Introduction to the Seniors' Use of Digital Resources Minitrack

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Once again, the World Health Organization reports on the global demographic changes [1]:

- Between 2015 and 2050, the proportion of the world's population over 60 years will nearly double from 12% to 22%.
- By 2020, the number of people aged 60 years and older will outnumber children younger than 5 years.
- In 2050, 80% of older people will be living in low- and middle-income countries.
- The pace of population ageing is much faster than in the past.
- All countries face major challenges to ensure that their health and social systems are ready to make the most of this demographic shift.

This trend towards ageing societies impacts daily living arrangements globally. In 2017, the United Nations published a report on the living arrangement of seniors', based on an extensive dataset. They find that in the 143 countries they analyzed, "the median proportion of persons aged 60 years or over living alone was 12 per cent, with estimates ranging from a low of less than 1 per cent in both Afghanistan and Pakistan to 34 per cent in Lithuania. For half of countries the proportion living alone was between 7 and 21 per cent. Most countries in Europe were above the 75th percentile, however, in 23 of the 35 European countries with available data, more than one in four older persons lived alone. Countries below the 25th percentile were mostly in Asia and Africa." [2].

Given the trend towards "western style" living in many countries, one can assume that in the future the number of aging people living alone or with a spouse will increase, rather than decline. Recent data from the United States confirms this trend [3].

This development poses many challenges as elderly people are frailer and more prone to (chronical) illnesses. Thus, they need more attention and care, compared to younger people living alone. Another trend especially in developed economies is the declining number of nurses and care-givers, in combination with a shrinking population. This poses the overarching question: *Who will take care of the increasing number of seniors who live on their own?*

Information systems research can help to provide solutions to this problem in several dimensions. For example:

- (1) Technical solutions to ease the difficulties of daily living - like robotic support, exoskeletons and prostheses. These solutions should aim to help seniors with declining physical and motoric abilities.

- (2) Alternative interaction mechanisms for the human computer interface. The ageing generation often faces issues with declining eyesight and/or motoric capabilities which makes the traditional way of interacting with technology (using a physical keyboard, a soft keyboard (on smartphones/tablets) or pushing buttons and reading tiny screens) very difficult. Alternative techniques like the use of voice may be better suited.
- (3) Development of social platforms for the elderly to enable communication and prevent loneliness. Also finding ideas for new activities or building groups to do things together could be beneficial to prevent social isolation.
- (4) To support care-givers - both private and commercial ones - new exchange platforms could help to make better use of the (few) available human resources. Specific AI algorithms could be used to dynamically optimize the wants and needs of a group of elderly people and help to assign the resulting tasks in the most efficient way to the care-givers.

The number of challenges and potential solutions seems countless. On the bright side - this is an area, where the information systems discipline can really make a difference. We are looking forward to many innovative solutions over the coming years.

In the meantime, the work of Hubner, Boron and Fruhling "Use of Assistive and Interactive Technology and Relation to Quality of Life in Aging Adults" takes a good step in this direction. The authors conducted a quantitative study to improve our understanding of older adults' technology needs, preferences, and use to inform development of innovations for this population.

References

- [1] WHO (2021), *Ageing and health*, <https://www.who.int/news-room/fact-sheets/detail/ageing-and-health>
- [2] United Nations (2017), *Living Arrangements of Older Persons: A Report on an Expanded International Dataset*, <https://www.un.org/en/development/desa/population/publications/pdf/ageing/LivingArrangements.pdf>
- [3] Pew Research Center (2020), *Older people are more likely to live alone in the U.S. than elsewhere in the world*, <https://www.pewresearch.org/fact-tank/2020/03/10/older-people-are-more-likely-to-live-alone-in-the-u-s-than-elsewhere-in-the-world/>