Exploring needs, wants and aspirations of older car drivers

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Needs, wants and aspirations of older drivers

Aim of study:

- To explore the socio-technical factors affecting the older driver
- To create opportunities to elicit latent needs, coping strategies, unmet needs, and issues with current vehicle technology interfaces

Methodological approach

- To explore the practicalities of applying a participatory approach to design research
  - User is perceived as expert
  - Designer is facilitator

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Why research older car drivers?

- **Changes to older drivers (UK 1975-2005)**
  - 50-59 up from 50% to 82%
  - over 70’s up from 15% to 51%

- **Changes in car design**

- **Changes in research focus of older driver**
  - From physiological and cognitive change, to safety issues, to social issues of mobility

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Our approach...towards participation

- Challenge of diversity in older age groups
- Active participation of the users
- Iterative design process
- Interdisciplinary representation

“Each generation will have developed different sets of technological skills, knowledge and experience”
Critical issues (1): parking

- Parking found to be a recurring issue:
  - Some awareness of new developments with parking sensors
- High frequency activity - affected high and low mileage drivers
- Opportunity to identify how well parking technology supports needs of older drivers

I’m not as good at parking as when I was younger, is more difficult to judge smaller spaces.

As you get older you can’t turn round, your shoulders stiffen up.

Reverse parking is the most hairy thing about driving – I find it difficult to judge where I am.

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Familiarity and novel experiences

1. Supporting discussions
   • Retrospective accounts of regular parking experiences

2. Familiar contexts
   • Observation of parking with familiar technology (their car, our car park!)

3. Familiar patterns in a new context
   • Familiarisation with new car

4. Novel technologies
   • Observation of use of car with novel technologies: rear view camera, sensors and automatic systems
Critical issue (2): Speeding

- Concern for speeding a recurring issue
- Changes caused by introduction of digital 'safety' cameras on major routes
- High frequency activity - affected high and low mileage drivers

“I feel in control of the car even when I exceed the speed limit”

“I like to have a powerful car so I can drive fast.”

“I think it is important for safety”

“It’s becoming much easier to break the law”

“I would be mortified if I were prosecuted for speeding”

“I check my speedometer all the time”

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Alternative design detailing

- Simple display
- Inform of speed-limit
- Inform of compliance
  - Distinguish between ok/too fast easily
- Consistent display
- Familiar and intuitive

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Task simulator - 3rd iteration

- Increasing fidelity of experience:
  - Java Simulator
  - Racer Simulator*
  - Driving display, controls and environment

*Racer software programmed by Ruud van Gaal, www.racer.nl

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Conclusions

❖ The practical lessons:
  ▪ Research methods created in the workplace need to be adapted for older people who are not in paid employment
    › Change of roles - grandparent, community network, voluntary work
    › Change of values - personal not business orientated
  ▪ Researchers need to be aware of ethics and social interaction issues
  ▪ ‘Designer as facilitator’ - need to create positive opportunities for strategies and expertise to emerge from the older adult
  ▪ ‘User as expert’ - need to encourage more older people to take part in training and education in design research
Project Team:
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- A SPARC (EPSRC/BBSRC) funded research project: An investigation into older drivers advanced technology desires, needs and requirements [www.sparc.ac.uk](http://www.sparc.ac.uk)
- Executive summary of this project is available from the SPARC website

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