

HOUSING AND WORKPLACE MODIFICATIONS IN A LARGER PERSPECTIVE SUPPORTING PWMS



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Content

1. How intelligent is the design of your home ?

➔ actually and on long term

Do you live in a lifetime home?

- ❖ Adaptable housing
- ❖ Concepts of **Universal Design** or Design for All

2. Workplace adjustments and modifications

- ❖ Ergonomics and **Universal Design**
- ❖ An example of a workplace assessment

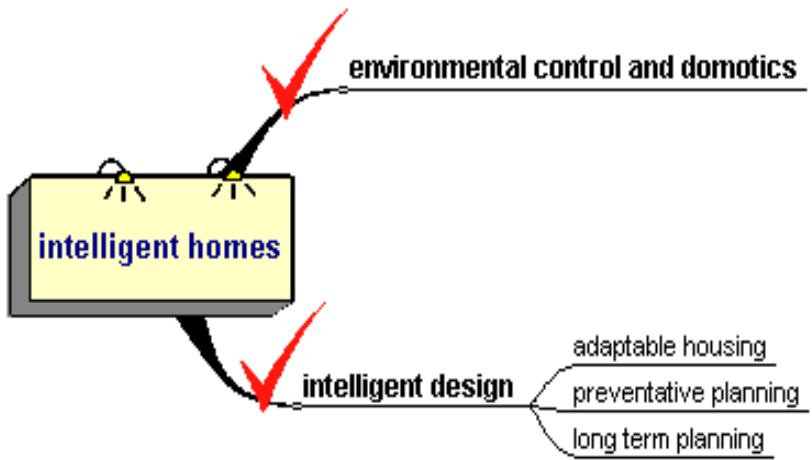


What are smart or intelligent homes?



Is intelligent the same as well equipped with high tech?

(Reykjavik EMSP 2008)



An intelligent home is one that is specifically wired to allow you to control virtually all aspects of your home environment

An intelligent home or adaptable design are dynamic visions on inhabitants and their flexibel housing needs



Are you aware of a difference in the needed space to move and turn for every person (the area of movements)?



If there is no important difference, why should we have a different design for a wheelchair user?

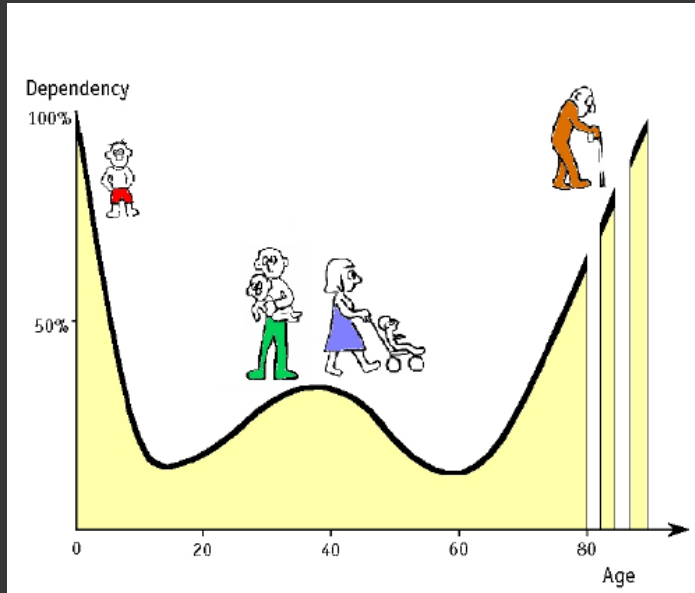
Universal Design

- Universal design refers to broad-spectrum ideas meant to produce buildings, products and environments that are inherently accessible to both people without disabilities and people with disabilities.



- "Universal design" architect Ronald L. Mace describe the concept of designing all products and the built environment to be aesthetic and usable and accessible to the greatest extent possible by everyone, regardless of their age, ability, or status in life.

Universal Design (2)



