

What do we need assistive technologies for?

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Background

AAL projects

- **MyLife** – appointments and reminders, entertainment, contact (MEMAS™)
www.mylifeproducts.no
- **T&Tnet** – simple navigation (VIALE)
www.ttnet-aal.eu
- **PIA** – support to activities of daily living
www.pia-project.org



Personal background

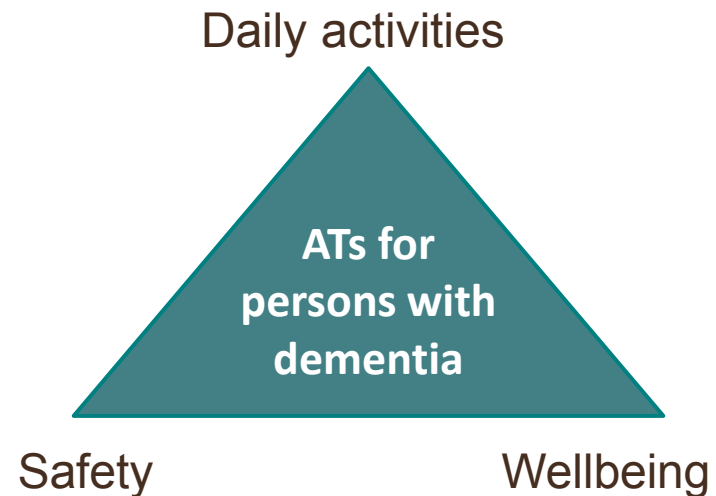
- Family carer for a person with dementia



- Researcher / developer / innovator

Quality of Life

It is possible to maintain good Quality of Life (QoL) despite dementia or other reasons for memory impairments.



Support to daily living activities and wellbeing will contribute to this, and may enable living at home a bit longer.

Assistive technologies help.

QoL: It's something connected to ...

- Remembering appointments
- Remembering the names of persons
- Listening to favourite music
- Being able and allowed to go out for a walk
- Shopping daily groceries
- Still managing the coffee machine
- Following 'Poirot' on TV every Tuesday
- Looking at football
- Looking at photos of own working life, the boat, or any other topic that really matters
- Preparing the ham-and-cheese omelette, or just a cup of coffee
- Being able to contact family and friends in an easy way
- Remembering to take the pills
- Getting help when needed



Challenge



Safety and security are just parts of the landscape.

Wellbeing and quality of life include a number of elements that are very often by-passed.

30 seconds for each slide, just for the idea



Please imagine – just **very quickly** – what could be done to support a person struggling with these challenges.

Assistive technology?

1. Memory loss that disrupts daily life

One of the most common signs of Alzheimer's is memory loss, especially **forgetting recently learned information**.

Others include forgetting important dates or events; **asking for the same information over and over**; increasingly needing to rely on memory aides (e.g., reminder notes or electronic devices) or family members for things they used to handle on their own.



2. Challenges in planning or solving problems

Some people may experience changes in their ability to develop and follow a **plan** or work with **numbers**.

They may have trouble following a familiar **recipe** or keeping track of monthly bills.



They may have difficulty **concentrating** and take much longer to do things than they did before.

3. Difficulty completing familiar tasks at home, at work or at leisure

People with Alzheimer's often find it hard to complete daily tasks.

Sometimes, people may have trouble **driving** to a familiar location, managing a **budget** at work or remembering the rules of a **favorite game**.



4. Confusion with time or place

People with Alzheimer's can lose track of dates, seasons and the passage of time.

They may have trouble understanding something if it is not happening immediately.

Sometimes they may forget where they are or how they got there.



5. Trouble understanding visual images and spatial relationships

For some people, having **vision** problems is a sign of Alzheimer's.

They may have difficulty **reading**, judging distance and determining color or contrast, which may cause problems with driving.



6. New problems with words in speaking or writing

People with Alzheimer's may have trouble following or joining a **conversation**.

They may stop in the middle of a conversation and have no idea how to continue or they may **repeat** themselves.



They may **struggle with vocabulary**, have problems finding the right word or call things by the wrong name (e.g., calling a "watch" a "hand-clock").

7. Misplacing things and losing the ability to retrace steps

A person with Alzheimer's disease may put things in unusual places.

They may **lose things** and be unable to go back over their steps to find them again.



Sometimes, they may **accuse others** of stealing. This may occur more frequently over time.

8. Decreased or poor judgment

People with Alzheimer's may experience changes in judgment or decision-making.

For example, they may use **poor judgment** when dealing with money, giving large amounts to telemarketers.



They may pay less attention to **grooming** or keeping themselves clean.

9. Withdrawal from work or social activities

A person with Alzheimer's may start to **remove themselves** from hobbies, social activities, work projects or sports.

