

M. Pino, V. Faucounau, Y-H. Wu, M. Boulay, M. Riguet, M. de Sant'Anna, H. Lenoir, M-L. Seux, L. Hugonot, G. Orvoen, F. Labourée, F. Moulin, I. Cantegreil, E. Wenisch, J. de Rotrou, A-S. Rigaud. *The LUSAGE Usability laboratory for elderly people with cognitive impairment. Gerontechnology 2009;8(3):185; doi: 10.4017/gt.2009.08.03.002.00* To promote the use of innovative technologies by the elderly, usability is improved. Computers with touch screen, voice or eye control, simplified or virtual keyboard are increasingly being produced in order to meet their needs. User laboratories of innovative technologies have been set up with the aim of testing different products and usability issues (effectiveness, efficiency, satisfaction) by observing the users interacting with them<sup>1,2</sup>. In France none of these laboratories has focused on elderly people with cognitive impairment as potential users. Some national research does emphasise the need of evaluating usability for these innovative products<sup>3,4</sup>. We created a facility that specializes in usability assessment. **Technical description** The gerontechnology team in Broca Hospital set up LUSAGE that is exclusively centred on elderly users with cognitive impairment. Its main objective is to evaluate the usability of different user interfaces in order to propose products tailored to the needs of this target population. This laboratory consists of a testing and a viewing room equipped with computers, recording material and software, allowing unobtrusive observation, coding and analysis of the user's behaviour. We employ quantitative and qualitative methodologies to study how users interact with prototypes or final technological products. The evaluations are conducted by an interdisciplinary team including medical doctors, psychologists and technical professionals. Subsequently we propose interface usability guidelines. **User studies** User-test sessions are performed with prototype software for cognitive stimulation as developed by our team. Ten people were recruited aged 78 and older, diagnosed with mild-to-moderate dementia. One exploratory session was carried out before the testing to allow users without informatics experience to get familiar with the system. During four testing sessions we recorded performance and behavioural data that were analyzed afterwards. The tests results highlighted the usability problems related to cognitive impairment, allowed a better understanding of the users' skills, and contributed to improve the software ergonomics. Further tests with the improved version of the software will be conducted before its launch on the market.

## References

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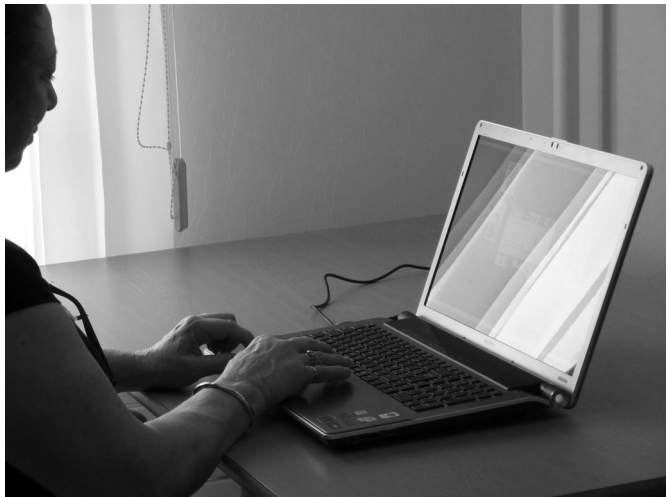


Figure 1. Cognitive stimulation software user-test