

Designing for Older Adults: Overcoming Barriers toward a Supportive, Safe, and Healthy Retirement

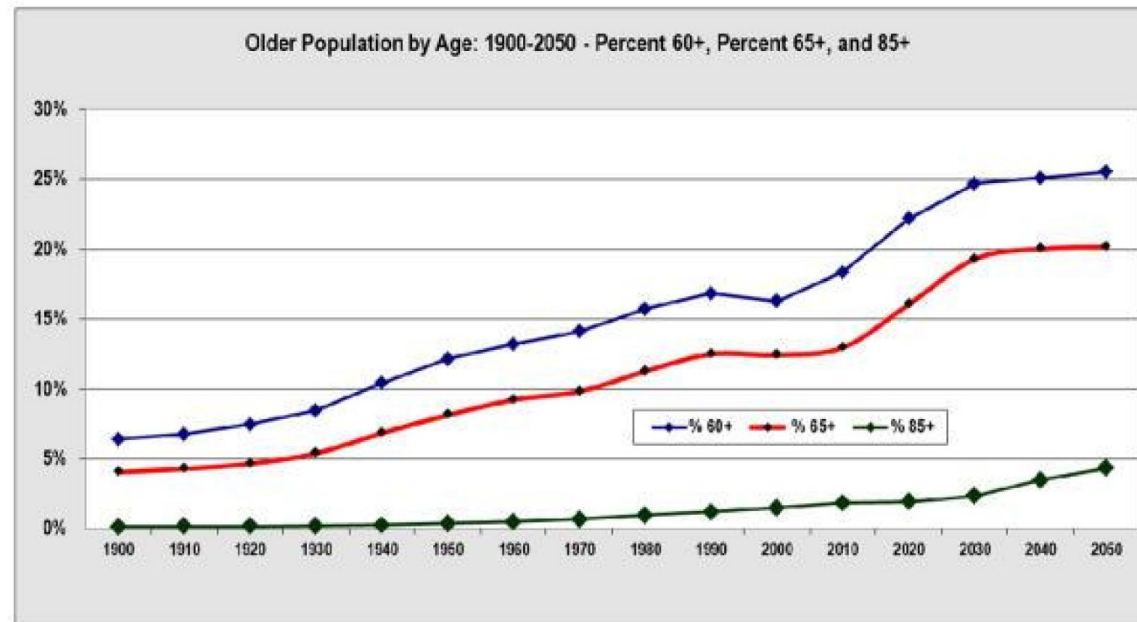
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 - Leading several pan-Canadian projects on Inclusive Design for Older Adults
 - Expertise: User Experience Design for Older Adults, Voice and Conversational User Interfaces, Cybersafety, Digital Inclusion

- “The Ageing Epidemic”



Increasing population of old and very old persons in the U.S (AoA, 2015)

These should be good news!!!

- More years for enjoyment with family and friends, conveying wisdom to workplace, reaping rewards



Technology should bring us together

- Not leave some of us behind!



The Design Challenge

- We are trying to design this ...



The Design Challenge

- And often end up with this ...

