



# Universal Usability: Healthy Older Adults

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# Brainstorm Activity 1

Instead of discussing limitations and what older adults **CAN'T** do, let us first consider activities older adults **WANT** to do.

e.g. hobbies, pastimes, interests, passions, etc.

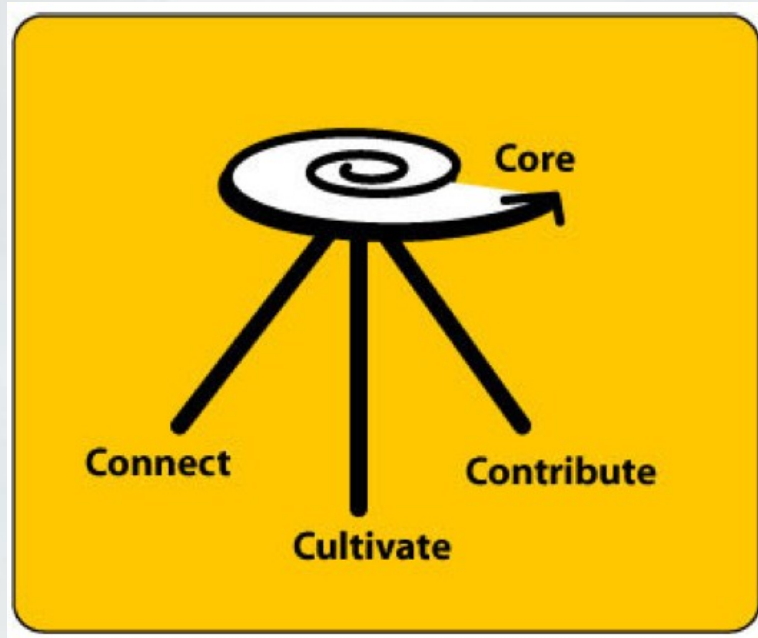
# Some activities enjoyed by older adults

Socializing, attending events,  
games, dining, visiting friends /  
family...

Cultural events, travel, exercise /  
walking, music, reading non-fiction,  
attending lectures, classes, and  
workshops...

Volunteering, event planning,  
preparing food...

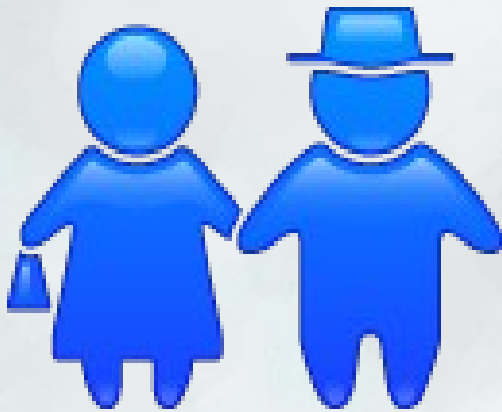
# Passion model (Abeele et al. 2006)



Passion model [1]:

- Core Activity +
  - Connect with others
  - Cultivate knowledge
  - Contribute to the community

# Healthy Older Adults



Emphasis on **healthy** older adults

- fastest growing user group online / ICT
- less technophobes
- longer life expectancy
- more independence / autonomy
- more disposable income
- lots of leisure time

# Brainstorm Activity 2

**Q:** What are some of the **non-health-related** problems that face older adults in today's world?

# Problems facing healthy older adults

## Social isolation

- distant family members
- loss of loved ones or friends (death / loss of mobility)

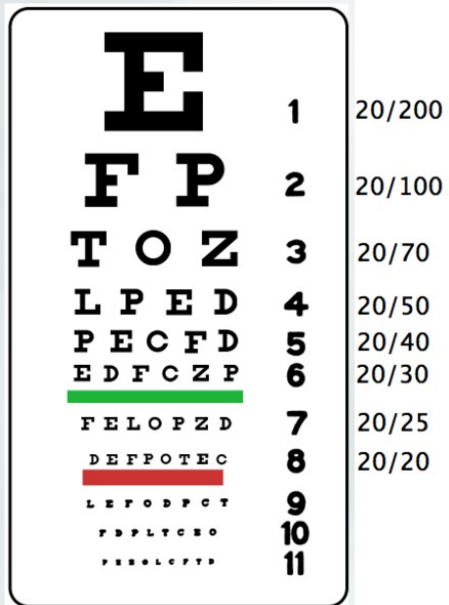
## Information / Communication Technology

- lack of familiarity
- worries and fears



Isolation

# Problems (cont.)



Combine these issues with potential health problems:

- macular degeneration
- hearing loss
- motor impairment
- memory dysfunction

Lots of variability

- not a homogeneous group



# Participatory Design with Seniors



Critiquing, building, and evaluating mobile phones (Massimi, Baecker, & Wu, 2007)

- considerations for design
- considerations for PD with seniors
- "design for us"

