TAM Expert Input on Universal Design

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European initiatives

Special professional requirements when employing PWDs?

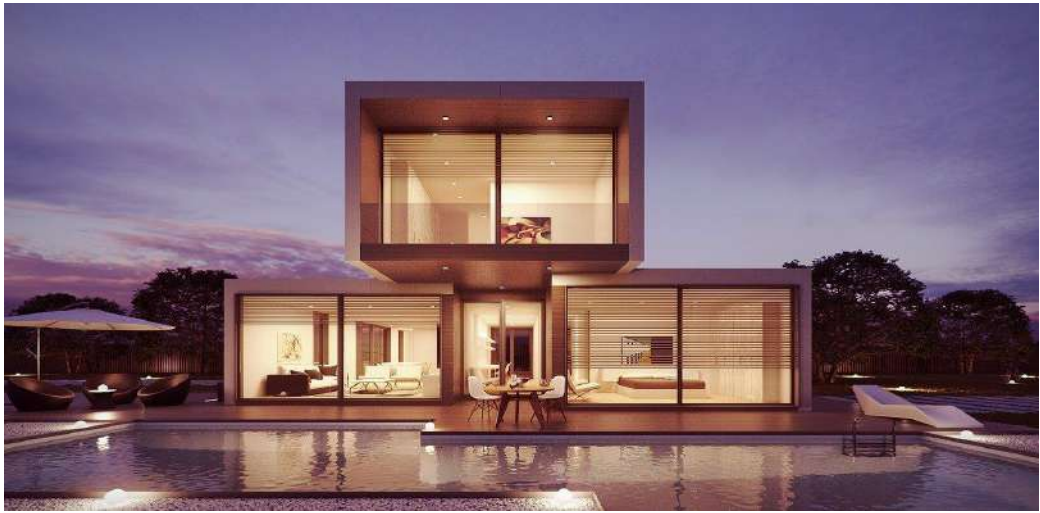
The EU is active in various areas of disability policy. Alongside the European disability strategy, the fields of employment, protection against discrimination and accessibility are particularly important issues for disability mainstreaming (see European Social Fund ESF for inclusion of PWD in the labour market)

According to the Disability Employment Act (Section 1 para. 1), all businesses in e.g., Austria which employ 25 or more employees are obliged to take on one disabled person with beneficiary status (registered disabled person) for every 25 employees.

Universal Design

1997 with 7 principles
applicable for any building, open space, product, phone app, website or document

1) Equitable use
2) Flexibility in use
3) Simple and intuitive use
4) Perceptible information
5) Tolerance for error
6) Low physical effort
7) Size and space for approach and use



Principle 1 Equitable Use

The design is useful and marketable to people with diverse abilities.

Guidelines:

1a. Provide the same means of use for all users: identical whenever possible; equivalent when not.

1b. Avoid segregating or stigmatizing any users.

1c. Provisions for privacy, security, and safety should be equally available to all users.

1d. Make the design appealing to all users.

Useful, accessible and marketable design to people with diverse needs and abilities

Principle 2 Flexibility in Use

The design accommodates a wide range of individual preferences and abilities.

Guidelines:

2a. Provide choice in methods of use.

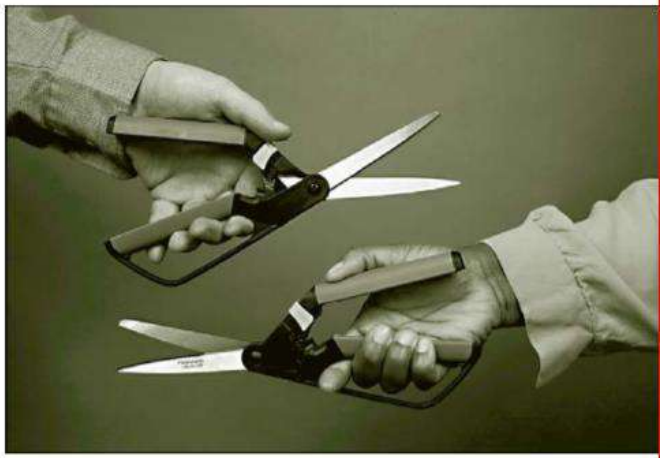
2b. Accommodate right- or left-handed access and use.

2c. Facilitate the user's accuracy and precision.

