Purpose Technological-related products and services are increasingly playing a significant role in care of older persons with cognitive impairment. Subsequently, it seems necessary to assess which technological devices are adapted to them and to empirically validate the features that would ease their use[1]. Usability can be defined as "the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use"[2]. Usability testing is a way of ensuring that systems are adapted to the end-users and of guaranteeing there are no potential negative outcomes that could result from their use. The classical procedure involves observing how users interact with prototypes or final technological products to perform realistic tasks under controlled conditions. However it must be considered that older persons with cognitive impairment are usually inexperienced technology users and that cognitive deficits may affect their capacity to perform a task. Usability testing can help understanding which difficulties are related to one or both of these conditions. **Method** During a testing session, quantitative and qualitative data can be collected: objective performance measures (e.g., response time, error rates, and help requests), and subjective measures (e.g., user's satisfaction, comments, and attitudes). Some variations on the traditional technique might be done when testing with special populations such as older people with cognitive impairment: defining the number and the length of sessions as well as the timing for tasks according to the cognitive profile, scheduling breaks, carrying out exploratory sessions to allow participants to get familiar with the system, waiting longer before prompting, giving participants the possibility to ask for help, and involving the caregiver when appropriate[3]. **Results & Discussion** We performed several usability assessments at LUSAGE laboratory: (i) Assistance robots for dementia care, (ii) Cognitive stimulation software for people suffering from Alzheimer's disease, (iii) Video-game interface for music- therapy designed for people with cognitive impairment, (iv) GPS personal tracking system for people with dementia who wander. These tests have permitted us to assess in detail how our target population interacts with technological devices. Results have allowed us to build a theoretical framework for usability assessment methodology specially conceived for older users with cognitive impairment (*Figure 1*). Placing users, their needs and capacities at the centre of the design process is a fundamental step. Understanding the cognitive and psychological process concerned by the function allocation method is also required in order to achieve the goals of gerontechnology.

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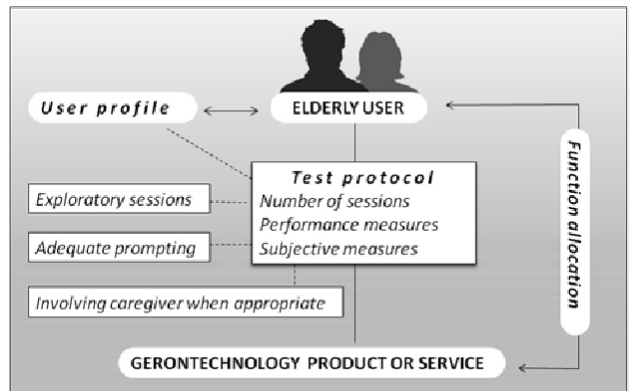E: maribel.pino@brc.aphp.fr

Figure 1. Usability assessment methodology for older persons with cognitive impairment