

Iceland Liechtenstein Norway **Active citizens fund**

Universal design

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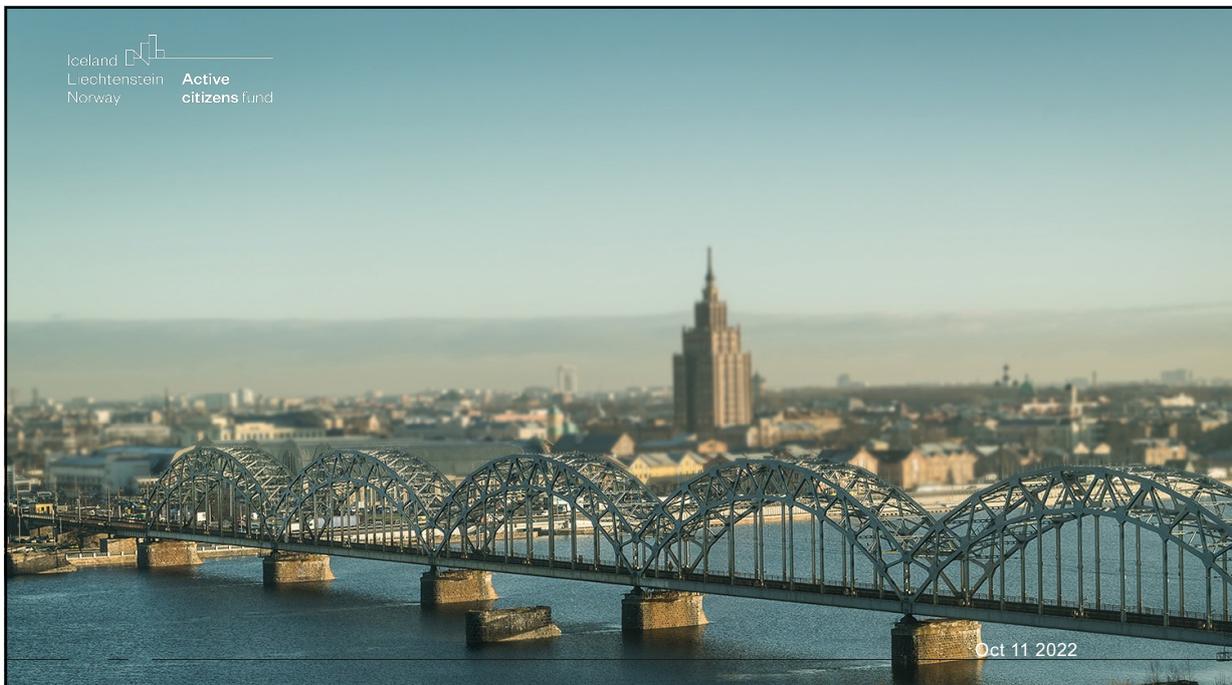
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Disabled people

- Clarification of wording
 - The term „disabled people“ is used to signify that disability arises in the interaction between people with impairments and their environments
- *„Disability results from the interaction between persons with impairments and attitudinal and environmental barriers that hinders their full and effective participation in society on an equal basis with others“* (United Nations, 2007)
- Universal Design is not a special design for disabled people
 - Still important to keep in mind that disabled people experience discrimination and encounter various obstacles in the environment hindering their participation in society



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The origin of Universal Design

- Developed in the United States
 - Ronald Mace
- Seven main principles
 - Principle 1: Equitable Use
 - Principle 2: Flexibility in Use
 - Principle 3: Simple and Intuitive Use
 - Principle 4: Perceptible Information
 - Principle 5: Tolerance for Error
 - Principle 6: Low Physical Effort
 - Principle 7: Size and Space for Approach and Use



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Universal Design

- Convention on the rights of persons with disabilities (CRPD)
 - “the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design” (United Nations, 2007)



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Universal Design

- World Report on Disability
 - “a **process** that promotes usability, safety, health and social inclusion through the design and organization of the environment, equipment and systems to address human diversity and competence” (World Health Organization, 2011)



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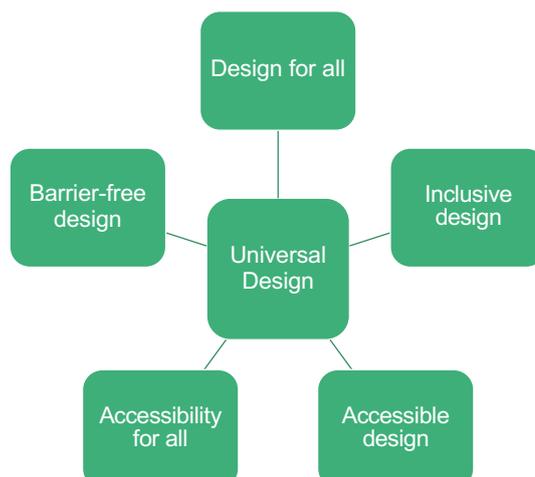
Universal Design

