VirtualWalls: Protecting Digital Privacy in Pervasive Environments?

Apu Kapadia, Tristan Henderson, Jeffrey J. Fielding, and David Kotz

- There is a sensor-rich privacy environment
- Users may unwittingly leave information
- The digital footprints can be stored or querried later by context-aware applications
- Proposed mechanisms of protection for all types of footprints are needed.
- Variety and numbers of sensors are growing

- Specific Problem: Confidentiality of digital footprints
- contextual information derived from raw sensor readings.
- only authorized users should be able to access footprints

as defined by the user's privacy policy.

"digital footprints" vs. "context."

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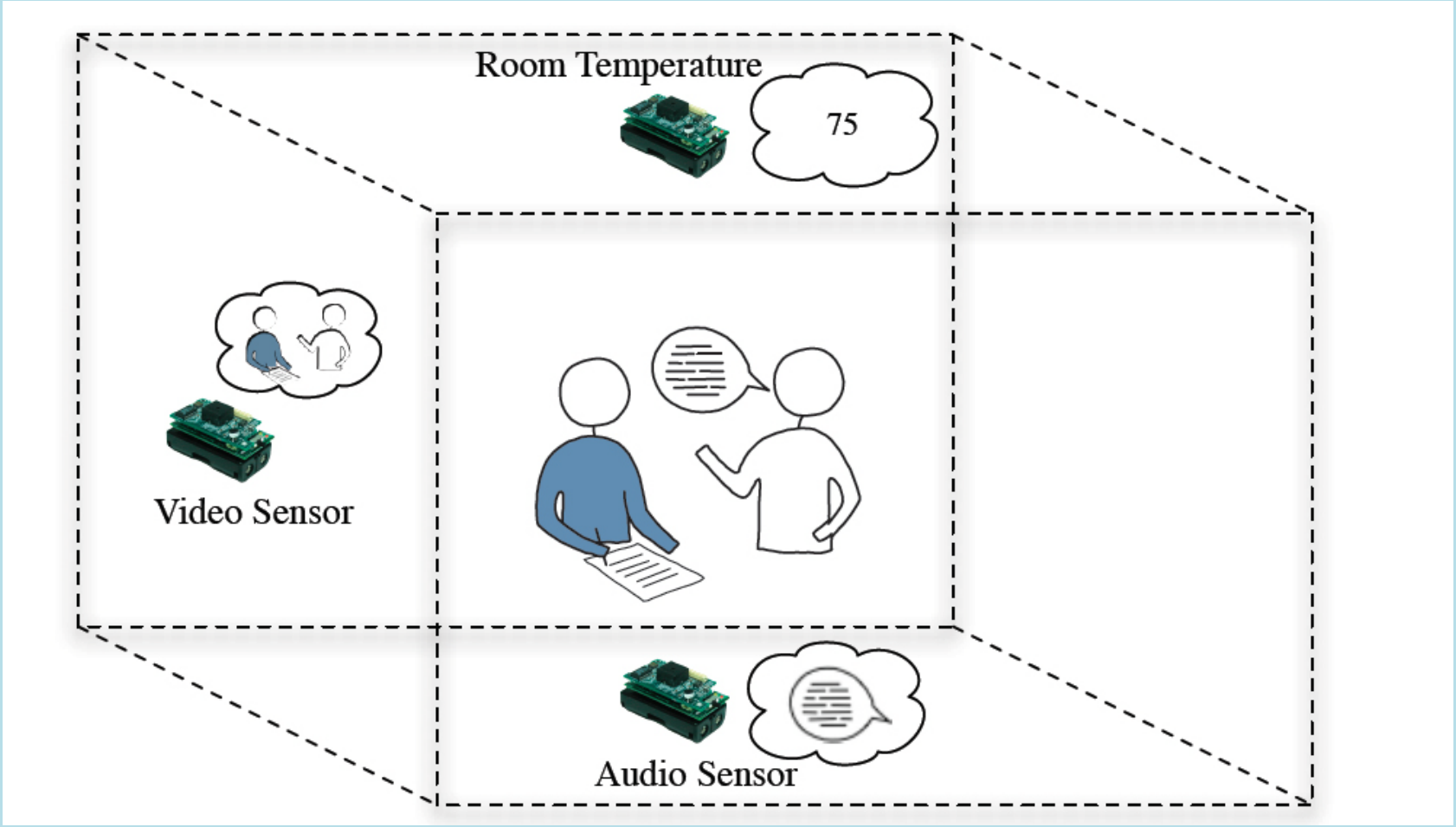
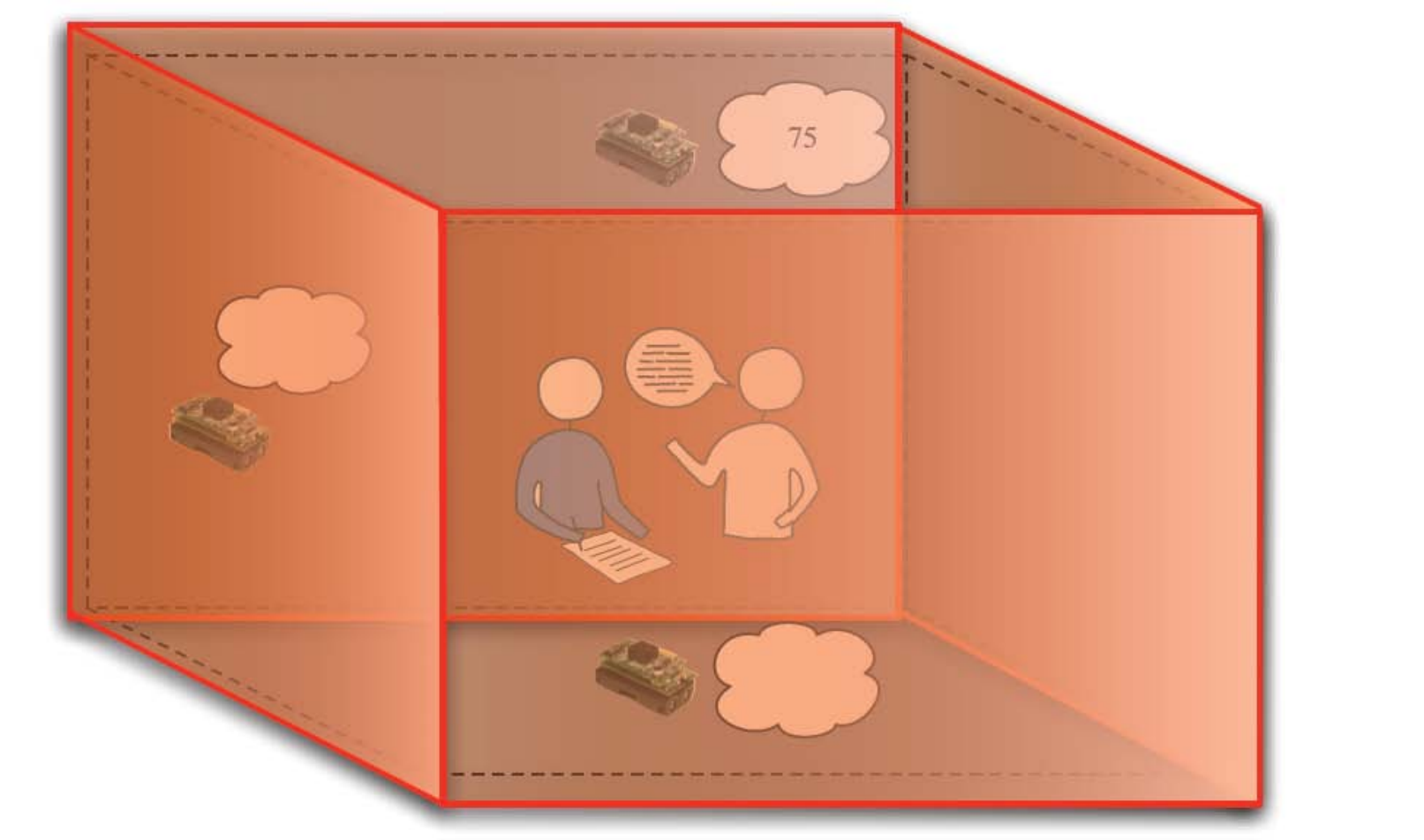
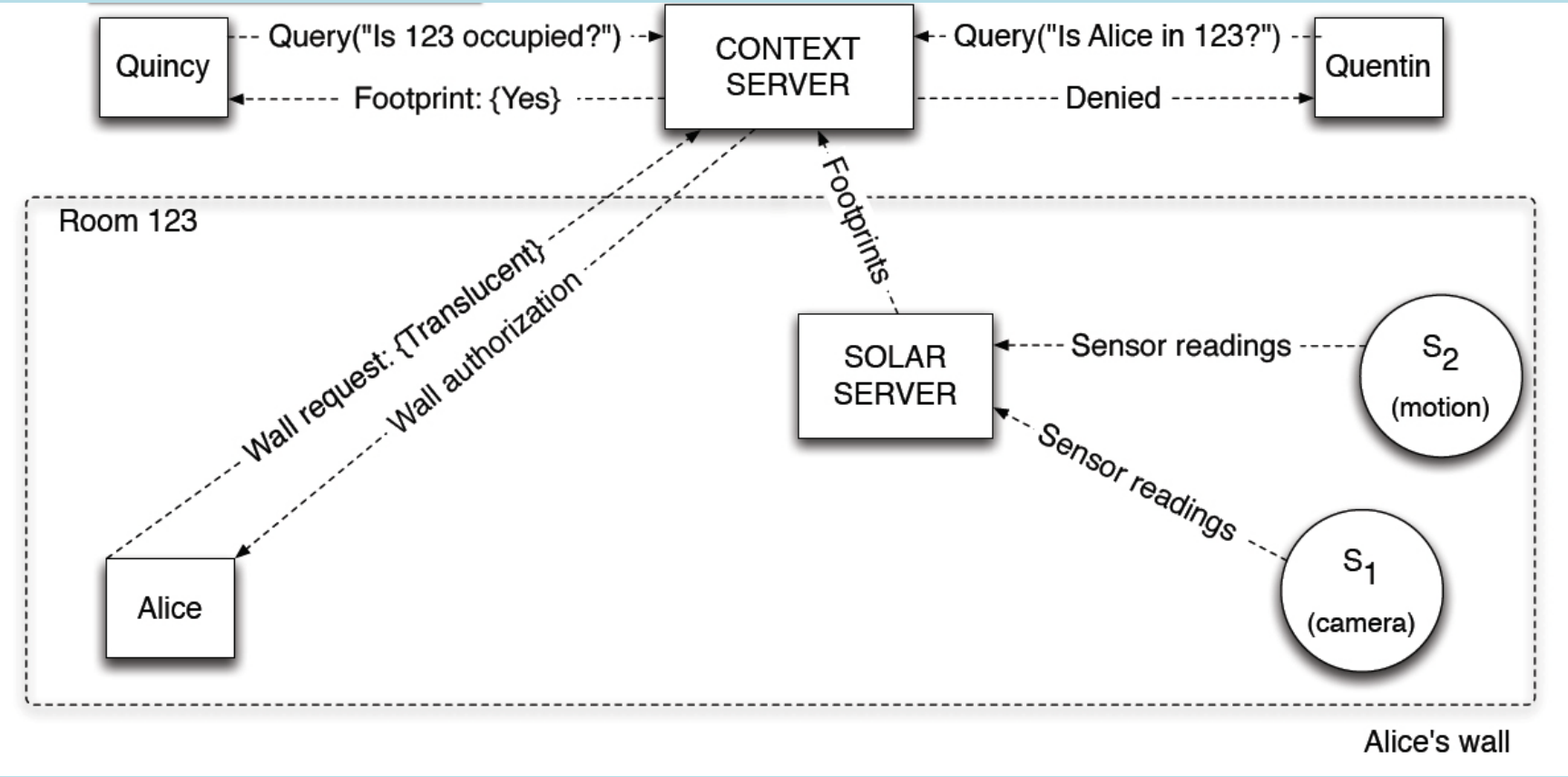

