

The role of artificial intelligence in maintaining mental health

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Need for digital solutions in elderly care

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Brief overview of the topic

Smart solutions for ageing

General objectives

Frameworks

Aims of the project and working method

Assessing the smart needs of elderly people

Working process and examples

SMART solutions for ageing

► Facts

- more than 20% of people in Europe are over 65
- family caring capacity is steadily decreasing
- the social or health care system cannot always keep pace with the increasing needs

- **SMART solutions can play a key role in maintaining the independent living of elderly people.**

General objectives

- ▶ Building bridges between smart technologies and older people
 - ▶ Giving older people the chance to learn about smart solutions.
 - ▶ Organising a process of co-creation of values between developers and older people.
- ▶ Objective:
 - ▶ To understand the real needs
 - ▶ Develop technologies to meet needs

Framework

- The project period started in 2020 and ended in 2022. After that, we maintain it to this day.
- The project is financed by the Interreg Central Europe
- The total amount of aid: 2 147 160,18 EUR
- Project partners
 - seven countries
 - thirteen organisation
- Hungary: Municipality of Újbuda (lead partner), Social Service of Újbuda and Budapest University of Technology and Economics

Aims of the project and working method

➤ Aims

- to establish a lasting cooperation
- to ensure that stakeholders are involved in all stages of the innovation process

➤ Working method

- co-creation, quadruple helix

Assessing the smart needs of elderly people

- Smart technology is also playing an increasing role in the lives of older people
- Needs and expectations must match smart technology
- Needs assessment in two steps:
 - Step 1: understanding the real needs of older people
 - Step 2: Identifying the smart needs and expectations behind the needs

Assessing the smart needs of elderly people

Focuses

- the need for safety
- simple, reliable information
- quick access to health and social services
- help to maintain independent living
- need for mental health support
- to reduce isolation

Expectation of smart devices

- direct and immediate remote access
- satisfaction of autonomy, activity and sense of companionship
- affordable service design
- smart solutions must be interoperable
- personalised systems that take age, condition and need into account

Working process

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Seven projects, seven (specific) testing processes

- Consultation with developers: mapping needs and opportunities
- Choice of working method(s) (expert interview, focus group, questionnaire, physical testing)
- Timeline planning
- Testing process (tools or concepts) and regular feedback
- Integration of testing experience
- New testing and feedback

Overall, we work based on the living lab concept

Working process

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Testing SMART innovations - Examples

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CovCAP-cloud-based service for older people

- The app connects the elderly with volunteers.
- The aim of the testing was to refine the functions and processes offered by the development



CoVCAP
COORDINATING VOLUNTEERS SUPPORTING COVID-19 AFFECTED PERSONS



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ForeStream-remote monitoring system for the elderly

- ➔ It is a smart camera system that both provides a way to detect changes in activity in the home environment and detects dangerous situations. The aim of the testing was to assess the relevance of the concept and to identify the ethical problems.

Moniphone and SOS Pager – intelligent remote monitoring system

- Devices with a traditional appearance, but equipped with high-tech
- Features: continuous online connection, remote monitoring, fall alarm, alarm sending, geo-fencing, the possibility of connecting medical devices
- Testing: device testing in the field of home assistance with a signaling system



Medistance - telemedicine system

- The system provides the opportunity to collect, aggregate and analyze the user's physiological parameters on a common platform.
- Target group: seniors
- Testing: physical testing of the telemedicine system (blood pressure monitor, blood oxygen level), fitting the device into the scope of activities of the social care system



OMRON

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NOBI system

Care

- detects a fall
- helps with orientation, night safety
- turns on a light
- notifies the driver when the child goes to bed or wakes up
- warns about fluid consumption
- reminds you to take medication
- reminds you to exercise, to do exercises
- supervises the sleeping person
- can be connected to health records
- enables voice communication



MentalWellness - cognitive games

- Computer games that can contribute to the maintenance of cognitive and, to a lesser extent, motor skills. Additional options: diagnostics, therapy
- Testing: evaluation of 7 games (comprehensibility, followability, difficulty, subjective assessment), application in the field of social care



Thank you for your attention!



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