TempFeel
Sensing and sharing temperature to support remote relationships

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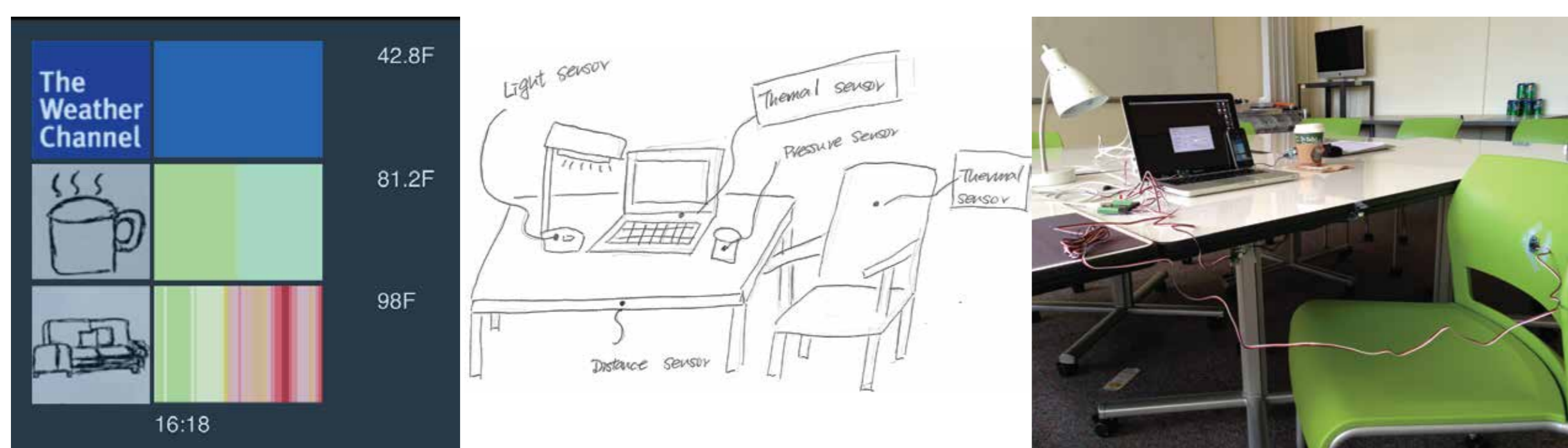HCDE Human Centered Design & Engineering · dub · UNIVERSITY of WASHINGTON

RESEARCH QUESTION

* What roles can ongoing sharing of temperature information have in creating and supporting awareness and intimacy among remote partners, family members, and close friends?

* What are the privacy implications of persistent temperature sharing?

* While there are many known opportunities and challenges with sharing and interpreting Ubicomp data, how is temperature information different, and what are specific design guidelines for this type of data?

STUDY DESIGN

Conducted semi-structured interviews with 20 participants. We presented each with the system prototype and 4 paper prototypes and explored participants':

* Imagined scenarios for using TempFeel

* Concerns about using TempFeel

* Comparisons between temperature information and other sensing information.

SYSTEM PROTOTYPE

PAPER PROTOTYPES

Thermal Comparison

Thermal Notification

Thermal Images

Thermal Ring

FUTURE PLANS

With collaborators, we are planning a home deployment with redesigned TempFeel system allow us to validate and refine our preliminary findings based on a real-world deployment in context.

RESULTS & DISCUSSION

RELATIONSHIP GOALS

Promoting Awareness and Intimacy
Persistent temperature sharing, combined with knowledge of loved one's routines and context, may help participants vividly imagine what their loved ones aredoing and create a sense of closeness.

Coordinating and Facilitating Conversation
Routines & activities inferred from temperature information could help people identify opportunities to initiate direct conversations and can support synchronous communication through other channels.

Reassuring loved ones are okay
Several participants wanted to use TempFeel for eldercare, childcare, or pet care. Is a loved one and their environment at a healthy temperature? Are they comfortable?

CONCERNS, TENSIONS AND DESIGN IMPLICATIONS

Satisfying emotional needs while maintaining trust
Sharing temperature could make participants feel monitored in ways that made them feel untrusted.

Systems might balance this tension by operating only in certain location, at certain time windows, or around prearranged events.

