Advanced Interaction Design

Design for ALL
Inclusive Design
Open Mind?
Design for All?
Disabled?
Enabled?
Unnormal?
Terminology

- Commonly used terms:
  - Disability
  - Functional disorder
  - Special needs
  - Handicap
All these terms...

...reflect a flaw in
SOCIETY
not in the
INDIVIDUAL
(!)
SOCIETY
DIS-ABLES
Terminology

- Commonly used terms:
  - **Dis-ability**
  - Functional **dis-order**
  - **Special** needs (in relation to whom)
  - **Handicap** (compared to?)
Normality?

- What is normal?
- What is not normal?
- What is constructed normality?
Normality?

Basket Ball  Cross Country Walking
Think again?

Wheelchair Basket Ball

Allterrain Wheelchair
Design for all

means **adding** possibilities
Normal or strange?
Inclusive Design

- Think about everyone’s needs?

- Conflicting Requirements
  - Easy to use for tall AND short person…

- So, rather…

- Exclude as few as possible
Design for all

- Design for Human Diversity
- Design with Alternative Solutions
- Creative Design
- Exclude no-one
Philosophy

Designers ensure that their products and services address the needs of the widest possible audience, irrespective of age or ability
Design for all leads to...

- something that is easy to understand and use
- access or use that is independent on strength or movability
- alternative information sources for blind and deaf people
- that the produced artefact can be used by all (most?) people
"Designed for all"-artefacts...

- are often very usable for most people
  - even those that don’t need it

- e.g., ramps instead of short stairs
  - Often used also by people who can use the stairs

- electric door-openers
Design for all…

Note that the “wheelchair solution” is used by ALL!
Some things are taken for granted

- Remote Controls
- Automatic gearshifts
- Toilet door locks
- Escalators/Elevators
Problem?

US?

? 

THEM?
Solution!

Everybody
Solution!

Everybody

But... HOW?
User-Centred Design

- Design for all (individuals)
- General solutions need to be wide
- Allow for individual variation
Example: Disability with Age

- People change with age:
  - Physically
  - Mentally
  - Psychologically

- Mostly changes cause impairments

- Lesser abilities
Big Hands, big fingers?
Bad EyeSight
Bad Hearing

- Local Amplification
Old ≠ Stupid

- Age does not imply stupidity (of course)
- Slow adapters
- Often "need" before "hype"
- Usability/Useworthiness important
Design for all

- Means to make more things more usable for more people
- Not changing the basic feature
  - Adding possibilities
- Diversity rather than singularity
- Creativity rather than rules
Old ≠ Stupid

- Age does not imply stupidity (of course)
- Slow adapters
- Often "need" before "hype"
- Usability/Useworthiness important

Oldest Blogger is 104 years old!
Some Age Factors

- Vision
- Hearing
- Memory (short term)
- Mental spatial orientation
- Motor control (shaking hands, etc.)
- Information concentration
- Learning strategies
- Context before details
Gender?

Traditionally:
- Functionality first = designed by men
- Aesthetics first = designed by women
  - (very generalised view)

Function and aesthetics?
Function OR aesthetics?
Esthetics and function?

Chair, Bruno Mattson

Headphones, Maria von Euler
Is it about gender?

- Bodily measures are different
  - Small hands, big hands
  - Small ears, big ears
  - etc.

- Preferences are different

- Perspective is different
Is it about gender?

- Bodily measures are different
  - Small hands, big hands
  - Small ears, big ears
  - etc.

- Preferences are different

- Perspective is different
Or is it about design for all?

Catering for these factors is actually GOOD DESIGN!
Difficult to read?
Inclusive design

- Adds possibilities
- Should not remove possibilities
- Should not hinder people
- Should not stigmatize!
Stigmatization

- When the use of supportive technology is marking people as
  - "of lesser value" or
  - "clearly different"

- Supportive technology should be
  - "integrated" in the standard context
  - not only added as an emergency solution
Design reduces stigmatization
Tools provide identity

July 13, at 8:57pm, 2006
the first wheelchair backflip
is landed!
Preconceptions

- Stigmatization promotes Preconceptions
- Preconceptions promote Stigmatization
- Preconceptions show in how people react on meeting...
  - Addressing the personal assistant
  - Talking more "clearly"
  - Hospitalization of home environment
Design for ALL

Is it possible to provide the functionality, without making it look like a hospital bed?
Design for ALL

Is it possible to provide the functionality, without making it look like a hospital bed?

YES!
Design for all in IT

- Not only interface issues
- The situational context
Difficulties?

- Taking the role of other users
- Foreseeing the unforeseen user
- Creativity in the Design
- Bad Interface Toolboxes
  - (Java Swing, TK, etc.)
How to?

- Make checklists!
  - Is it visible?
  - Does it require precision?
  - Does it require good memory?
  - etc.

- Add different interaction possibilities!
- Enlarge (widen) test user groups
- Practice your "Design for all"-thinking!
LOOK AT THINGS AROUND YOU

Design for all

WITH A CRITICAL OPEN MIND
The "Design for ALL-shopping cart"

- Assignment:
  - Describe the problems with a standard shopping-cart from a "Design for all/Inclusive Design"-perspective
  - Redesign the cart according to the "Design for all"-paradigm as a self-powered shopping tool
  - Also design the "driver’s" interface (control panel)
Society needs to include...
Finally...

- The grass is always greener on the other side of the fence...

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