- Political concept
 - Based on equality and equal opportunities for participation (United Nations, 2007)
- Emphasis on meeting human diversity
 - Disability is part of this diversity
- Multiple contextual factors to consider
 - Urban planning, architecture, object design (Imrie & Luck, 2014)
 - Perspectives, policies, practices (Lid, 2016)



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Other similar concepts



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© Design for All Foundation

INSPIRED BY A PUBLIC SCHOOL STUDENT WITH DISABILITIES

© 2002 MICHAEL F. GIANGRECO. ILLUSTRATION BY KEVIN RUELLE

CLEARING A PATH FOR PEOPLE WITH SPECIAL NEEDS CLEARS THE PATH FOR EVERYONE!

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Universal Design - concerns

- Utopian concept (Lid, 2016)
 - Important to focus on the intended goal of Universal Design
- The idea of normality (Gibson, 2014)
- Too much emphasis on the “design” concept steers the discussion
 - Limits the focus on the social environment
- Users involvement needed (Hamraie, 2016)

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Usability

- Key concept in Universal Design
- Important aspects of usability
 - Environment
 - Activities/occupation
 - People



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People

- The subjective experience of people/users essential to evaluate usability
- Embrace the diversity of people
 - Children
 - Elderly
 - Various shapes and sizes
 - Different origins
 - Various impairments



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Occupation - activities – People doing

- Usability preferred outcome
 - Does not always translate into practice
 - need for more focus on what people need/want to do
(Watchorn et al, 2021)



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Environment

- Emphasis has mainly been on the physical environment
 - Such as buildings
- Social aspects play an important role
 - Attitudes
 - Prejudice
 - Knowledge
- Interaction between various environmental factors



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Implementation strategies

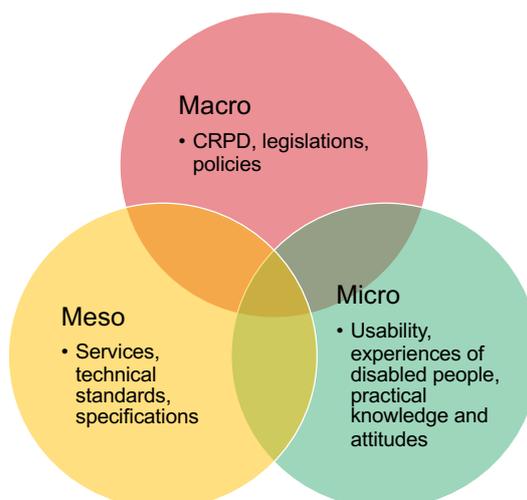
- Principles or criteria that relates to outcome
- Awareness raising
- Knowledge production
- Interdisciplinary collaboration
- **User's involvement**
- Innovation



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Implementation of Universal Design

- Different layers of society – micro, meso and macro (Lid, 2014;2016)



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7 main principles of Universal Design

- Principle 1: Equitable Use
- Principle 2: Flexibility in Use
- Principle 3: Simple and Intuitive Use
- Principle 4: Perceptible Information
- Principle 5: Tolerance for Error
- Principle 6: Low Physical Effort
- Principle 7: Size and Space for Approach and Use



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Principle 1: Equitable Use

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

- Provide the same means of use for all users: identical whenever possible; equivalent when not.
- Avoid segregating or stigmatizing any users.
- Provisions for privacy, security, and safety should be equally available to all users.
- Make the design appealing to all users.



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Principle 2: Flexibility in Use

The design accommodates a wide range of individual preferences and abilities

- Provide choice in methods of use
- Accommodate right- or left-handed access and use
- Facilitate the user's accuracy and precision
- Provide adaptability to the user's pace



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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

- Eliminate unnecessary complexity.
- Be consistent with user expectations and intuition.
- Accommodate a wide range of literacy and language skills.
- Arrange information consistent with its importance.
- Provide effective prompting and feedback during and after task completion.



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Principle 4: Perceptible Information

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

- Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- Provide adequate contrast between essential information and its surroundings.
- Maximize "legibility" of essential information.
- Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- Provide compatibility with a variety of techniques or devices used by people with sensory limitations.

