Number	LANCS-D4.1-RN-A.1	A-PI--

Title	Research Note (RN) for D4.1
Subtitle	Ethical aspects of development **A** : *Intelligent Environments*

PROBLEM		SOLUTION	

Research Note	X	Selected Annotation	

Categories: | | |

Summary:

This note addresses the activities for which intelligent environments are designed. It addresses ethical concerns associated with the impossibility of complete seamlessness in the configuration and functionality of such environments.

CONTEXT

The activities for which intelligent environments are conceived include:

1. **eTraffic** (to better manage car traffic through inner cities and on motorways; to better manage driving in different weather and traffic conditions)
2. **airports** (for the safety, security and comfort of travellers; to better manage flows through airports)
3. **transits** (trains, trams and bus routes for the safety, security and the improved comfort of travellers)
4. **eHealth** (for remote monitoring of chronic conditions and for telecare purposes)
5. **hospitals** (for improved dispatch of medicine and medical supplies, routing through surgical wards, emergency units, and after care)
6. **homes** (for safety and security purposes; for help with cooking, leisure and entertainment)
7. **schools** (for improved access to educational (and edutainment) materials and shared workspaces; for safety and security)
8. **ordinary workplaces** (purpose-built environments to improve productivity and efficacy, safety and security)

FACTS

The very conception of these environments is technically and ethically problematic. They are designed on the basis of the assumption that the embedded intelligence can reliably:

1. capture the identity of persons
2. capture the identity and state of objects
3. capture the state of bodies and minds (even intentions)
4. process information in order to 'know' what to do next

A host of spaces may rightfully seem relevant candidates for 'smart' applications, e.g., for health, safety and security purposes. However, the vast range of ethical issues relating to privacy and data protection, autonomy and the dignity of persons, cast concerns over many such design schemes, including those for homes, schools and most workplaces and online domains.

(Key readings include, Bell and Dourish, 2007; Bibel et al, 2004; Brey, 2005; Daskala and Maghiros, 2007; De Hert, 2008; European Communities, 2007; European Parliament and the Council, 2002; Garreau, 2005; Holm, 2007; Solove, 2004; Subramanian, 2008; Van De Garde-Perik et al, 2008).

COMMENT

Mundane and specialised objects, interconnected to exchange information, sensory data and data managing capabilities, raise well known data and privacy protection issues. It is unclear how privacy can be protected when computations and communications protocol become ubiquitous in private, public and occupational spaces. But, for the envisioned applications to work, a range of technical problems need satisfactory resolution, for example:

1. how best to capture the identity and state of human bodies and minds
2. how best to capture the behaviours of persons going about ordinary affairs
3. how best to process information in order to 'know' what to do next
4. how best to intercept and service individuals safely and in meaningful ways

Advanced ICTs pose unique problems for the protection of privacy which is complicated by questions of what counts as breach of privacy, what may be the necessary intrusion of privacy and what are acceptable social codes for sharing identifiable, personal, even very sensitive data.

With respect to the care for elderly, disadvantaged and frail persons, it is also pertinent to ask for example:

1. to what extent the new designs –aimed at improving autonomy and independence– are at risk of introducing new dependencies and, in fact, less autonomy?
2. to what extent are elderly, disadvantaged and frail persons willing to give up their autonomy and some of their sense of dignity for improved social engagement as promised in visions of 'smart' devices and intelligent environments?