Nutzerfreundliche Benutzeroberflächen für Menschen mit Gedächtnisproblemen

(Usable user interfaces for persons with memory impairments)

Riitta Hellman, Karde AS (Norwegen)

Eva Schulze, Berliner Institut für Sozialforschung (Deutschland)

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Mylife

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Background

Karde AS has together with its partners developed an assistive technology (AT) for persons with memory impairments.

The product supports well-being and daily activities of the primary user.

In addition, it provides extra safety to the caregivers.

This presentation looks at the interaction design of ICT-based (Information and Communication Technology) assistive technologies.

Simple, intuitive and accessible user dialogue is in focus.

Well-being and Quality of Life

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

Support to well-being and activities of daily living contribute to this, and may enable living at home a bit longer...

What helps?

For well-being and QoL, it is – among many other things – important to:

- remember appointments
- listen to favourite music
- look at photos of family, friends, nature or other topics that really matter

It is also important to be able to communicate with others, and to get help when needed.




Solutions and products

Current AT market:

Large number of stand-alone products, such as calendars, photo frames, alarms and sensors. Also some more integrated products enter the market.

Our goal:

Product family to cover
primary (person with memory impairment) and secondary (caregivers) users' needs connected to:

- Well-being
- QoL
- Support to daily activities

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User dialogue

The goal is to design as simple and intuitive user dialogues and interaction as possible.
10 basic rules, based on design practice, tests and trials:

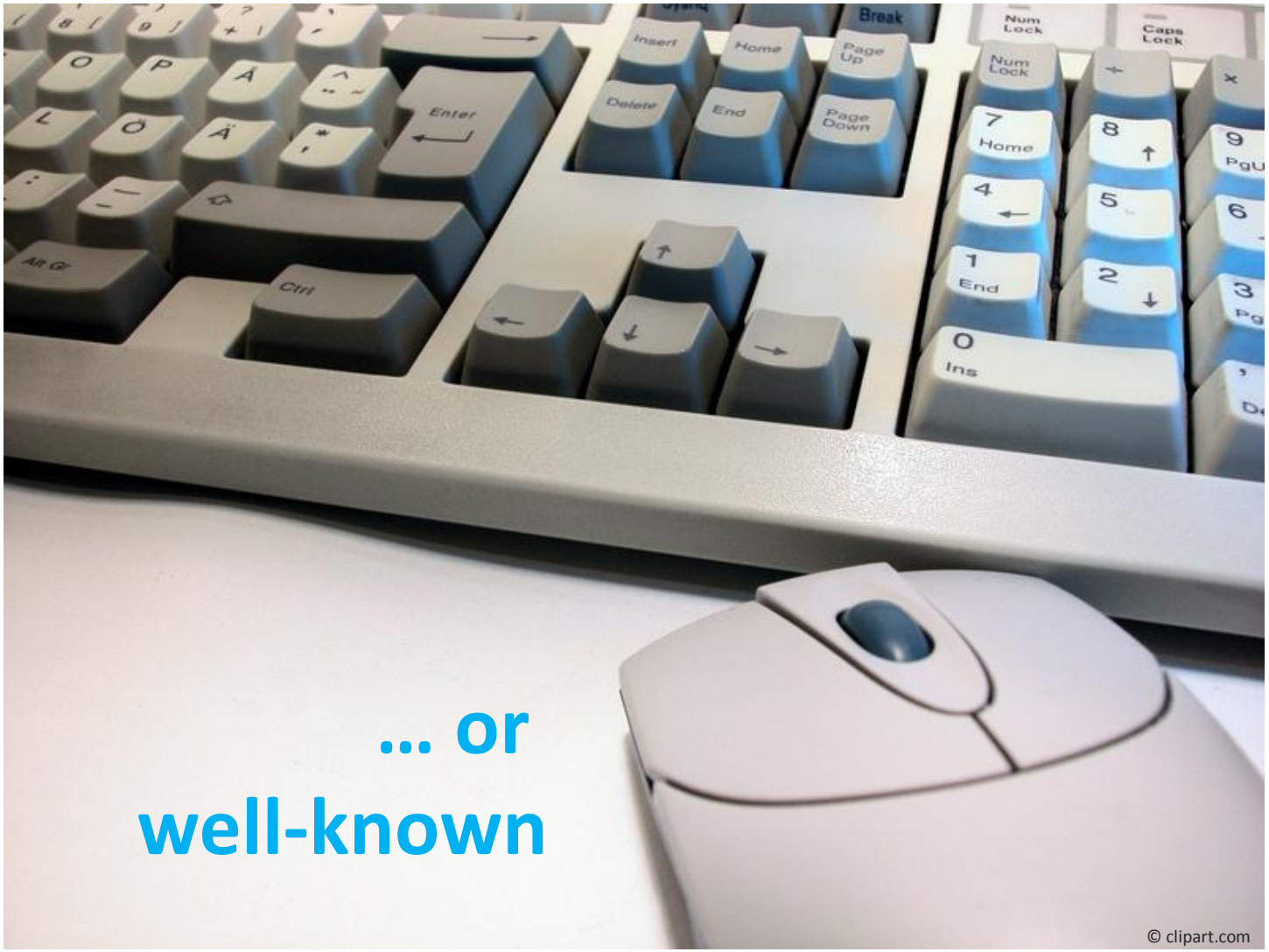
1. Enable gradual simplification.
2. Enable direct manipulation.
3. Offer alternative modalities.
4. Simplify the language.
5. Make visualisations relevant .
6. Offer alternative presentation styles.
7. Model real world artefacts and their behaviour.
8. Make it easy to start from the beginning.
9. Acknowledge external communication.
10. Let the users be users.

