QUALITY OF LIFE AT HOME
IAT – Introduction to AT-tools

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IAT tasks

Working steps:

- Literature research to answer different questions (e.g. which assistive technologies do exist? Which assistive systems are frequently used? What promotes the use of assistive technologies, and what hinders their use?)
- Interviews with experts in the field of care
- Target group-oriented preparation of information about AT

IAT tasks

Why is this topic important?

→ ATs can help to maintain/increase the quality of life of persons with dementia, e.g. by helping to live longer independently or by providing entertainment

→ ATs support the relatives in the care process

→ ATs can lead to more safety

Def. Assistive Technologies (Ats)

„[...] Any item, object, device or system that enables a person to perform tasks that they would otherwise be unable to do, or increase the ease and safety by which certain tasks can be performed" (Wu et al. 2014)

Categories of ATs

- Relaxation and leisure activities
- Communication and social participation
- Mobility and Movement
- Safety
- Health
- Nutrition and Feeding
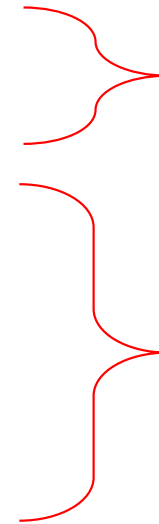
Training Package 2

Training Package 3

Results

Profile AT

Name of AT: XXXXX		
Useful for:		**Picture of AT**
Category:		
Short description:		
Implementation:		
Requirement for technical knowledge:		
Possible difficulties:		
Where to use:		
Costs:		
Where to buy:		
Case-Study:		
Training Material:		

Results

Category	Number of ATs
Communication	3
Sensorial stimulation	6
Nutrition	3
Medication	2
Mobility	3
Rest	1
Hygiene	3
Safety	8
Total:	29

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Results - Examples

- ATs for communication:
  - Alexa (Amazon)
  - Motion Activated Voice-Player
- ATs for sensorial stimulation:
  - Paro Seal
  - Heat- and massage pads
  - various apps (z.B. Mindmate, MyReef)
- ATs for nutrition and feeding
  - Sensor, to remember to drink (Ulla)
  - Eating aids

Results - Examples

- ATs for medication:
  - MedMinder
  - Systems for monitoring blood glucose levels
- ATs for mobility:
  - GPS-Tracker (e.g. in clocks or separetely in shoes)
- ATs for rest
  - Biodynamic light
- ATs for hygiene:
  - Shower head with temperature limit
- ATs for safety:
  - Motion detector for light
  - MeMoTray

Example for Sensorial Stimulation

Name of AT: PARO Robot	
Useful for:	Relaxation
Category:	Sensorial stimulation/ Rest
Short description:	PARO is an advanced interactive robot and has been found to reduce patient stress. PARO stimulates interaction between patients and caregivers and has a psychological effect on patients, improving their relaxation and motivation.
Implementation:	The on/off switch is located underneath the artificial fur at the end.
Requirement for technical knowledge:	Low *
Possible difficulties:	To clean PARO it must be switched off, the fur is not removeable. Never allow the battery pack to become immersed in liquid such as water, sea water, etc. Do not let it get wet.
Where to use:	When you gently pet PARO's body, it will cry happily and express feelings of comfort. You can pet PARO's whole body. PARO has five kinds of sensors: tactile, light, audition, temperature, and posture sensors, with which it can perceive people and its environment. With the light sensor, PARO can recognize light and dark. He feels being stroked and beaten by tactile sensor, or being held by the posture sensor. PARO can also recognize the direction of voice and words such

	as its name, greetings, and praise with its audio sensor. PARO can learn to behave in a way that the user prefers, and to respond to its new name. For example, if you stroke it every time you touch it, PARO will remember your previous action and try to repeat that action to be stroked. If you hit it, PARO remembers its previous action and tries not to do that action. By interaction with people, PARO responds as if it is alive, moving its head and legs, making sounds, and showing your preferred behavior. PARO also imitates the voice of a real baby harp seal. PARO learns the name it is frequently called by its owner.
Costs:	Approx. 6.000,00 €
Where to buy:	PARO Therapeutic Robot | Contact (parorobots.com)
Case-Study:	PARO provides indirect benefits for users by increasing their activity in particular modalities of social interaction, including visual, verbal, and physical interaction. The positive effects on older adults' activity levels show steady growth over the duration of our study, suggesting they are not due to short-term "novelty effects (Sabanovic, Bennett, Chang & Huber (2013)) PARO interventions improve QOI, neuropsychiatric symptoms, positive affect, social interaction. Consider participants' cognition, intervention settings in selecting outcome measures (Kang, Makimoto, Konno & Koh (2020))
Training Material:	Full training video (English): PARO Therapeutic Robot | Training (parorobots.com) Manual: PARO Manual 2015 09.pdf (parorobots.com)

How to increase the acceptance of ATs

- ATs should always serve a purpose
- ATs must be easy to handle (self-explanatory)
    - no complicated settings, but simple and few options
- Font and graphics must be easily recognizable and large enough
- They must be designed with privacy in mind:
    - Information that data protection is taken into account
- ATs must be affordable

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Barriers

- unawareness of these technologies: Many individuals and family members are not yet aware that digital technologies can help them
- ATs that are not specifically designed for persons with dementia or seniors are too complicated
- They must be designed with privacy in mind:
  - Some persons can have ethical problems, such as data protection concerns: the app or the gadget may be connected to the Internet sending information from the user.
- ATs may be seen as surveillance systems instead of helpful tools.
- ATs must be affordable
- Some persons are not active enough to react to those external stimuli

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