

Equity in Information Systems and Addressing the Digital Divide

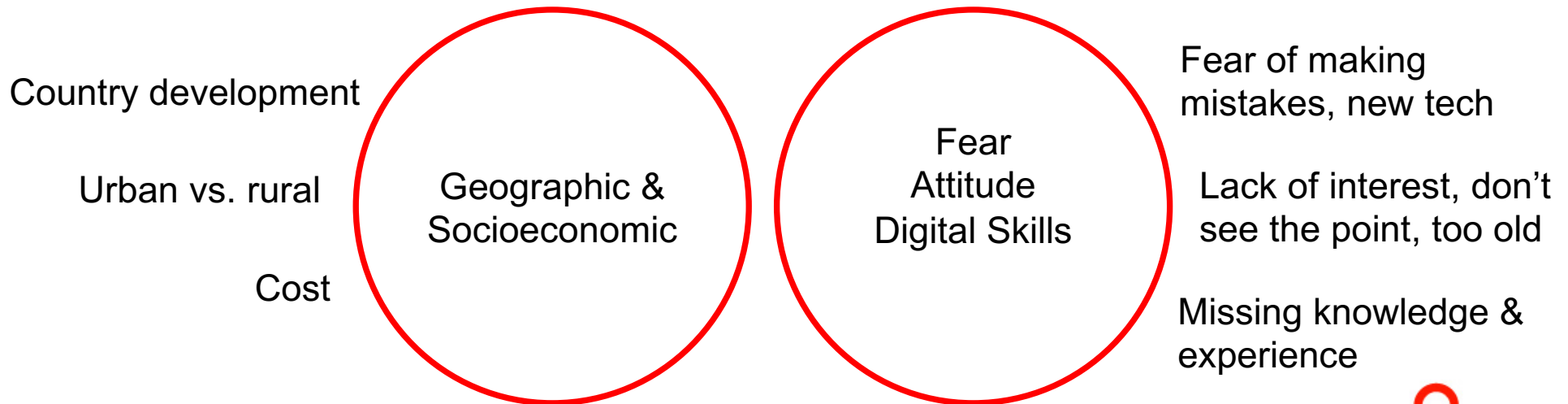
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DeGroote School of Business, McMaster University**



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Understanding the Digital Divide

- The difference between those that have access to the internet and those who don't



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Understanding the Digital Divide

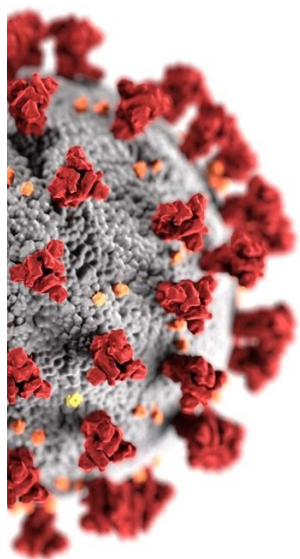
- Some stats (in Canada)...
 - Home Internet service
 - 97% those under the age of 50
 - 74% those aged 65 and older
 - Don't own a smartphone
 - 5% those under 60
 - 20% those aged 60 and older



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The most vulnerable

- Especially during COVID-19, older adults suffer from increased loneliness, isolation and affective disorders
- All types of cybercrime have surged worldwide due to the pandemic
 - Older adults may have difficulty in detecting cyber-attacks effectively
 - Cybercriminals have been capitalizing on these vulnerabilities



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Bridging the Divide

Geographic &
Socioeconomic

- Funding for infrastructure development in rural areas
- Access via local libraries, community centres, etc.
- Targeted subsidies
 - Technology
 - Access
 - Education