Dementia progresses …

Therefore:
1. Enable gradual simplification

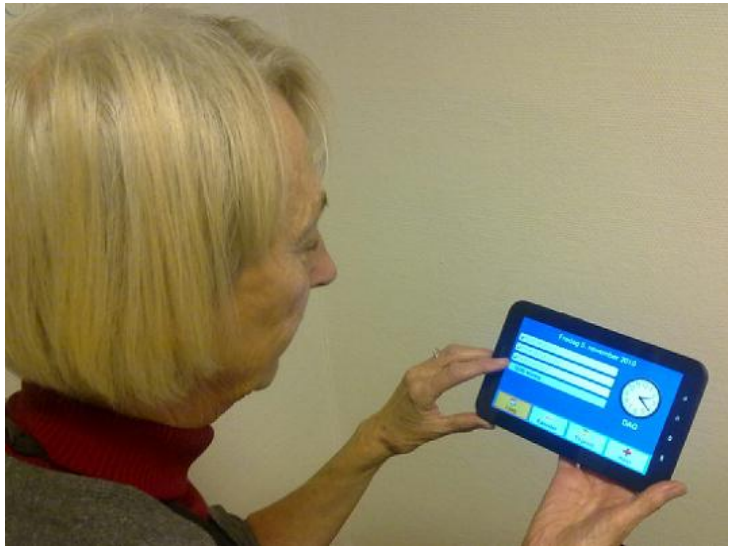
Make it possible to simplify the service and the user interface according to the current capacity of the user. Finally, very little may be quite enough.

It may be impossible to learn anything new...

