

Multidisciplinary Design Approaches to IoT Privacy and Security

Optionally
or project
this space
box!

One Key Challenge:

Smart home products with cameras and microphones affect the privacy of nearby users, such as roommates, neighbors, guests, and passersby. Yet current usable privacy approaches focus on individual users and personal controls.

Camera, mics, and others spatial sensing devices impact the privacy and security of people nearby.

Potential Solutions

- We're exploring a wide range of usable privacy features, such more nuanced status indicators and contextual nudges.
- Generalize solutions into reusable design patterns.



Scientific Impact:

- Generalize design patterns and anti-patterns for smart device privacy.
- Highlight limitations of “user centered” approaches that don’t engage with nearby users, like neighbors or guests.
- Highlight need for policy approaches alongside technical and usable privacy solutions.

Broader Impact and Broader Participation:

- Smart devices with sensors are becoming more common, and can be controversial.
 - Example: Doorbell Camaras
- Smart product manufacturers may differentiate their brands with better privacy controls.
- Have involved over 20 undergraduates in research, 10 Masters, and 1 PhD student from many different programs (design, engineering, psych, business)
- Integrated design patterns and problems into undergrad user interface design course
- Currently running research studies and workshops with diverse users including vulnerable populations.