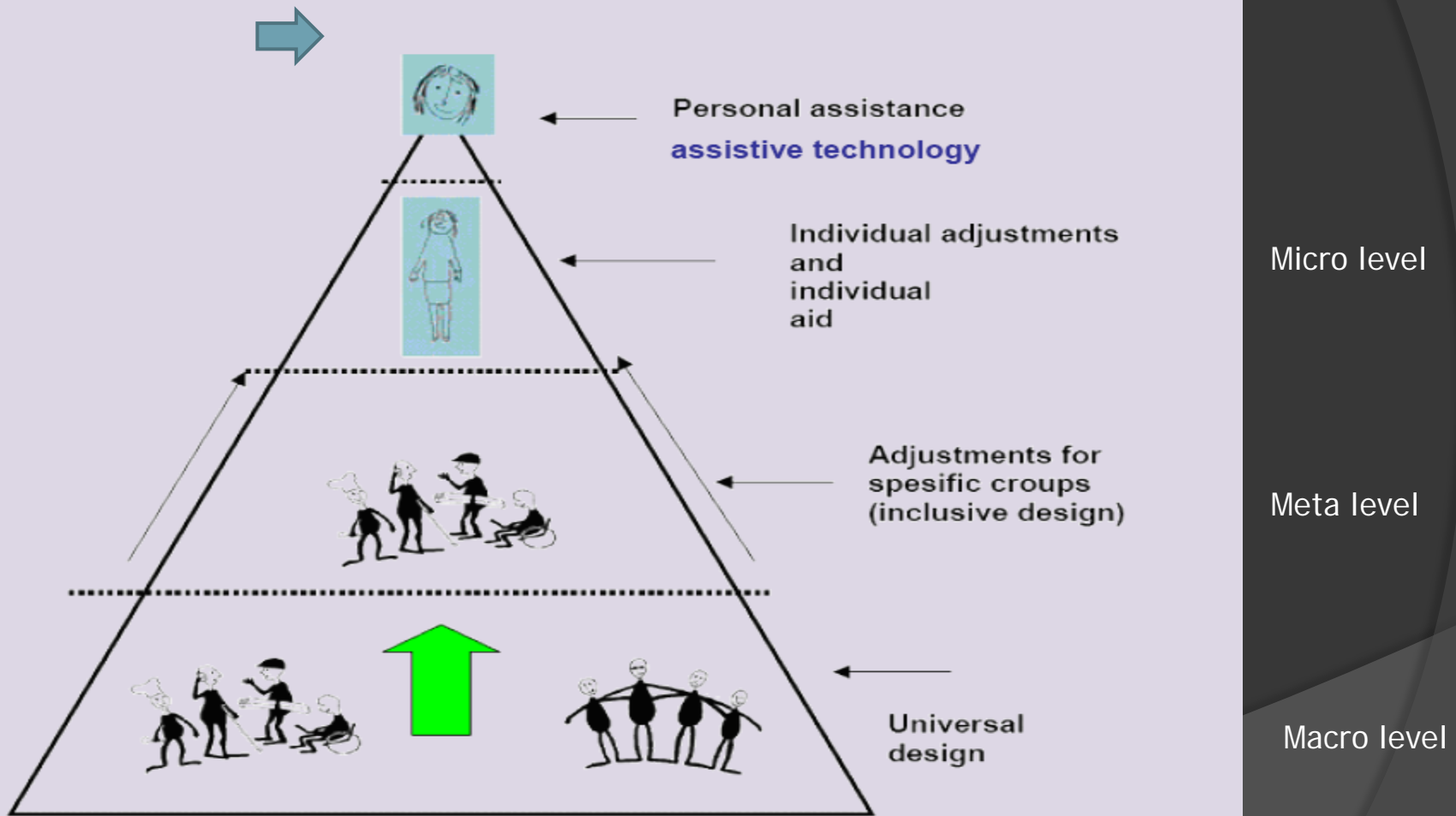
As life expectancy rises and modern medicine increases the survival rate of those with significant injuries, illnesses, and birth defects, there is a growing interest in universal design.

- ➔ Universal Design is all about “Making it easier to use for MORE people”
- ➔ There will be always a need for adjustments for specific groups and persons