2d. Provide adaptability to the user's pace.

Design accomodates a wide range of individual preferences and abilities

A user at a computer table. The table height can be easily adjusted to suit different user needs.



Right & left-handed scissors

Principle 3 Simple and Intuitive Use

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

Guidelines:

3a. Eliminate unnecessary complexity.

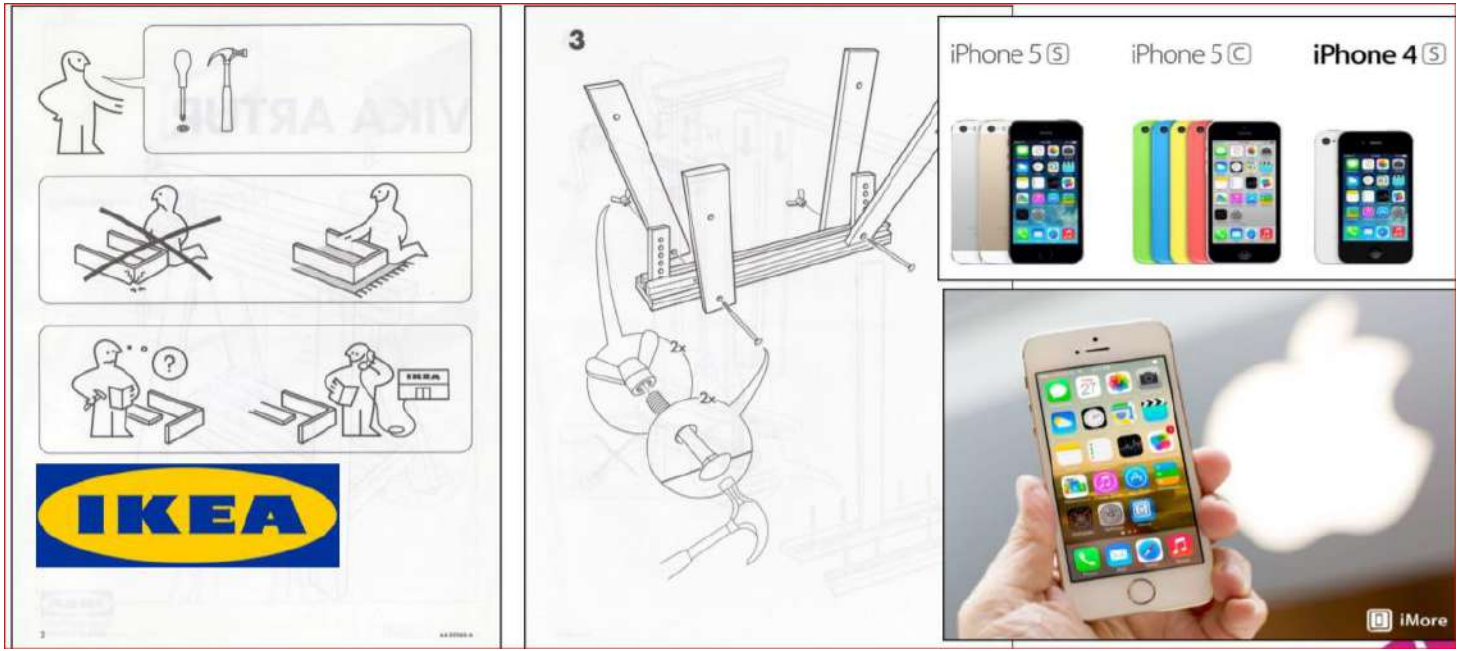
3b. Be consistent with user expectations and intuition.

3c. Accommodate a wide range of literacy and language skills.

3d. Arrange information consistent with its importance.

3e. Provide effective prompting and feedback during and after task completion.

Simple and intuitive use – regardless of experience, language skills and concentration level



Principle 4 Perceptible Information

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

Guidelines:

4a. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.

