

# **The Role of Ambient Intelligence in the Home-Based Care of the Elderly.**

*Attitudes towards a new technology*

*Bernadett Csurgó – Réka Geambasu – Eszter Kelemen –*

*Boldizsár Megyesi – Zsófia Somogyi*

**BZAKA-IKTI**

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*Prima Conferință Internațională a Societății Sociologilor din România  
Facultatea de Sociologie și Asistență Socială, Universitatea “Babeș-Bolyai”*

# AAL in everyday life

## *(a short introduction)*



- Contemporary ICT can contribute to social and health care;
- The aim of ICT development is to enable independent living;
- Sensors and control panels (computers);
- Register Activities of Daily Living (ADL);
- Help to prevent emergency cases
- And chronic illnesses

# Overview

## *Requirement Engineering*

### *Aim:*

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

### *Background:*

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



# THEORETICAL PROBLEMS AND DEBATES

## *Two focal points*

Theoretical issues related to the ethics of Aml

In-depth studies from Hungary addressing the ethical problems

## *Debates:*

Characteristics of Aml

Social, legal, ethical aspects

The “trade-off”: terms of accepting Aml

# 1. Characteristics

- "Seamlessly" integrated within everyday environment;
- Internet-, mobile-based, wearable, wireless;
- Permanent contact between person and computer;
- Intelligent User Interfaces;
- Profiling and context awareness;
- Perceptive and proactive vs. passive computing;
- User friendly, user empowerment & anticipating user's needs.

## 2. 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 for follow-up.

# 3.1. Control and power

## Possible threats:

- Misinterpretation of needs
- Being controlled by an intelligent device
- Data phishing
- Cognitive dissonance

## Tackling problems of ageing society:

- defining “risk groups”,
- medicalizing the old,
- controlling them in a cost-effective way

## 3.2. Privacy

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)



## 4. The trade-off: *terms of accepting Aml*

Accepting Ambient Intelligent Devices when:

- Technology is accountable and reliable
- It results in feeling empowered/connected
- It is user friendly, easy-to-use, accessible, unobtrusive
- It is socially compatible, feasible and credible

# Research questions *on ethical aspects*

- Attitudes toward accountability and control;
- Trade-off: accepting Aml devices;
- The effects of technophobia vs. technophilia.

# Background of the research

- 5 Focus groups (8-12 participants / FG) with potential end-users;
- 16 interviews with potential end-users;
- Forums and interviews with social workers, nurses and doctors;

## Scenes:

- A District in Buda, Budapest;
- Small, rural town;

# Results 1.

Accountability (technology):

- Institutional guarantee

Privacy:

- Non-issue

Trade-off:

- Ill-consciouness – future (Vulnerability)

Isolation

## Results 2.

- Reliability: doctors vs. social-care services vs. children;
- (Im)personality: Children (vs. nurses social care)
- The key of the flat as a hot issue (Intimacy)
- The price
- User friendly devices (Usability)

### Technophobia

- The case of the remote control (Usability)

# Factors

*enhancing vs. obstructing acceptance*

Enhancing			Factors	Obstructing		
			Price	-	-	-
			Intimacy	-	-	
+	+	+	Vulnerability			
	+	+	Reliability	-		
	+	+	Usability	-	-	
		+	(Im)personality	-	-	
	+	+	Integrated services			
			Isolation	-	-	-

# Further research

- Reproducing social inequalities;
  - Deepening the “digital divide”?
  - Social spread impeded by age, gender, ethnicity, social background, status, country etc.?
  - Differential access and “social sorting”
- Results of real-time testing

Thank you for your attention!

[geambasureka@yahoo.com](mailto:geambasureka@yahoo.com)

[bmegyesi@mtapti.hu](mailto:bmegyesi@mtapti.hu)

or:

[bkardon@ikti.hu](mailto:bkardon@ikti.hu)