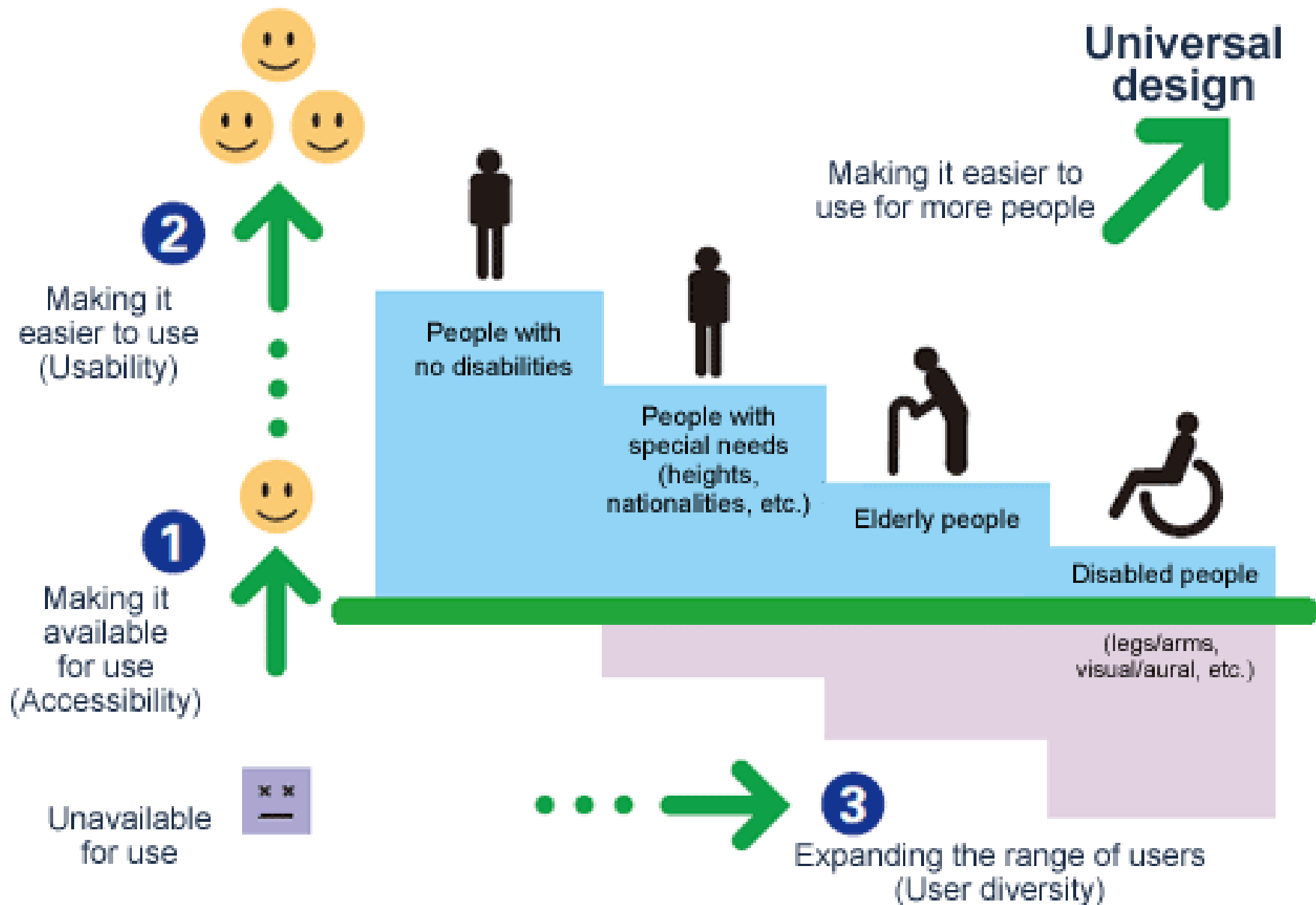
Universal Design(US) or Design for All (DfA)

- ◎ Design for All is design for human diversity, social inclusion and equality (EIDD Stockholm Declaration, 2004). According to the [European Commission](#), it "encourages manufacturers and service providers to produce new technologies for everyone: technologies that are suitable for the [elderly](#) and people with [disabilities](#)^{3]}
- ◎ The origin of Design for All lies in the field of barrier free [accessibility](#) for people with disabilities and the broader notion of universal design.
- ◎ Design for All is about ensuring that environments, products, services and interfaces work for people of all ages and abilities in different situations and under various circumstances.
 - www.designforall.org

Where can we situate the Universal design concept?



The Accessibility triangle. The Norwegian Delta Centre



Design for all examples



- ❖ Usability
- ❖ Accessibility
- ❖ Aesthetics

3 relays



Recycling container

Company: ROTEC PLASTICOS, S.L.

Design: Costa Design



Could you feel at home in this house ?





A home without barriers for all users?

