

# On trust and privacy in context-aware systems

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# What is privacy Control

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- Privacy Control encompasses the notion of privacy and the notion of control
- What is privacy?
  - Alan Westin "*privacy is the claim of individuals, groups, or institutions to determine for themselves when, how and to what extent information is communicated to others*"
- Privacy control plays central role in justification and in management of privacy
  - What could be disclosed
  - Who may gain access to context information

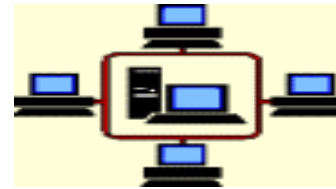
# An example: Location-aware system

Information receiver



1

Sensed Data

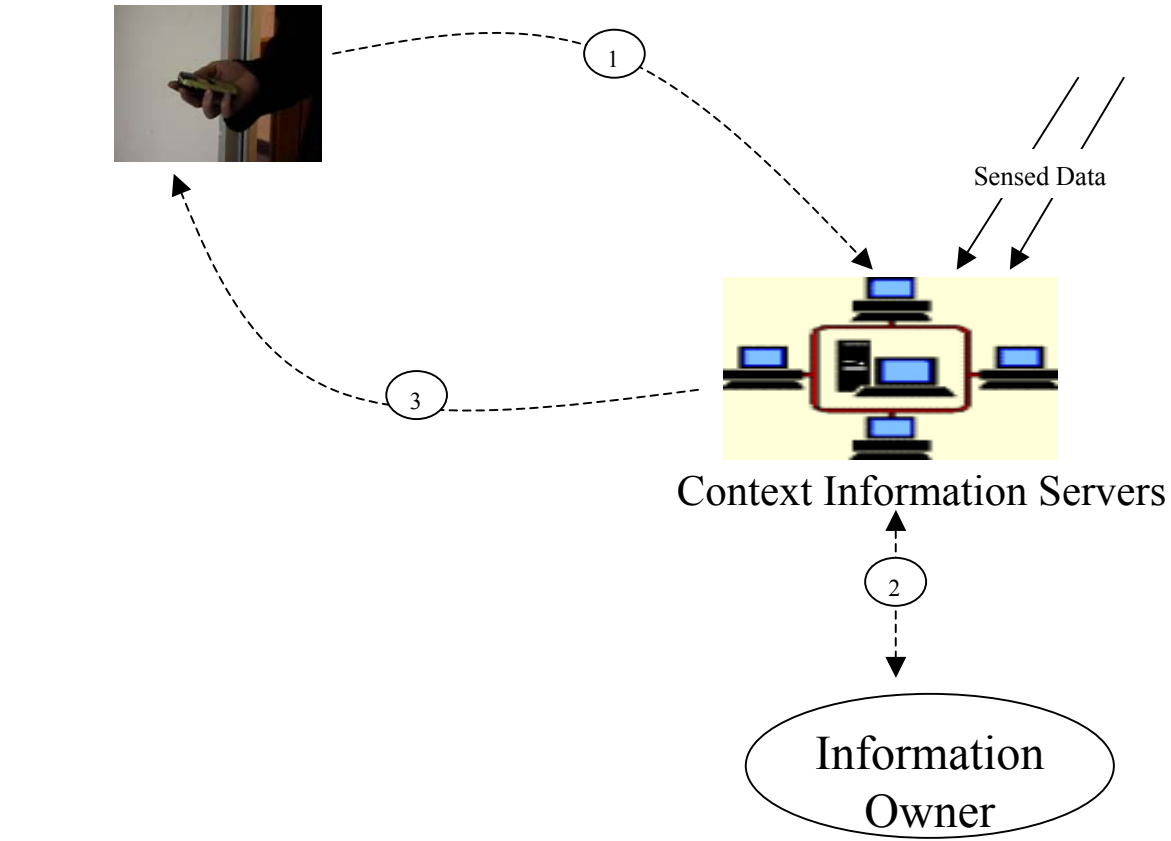


Context Information Servers

3

2

Information  
Owner



# Trust-based model for privacy control

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- Reasoning about trust and risk involved in interactions between users
  - Trust controls the amount of information that can be revealed
    - Trusted users tend to behave in a positive manner
    - Distrusted users tend to behave in a negative manner
  - Risk analysis allows users to adjust the amount of disclosed information according to the expected benefits
- Privacy Policy
  - Provide certain permissions based on
    - Users' trustworthiness
    - Likelihood of the outcomes

# Further work

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- Further work includes:
  - Considering the disclosure of other context information, not only location
  - Developing a simulation framework
    - Examine the properties of the trust-based model for privacy control