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Bridging the Divide

Fear
Attitude
Digital Skills

- Cognitive support
- Emotional support
- Design



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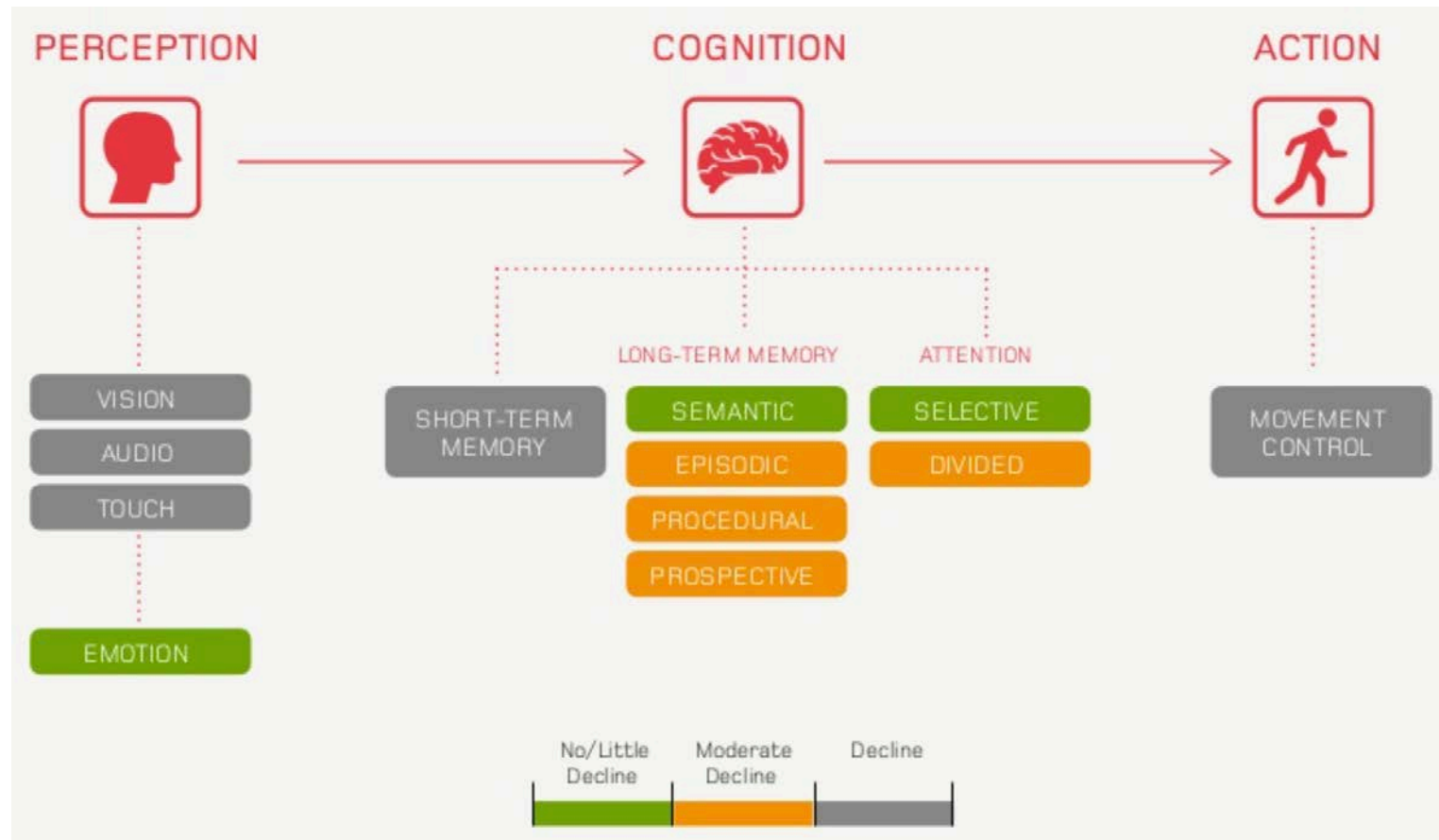
Interface Design



- One size does NOT fit all!
- Differences in motivations, expectations, experiences, comfort, capabilities, etc.



Age-related changes in capabilities



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Basic principles that designers get wrong

1. Size, colour and contrast

- Font sizes too small
 - Click targets too small 
 - Colours used inappropriately
 - Not enough contrast between website elements
- Overwhelm with dense text, especially when text is stuffed into small spaces without enough white space to separate sections




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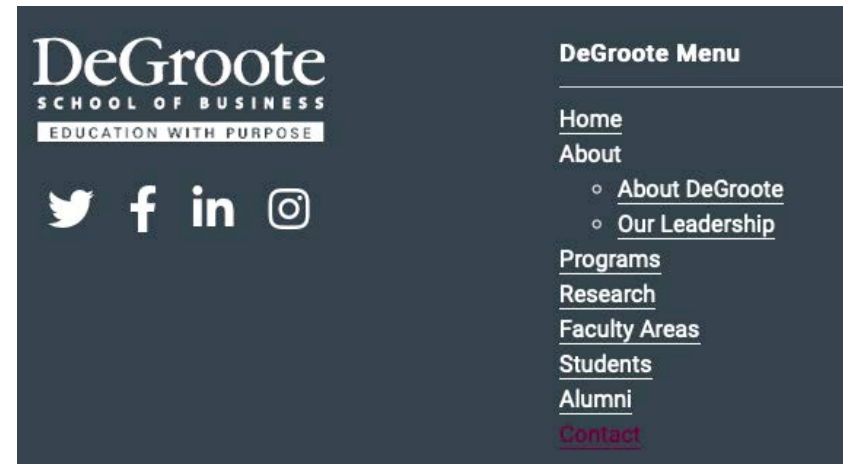
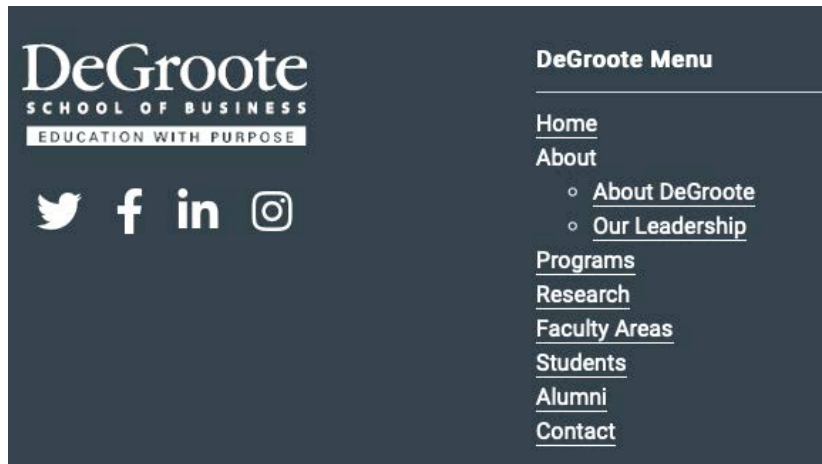
[Site Map](#)

