



# Review of Scenarios: the Analytical Framework

Elena Vildjiounaite, Petteri Alahuhta



# Contents

- Aspects of privacy
- Privacy protecting borders
- Why Aml can cause threats to privacy
- Dimensions for scenario analysis
- Summary

# Aspects of Privacy

- *Empowerment*: persons' control over the information about themselves
- *Utility*: “The right to be left alone”, free to do whatever desirable and free from disturbance
- *Dignity*:
  - being free from unsubstantiated suspicion (e.g. free from wire tap)
  - having *equilibrium* of information available between two sides
- *Regulating Agent*: laws and moral norms which rule behaviours
  
- 3 principles of public deliberation are concerned with:
  - limiting surveillance of citizens by government
  - restricting access to intimate, sensitive or confidential information
  - curtailing intrusions into private spaces
- What is private depends on context: on a person, on a culture, on behaviour rules, on a company

# Privacy Protecting Borders

- *Natural Borders*: physical borders of observability (walls, doors, clothing, darkness, seals, facial expressions)
- *Social Borders*: expectations with regard to confidentiality as regulated by ethics and laws
- *Spatial or Temporal Borders*: expectations that different parts of a person's life can exist in isolation from other parts, temporally and spatially, e.g., an obedient husband at home can be a demanding superior at work
- *Borders due to Ephemeral or Transitory Effects*: expectations that some information simply passes away unnoticed or forgotten.

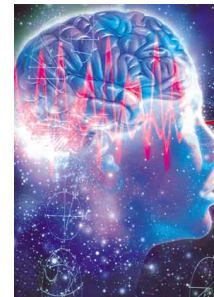


# Reading Scenarios

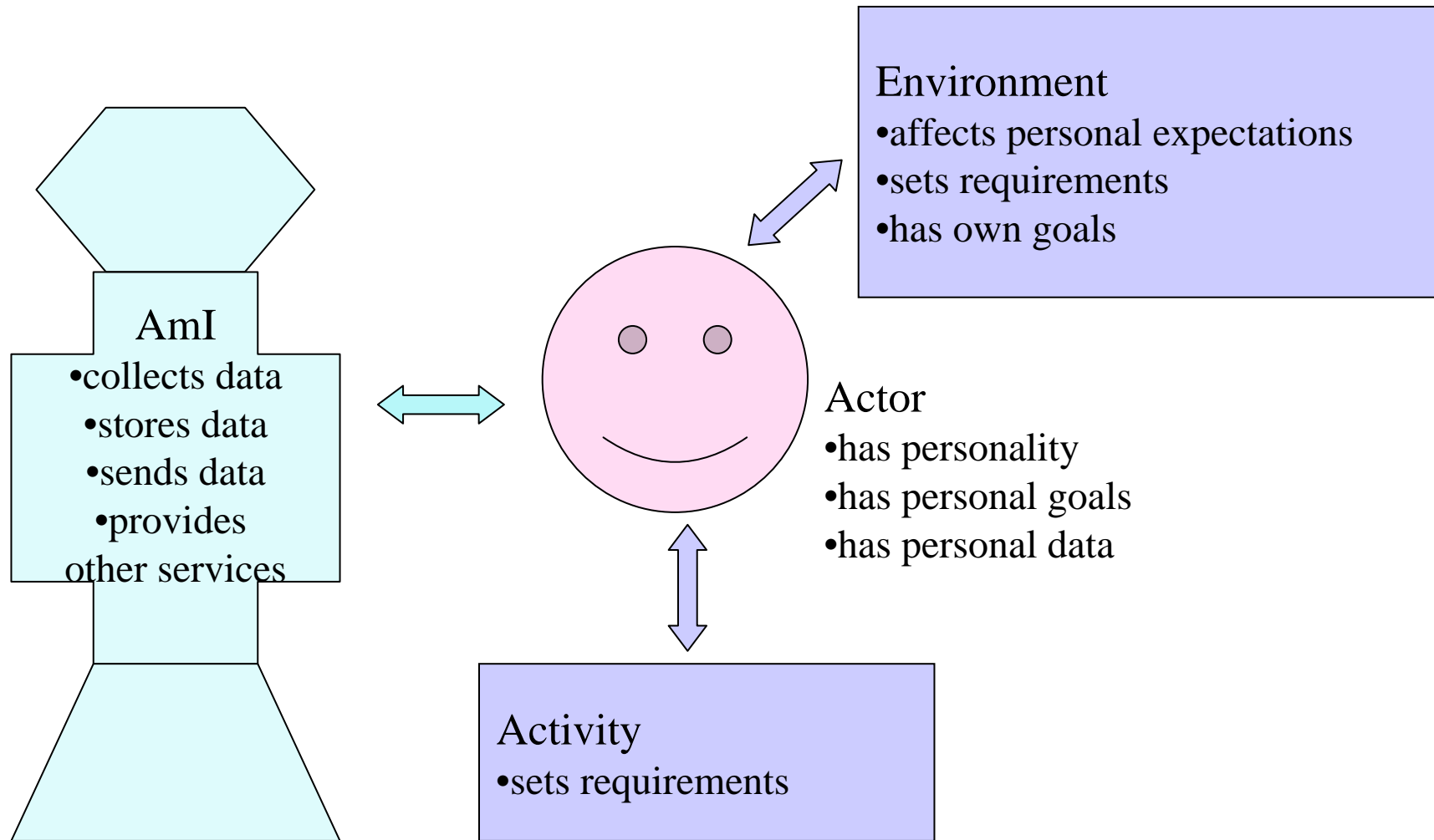
- Many of science fiction scenarios are implemented: submarines, smart dust
- If nowadays scenarios are implemented, problems can be caused by:
  - malfunctioning of technology
  - predictable privacy threats:
    - malicious use, Orwell: 1984
  - unpredictable privacy threats
    - creative use of new technologies
    - unforeseen life situations
- changes in society due to long-term usage of new technologies
  - U.S. Supreme Court: air surveillance is a common part of life
  - thermal imaging is not a common part, thus, it is a search
  - other changes, e.g., in skills, human relations: what we lose in exchange of what we get?



