Virtual Reality for Seniors: A First Encounter of Residents of a Long-Term Care Facility with VR

Victoria Mühlegger

Akademie für Altersforschung am HAUS DER BARMHEIT
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
• 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

<table>
<thead>
<tr>
<th>Therapy</th>
<th>Relaxation</th>
<th>Distraction &amp; Variety</th>
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</thead>
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<tr>
<td>• Movement</td>
<td>• Satisfaction</td>
<td>• Escape daily routine</td>
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<td>• Language</td>
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<td>• Motivation</td>
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Results 4
Places to visit with VR

Nature

Everyday life

Culture

Travel abroad

Underwater
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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?
HAUS DER BARMHEIGKEIT
Es lebe das Leben.