S. TOKUNAGA, K. TAMAMIZU, S. SAIKI, M. NAKAMURA, K. YASUDA. **Cloud-based personalized home elderly care using a smart agent.** *Gerontechnology 2016; 15(suppl):98s*; doi:10.4017/gt.2016.15.s.991.00 **Purpose** In the recent super-aging society, smart systems that aim to help elderly people at home have attracted attention. Exploiting smart care robots is a promising way to support independence of older adults, as well as to relieve the burden on caregivers and families. However, the use of the care robots is not widely spread yet, since deploying a care robot at a home is expensive. Moreover, adapting a care robot to individual life style is challenging, as it requires long-term machine learning as well as costly robot operation and maintenance. We need a way to achieve such personalized robots at more reasonable cost. **Method** We exploit virtual agent technology (i.e., animated chat-bot software) as a care robot communicating with elderly at home. Each virtual agent works based on care logic stored in the cloud. The fundamental care logic is shared as a 'template' by all households, but the template is highly personalized for individual elderly using personal profile and individual contexts. *Figure 1* shows the architecture of the proposed system. The key components are CareTemplate (CT), VirtualCareGiver VCG), and VirtualCarePersonalizer (VCP). CT is a skeleton of care program that defines what should be executed by the virtual agent. For example, when the care program plays music, CT involves an operation playMusic(). If a program greets the older adult, CT involves greet(). Then, VCP implements actual care by customizing the CT based on personal profile and contexts. For instance, if a client likes folk songs, VCP chooses a famous fork one to play Music().If s/he is hard of hearing, VCP produces a loud and slow voice for greet(). We assume that such personal information is provided by a care manager, family or the elderly himself. The implemented care is finally instructed to VCG deployed in the individual home. VCG works as a (virtual) care robot executing given personalized care, using the virtual agent, as well as other smart devices at home. *Figure 2* shows an example of care by playing music for two different users: Tokunaga (a 65 yrs old men) and Nakamura (an 80 yrs old women). In this example, Tokunaga likes a Japanese traditional song 'enka', Nakamura has aged eye, and likes The Beatles. The system of the music care program reflects preferences and physical conditions. **Results & Discussion** We have developed a method that achieves robotised home care for elderly with a reasonable cost. In the conference, we will demonstrate our prototype system. Delegating some of the elderly care to the proposed smart agent, we expect that the burden to the care giver is relieved, and the quality of the human care will be increased.

References
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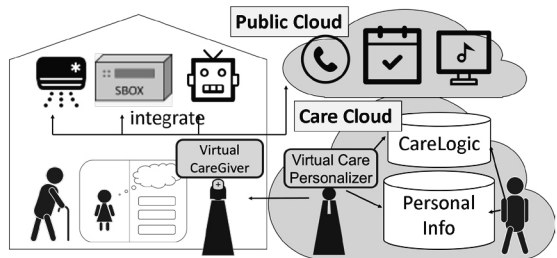
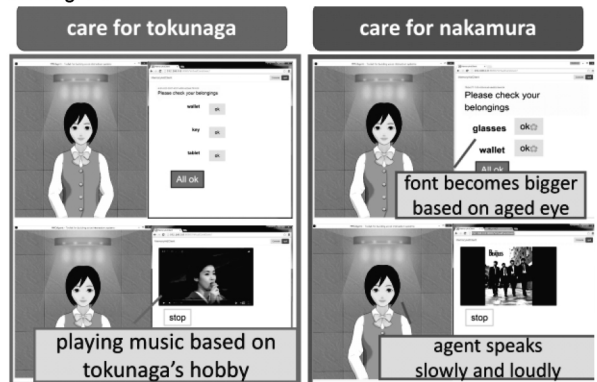doi:10.1007/s10676-010-9234-6

Figure 1 Architecture of personalized care service with a smart agent

Figure 2. An example of personalized care