Providing clear information while preserving privacy
Creating intimacy requires sharing private information. Doing so with ambiguis, ambient information can presere privacy and inspire conversations, but it can also lead to confusion and anxiety.
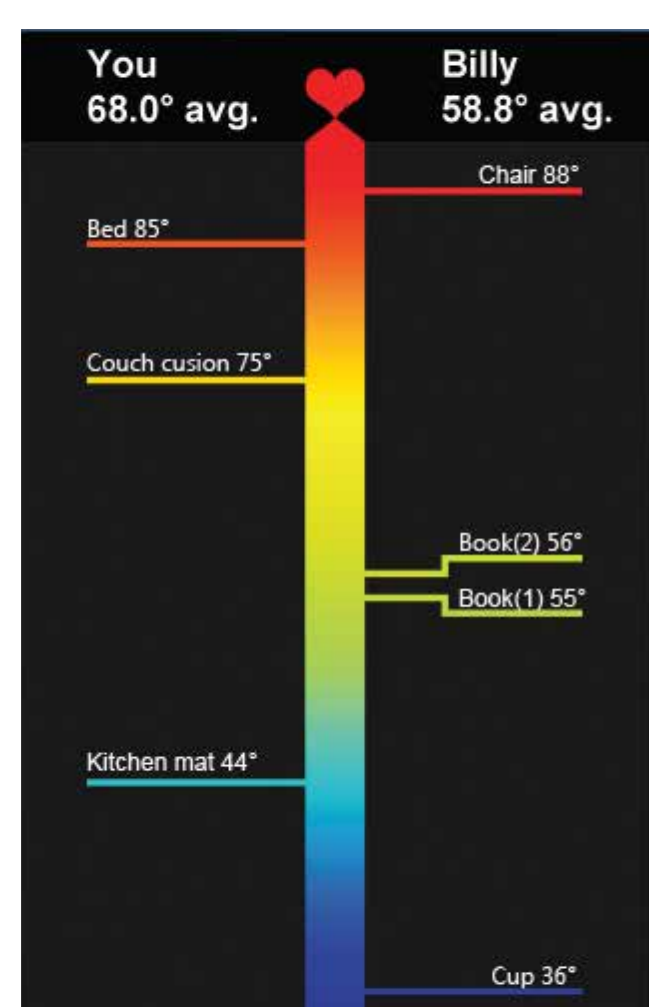
Augmenting temperature information with additional, but limited, contextual information may address this tension.

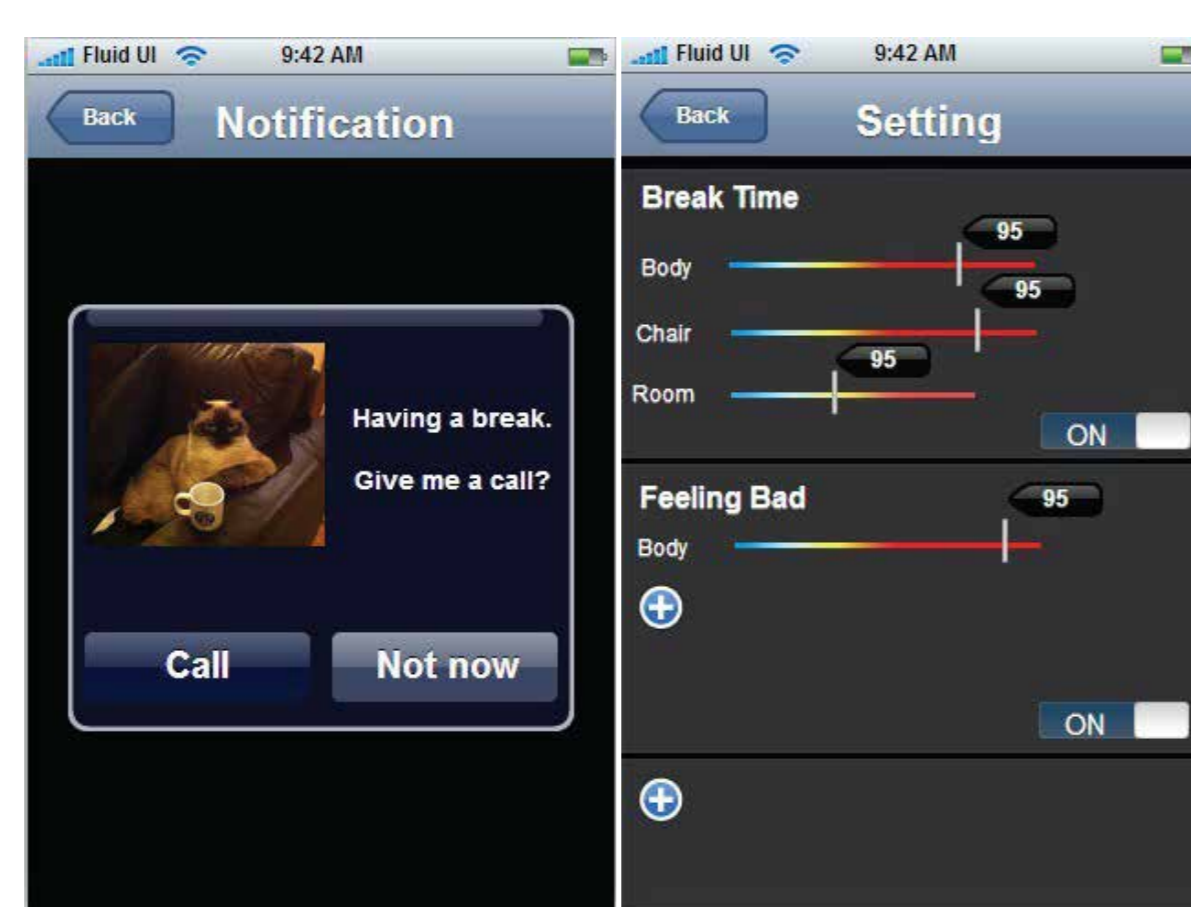**Maintaining contextual integrity while sharing across contexts**
Remote relationships and technologies to support them can create conflicts between a couple's virtual context and each person's physical context, which may be a personal space or space shared with others.