Reminders

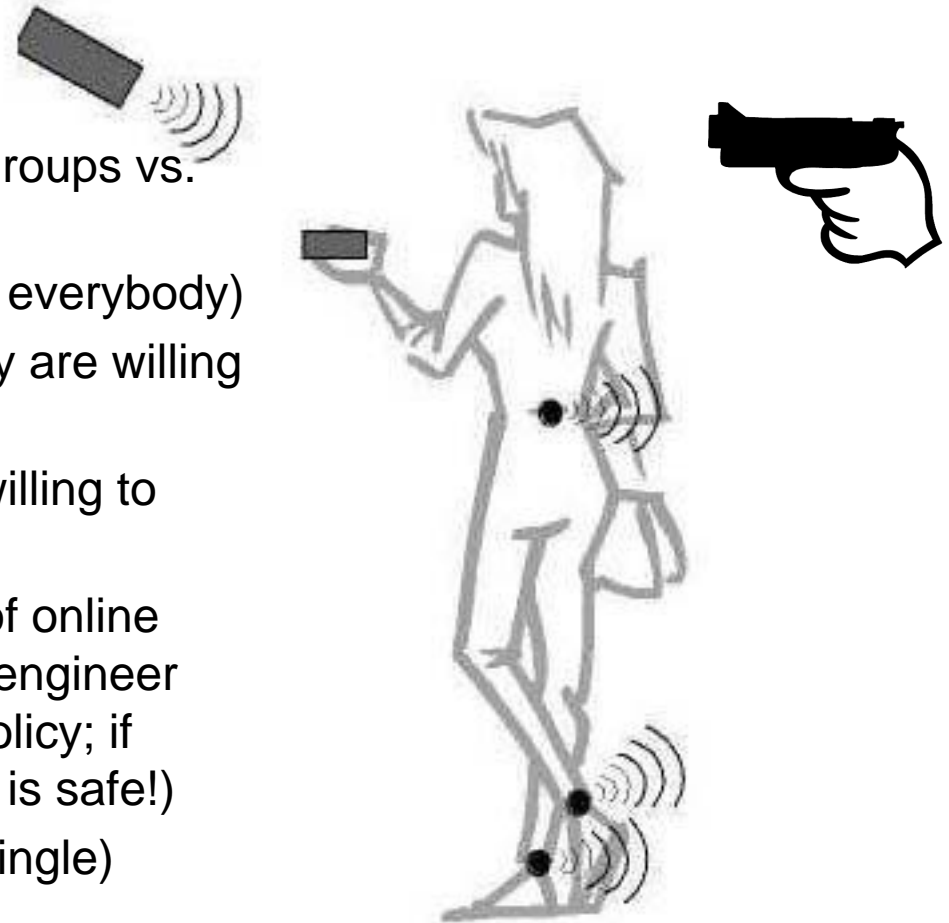


# Dimensions of Scenario Analysis



# Dimensions of Scenario Analysis

- Actors
  - wide coverage of diverse social groups vs. narrow
  - technology acceptance (early vs. everybody)
  - age (babies vs. teenagers; elderly are willing to sacrifice some privacy)
  - health (sensitive data, might be willing to sacrifice some privacy for help)
  - education and profession (most of online courses are currently in English; engineer probably can configure privacy policy; if politician uses new technology, it is safe!)
  - social status (married, children, single)



# Dimensions of Scenario Analysis

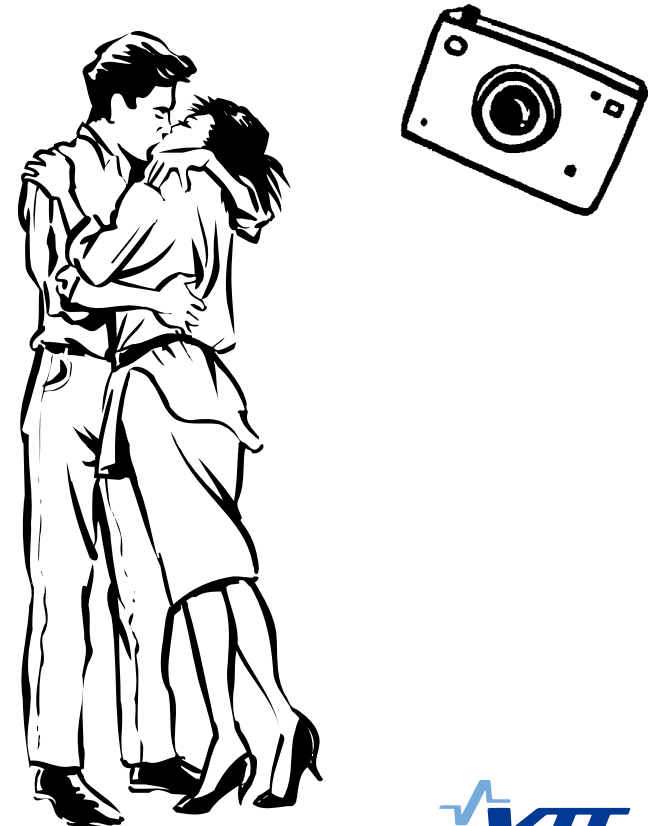
- Environment
  - private vs. public
  - semi-private or semi-public
  - home? office? wild nature?
- Activity
  - work, learning, health care, travel, entertainment, shopping, social
- Does the scenario changes the place towards more public? (people adapt slowly)
  - information flow, disturbances
- Accompanying activities (what else people do there?)
  - e.g. at work people chat, call to doctors
- Who controls environment?
  - Home, work, travel, shops





