PRIVATE/UN-PRIVATE SPACE:

Scenario-based Digital Design for Enhancing User Awareness

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Privacy Control – Individual Sense

Context awareness is important for human senses of places as well as human computer interaction. The aim of this research paper is focusing on controlling the user's privacy in a smart space which is adaptive to different users for enhancing the user's awareness in his diary life. In Environmental Psychology, the definition of privacy is that an individual has the control of deciding what information of himself is released to others, and under how he interact with others. (Westin 1970) And privacy is categorized as the linguistic privacy and visual privacy. (Sundstorm 1986).

Solutions for privacy control: Plan Layout, Vision Boundary, Access Control and Architecture Metaphor - the transmission of information is not ascertainable for every single user. Although information are shown in public, but information is implied by cues and symbols. Only a certain user or a group of users have access to the full context of information. The methodology is to form an analytic framework to study the relationship between information, user and activities by using the computational supports derived from KitchenSense, ConceptNet, Python, 3d Studio Max and Flash; and to record patterns built up by users' behaviour and actions. Furthermore, the scenario-based simulation can envision the real world conditions by adding interfaces for enhancing user awareness.

Studying from Commonsense, ConceptNet and Kitchen Sense developed by MIT Media Lab, and combining the application of Attention theory, Individual Sense is an interface design that supports text-reasoning for analogy making and is presented to picture how the system controls the private information in an un-private space. (Figure 1&2) The space which is

equipped with Individual Sense will provide different information and analogy-making feedback to users. Individual Sense uses metaphors, such as cues and symbols to interact with users and giving out feedback. And the cues are visual or audio designed under the manipulation of Attention Theory. Attention Theory is applied to evaluate the reaction of users.

In this study, on the basis of manipulations and simulations of different scenarios, Individual Sense differentiates the level of privacy and displays the information for a certain user appropriately. By using Individual Sense as an interface between HCI system and users, a user who wears a portable device enters the room, the system recognizes user's identification. It speculates on user's actions and living pattern, and then, provides its user the information or reminders by giving out cues and symbols.
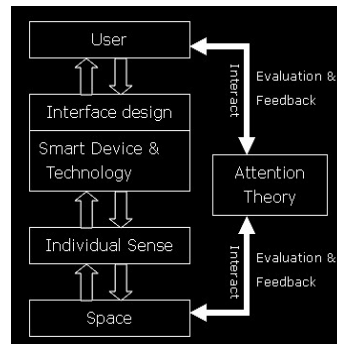

Figure 1: Flowchart of User, Individual Sense and Space

Figure 2: Interface design of Individual Sense

The future direction of this paper is toward simulating the scenarios for different groups of users such as patients, elder people, young kids, and who needs memory aids for reminding and warning. There are some controversies over a personal privacy and special attentions such as medical treatments. How the system determines the authorization of accessing a person's private information is the next issue to study.

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