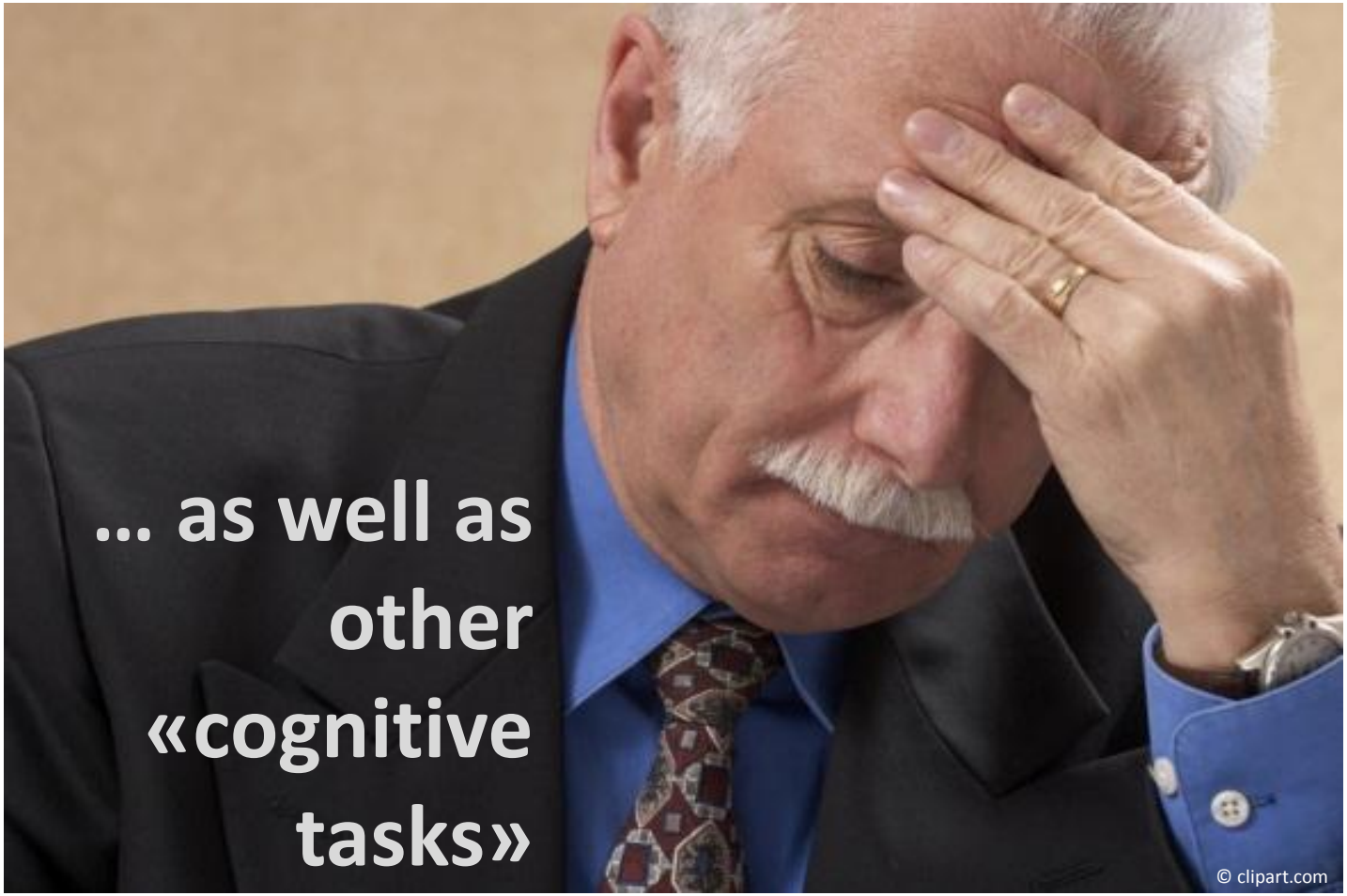


Therefore:
2. Enable direct manipulation

Eliminate complicating intermediaries, e.g. mouse. Direct manipulation is often intuitive and easy.



For persons with cognitive impairment, reading disability is common



Therefore:
3. Offer alternative modalities

Offer same information in different ways.

Some users may need all of these.

Photos

«*Photos*»

And:
4. Simplify the language

It may exist an even simpler alternative...

Entertainment	Photo album	It is night
Fun	Photos	It’s night
		Night

Persons with dementia are not prehistoric creatures

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Therefore:
5. Make visualisations relevant

Use modern expression for text and pictures.

~~Automobile~~ Car

User requirements vary

… some like the mum

… others prefer the daughter

Symbols are often ambiguous

Therefore:

6. Enable alternative presentation styles

Make it possible to customise the user interface according to the user's needs and preferences.