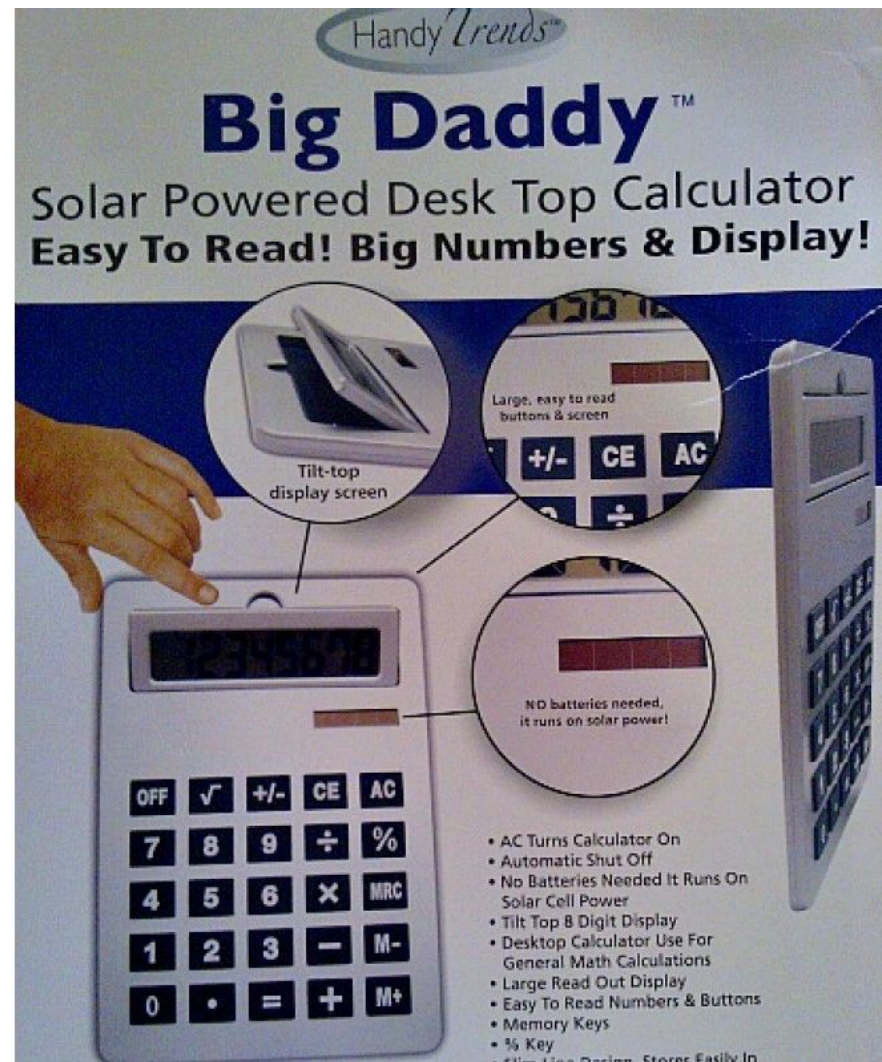


The Design Challenge

- Or this ...



- And when we design for older adults its either this ...



The Design Challenge ... for Older Adults

- Or this ...



Why is this happening?

- We ignore Older Adults when designing digital applications and services
 - We found significant **attitudinal and practice barriers** among professional designers with respect to seniors
- At best, we design for them through the lens of **impairments**
 - Presbyopia, macular degeneration, cataract, ...
 - Alzheimer's disease (AD), aphasia from stroke, Parkinson's, ...
 - Deafness, poor mobility, poor dexterity, ...



What's at stake?

- Far-reaching consequences
 - Including for the transition of customer services to digital forms
- Non-adoption of many online services
 - Missing out on many opportunities (e-commerce, travel)
 - Distrust of online service providers (banks, financial, health services)

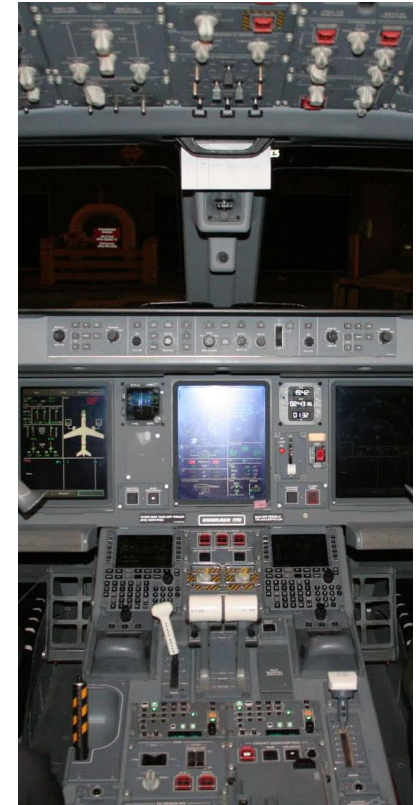


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→ **Digital Marginalization**

What's the actual problem?

- Main barriers to adoption: Mental Models
 - Similar to models in behavioural economics
 - Mostly as applied to what users know about a system's workings
- Fundamental to several tech adoption factors:
 - Usability, perceived usefulness, and lack of (or reduced) digital literacy
- Ignoring users' mental models leads to poor adoption of services!
 - Older Adults have very strongly defined models!



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Where is this relevant?

- This applies to a wide range of seniors
 - Casual users
 - Clients
 - Employees
- Engagement with essential services:
 - **Using digital/online services (e.g. banking, healthcare)**
 - **Digitally-mediated human-to-human communication (e.g. advising)**





What are the consequences?

- Our research on senior's engagement with essential online services exposed seniors' mental models:
 - Resistance to the use of online services due to low trust
 - Reliance on prior-established trust with the customer agents
 - Preference for interacting with “real” people
 - Lack of motivation for switching away from “in-person” transactions
 - Online being perceived as less secure (not just financial, but also in terms of information, privacy, etc.)
 - Perception of different roles and social contexts for online services
 - Expectation for autonomy

How can we design digital applications and services to properly factor in Older Adults' mental models for essential services?



