

Virtual Reality for Seniors:

A First Encounter of Residents of a Long-Term Care Facility
with VR

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Virtual Reality (VR)

- Immersion = objectively determined degree of detail of the sensory fidelity of a virtual environment
- Presence = feeling of "being there"; subjective, psychological reaction
- Three-dimensional (3D) environment:
 - static 360 ° photos
 - dynamic 360 ° videos
 - interactive 3D environments

Potential of the technology for the elderly

- Ability to visit places without thinking about physical impairments
- "Reliving" thoughts instead of rumination
- Variety for everyday life
- Motivation for therapy and training

Risks of the technology for the elderly

- Lack of interest and acceptance (fear) → technology biography
- Complex usability of the technology
- Cyber Sickness

Goal of the study

- Residents of a LTC institution were asked to try out VR glasses and report their first experiences with Virtual Reality
 - ✓ Finding out if VR is an interesting technology for the elderly
 - ✓ Optimizing the process of introducing VR to the target group
 - ✓ Defining areas of application for VR in LTC from the perspective of the residents

Research questions

- How is the first encounters of older people with virtual reality?
- Which motives and sensations accompany this first encounter?
- What are the possible use cases of VR glasses for the residents?
- Which virtual scenarios do the residents wish to visit with the VR glasses?

Study

- General information about the technology
- Trying out the VR googles: 360° environment meadow with mountains and lake
- Interview
 - VR experience
 - Everyday life today and past
 - Possible use cases for VR
 - Places, they would like to travel



Inclusion criteria

- Resident of the Care Hospital *Haus der Barmherzigkeit* in Vienna
- No dementia diagnosis
- No or low vision restrictions
- Equal distribution of the gender of the participants
- Voluntary participation in the study



Description of the sample

- Participants: 6 residents 3 male & 3 female
- Age: 68-80 years
- Occupancy: 5-13 years
- Mobility: 5 wheel chair, 1 walker
- MMSE: 27-30 points
- Education: basic school and vocational training

Results 1

- The subjective rating of leisure time influences the interest in the use of VR
- Residents with many appointments
 - less need to use VR glasses in their free time
- Timid residents who have never been on vacation
 - missed opportunities to travel, dream & relax

Results 2

- Technology-interested residents
 - animated environments, videos or games in everyday life or during therapy
- Possible uses for other residents who spend most of their time indoor
 - distraction and change from everyday life

Results 3

Use cases for Virtual Reality

Therapy

- **Movement**
- **Language**
- **Memory**
- **Motivation**

Relaxation

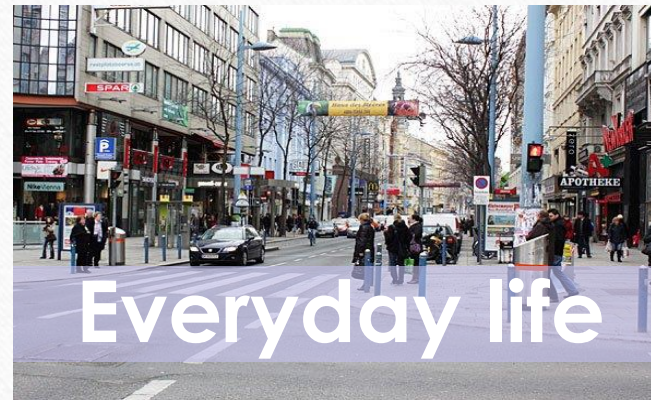
- **Satisfaction**
- **Sleep**
- **Reminiscence**

Distraction & Variety

- **Escape daily routine**
- **Excursions**
- **To learn new things**

Results 4

Places to visit with VR



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Conclusion

- Various applications in therapy and care for further research and practical application
- An adjustment of the VR glasses is necessary in any case
 - not only for the residents themselves, but also for caregivers!
 - an intuitive control of the technology is necessary!

Discussion

- Do you already have experience with VR glasses in practice?
- Where do you see possible uses for virtual reality?
- ... even in people with dementia?
- ...Under which conditions?

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Es lebe das Leben.