

The Role of Ambient Intelligence in the Home-Based and Institutional Care of the Elderly. An Overview of the State-of-Art in Hungary

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Overview

Aim:

- the role of Ubiquitous Computing (UC) and (ICT) in providing means for independent living for elderly

Background:

- aging society,
- dissolution of the traditional extended family
- advancement of technology (“seamless” technology in assisting activities of daily living)



1. THEORETICAL PROBLEMS AND DEBATES

Two focal points:

- 1) Theoretical issues related to the ethics of UC
- 2) Case studies from Hungary addressing the ethical problems

Debates:

- 1) Characteristics of Aml
- 2) Social, legal, ethical aspects
- 3) The trade-off: terms of accepting Aml

1.1. Characteristics

- “Seamlessly” integrated within everyday environment
- Internet-, mobile-based, wearable, wireless, invisible;
- Permanent contact between person and computer
- Intelligent User Interfaces (User Adaptive Interfaces, Social User Interfaces)
- Profiling and context awareness
- Perceptive and proactive vs. passive computing
- User friendly, user empowerment & anticipating user’s needs

Advantages for elderly care

- Financially more effective
- Improving quality of life
- More active patients

- Better quality of treatment (debated)
- Technology: replacing or enlarging personal/medical care?
- Illnesses especially targeted: elderly dementia, heart conditions, diabetes
- Better possibilities to follow-up

3) Social, legal, ethical aspects

2003: NGOs and advocacy groups against the spread of RFIDs, as long as no legal tool for control is in place.

Accountability.

New information and surveillance technologies

Technophobia vs. technophilia

Most results based on scenario analyses

3.1. Privacy and the protection of personal data

- Antecedents in healthcare and medicine: the principle of informed consent
- Privacy should be protected, as it is a... (Bohn et al, 2004):
 - A source of (individual) power
 - Utility
 - Source of human dignity
 - Means of protection (esp. for public persons)

3.3. Control and power

- .“Big Brother”-analogy
- .Increased control
- .Surveillance studies: surveillance society

3.3 Control and power

- Possible threats:
 - Misinterpretation of needs
 - Being controlled by an intelligent device
 - Data phishing
 - Cognitive dissonance
- Tackling problems of aging society:
 - defining “risk groups”,
 - medicalizing the old,
 - controlling them in a cost-effective way

3.4. Reproducing social inequality

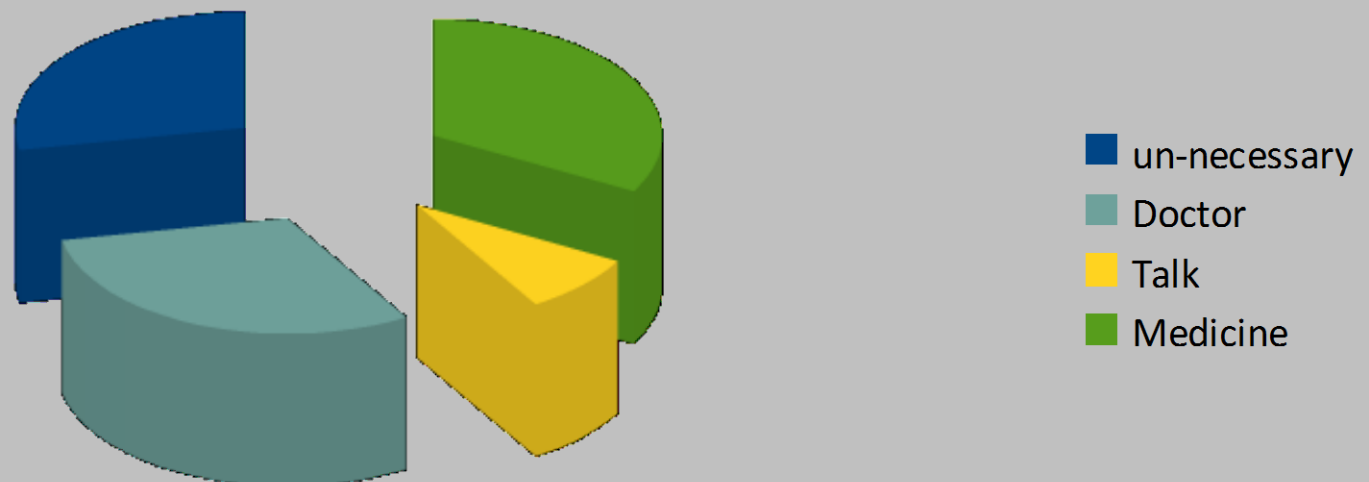
- Deepening the “digital divide”?
- Social spread impeded by age, gender, ethnicity, social background, status, country etc.?
- Differential access and “social sorting”

4) The trade-off: terms of accepting Aml

- .User requirement or requirement engineering
- .Accepting Ambient Intelligent Devices when:
 - . Technology is accountable and reliable
 - . It results in feeling empowered
 - . It is user friendly, easy-to-use, accessible, unobtrusive
 - . It is socially compatible, feasible and credible

Case Study 1: Domestic care System; in a district of Budapest

- 200 users, continuous growth – health-care
- „to ensure the independent (conduct of) living to elderly people”
- Mostly women (81 years old), 109 alarm
- Land-line network



Case Study 2.: Social Home for Elderly and Psychiatry

„in case of any problem we are their and do our duties”

- Rural site, two institutions
- Different consciousness of being ill
- Different co-operation with the staff
- Different possibilities to use Aml-devices

Further points of discussion

- Main problems:
 - Surveillance
 - Safety of the devices
 - Ill-consciousness
 - Lack of financial-resources – few users
- End-users' Motives to use Aml equipments

Conclusion

- 1) Ethical issues mentioned as theoretical problems.
- 2) Close co-operation of social and health care systems helps to improve Aml services.

Thank you for your attention!

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