Room Temperature
75
Video Sensor
Audio Sensor

3 levels of tranparency

- Transparent
- Translucent
- Opaque

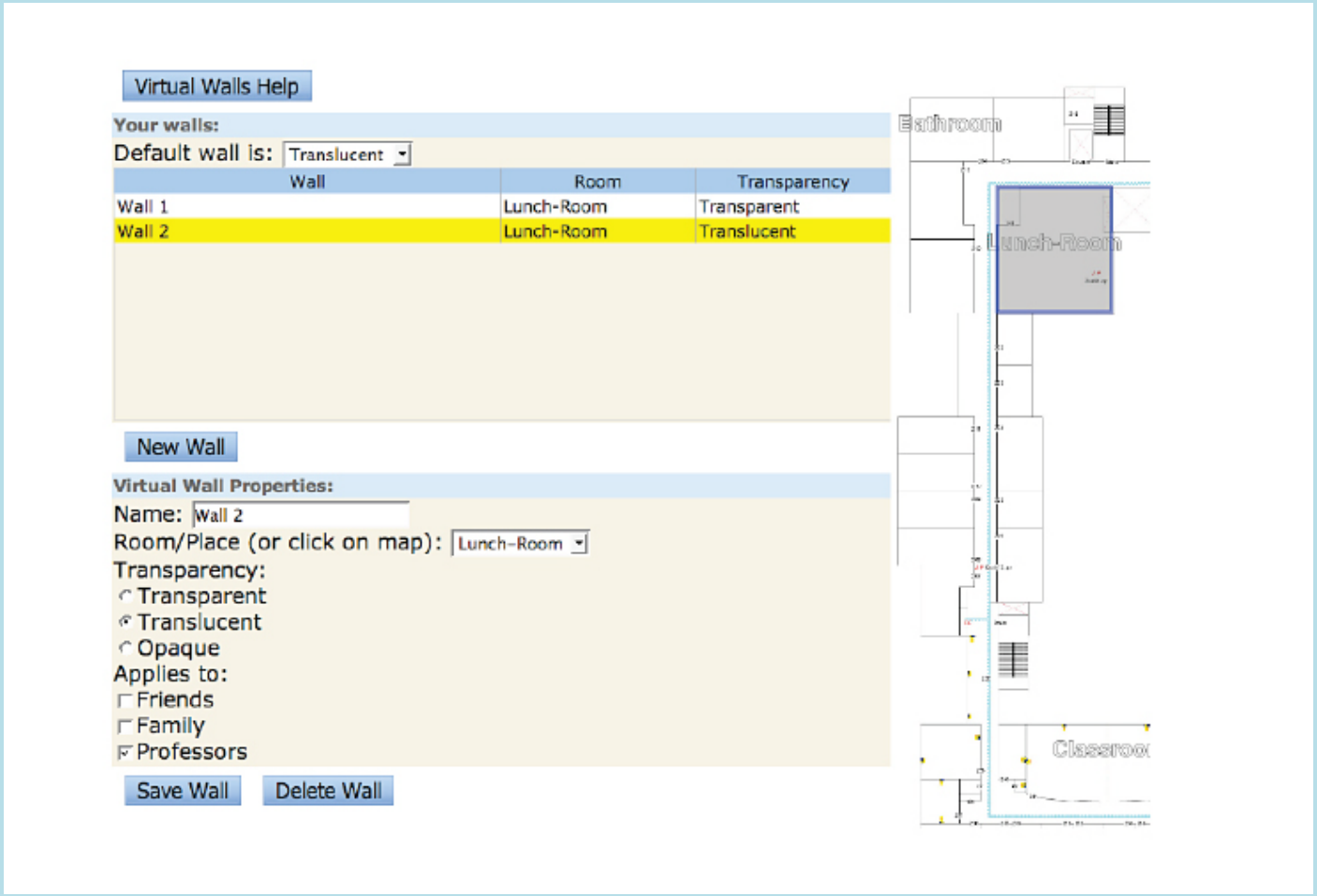

75

Introduction-**Architecture**-Virtual Walls Model-Evaluation-Discussion-Related Work-Conclusion



- Places- rooms and buildings.
- Footprints- general or personal.
- Conflicting virtual worlds.
- Limitations-
  - Difficulty with the term “general footprints”
  - Lack of knowledge about querriers.

- 23 participants-
- Using scenarios:
    - Ease of understanding
    - Ease of use of model
    - Ease of use of GUI


Virtual Walls Help
Your walls:
Default wall is: Translucent
Wall
Room
Transparency
Wall 1
Lunch-Room
Transparent
Wall 2
Lunch-Room
Translucent
New Wall
Virtual Wall Properties:
Name: Wall 2
Room/Place (or click on map): Lunch-Room
Transparency:
Transparent
Translucent
Opaque
Applies to:
Friends
Family
Professors
Save Wall
Delete Wall
Lunch-Room

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- Creating walls
- Group ownership
- User disruption
- Data perturbation
- Mobile places
- Deception

- Digital territory
  - Proposes bubbles with numerous policies

Ease of use and Understanding is paramount in dealing with this problem!

Thank you!