

## Gamification in elderly care

### Keywords

Seniors - games - Human interaction – Computer- gamification

*In this text below are some good examples using technology in the work of the elderly of Finland. The technology can be used to increase the senior's archive content, stimulation, and make it possible, for example, for exercises that support mobility, in a meaningful and easy way.*

*Technology development is staggering, and this has been taken into account in Finland as early as pre-school education. Technology has also rapidly become part of the work of the elderly, both as part of the work of carers and as seniors to bring meaningfulness to life or to live and support at home.*

According to a study by the Finnish Institute for Health and Welfare (THL), by 2018 over 40 percent of home care users had access to a remote, virtualized computer, tablet or phone.

Thus, devices are already familiar to many. With the same devices, it is possible to play digital games, providing an entertaining and rehabilitative passage of time. Games can be used to train the brain and muscles, to tempt you to remember or exchange experiences and thoughts together. So games can bring social communication and stimulation to the senior's daily life. Digital games can be played on any digital device such as a computer, game console, tablet, TV, and Smartphone. Games include: brain and brain exercises, quizzes (such as tetris, mahjongg, cross-zero, chess, solitaire), sudoku, puzzle and various strategy games, role-playing, action games, sports games, games for chronic disease management (neuroplay for recovering from brain injuries, chronic pain and depression patients). Games can be played either independently (including Solitaire) or in groups, for example, between members of the same department or at different addresses via the Internet. You can also watch games if you don't want to play them yourself.

Playing can prove to be a fun pastime with peers and generations alike. Online game does not reveal the age of the gamer and many teenagers unknowingly played with over 80 year old gamer.

## Good practices in Finland

### Memory support exercises

In the Muistiluuri project has been developed with FORAMEN exercises that promote cognitive function. Brain Farmer is a memory training game designed for the elderly and suitable for all users. The Impulse app offers nine different subject areas to do, tips and things to think about. From there, you can choose brain-healthy content based on your personal interest.

Memoride combines exercise with exercise and memory for an inspirational program. When trampled in familiar virtual landscapes, such as old home villages and childhood landscapes, activity is unobtrusive. The views are not time and place bound but by bicycle you can go to the home streets of a child living abroad or to the parks of an interesting city that you have never really visited. You can pedal your bike according to your fitness level, including a handwheel or a restaurant or pedal device. By adjusting the motion detector under the pedal, even slower motion can be used to shift the view for longer distances. The package includes tablet and software, sensor wheel and adapter for image transfer.

### Robotics

Called the Social Robot, Paro is a white, soft electronics seal developed in Japan for the care of memory-impaired people, which responds to human activity. Paro has surprisingly good research results in memory patients. Paro can motivate a person to talk even after months of complete silence. Robots have also been tried in service houses to control physical activity and perform singing songs. Lady Lydia, a caring robot, has also been a part of elderly care at Attendo chain care homes. Lady Lydia is a social robot who discusses and directs, for example, a gym for seniors. Of course, the robot does not replace humans, but acts as a human aid because it can have some wonderful features. With gestures, speech recognition and speech synthesizer, can talk about the same topic all day long without getting bored and tired.

The Pepper robot recognizes emotions. Empathy is important and meaningful even when it is not genuine because it affects mood and emotions. Through it, it can even alleviate loneliness. Schools use the Elias robot for language teaching, which is programmed with child-friendly memory exercises. The social robot Sara was developed by Forum Virium, an innovation company in the city of Helsinki. From the screen, a nurse or an elderly person can choose a lecture on history from the Finnish presidents.

In Finland, children nowadays are taught robot programming in schools, and a school visit to a nursing home may include a robot-controlled exercise session with the support of a nurse. Even the touch can be sent and received with an application based on digital technology developed in Finland. At the moment, it requires "smart" and a phone with bluetooth. Regardless of distance, the other person can iron the teddy bear and the recipient will feel the teddy bear's hand. The device can be used,

for example, between grandparents and grandchildren living in different parts of the world - or in neighboring cities.

(<https://www.vahvike.fi/fi/tietokoneet/digitaaliset>)

## Conclusion

The examples from [www.vahvike.fi](http://www.vahvike.fi) above show that gamification and technology have become part of the nursing effort. In Finland, technology competence is taught partly from pre-school and primary school. Changes in working life and changes in skills requirements as a result of technological change have been taken into account and included in early education. The world is changing, and professions and skills are changing.

Technology also brings with it many challenges. Current senior generations have lived their lives working without machinery and equipment. For many older people, using a computer is scary or changing from a landline phone to a smartphone. Many of the seniors that I interviewed, experiencing technological equipment terrifying, and their use is difficult to get used to.

Through the Faicare project, we have taught seniors how to use memory-enabled games. One very good device is the Memoera, which has over 20 different applications supporting memory. Teaching a game takes time, and it is worth giving the elderly time to learn, experiment and students have been a lot involved in guiding. For many, Memoera has been a very easy and simple device to play after the initial excitement, and the game has become an entertaining part of everyday life.

So good practice involves sufficient teaching, guidance and giving the senior time to experiment in peace. The presence of a director is also important. For many, games have also been a social event, and game scores have been compared to see who has done the best.

Mototiles exercise has also been successfully tested in the elderly. At the Pori University of Applied Sciences, the Kotikunto project implemented activating and improving the basic condition of the elderly with Mototiles. According to the elderly 'own experience, basic fitness and mobility improved. The tiles made it easy to move around, and a social community where others were also present. Alongside the fun-loving competition, the results were compared and new content and discussion topics were brought to the day.

These examples show that technology brings new opportunities, content to seniors' lives. It only requires guidance and time. Future generations already have better control over technology and are able to take advantage of various opportunities.

## Writer

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## Text Sources:

<https://www.vahvike.fi/fi/tietokoneet/digitaaliset-pelit>

Memoera: [www.memoera.fi](http://www.memoera.fi)

Kotikunto -project: <https://mewethome.com/2018/10/13/hyvinvointiteknologialla-kotikuntoa-aiko-kotikunto-hankkeen-pilotit-kaynnistyvat/>

Mototiles: <https://www.meditas.fi/>



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