Our design process

- Our three-pronged approach, based on experience with hundreds of older participants over the past 15+ years
 - Advisory input from panels of seniors (with users who also expert in running studies)
 - Understanding users early on (Contextual Inquiry - CI)
 - Design together with users (Participatory Design - PD)
- Only then implement and validate the designs through tech deployment, but be ready to re-do early stages.





Contextual Inquiry

- An ethnographic method for understanding who the users really are and what their daily practices are
- Role reversal: apprentice / master, with the researcher being the apprentice
 - “Teach me how you do X”
- Helps understand how new tech can work for instead of against them
 - Uncovers users’ mental models about what they do now
 - Finds the “sweet spot” for bringing value to them



How we do this

- Early CI sessions & consultations with expert users (advisory panel)
- Full CI sessions with users
 - 10+ users for one study, 2 to 4 hours with each user, in their home
- Analysis of collected data
 - Videos, artefacts, notes
 - Turn into design recommendations

Participatory Design (PD)

- Set of methods and theories aiming at designing not only for the potential users, but with them.

- Empower and engage older adults in designing tech & services
- Leads to increased ownership of the design process and to better adoption or resulting products
- Ensures that new tech & services will factor in users' cultural background, social context, and digital abilities

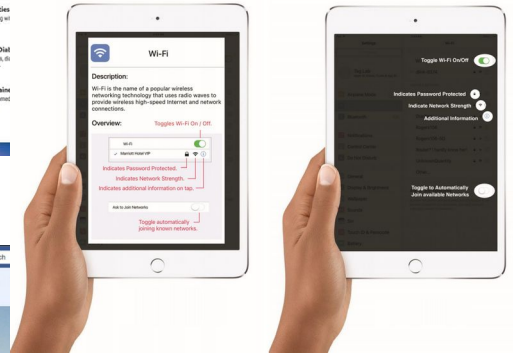
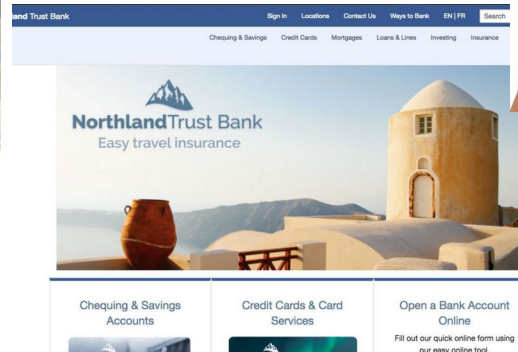
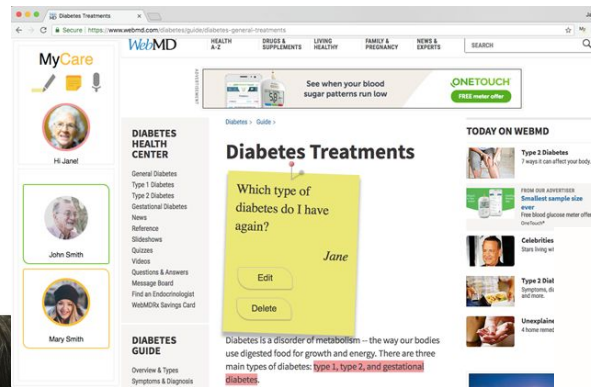
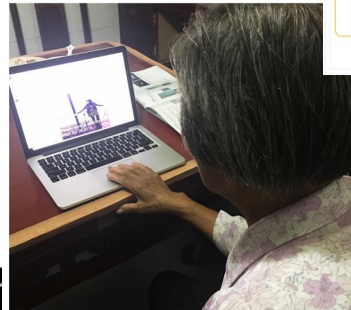
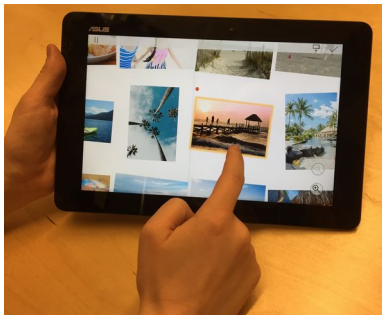


What have CI and PD allowed us to do

Understand our users and design interactive applications to fit in the “right spot”



- Getting the right design that matches users' mental models!
 - Increase adoption of beneficial tech / digital services
 - Reduce digital marginalization



Thank you!

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