- ❖ Usability
- ❖ Accessibility
- ❖ Aesthetics

No thresholds, steps or ramps



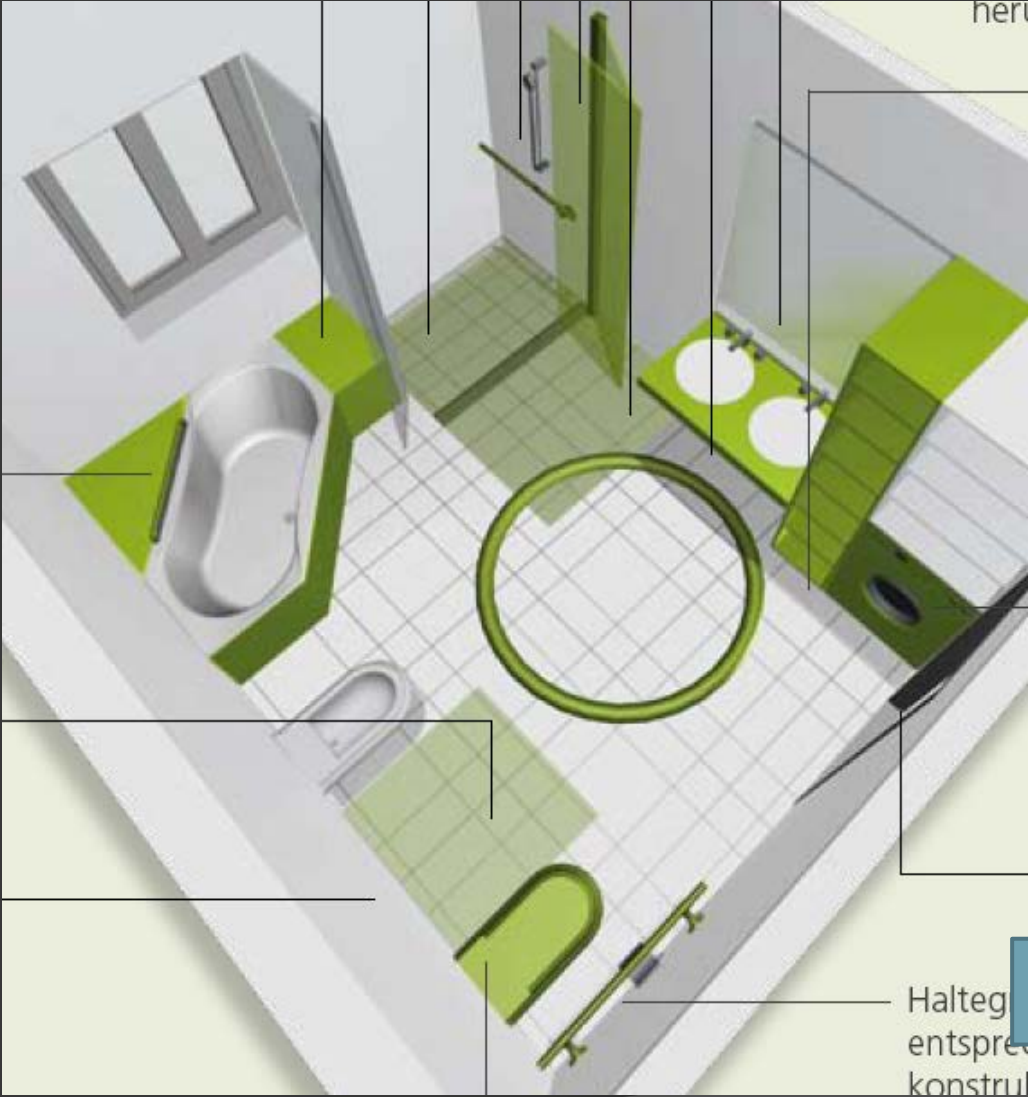
An easy, comfortable and nice place to live?



Where daily life activities can be managed in a comfortable way?

