SaTC: CORE: Small: Managing Privacy and Environment for Used and End-of-Life Electronic Devices

Challenge:

- Electronic waste poses major data security risk
- Security concerns reduce reuse of End-of-1st-Life Electronics
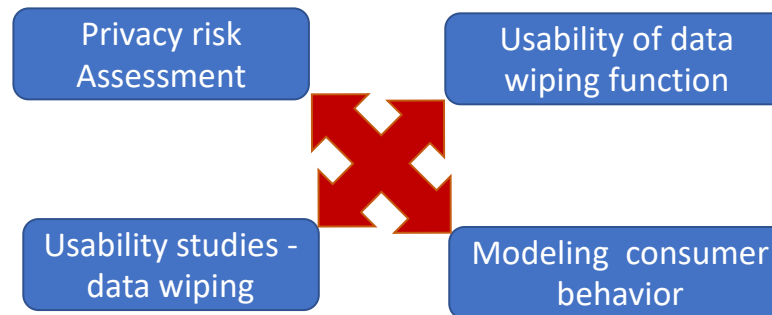
Solution:

Assess for a set of devices:

- Privacy
- Penetration testing
- Usability of wiping protocol
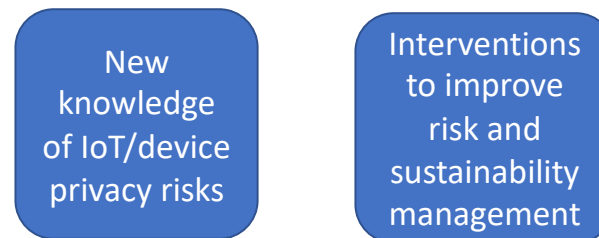- Machine Learning model of consumer security and end of life behavior.

Issues to Address:

Electronic waste → Data privacy risks → Limited reuse of End of 1st life devices

Project activities:

Privacy risk Assessment

Usability of data wiping function

Usability studies - data wiping

Modeling consumer behavior

Outcomes:

New knowledge of IoT/device privacy risks

Interventions to improve risk and sustainability management

Scientific Impact:

- New knowledge of security risks in important of unexplored area
- First behavioral model will inform how to manage security and increase reuse

Broader Impact and Broader Participation:

- Implications for manufacturers, software developers and consumers
- Involved directly in standards development processes
- Student engagement in penetration testing, usability studies and summer camps.