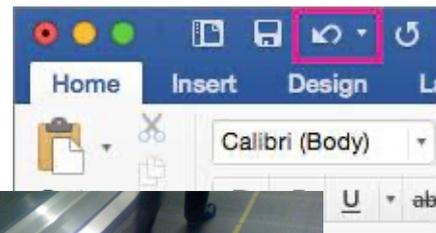


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Principle 5: Tolerance for Error

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

- Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- Provide warnings of hazards and errors.
- Provide fail safe features.
- Discourage unconscious action in tasks that require vigilance.



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Principle 6: Low Physical Effort

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

- Allow user to maintain a neutral body position.
- Use reasonable operating forces.
- Minimize repetitive actions.
- Minimize sustained physical effort.



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Principle 7: Size and Space for Approach and Use

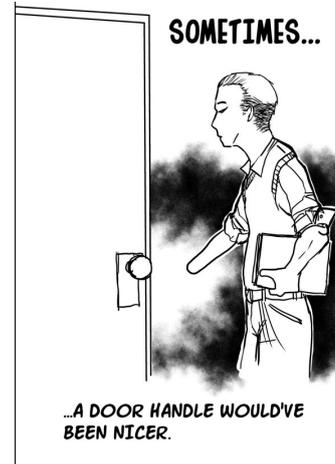
Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

- Provide a clear line of sight to important elements for any seated or standing user.
- Make reach to all components comfortable for any seated or standing user.
- Accommodate variations in hand and grip size.
- Provide adequate space for the use of assistive devices or personal assistance..

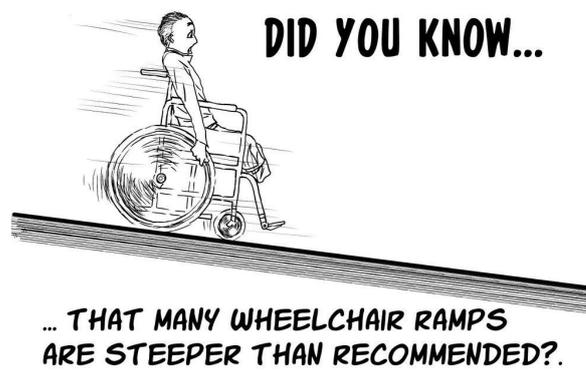


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Identification of barriers can help with awareness raising



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SIMPLE THINGS LIKE...



**... RECEPTION DESK HEIGHT
ACTUALLY MATTERS A LOT!**

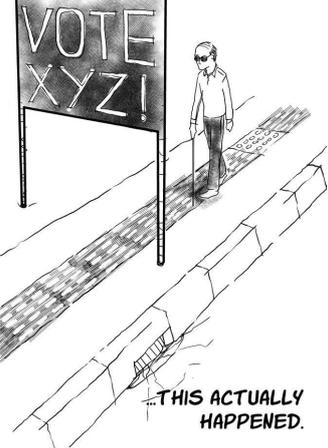
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DID YOU KNOW...



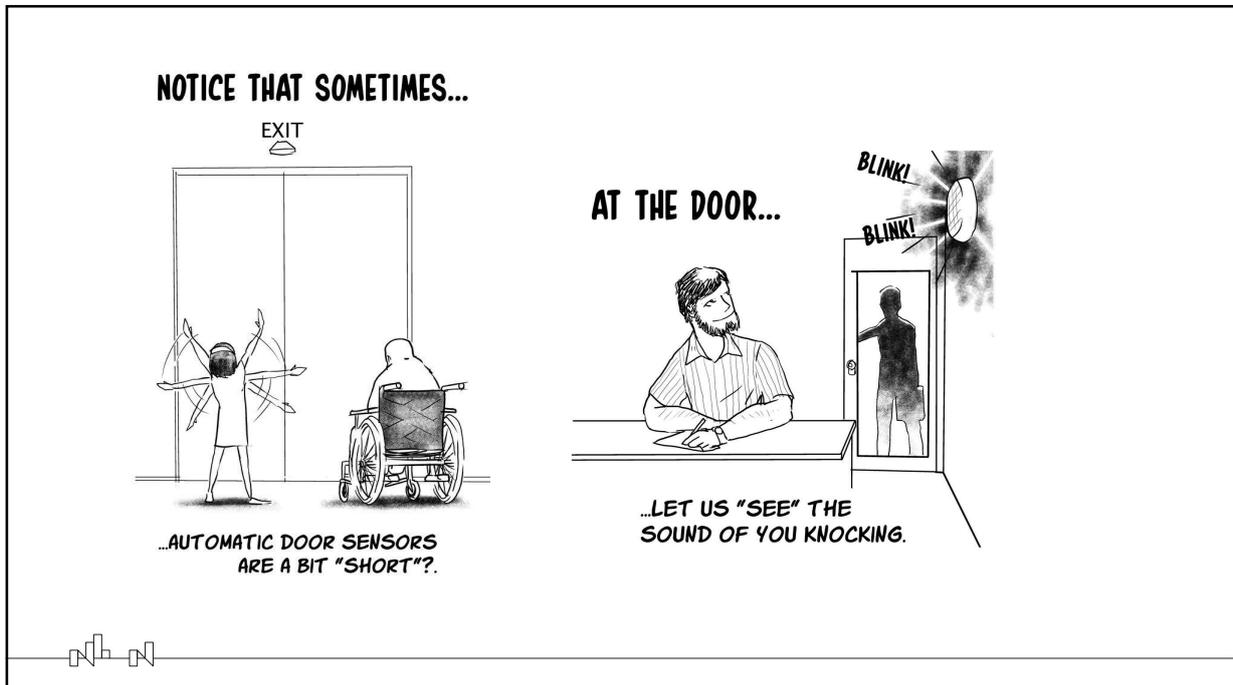
**...SOME OF US COULDN'T
EVEN ENTER OUR OWN
HOUSE?**