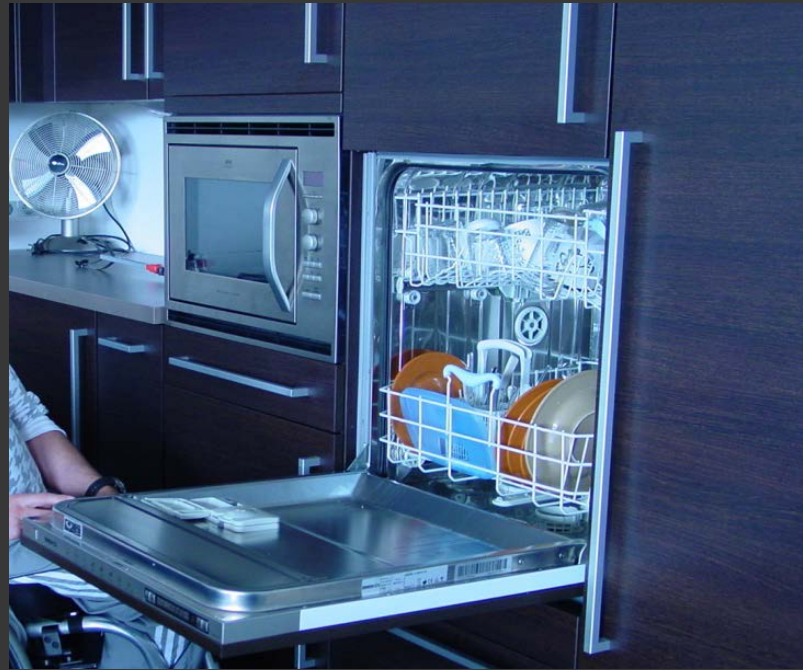


A nice and functional Bathroom concept





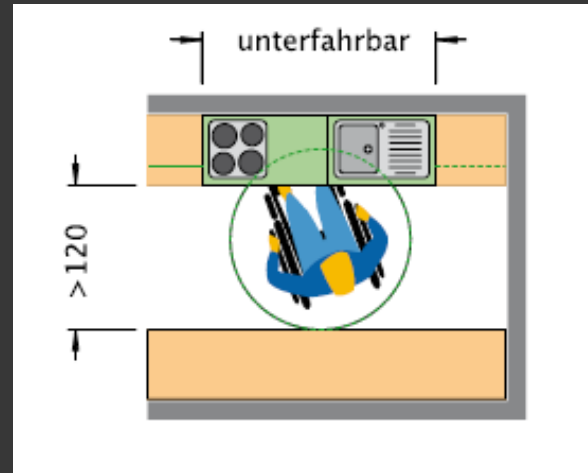
Where functionality, autonomy and easy to use are important issues



A Kitchen who fits to the needs of most persons ?



Activities in the kitchen



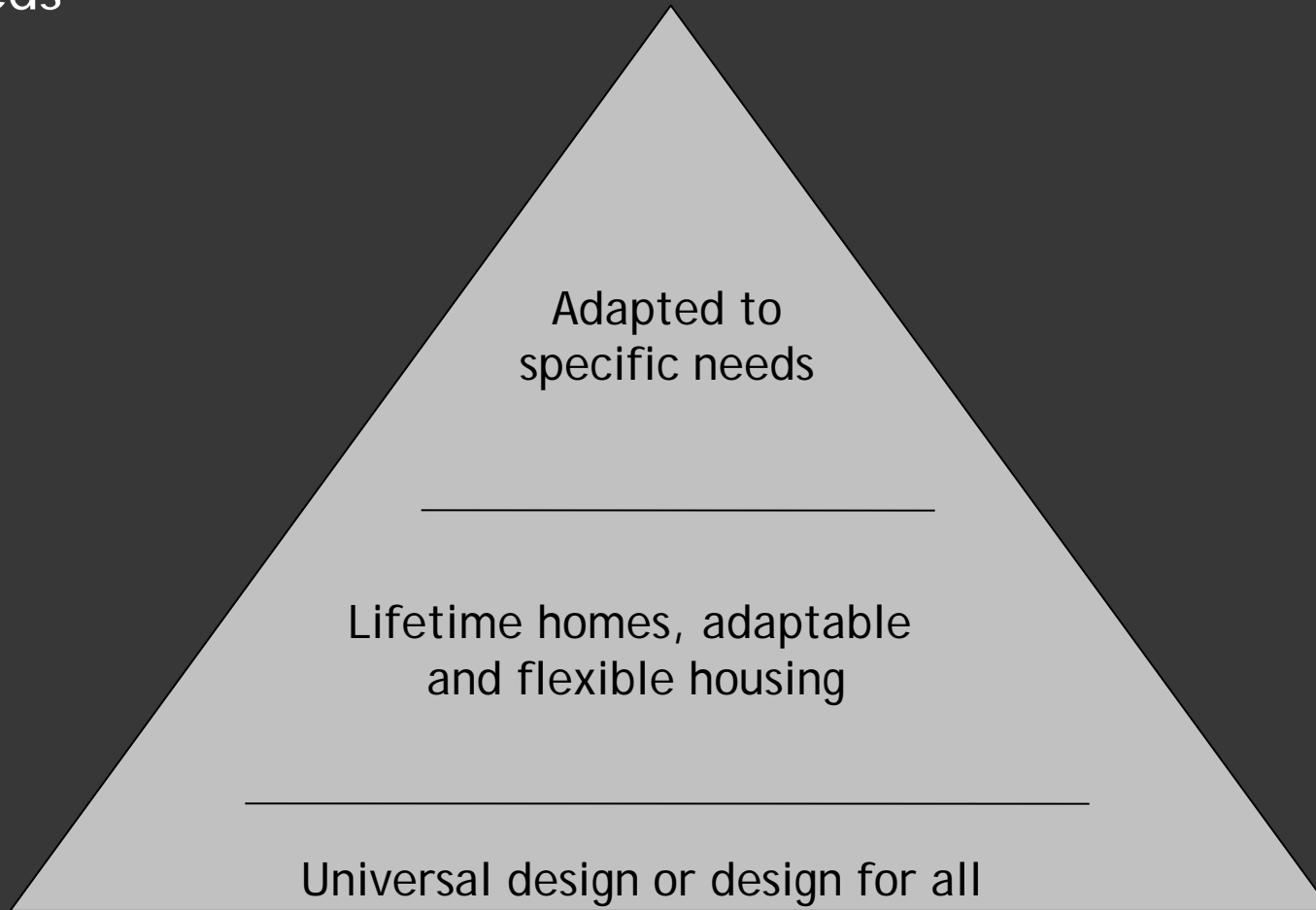
Easy handling of grips and controls



A practical, cosy bedroom



Levels of design with the focus on every one and specific needs



Most existing and new housing, even in the wealthiest nations, lack basic [accessibility features](#) unless the designated, immediate occupant of a home currently has a disability.

