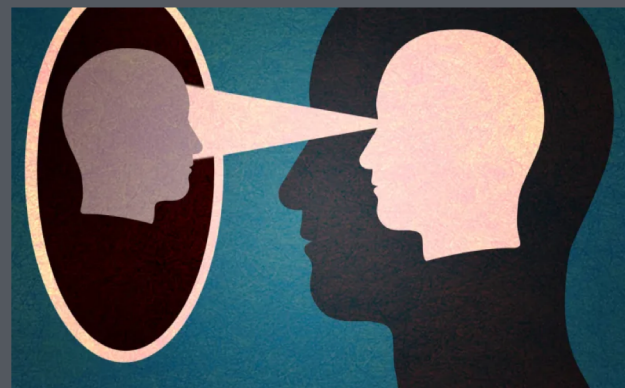
Data Analysis

1. Memoing, affinity diagrams, coding
2. Meeting with research team to discuss codes
3. Inspired in part by critical disability literature

Results: self-perceptions of disabilities

Selective disclosure of visual impairment




“They are not astute enough to know that I can’t read it. And what I am gonna have to do is to contact the people I really want to hear from [...]” (P3)



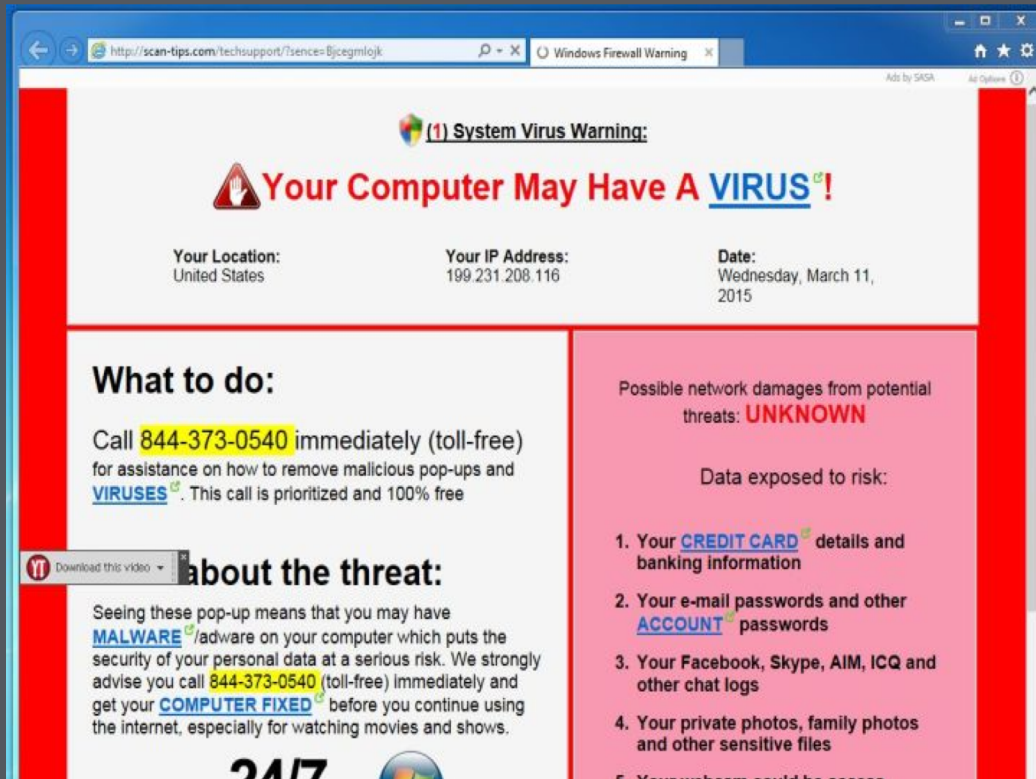
Results: self-definitions of privacy

1. Ownership and control of personal information
2. Privacy as right of property to personal information
3. Degree of agency to disclose personal information

Results: everyday privacy/security practices

| | | |
|--|------------------------|--|
|  | Work settings | Private information stolen due to enlarged screens |
|  | Public settings | Accidental leaking of personal information in public |
|  | Home settings | Technology based deceptive practices |

Home settings



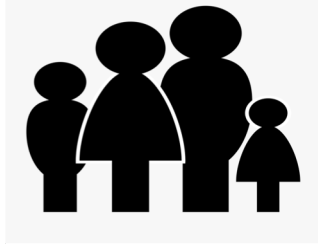
P1 unaware of
fake warning

He asked “*what’s
wrong?*”

Screen reader
unable to read

Results: social relationships and interactions

Family Relationships



Romantic/ Dating Relationships



Professional Relationships



Strangers



Friends



Allies' Perspective



Family relationships

“If I’m filling out a camp scholarship form and my daughter is helping me and it starts asking for salary [...], I don’t. It’s mostly because I’m in a divorce situation and I don’t want her to accidentally tell her father.” (P4)

Allies' Perspectives

“If he [P1] asks for help, then I help but otherwise laundry is his private belongings and he knows how to handle that himself.”

Implications for Research and Design: Cooperative Privacy and Security

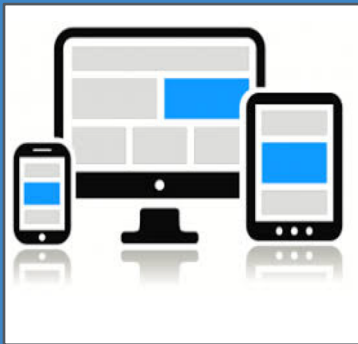
Existing Tools:

1. Designed for individuals
2. Independence focused
3. Lacks accessibility

Proposed Solution:

1. Cooperative privacy assistance tools
2. Interdependence in tech design
3. Accessibility in cooperative privacy designs

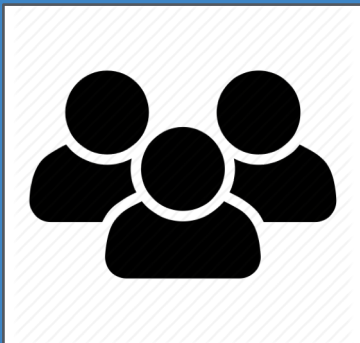
Implications for Research and Design: Cooperative Privacy and Security (cont'd)



Example of cooperative privacy design:

1. Mobile app/ web-based service
2. Users invite allies
3. Real-time chat requests by user
4. User has full control of personal info

Implications for Research and Design: Multi-faceted and marginalized identity



- 1.Design for marginalized groups
- 2.Participatory action/design
research
- 3.Inclusive, socio-technical approach

Acknowledgement

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- National Institute on Disability, Independent Living, and Rehabilitation Research (Grant 90DP0061-01-00)
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Questions?

