

Mythbusters: Empowering people with dementia using technology

AAL Forum 2019 Aarhus



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Are you connected to mentimeter?:

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What's your first name and from what
country are you?:

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What's your main profession or occupation?:

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Dementia is a disease:

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Dementia is a disease: Answer: No



Historical: dementia means out of your mind (bonkers)

End 18th century: Philippe Pinel described the behaviour

1906: Alois Alzheimer connects behaviour to physical abnormalities in the brain. However they are sometimes found in people with no symptoms of dementia.

Today >60 diseases are believed to cause symptoms of dementia

Secondary dementia caused by: vitamins, medication, inflammations, dehydration, hormonal disturbance and many psychological or psychiatric conditions (pseudo-dementia)

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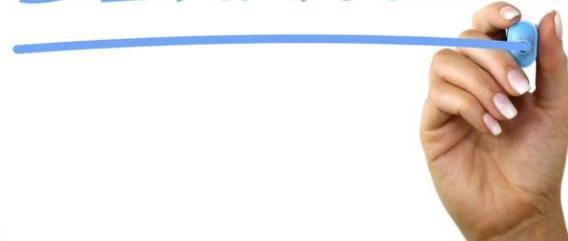
Dementia is a disease: Answer: No

Dementia is just a bunch of symptoms occurring together:

- Memory problems (mostly short term memories)
- 1 or more desorientations (time, place, persons, situations)
- 1 or more functional problems (afasia, agnosia, apraxia, attention, executive functioning)

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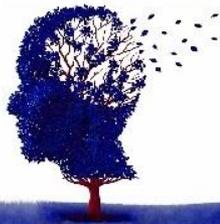
BEHAVIOR



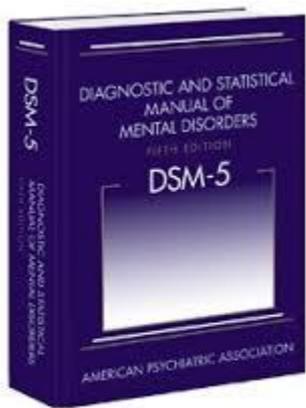
Dementia is an official diagnose in the diagnostic manual DSM-5:

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Dementia is an official diagnose in the diagnostic manual DSM. Answer: No



DSM-5
2013

The latest DSM-5 (2013) uses the term
neurocognitive disorders:

Minor: cognitive decline and forgetfulness max. 2 st.dev. from the normal, functioning independently.

Major: Major disorder (like dementia) cognitive decline >3 st.dev. *need for assistance in daily functioning.*

Forgetfulness, memory loss, personality changes, confusion, problems navigating familiar environments and difficulty performing everyday tasks are common challenges.



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A decline in cognitive abilities is a normal
ageing treat :

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A decline in cognitive abilities is a normal ageing treat. Answer: Yes

As we age, our cognition naturally declines

20-year olds up to 75% faster at certain tasks than 75-year olds

Old memories stay longer

Working memory (phone numbers) and new memories are more affected

Multi tasking and switching attention becomes difficult

‘Crystallised intelligence’ (the ability to use skills and knowledge) mostly unaffected

‘Fluid intelligence’ (the ability to think on the fly and solve new problems) suffers

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The psychological challenges of everyday life
are a main cause of symptoms of dementia:

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The psychological challenges of everyday life are a main cause of symptoms of dementia.

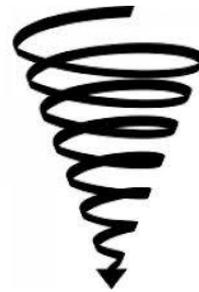
Answer: Yes

Kitwood, Ciompi, Böhm: psychological effects of coping with a loss of cognitive ability, are a main cause of many of the symptoms we attribute to dementia

Demand for 'fluid intelligence' leads to (fear of) failure, leads to insecurity and avoidance. Lower self-esteem leads to nostalgia: longing for older days when life was simpler.

- Regression to earlier psychological developmental state.
- Behaviour complying with this earlier state is often seen as odd.

Downward spiral is set in motion.