What is the role of the occupational therapist in this process?

Occupational Therapists are a professional group skilled in the assessment and making of recommendations to improve access to homes. They are involved in both the adaptation of existing housing to improve accessibility, and in the design of future housing (new mission).

➔ Occupational Therapist has to be more than the translator of the needs of adjustments and adaptations of a PwH

Design en functionality
Living comfortable and flexible



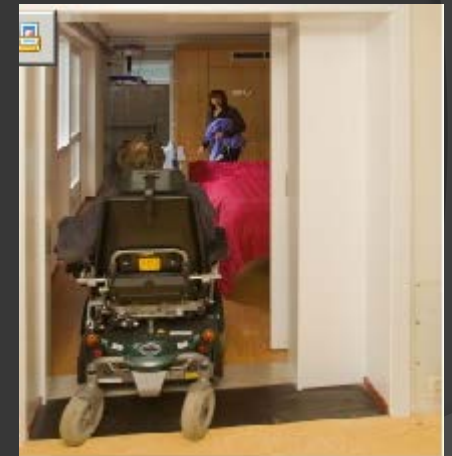
➔ Designer (architect- building constructor) is more than the translator of functionality, aesthetics and architectural vision



Example of an adapted home
for a specific person



Adapted unit annex the existing house



- ⦿ How intelligent is the design of your home on long term?

Do you live in a lifetime home?

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 - ❖ Universal design or design for all
-
- ⦿ Workplace adjustments and modifications
 - ❖ Ergonomics
 - ❖ An example of a workplace assessment

What is the role of the occupational therapist in this process

- ⦿ At the issue of workaccomodation there are 2 levels of intervention for the OT
 - Level of time management (rest-work, distribution of energy during day) and energymanagement and ergonomical principles
 - Level of a more technical intervention, the advice on ergonomical materials, introduction of assistive devices, alterations of the working environment

Ergonomics and PwMS

- ◎ Concept ergonomics:

design of workspaces, tools,
worktables, offices



Designers (Universal Design)

- ◎ Corrective ergonomics:

correction of existing situations



Occupational therapist or vocational
therapist

A functional and aesthetic design in office chairs

➔ Concept ergonomics



- ❖ Usability
- ❖ Accessibility
- ❖ Aesthetics

Ergonomical office accessories



Concept ergonomics



Corrective ergonomics

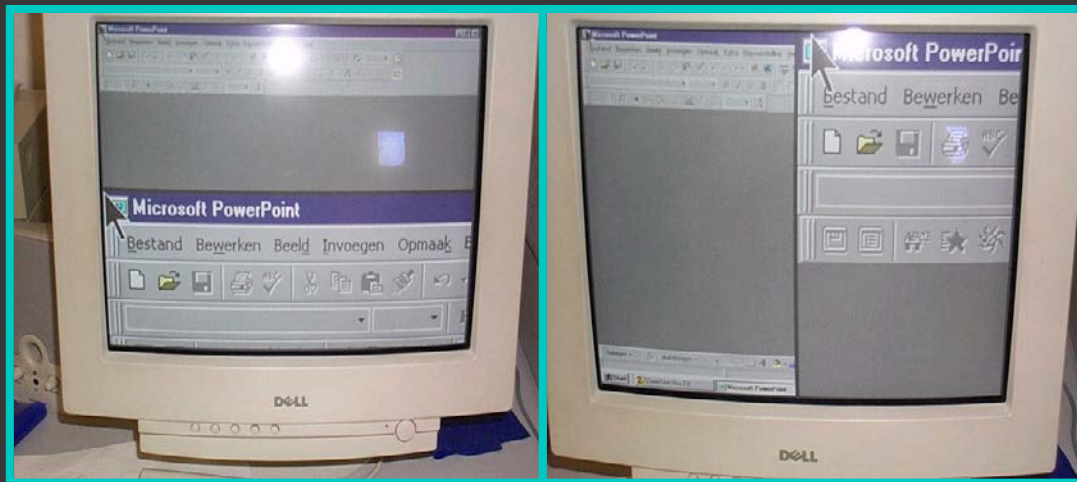


personalised

- Keyboard guard



- Hand orthosis



- Magnifying software

an example of a workplace adaptation



A casus of an ergonomical workplace assessment

An ergonomic screening at the workspot and the assessment of the need for devices and adaptations is a specific task for the OT