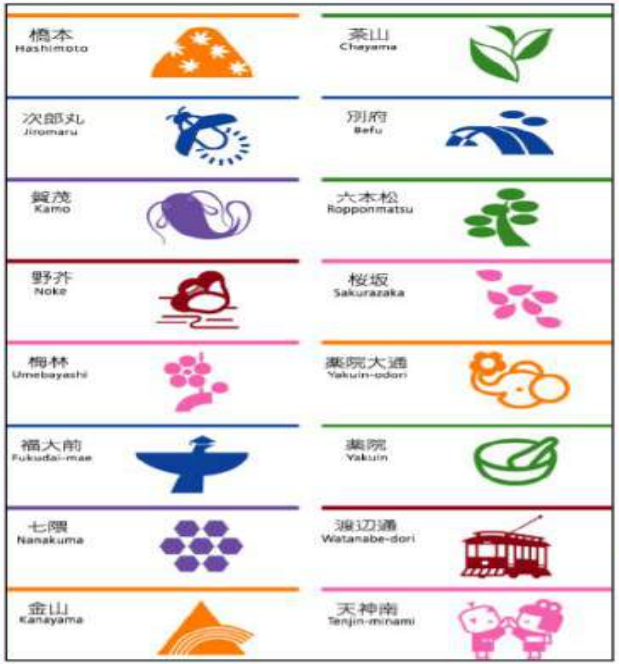
4b. Provide adequate contrast between essential information and its surroundings.

4c. Maximize "legibility" of essential information.

4d. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).

4e. Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

Effective communication of necessary information



Nanakuma Line, Japan.
Each station is color coded and is identified in English, Japanese, and by its accompanying unique symbol. Symbols generally relate to the station's surroundings.

Principle 5 Tolerance for Error

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

Guidelines:

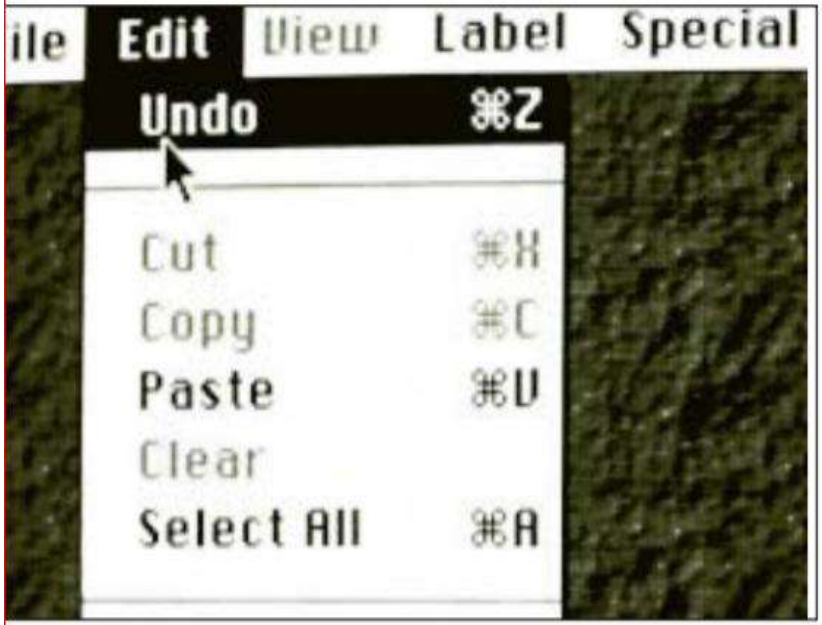
5a. Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.

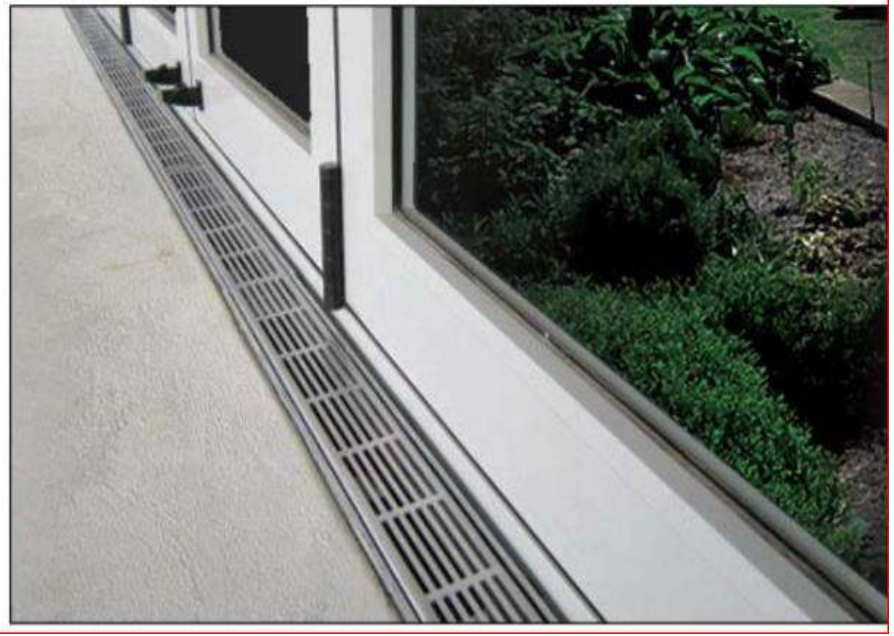
5b. Provide warnings of hazards and errors.