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Regression in dementia is irreversible,
what is lost, is lost forever :

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Regression in dementia is irreversible, what is lost, is lost forever. Answer: No

Luc Ciompi: with the right support and motivation it is often possible to reverse the process of regression

Key to success: emotional reinforcement

- feel good about themselves
- give them self-confidence
- support their feeling of being needed by someone
- address their Elan Vital (vital-spirit)

Erwin Böhm developed this into a nursing method aimed at the preservation of skills and the (re-)activation of patients.

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People with dementia can still learn new things:

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People with dementia can still learn new things. Answer: Yes

Theoretical learning is a task that is more likely to push them deeper into dementia, because of the **negative stress** it brings.

However learning by repetition is possible in many cases, **if the motivation is present** in the person with dementia. For example:

- learn how to use a simple Senseo or Nespresso machine.
- learn the route to get to the day-centre you really want to attend

It is often possible to learn by repetition:

- keep it simple
- avoid cognitive challenges (repetition)
- hook on to established patterns and memories.

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People with dementia can still learn new things. Answer: Yes

Discussion: What does this mean for technology for people with dementia?

- Who has to operate the technology?
- What is their personal history with technology?
- Do they really want it?
- Is there a cognitive challenge in using it?
- Does it look like something they know/understand (retrofitting)?
- Does it address their needs?

If we want people with dementia to interact with our technology, it must be addressing **their** personally felt needs instead of our needs.

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Over to part 2 of the session:

VR Glasses

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And now part 3 of the session:

What do people with dementia need?

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What do people with dementia need for support? :

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Living with dementia means living in emotion

Early in the dementia process the cognitive performance of people is surpassed by their emotional performance. Nostalgia is a mechanism used to cope with reality: back to a time when you felt your life was meaningful.

Motivation

Acceptance

Emotion

Investment

Benefits

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What do people with dementia need for support?

Emotional areas of needs:

- Sense of culture
- Sense of others
- Sense of self-worthiness
- Sense of personality
- Sense of self-awareness
- Sense of instinct, lust
- Physical sense
- Functional sense

- Practical support to:

- Participate and enjoy culture
- Communicate with and meet others
- Do things that make you proud
- Do things that fit your personality, express yourself
- Do things that activate you
- Do things that satisfy you
- Do things that make you feel your body, tired
- Just do things to be active, to feel alive

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What do people with dementia need for support?

Supporting people with dementia **to do normal things themselves** because:

- It makes them express creativity
- It makes them feel needed and wanted
- It makes them proud
- It defines who they are
- It keeps them active
- It satisfies their needs
- It makes them feel alive

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2 Basic characters

Sympathetic type

High lust for life
Freedom, risk taking
Psycho-motoric active
Cheerful, sportive
Changes partners and jobs
Try something new
Traveller
Always in action
Little conscience

Parasympathetic type

Low lust for life
Need for security, insurance
Sit tight
Quiet, being-good
Steady job, lasting relations
Routine, fixed patterns
Home sweet home
Chess, gardening
Lot of conscience

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Who is/will be using the solution you are working on/with? :

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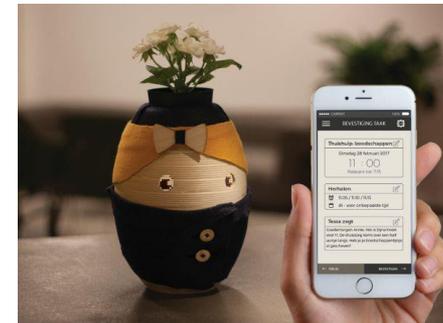
Some experiences from Dutch research (by Vilans):

Apps for people with dementia often don't work because people don't have a relationship to screens. Social robots are better at interacting with people. Apps to support or be used by or with (informal) carers work more often.

Standard devices like tablets or phones have risks of 'pushing the wrong button'. They are only for use by tech savvy people with very mild MCI. After this stage only devices with specialized software tend to be functional.

Lifestyle monitoring solutions can help to reassure (informal) carers. They can be connected to social robots to convey messages. The Dutch Sensara system is a good example of the right philosophy.

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Some experiences from Dutch research (2):

Medicine dispensers with feedback only seem to work with mild MCI, soon more support is needed to check if people actually consumed their medicine. With dementia using the feedback button is often already a problem.

