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 who)
  - **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

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

US?

? 

THEM?
We and them...
Solution!

Everybody
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

www.avitel.se
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
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.)
Howto?

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