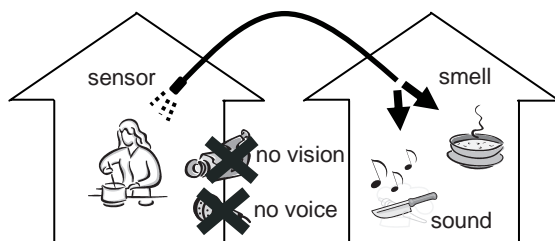


J. Yashikida, H. Umemuro. *Close to you: unobtrusive awareness communication to bring family living far apart closer*. *Gerontechnology* 2008; 7(2):245. Recently, a number of older people are living independently from their families and children. While respecting their independence, connectedness with other family members is a major factor to maintain their quality of life (QOL). Being aware of how their counterparts are and what they are doing significantly helps to maintain their connectedness. This sense is called awareness, and the systems to support communicating the sense of awareness are called awareness systems<sup>1</sup>. There has been a number of such systems proposed to support awareness of families living far apart from one another<sup>2</sup>. Most of these systems, however, require intentional operations, often with arbitrary coding scheme for communication, requiring certain demands especially for older users. Other systems are more security oriented, whose major purpose is monitoring the security of family members (often older ones) in distant locations<sup>3</sup>. The sense of being monitored may give negative psychological effect on older users. They may also concern privacy issues. The purpose of this research is to propose an unobtrusive system to communicate awareness; thereby maintaining connectedness of family members who are living separately. A prototype system was implemented and evaluated by participant including older adults. **Design and implementation** The goals of the proposed system are to sense what a family member is doing in one site, and to display information suggesting that action at the other site (*Figure 1*). When people are living with others, they are often aware of others by the results of their actions, such as smell or noise of cooking. The proposed system does not transfer direct information of a person (e.g. video or voice recording) to protect privacy. Instead, prepared sounds or smells which suggest the actions are displayed. The system does not require any conscious operations of the user. Users do not have to learn any operations, or coding rules to understand the displayed information because the displayed information is naturally mapped with the original action of the remote family member. The proposed system was implemented as a network, consisting of sensors, aroma display devices, heaters, and PCs as controllers. The PCs in the households exchanged information via the Internet. **Evaluation results** The implemented system was evaluated by three groups of participants, including elderly parents and their children living in different locations. Each group used the system in their own houses for one week. The subjective evaluation by the participants as well as quantitative data of their usage suggested that the proposed system was successful in giving the participants a sense of awareness of their counterparts. The participants reported that the system could suggest the presence and behaviour of their counterparts in an intuitive way, and they did not report privacy issues.

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*Figure 1. System concept: Only information of person's behavior is transmitted and information suggesting the results of the behavior is displayed. No direct information of person nor behavior is sent*