Both accessibility and aesthetics affect the use experience.

Choose «icons» and symbols that are preferred by the target group.

It is easy to test «icons» and symbols.

Which one represents music?


☐

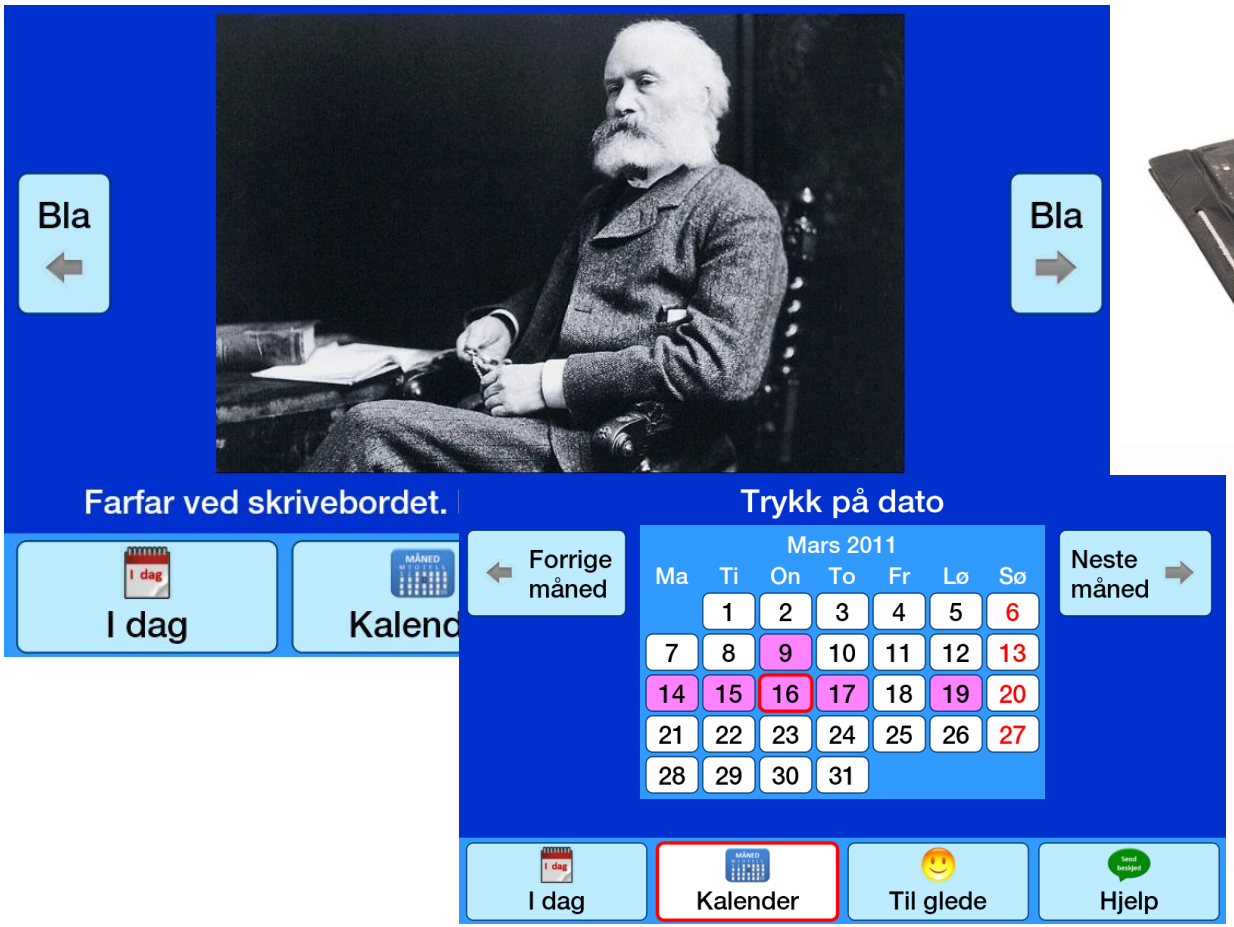

☐