Communication platforms aimed at informal carers seem to be successful.

Active alarming (pushing a button) is not reliable with dementia. Passive alarming (sensors in the environment) connected to lifestyle monitoring (like Sensara) have a higher reliability than active alarms with elderly without dementia.

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What experience or tip would you like to share? :

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Prof. Böhm: "Help people to find their life spirit again!"



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Meaningful VR Adventures

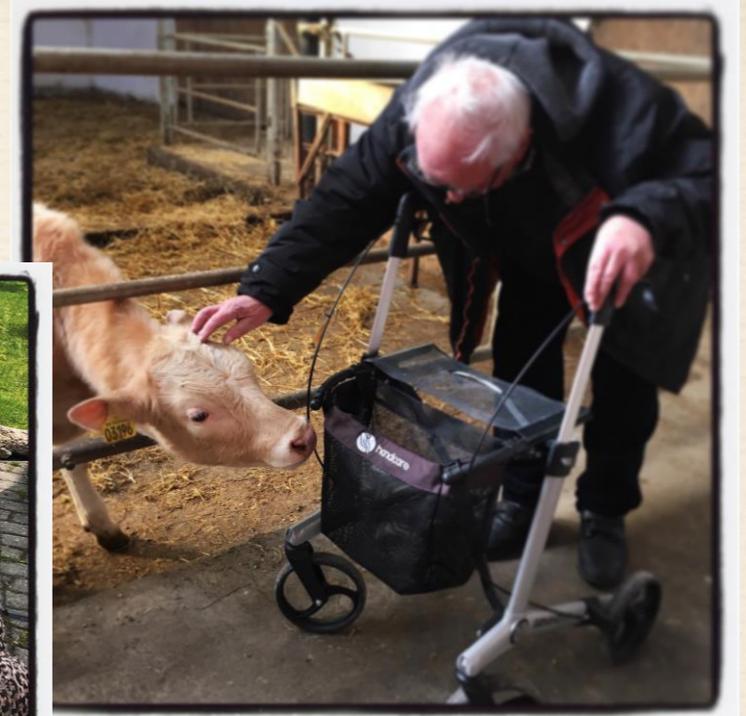


*By Louise Rønne Bengtson
Adventure Coordinator
Aarhus Municipality*

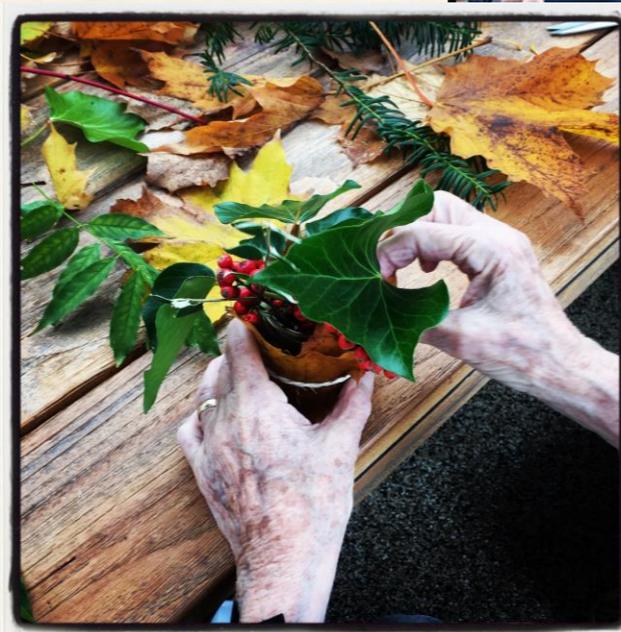
Great everyday adventures



Outdoor life



But what about all the people who can't go outdoors?



Collaborators



- ❖ Thøger Johansen, **Sosu East Jutland**
- ❖ Mikkel Svindt Gammelgaard, **Technology Consultant**
- ❖ Cluster for Adventure employees in Eldercare

The idea behind the project

- ❖ Take the outside inside
- ❖ Create dialog
- ❖ Meaningful to the individual
- ❖ Recognisable places
- ❖ I was present in the movies
- ❖ Mindfulness



To make the outdoors accessible to all

- ❖ Aarhus history with Railway, City Hall, Inner City, Coast and Forests.
- ❖ Trying something you know you wouldn't be able to do.
- ❖ Reminiscence, memories emerge and good stories.