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Basic principles that designers get wrong

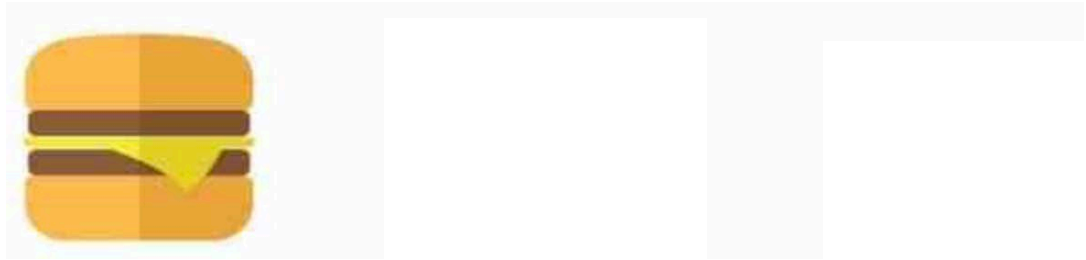
2. Navigation

- Aesthetic overriding intuitive navigation
- Overwhelming information
- Mismatch with mental models
- Needs to clearly answer
 - Where am I?
 - Where have I been?
 - Where can I go?



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Hamburger Menu



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Basic principles that designers get wrong



3. User testing with older adults

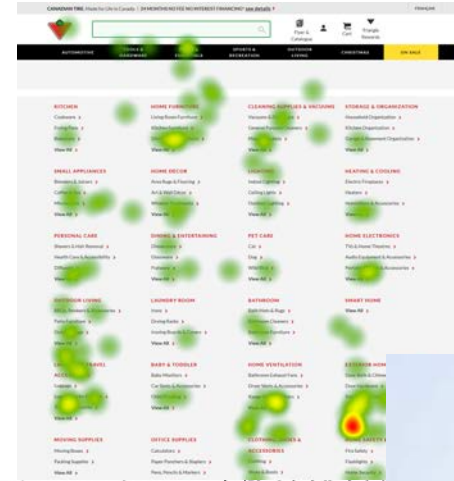
- Only real way of knowing how someone will interact with a technology is by testing it with them
- Gain insights into usability struggles and successes



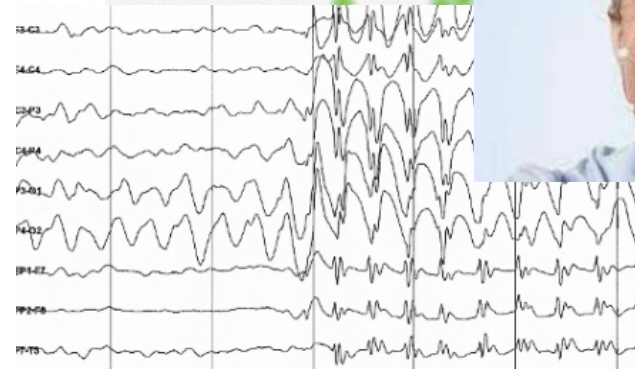
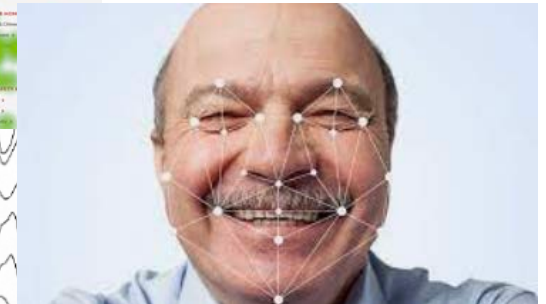
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Going beyond surveys

- With surveys ...
 - Low granularity
 - Subjectivity bias
 - Social desirability bias
- Neurophysiological tools



It was difficult for the user to find the right product category



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Why we get it

WRONG!

- Designers tend to design for people like themselves
- Pressure to turn around next version
- Underestimate the size and potential of their older adult customers
- Lack of understanding / knowledge



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Thank you!

Let's chat ...



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