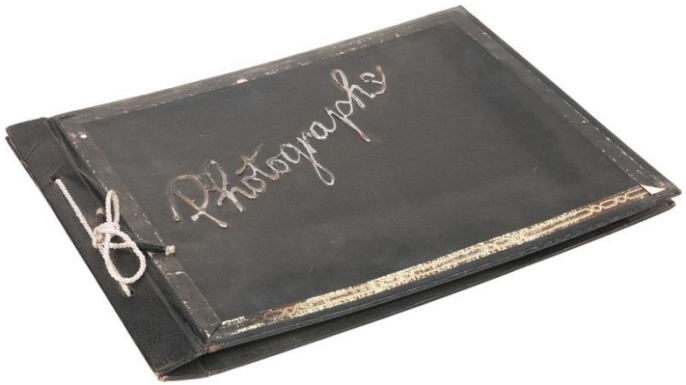

☑


☐

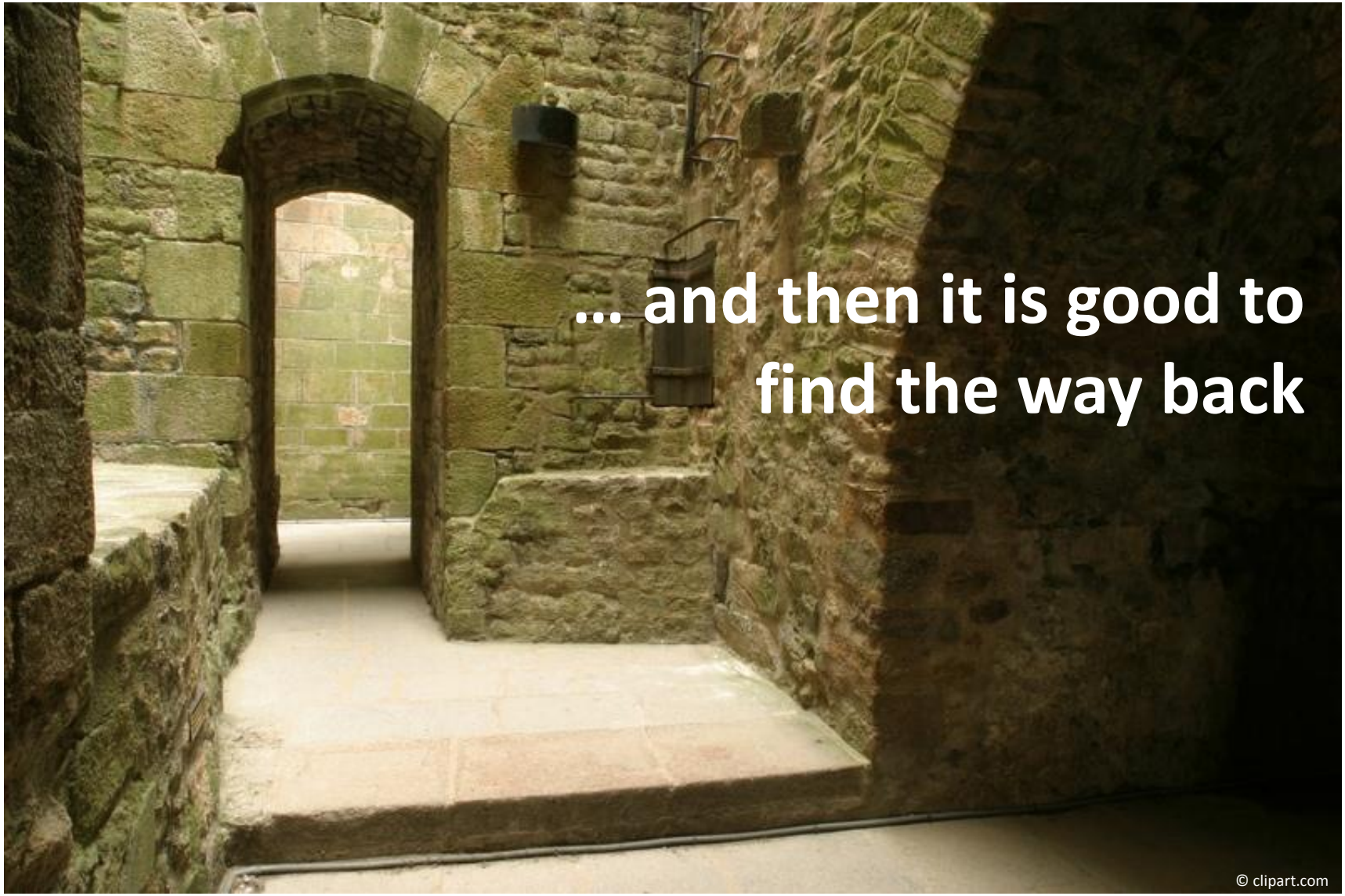
Recognition is an asset

Therefore:
7. Model real world artefacts and their behaviour





(All) users get confused and lost

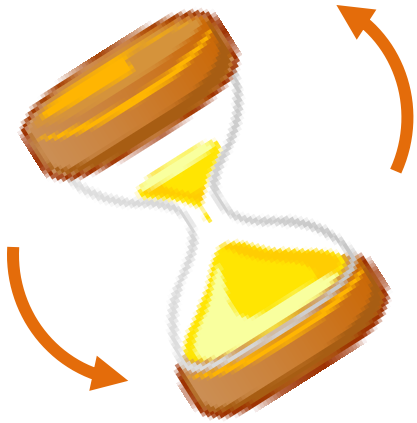


Therefore:
