Design for Older Adults: Issues and Challenges

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1. Rapid aging of the world’s population

![Pie chart showing percentage of population age ≥ 60 y.o. and < 60 y.o. in 2015 with 12% ≥ 60 y.o. and 88% < 60 y.o.]

Source: http://www.who.int/mediacentre/factsheets/fs404/en
Why?

1. Rapid aging of the world’s population

2050

- 78% < 60 y.o.
- 22% ≥ 60 y.o.

Source: http://www.who.int/mediacentre/factsheets/fs404/en
2. Older adults face discrimination due to:
   a) Ageism
   b) Ignorance
In Greece...
1. 30% of the population will be ≥60 y.o. by 2025

Source: WHO #yearsahead campaign
1. By 2025, 50% of the population will be at a “non-productive” age.
Why?

2. Population reduction

Source: http://data.worldbank.org/country/greece
Why?

3. GDP reduction

![GDP Graph](http://data.worldbank.org/country/greece)

Gross Domestic Product in US$ (Billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP (Billions)</th>
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<tbody>
<tr>
<td>1991</td>
<td>$105,143</td>
</tr>
<tr>
<td>2001</td>
<td>$136,191</td>
</tr>
<tr>
<td>2011</td>
<td>$287,780</td>
</tr>
<tr>
<td>2015</td>
<td>$194,851</td>
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</tbody>
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Ageing: Changes

a) Perception
b) Cognition
c) Control of movements
(Bad) design can be dangerous
Design = Beautification (?)

The average person considers design as a beautification process (for a product/service)
773,618 decisions in a lifetime...

27 decisions every day

Pull or Push?
Before concluding this session, I have to make an observation: the president’s seat is not made for left handed persons.
Bernard Gore’s case

Level 4: Mr Gore was found in the stairwell between Scotch & Soda and Chanel Fragrance & Beauty Boutique

Level 3: Mr Gore's wife was waiting outside Woolworths to meet him.

Source: https://t.co/Wp15PEB3WY
(Good) design

1. Improves the user’s everyday life
2. Allows for better management of resources
3. Promotes safety
4. Improves sales
When usability is improved for older adults, it is also improved for younger adults

- Older adults as a benchmark for usability

Source: Fisk, Rogers, Charness, Czaja, & Sharit, 2009, p. 5
1997

The Center for Universal Design, USA

ABOUT THE CENTER: RONALD L. MACE
The Center for Universal Design, USA

Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

–Ron Mace

The intent of universal design is to simplify life for everyone by making products, communications, and the built environment more usable by as many people as possible at little or no extra cost. Universal design benefits people of all ages and abilities.
Universal Design: Basic principles

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

Source: https://goo.gl/IDu8rJ
Universal Design: Basic principles

**1. Equitable Use**
The design is useful and marketable to people with diverse abilities.

**2. Flexibility in Use**
The design accommodates a wide range of individual preferences and abilities.

**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.

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

**5. Tolerance for Error**
The design minimizes hazards and the adverse consequences of accidental or unintended actions.

**6. Low Physical Effort**
The design can be used efficiently and comfortably and with a minimum of fatigue.

**7. Size and Space for Approach and Use**
Appropriate size and space are provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

The principles of Universal Design were compiled by advocates of Universal Design in alphabetical order:

- Bateson Ross Connell
- Mike Jones
- Ron Mace
- Jim Martin
- Abeer Muflick
- Elaine Ostritch
- Jon Sanford
- Ed Steinfeld
- Molly Story
- and Gregg Vanderheiden

**NOTE:**
The Principles of Universal Design are not intended to constitute all criteria for good design; only universally usable design. Certain other factors are important, such as aesthetics, cost, safety, gender, and cultural appropriateness, and these should still also be taken into consideration when designing.
Design for AD organizations

1. Better interface at the organization’s first “contact point” with the general public
   - Website
   - Information stand

2. Unified design language in the organization’s printed material
   - Strong identity
   - A consistent structure that allows for easier detection/comprehension of information
Design for dementia

The 3 stages of dementia

Early/Mild  Mid/Moderate  Late/Severe
Our main challenge

• Self-dependent patient
Our design approach

1. A modular information system
   *Leading to...*

2. Automation
   *Which helps offset limited resources*
Dual role

1. Applied research
2. Education
1. **Text structure / Typography**
   - Typeface selection
   - Font size
   - Line spacing
   - Color (fonts/background)
   - Design of new typeface
2. Icons
   • Selection
   • Size
   • Color
   • Design of new icons
Formats

1. Print

2. Electronic/Digital
   - Personal computer
   - Tablet
   - Mobile phone
   - Virtual reality devices
New technologies

**VIRTUAL REALITY (VR)**
Completely digital environment

**AUGMENTED REALITY (AR)**
Real world with digital information overlay

**MERGED REALITY (MR)**
Real and the virtual are intertwined

Source: www.intel.com


Thank you

CND+

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