Task description of PwMS

- ⦿ Civil departement of the community centre
- ⦿ Full time employed
- ⦿ Draw up en check out certificates (f ex. Birthcertificates)
- ⦿ Responsibility due to his experience
- ⦿ Task are to be realised within a specific time schedule but mostly within a reasonable time

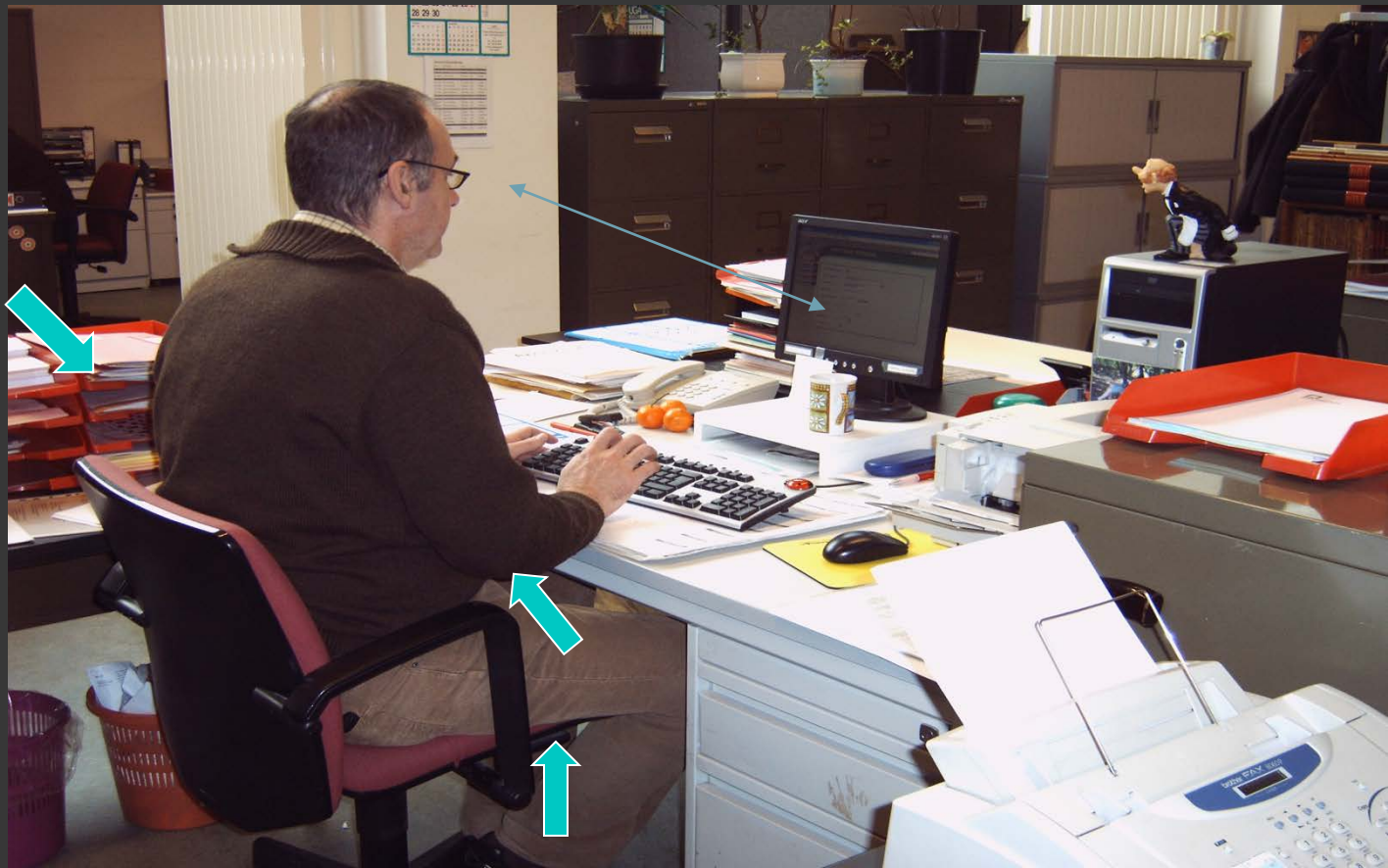
Cognitive workload

- ⦿ Crowded and stressful situations can not be foreseen or planned .
- ⦿ Unexpected higher workload, telephones, extra informations needed
- ⦿ Busier in the morning, during desk hours
- ⦿ Can arrange his work during his backoffice time
- ⦿ Works in landscape environment, with view on colleagues and desk

Working environment



Working place



Working position



How to reach the heavy documents and books



Needed heavy documents?