8. Make it easy to start from the beginning

Make it easy to return to the beginning (e.g. «home page»).

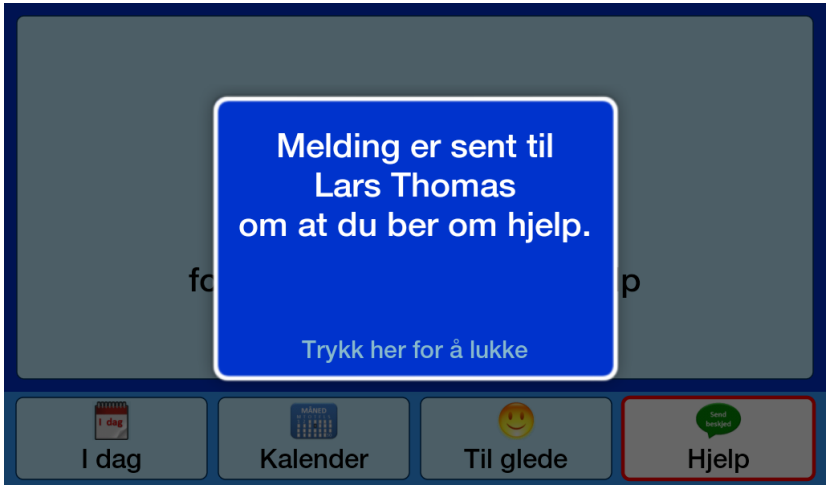
Tell this to the user even if it might appear obvious.

How does the gadget actually work? And why does the hourglass rotate?

