E. Zwartkruis-Pelgrim, B. de Ruyter. Developing a memory game for elderly. Gerontechnology 2008; 7(2):251. In the course of our lives, our cognitive abilities are said to increase until our late thirties or early forties, with a period of stability until our mid-fifties or early sixties, followed by a gradual decline[1]. The onset and course of this decline is difficult to determine, since it is not directly related to age. Fortunately, studies have shown that training can indeed significantly improve cognitive performance[2,3]. In fact, this also seems to be common knowledge among older people, since they frequently mention keeping cognitive abilities fit as a motive to play games or puzzles. **Method** A game application was developed and tested in a co-discovery evaluation with 14 participants, six of whom were men, and with a mean age of 71 years. The evaluation took place in a laboratory setting resembling a home environment. Based on the user feedback on how to make the games more challenging, game levels were implemented and a community view was included to enable comparison of scores with peers. This redesign was tested during a two-week field trial at 16 participants' homes, 13 of whom were men, and with a mean age of 65 years. During this two-week field trial participants kept a diary of their experiences, which included questions from the experimenter. In addition, participants filled out a questionnaire, and the field trial was concluded with an interview. **Results and discussion** Although statistical analysis could not demonstrate an overall significant improvement for the separate games during the two week field trial, performance patterns show consistent progress (*Figure 1*). Furthermore, frequent players outperformed non-frequent players on several games. Performance patterns were positively affected by subjective vitality. It was further found that the amount of effort that people put in playing the games enhanced their feeling of engagement, which positively affected performance, which in turn positively affected motivation. The community view was valued by competitors but not by individualists and affected the experienced pressure for participants with a high rank in their community. A critical turning point in the appreciation of the games was after about one week, where participants both become habituated and feel the games become repetitive, or they continue to enjoy the games because they notice improvements in their performance. Participants who became habituated to the application noted that it focused heavily on reaction time, which was less appealing for them.

References

1. Schaie KW. San Diego: Academic Press; 1990; pp 291-309
2. Salthouse TA. Perspectives on Psychological Science 2006;1:68-87
3. Kausler DH. San Diego: Academic Press; 1994

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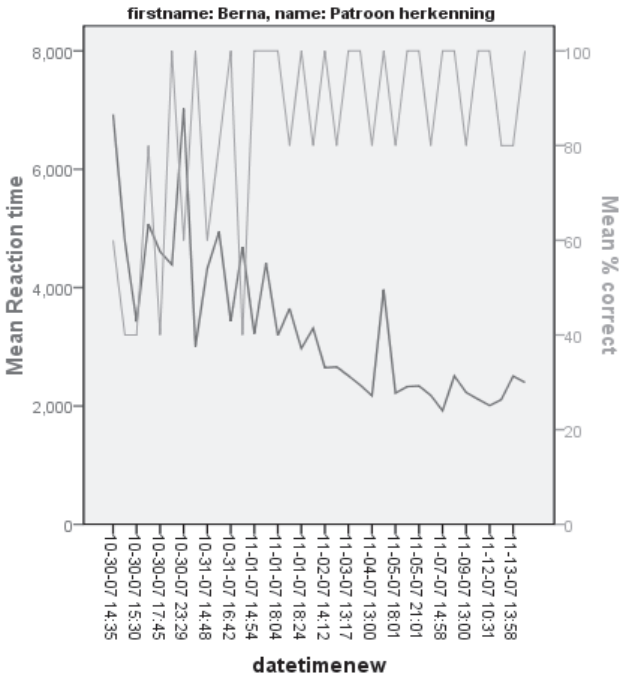

Figure 1 Increase performance pattern