5c. Provide fail safe features.

5d. Discourage unconscious action in tasks that require vigilance.

Tolerance for unintended action and adverse consequences of accidents





Principle 6 Low Physical Effort

The design can be used efficiently and comfortably and with a minimum of fatigue.

Guidelines:

6a. Allow user to maintain a neutral body position.

6b. Use reasonable operating forces.

6c. Minimize repetitive actions.

6d. Minimize sustained physical effort.

Effective and comfortable use of design - usable with a minimum of fatigue

Principle 7 Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

Guidelines:

7a. Provide a clear line of sight to important elements for any seated or standing user.

7b. Make reach to all components comfortable for any seated or standing user.

7c. Accommodate variations in hand and grip size.

7d. Provide adequate space for the use of assistive devices or personal assistance.

Appropriate size and space regardless of body size, mobility and posture

Discussions and Food for Thought

- Do you see any room for improvement regarding the 7 design principles?
- What can be easily adapted by architects, product designers, engineers?

- body fit
- comfort
- awareness
- understanding
- wellness
- social intergration
- personalization
- cultural appropriateness

Communication with and about PWD

Emphasize abilities, not limitations

Person who uses a wheelchair, uses a device to speak	instead of	wheelchair bound, mute

Do not use language that suggests the lack of something

Person with a disability, with a short stature	instead of	disabled, midget

Emphasize the need for accessiblity

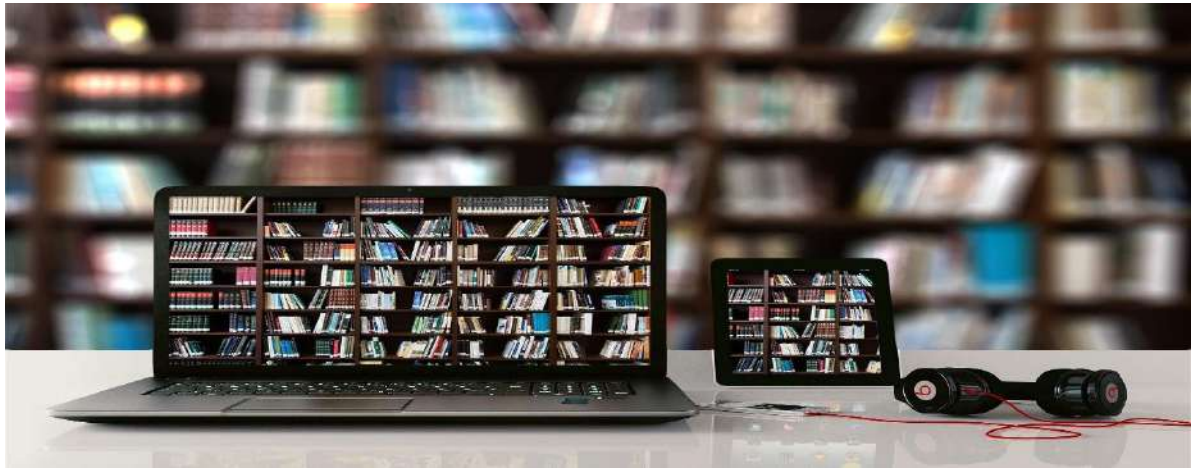
Accessible parking	instead of	handicapped parking

Avoid language that implies negative stereotyping

Person without a disability	instead of	normal person, healthy

Tipps for fostering inclusive teaching environments

- **Interactive** teaching (flexibility, wide range of participation opportunities)
- Effective communication (clear guidelines, set expectations, make them explicit)
- Building **relationships** (identify specific requirements or concerns, build **trust**)
- Use **assistive** technology
- Inclusive **assessment**



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