Standing position at desk



Analyse of his office ergonomics

- Height working table fixed
- sitting depth in chair, armrests.
- no correct support forearm
- position mouse and telephone
- position and use of keyboard
- document holder?

Ergonomical Recommendations

Correct sitting and work position



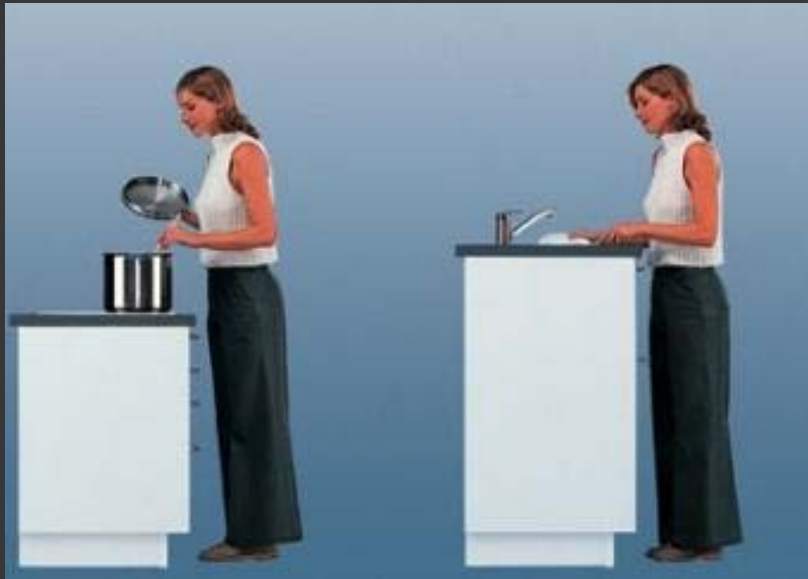
- adaptable working table
- sitting depth in chair, armrests.
- correct support forearm
- position mouse and telephone
- position and use of keyboard
- document holder

Ergonomic principles to adopt

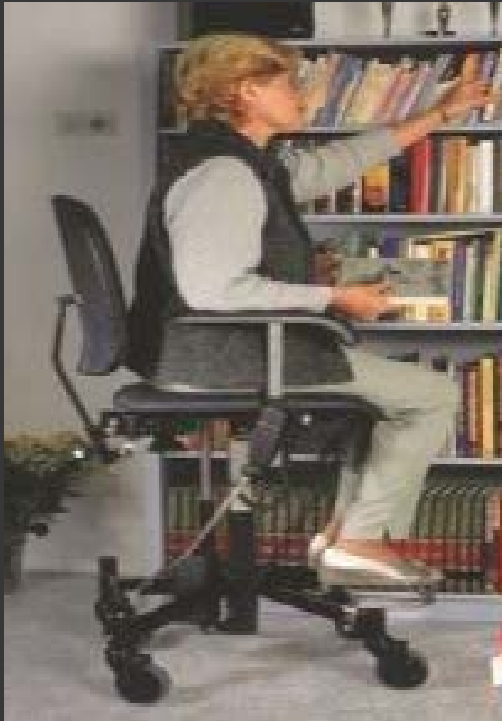
- 👉 encourage dynamic movement and avoid prolonged static contractions
- 👉 focus on the adjusted, personal working posture
- 👉 encourage correct postures while working
- 👉 use adaptive devices or equipment
- 👉 equipment must be at recommended heights
- 👉 the workplace is adequately organised, materials and equipment are easily in reach
- 👉 practice different methods and/or equipment

Ergonomical Recommendations (2)

Working at a correct height



Ergonomical Recommendations (3)



Adjustable (in height and powered) working chair.

- ❖ Getting documents
- ❖ Increase mobility and transferring

Results

- ◎ realised since workvisit :
 - special adapted mouse, track ball
 - rollator to walk in office and to carry on heavy documents
 - restperiods during the day, to keep his concentration (sleeps 1h at noon)
 - scooter use for longer distances
 - special working chair

Conclusions

- ⦿ We are confronted with PwMS in all different stages of MS, every one with a personal vision on his life, his home, his work, his....
- ⦿ We need to approach every PwMS in a flexible and personalised way when advising possible solutions.
- ⦿ Starting from the Universal Design perspective to the most specialised adapted assistive device.
- ⦿ Respecting the need to stay as close as possible to “the usual, the common, the daily” design of products.
- ⦿ Asks some creativity, “out of the box” thinking but enriching for everyone!

Could this be a design solution?



Thanks for listening
Marijke Duportail