THE SAD THING IS...



**...THIS ACTUALLY
HAPPENED.**

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Award winning example - Playground



Award winning project by Alice Moore and Helen Lynch at University College York, Ireland



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Implementation

- Framework developed in Australia
 - Three guiding principles:
 - Can I get there?
 - Can I play?
 - Can I stay?
- Principles of Universal Design
- Engagement with users
 - The experts in their own lives



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Users involvement in the design process

- Involvement of disabled children and their families -
 - Surveys
 - Focus groups
 - Reviewing plans
- Users talked about needs, wants and desires for the new play and recreation space
- Users shared good experiences from other places
- Users shared experiences of barriers
 - Unusable spaces
 - Lack of accessibility
 - Loose surfacing
 - Nowhere to swing or slide
 - Lack of things to do



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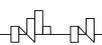
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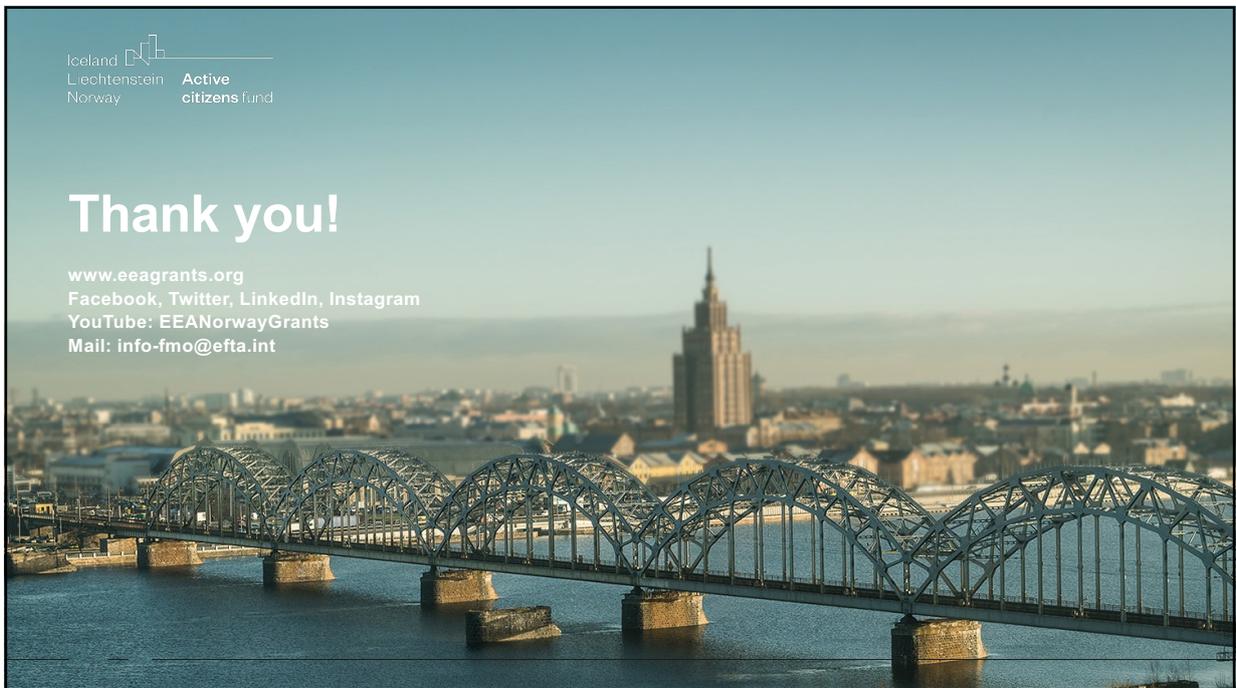
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