

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

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



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”
Keates et al, 2004.

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.

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"

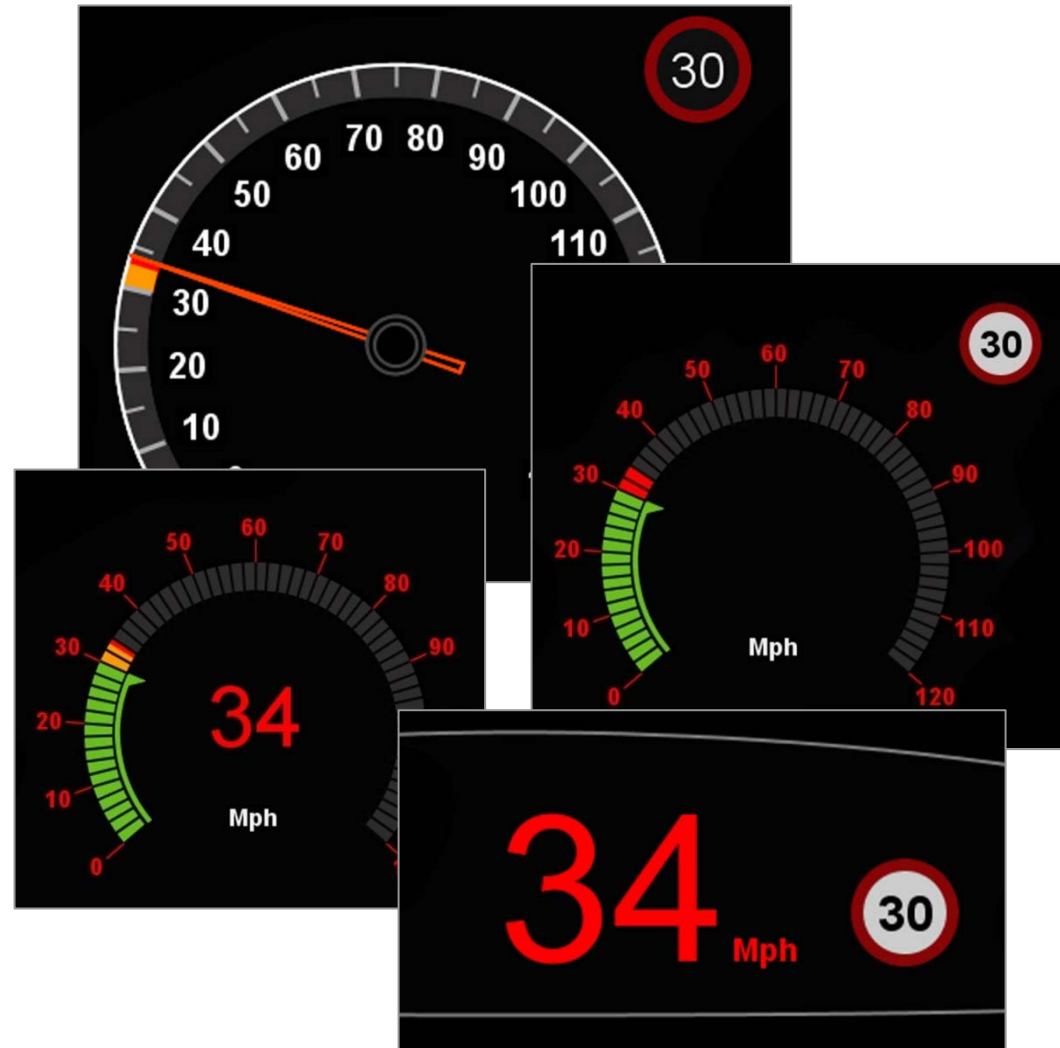
"It's becoming much easier to break the law"

"I would be mortified if I were prosecuted for speeding"

"I check my speedometer all the time"

Alternative design detailing

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



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

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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❖ **Project website:**

www.cs.mdx.ac.uk/research/projects/modat/project.php

❖ **Funding body:**

- A SPARC (EPSRC/BBSRC) funded research project: An investigation into older drivers advanced technology desires, needs and requirements www.sparc.ac.uk
- Executive summary of this project is available from the SPARC website