# Considerations for mobile phone design



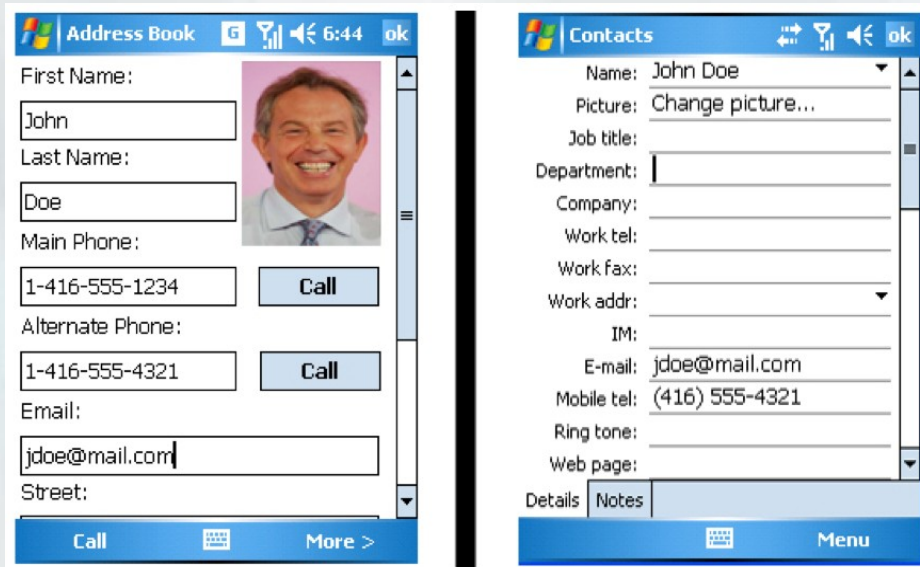
- button placement
  - avoid sides / rear
- avoid soft keys
- home state button
- user support network
- multiple input modalities
- avoid modifier keys
- personal data structure
- avoid slide-out keyboards
- naming conventions
- **Q:** anything missing?

# Considerations for PD with Seniors



- provide alternate activities
- temporary workgroups to overcome individual deficits
- minimize crosstalk
- involve a community
- provide activity structure
- maintain appropriate speed
- mix of individual and group activities
- **Q:** anything missing?

# Design for us



- rather than for 'them' or 'me'
- does this generalize well?
  - less heterogeneous
  - large variability in population
- not guidelines, but considerations

# Mutual Inspiration (Eisma et al. 2003)

- early involvement
- establish common ground (e.g. language)
- encourage discussion
- focus group atmosphere
- provide hands-on activities / workshops
  - help build confidence
  - peer support
- more general than PD

# Early Involvement (Eisma et al. 2004)

- details a methodology for early involvement of seniors in design process
- using results to generate seminars for ICT industry
  - lack of interest / support from industry
  - older adults treated as homogeneous group / not considered at all
  - **Q:** how do we get industry's attention?

# Guidelines for web design for seniors

- growing user base
- Kurniawan et al (2005) [7]
- guidelines derived by panel of HCI experts
  - heuristic evaluation
  - validated by senior web users
- 38 guidelines under 11 categories
  - target design, graphics, navigation, browser features, content layout, links, cognitive design, colour / background, text, search engine features, feedback

# Game design for older adults



- non-traditional player group
- Abeelee et al (2007) [1]
  - ethnographic research
  - participatory design
    - game concepts
    - paper prototypes
- Passion model
  - connect / cultivate / contribute
  - meaningful play



# Design patterns for older users

- Zajicek (2004) [9]
- interaction design pattern language for older users
- case study: design of voice input/output web kiosk
- patterns of design for messages (i.e. menu choice, error recovery, confirmation, etc.)
  
- **Q:** features specially design to make interaction easier for older users will be useful for everybody.  
Agree / disagree?

# Some ongoing / future work



- CHI 2009 - workshop on intergenerational communication [6]
- addressing open questions:
  - current state-of-the-art
  - broad social issues
  - intergenerational stereotypes
  - technology adoption
  - accessibility
  - nature of communication

# Final discussion



By 2050, 21% of world population over 60 (UN projection) [8]

Q: 2050 seniors = 2007 seniors?

Q: Will designing for healthy older users be a universal usability concern, or simply a large demographic to market to?

# References

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- Massimi, M., Baecker, R. M., Wu, M. Using Participatory Design with Seniors to Critique, Build, and Evaluate Mobile Phones. *Proc. ASSETS'07*, ACM Press (2007), 155-162.
- Zajicek, M. Successful and available: interface design exemplars for older users. *Interacting with Computers 16*, 16, (2004), 411–430.

# Image Sources

- [4] (slide 1)
- [1] (slide 4)
- [http://upload.wikimedia.org/wikipedia/commons/2/2f/Seniors\\_icon.png](http://upload.wikimedia.org/wikipedia/commons/2/2f/Seniors_icon.png) (slide 5)
- [http://farm3.static.flickr.com/2167/1834560072\\_af20eef532.jpg](http://farm3.static.flickr.com/2167/1834560072_af20eef532.jpg) (slide 7)
- <http://upload.wikimedia.org/wikipedia/commons/e/e7/Snellen06.png> (slide 8)
- [8] (slide 9)
- [http://upload.wikimedia.org/wikipedia/commons/8/80/Mobile\\_phone.png](http://upload.wikimedia.org/wikipedia/commons/8/80/Mobile_phone.png) (slide 10)
- [4] (slide 11)
- [8] (slide 12)
- [1] (slide 16)
- <http://www.scsdb.k12.sc.us/outreach/images/ampPhone.gif> (slide 18)
- [http://farm1.static.flickr.com/88/244937272\\_2a1da11f21.jpg](http://farm1.static.flickr.com/88/244937272_2a1da11f21.jpg) (slide 19)