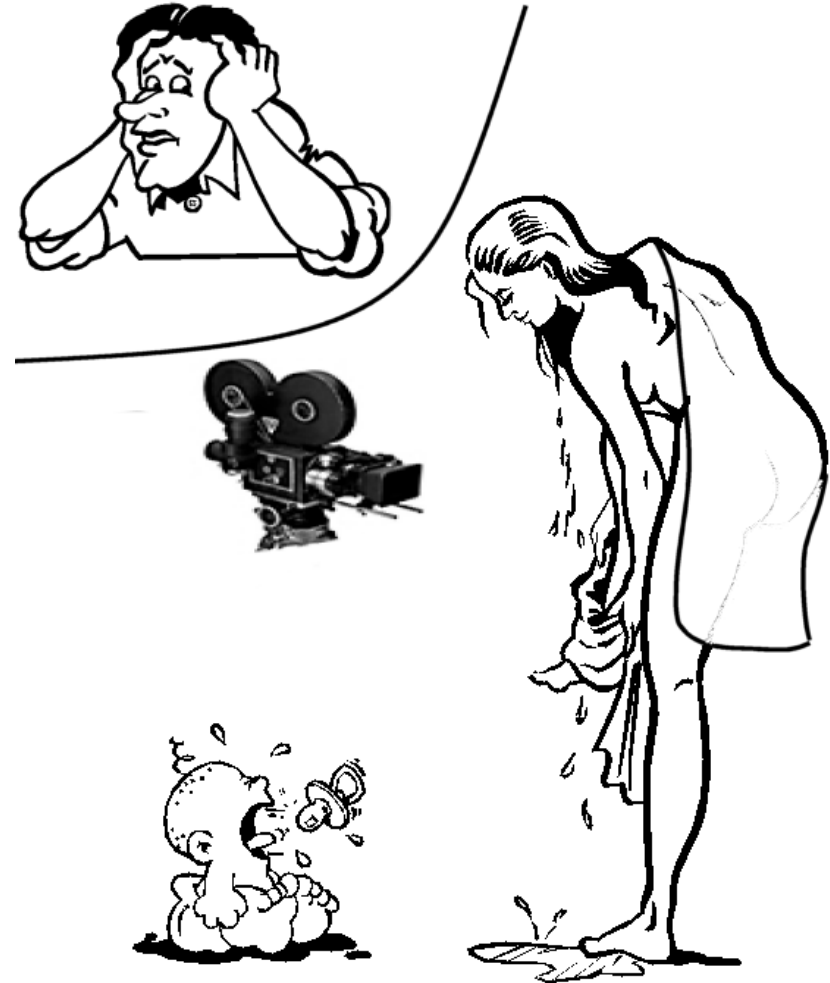
# Dimensions of Scenario Analysis

- Information flow
  - system purpose
  - information sensitivity
  - information stored
  - information transmitted
  - symmetry of information flow
  - relations with security requirements
- In Japan: bidding for name, street address, telephone number, email address, and Yahoo Japan ID gave a highest bid of more than 10000 euros!
- Scenario: automated party recordings, proposed by users
- Who protects privacy of guests?



# Dimensions of Scenario Analysis

- Aml control level vs. person's control level
  - high: Aml acts on behalf of a person
    - acceptability
    - relations (mobile workers say to computer "no" easier than to a human)
  - medium: advices and proactive suggestions
    - disturbances
  - low: executes person's command
- Aml mistakes
- Who controls Aml?
- Dependability on Aml



# Dimensions of Scenario Analysis

- Enabling Technology
  - which privacy-protecting borders are violated
    - physical borders (walls, darkness)
    - physical borders (heart rate, facial expressions)
    - spatial and temporal (everything is linked)
    - transitory (nothing forgotten)
  - trade-off between privacy and efficiency, security, low cost
  - limits of technology
  - detection of sensitive information



# Summary

- Problem to solve: system purpose
  - Target group: everybody vs. special groups
  - Environment: public/ private expectations and shift
  - Activities: standard and accompanying
  - Aml control level and who controls Aml
  - Information sensitivity, storage, transmission
  - Technology: limits
  - Which privacy-protecting borders are violated?
- 
- Privacy threats associated with information flow in both directions
  - Threats of long-term usage of Aml