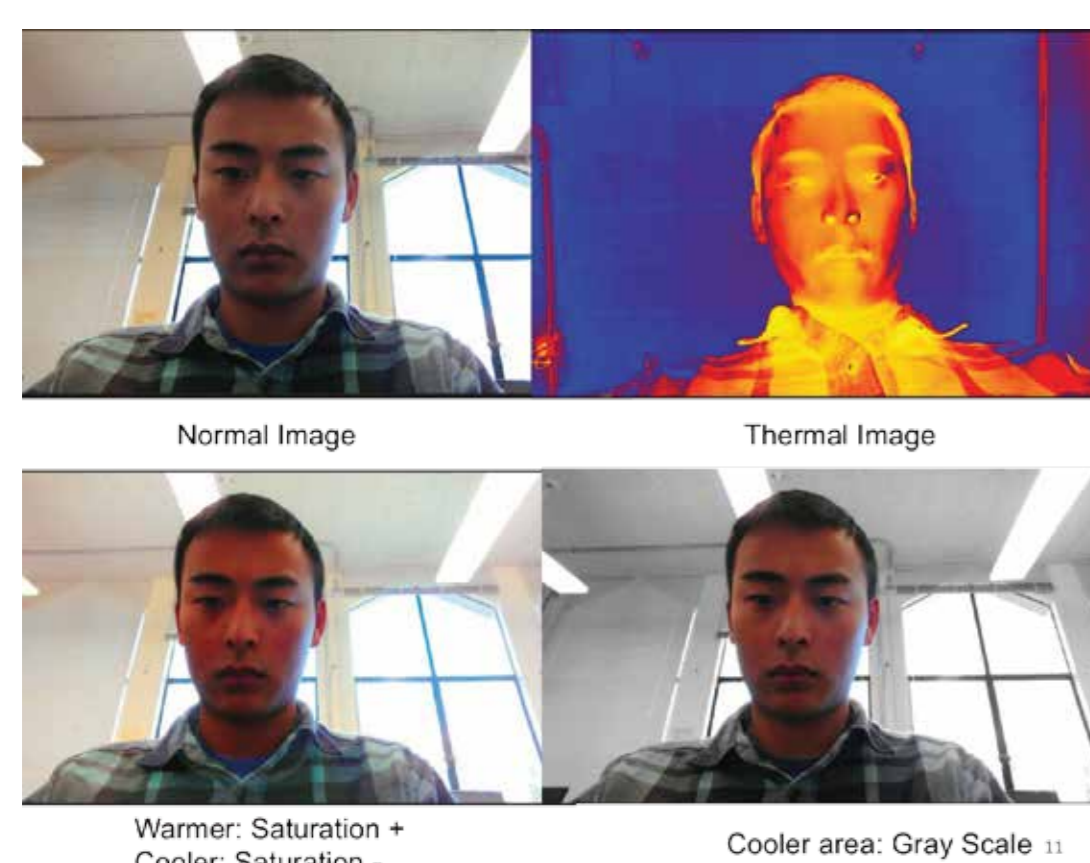Wearable sensors could mitigate these conflicts if limited to sharing information about the wearer and the ambient temperature.