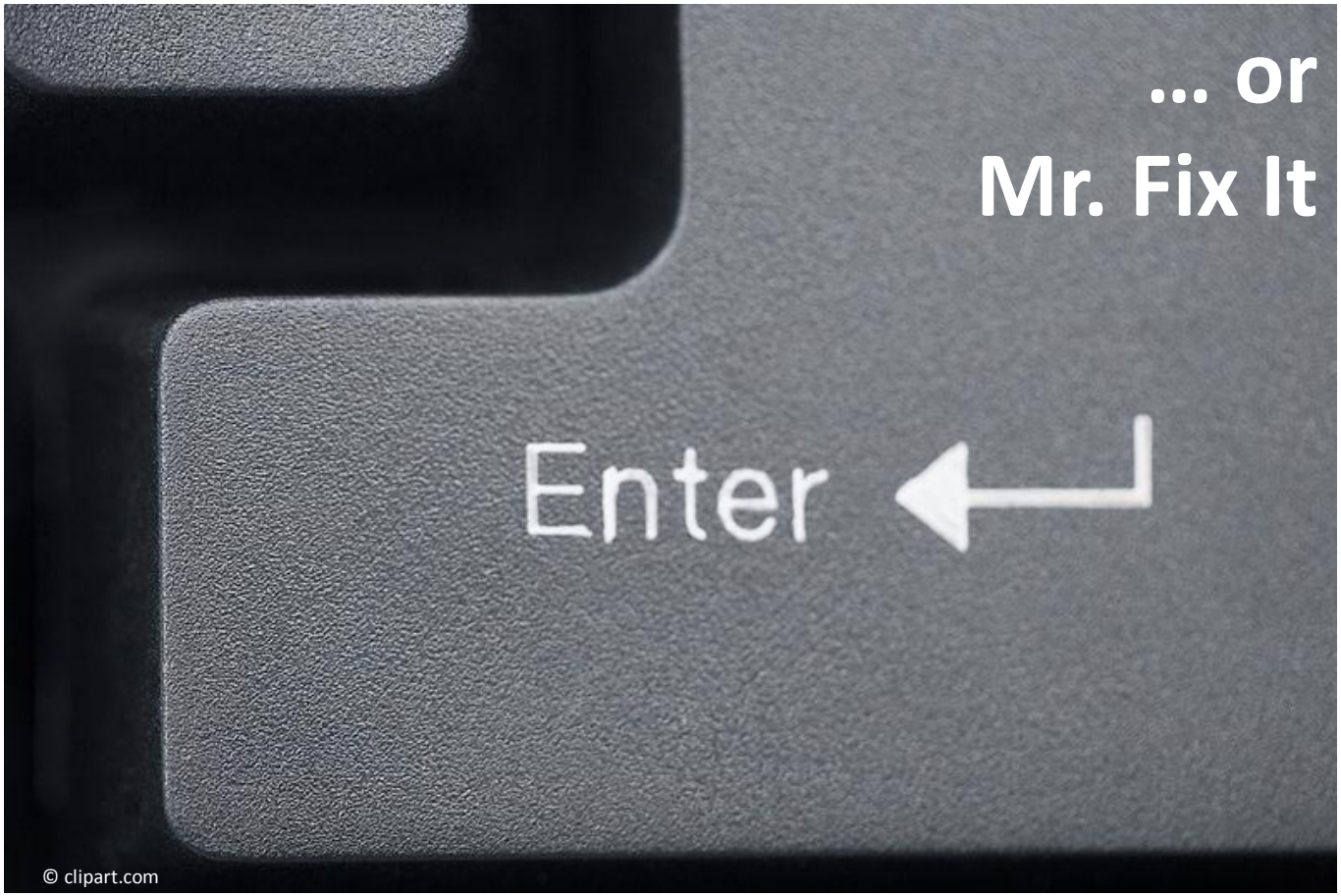


Therefore:
9. Acknowledge external communication

Tell the user what is happening when downloading from external resources, or when messages are being sent to someone.



Persons with dementia are not hackers



Therefore:
10. Let the users be (just) users

Make sure that someone who knows the user does the customisation of complexity level and content.

Also, the caregivers may be able to express needs and wishes that the user cannot (any more).

Partners

Norway

Karde AS – Project management, accessibility, interaction design.

Tellu AS – Software development, standards.

Forget-me-not AS – Business development, dementia.

Sidsel Bjørneby Sole Proprietorship – Tests and trials in Norway, accessibility, dementia.

United Kingdom

Housing21 – Tests and trials in UK, accessibility, dementia.

Trent Dementia Services Development Centre – Design of user tests and trials, test and trials in UK, accessibility, dementia.

Innovations in Dementia – Subcontracting in UK (accessibility, tests and trials).

Germany

Berliner Institut für Sozialforschung – Ethics, tests and trials in Germany, accessibility, dementia.