Introducing the elderly citizens to VR



- ❖ A cup of coffee and a chat, to sense the person. And get the right contact
- ❖ I'll ask for places they'd loved to visit
- ❖ To get a better insight of this person and which movies to show them.
- ❖ During the film, i'll ask about their life, to help them remember places or experiences from their past life. A movie from the beach takes them back there.
- ❖ Finally, I ask if there are places, they could like to visit again .

Experiences with the elderly

- ❖ Bodil from Hjortshøj Nursing home
- ❖ First trip were a walk at Marselisborg Marina, back when she loved to get outside
- ❖ Bodil wanted to go for a walk on “*strøget*” (pedestrian street) and look all the people passing by.
- ❖ Bodil liked for everyone to have such glasses.





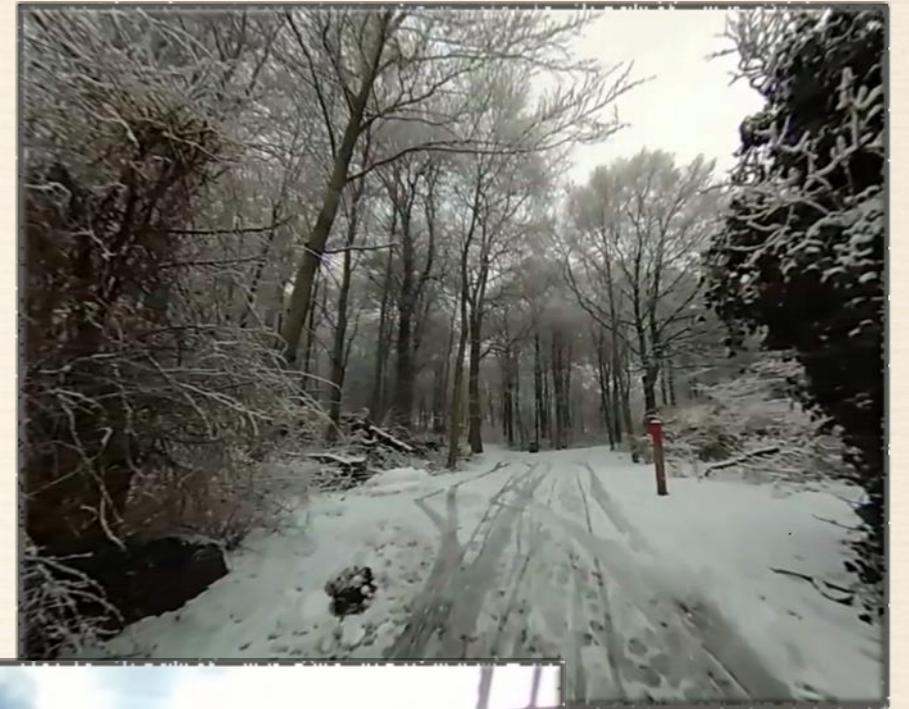
Internal organization and networking

- ❖ At first, it was only me and the staff on two nursing homes
- ❖ Now we are in 10 nursing homes in Aarhus
- ❖ How are going to make it continue ?
- ❖ Involve staff and train in a network
- ❖ In the network, we share experiences and help each other with what is tricky



Film we have made

- ❖ Mindfulness film
- ❖ Fishing trip
- ❖ Marina
- ❖ Walk on beach with dog
- ❖ Forest
- ❖ Railway
- ❖ Town hall
- ❖ Cathedral
- ❖ Ride on Motorbike
- ❖ Trip to a Farm
- ❖ Quiet moment at a lake in a well-known park
- ❖ A cow on a field
- ❖ Trip on the “Strøget” and people watching





Oplevelsesmedarbejder Nord Louise Bengtson

Arbejder for mere liv på plejehjemmene i Nord. Med fokus på ude-liv og generationsbrobygning.

Most film can be seen on



See you on Facebook.