They may have trouble keeping up with a favorite sports team.

They may also **avoid being social** because of the changes they have experienced.



10. Changes in mood and personality

The mood and personalities of people with Alzheimer's can change.

They can become **confused**, **suspicious**, **depressed**, **fearful** or **anxious**.

They may be easily **upset** at home, at work, with friends or in places where they are out of their comfort zone.



Domain	Subdomain
Physical functioning: Ability to perform basic physical activities of daily life	Physical functioning (e.g., walking, going up and down stairs, reaching, bending)

Domain	Subdomain
<i>Daily activities:</i> <i>PADLs and IADLs</i>	<i>Self-care activities (personal)</i> <i>Instrumental activities: (e.g., shopping, cooking, handling finances)</i>

Domain	Subdomain
Discretionary activities: Performance of discretionary activities	Hobbies, recreational activities, vacations Work/productivity Being active

Domain	Subdomain
Mobility: Ability to travel out of the house	Travel in neighbourhood and outside of neighbourhood Public transportation

Domain	Subdomain
Social interaction: Social relationships	Intimacy, happiness with family Social participation

Domain	Subdomain
Interaction capacity: Ability to interact with the environment	Communication difficulties Ability to comprehend Confusion

Domain	Subdomain
Bodily well-being: Symptoms and bodily states reflecting physical comfort, discomfort	Fatigue Sleep

Domain	Subdomain
Sense of well-being: Positive and negative emotional/affective states and perceptions of self	Self-esteem; Embarrassment, self-consciousness; Sense of control; Depressed mood, sadness; Feeling loved and wanted; Anxiety/worry; Loneliness/isolation; Fears; Anger/irritability; Frustration; Boredom; Feelings of belonging; Feeling useful, valuable to others, helpful; Calm, peaceful; Happiness, cheerfulness; Sense of humor

Domain	Subdomain
Sense of aesthetics: Sensory awareness	Enjoyment/appreciation of beauty/nature Creativity/artistic expression and appreciation Awareness and appreciation of surroundings

Domain	Subdomain
Overall perceptions: Summary ratings and evaluations about one's health and overall life situation	Self-rated health Life satisfaction

IADL skills

A. Ability to use telephone

1. Operates telephone on own initiative; looks up and dials numbers, etc.
2. Dials a few well-known numbers.
3. Answers telephone but does not dial.
4. Does not use telephone at all.



IADL skills

B. Shopping

1. Takes care of all shopping needs independently.
2. Shops independently for small purchases.
3. Needs to be accompanied on any shopping trip.
4. Completely unable to shop.



IADL skills

C. Food preparation

1. Plans, prepares and serves adequate meals independently.
2. Prepares adequate meals if supplied with ingredients.
3. Heats, serves and prepares meals or prepares meals but does not maintain adequate diet.
4. Needs to have meals prepared and served.



IADL skills

D. Housekeeping

1. Maintains house alone or with occasional assistance (e.g., "heavy work domestic help").
2. Performs light daily tasks such as dishwashing, bed making.
3. Performs light daily tasks but cannot maintain acceptable level of cleanliness.
4. Needs help with all home maintenance tasks.
5. Does not participate in any housekeeping tasks.



IADL skills

E. Laundry

1. Does personal laundry completely.
2. Launders small items; rinses stockings, etc.
3. All laundry must be done by others.



IADL skills

F. Mode of transportation

1. Travels independently on public transportation or drives own car.
2. Arranges own travel via taxi, but does not otherwise use public transportation.
3. Travels on public transportation when accompanied by another.
4. Travel limited to taxi or automobile with assistance of another.
5. Does not travel at all.



IADL skills

G. Responsibility for own medications

1. Is responsible for taking medication in correct dosages at correct time.
2. Takes responsibility if medication is prepared in advance in separate dosage.
3. Is not capable of dispensing own medication.



IADL skills

H. Ability to handle finances

1. Manages financial matters independently (budgets, writes checks, pays rent, bills goes to bank), collects and keeps track of income.
2. Manages day-to-day purchases, but needs help with banking, major purchases, etc.
3. Incapable if handling money.



Examples

This is something that has been done.

EXAMPLE

Solutions 1

- Result from the Mylife project



Memas™ tablet displays:

- Day, date, time
- Appointments and reminders today
- Calendar
- For pleasure: e.g. pictures, newspapers, radio and weather
- Contact me

memas®
Your memory assistant



Relatives use internet to chose interesting content for the tablet, configure the tablet and and monitor the use.

Solutions 2

- Result from the PIA project







Video clips on tablet
or smartphone about
activities of daily living

Made by relatives

Shared via PIA's social
platform



"Personal IADL Assistant"



Concluding words

More focus on existing frameworks for wellbeing and quality of life for persons with dementia.



Thank you!

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