

Car Cockpits – Attitudes and Imaginaries: A Survey at a Car Trade Fair

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ABSTRACT

This paper reports the results of an exploratory survey conducted at a national car trade fair. The goal of this survey was to gain insights on two different topics: the importance of attributes of car cockpits and preferred input modalities for (future) in-car interfaces. The main finding is that pragmatic qualities are estimated by survey participants as more important than hedonic qualities for car cockpits. Moreover we could show by this case study, that steering wheel remote controls were the preferred input modality in cars.

Keywords

user requirements, survey, car cockpits, in-car interfaces

1. INTRODUCTION

To get first impressions on drivers' attitudes towards state-of-the-art car cockpits and imaginaries towards future in-car interfaces we conducted a survey based on a standardized questionnaire in the context of a local automotive fair. Besides demography and questions on the subjects trade fair visit, the questionnaire consisted of two topics, namely (1) importance of attributes of car cockpits, (2) attitudes towards input modalities for in-car interfaces. For topic 2 the questionnaire contained supplementary picture material, representing six different input modalities for in-car interfaces, namely speech input (1), touch screen (2), single control unit (3), buttons (4), steering wheel remote (5), and touch screen steering wheel (6).

2. STUDY

We conducted the survey at a three day car trade fair which was visited by more than 25.000 people. In total 113 visitors took part in the survey with 92 valid cases for data analysis.

Participants were asked to rate 14 attributes which were chosen following the concept established by Hassenzahl [1],

who claims that users assign specific adjectives to the pragmatic (PQ) or the hedonic quality (HQ) of a system. Results are shown in figure 1.

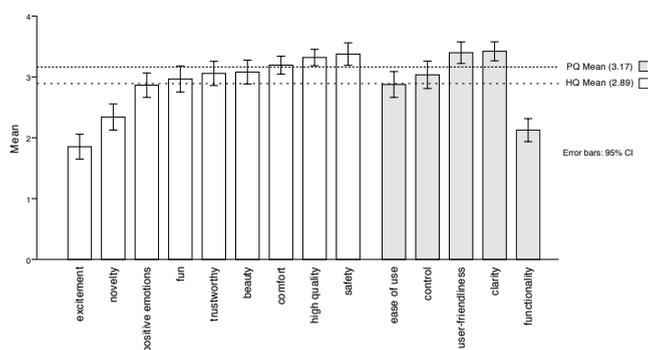


Figure 1: Importance of Attributes

The second topic in the questionnaire asked for the preferred input modality in cars. The steering wheel remote was rated highest (mean: 3.39, SD: 0.77), followed by the touch screen (mean: 2.50, SD: 1.18), the single control unit (mean: 2.38, SD: 1.26), the buttons (mean: 2.11, SD: 1.30), the speech input (mean: 2.08, SD: 1.46), and the touch screen steering wheel (mean: 1.76, SD: 1.36).

Participants were also asked for their pre-experience with these input modalities. An ANOVA with subsequent Scheffe post-hoc test revealed that participants with a high pre-experience rated their attitude towards a steering wheel remote significantly better, than participants with little or no foreknowledge ($F(2, 89) = 7.70, p < 0.001$).

These results lead us to the conclusion that investigating novel interaction paradigms for in-car interfaces need to take into account the fore-knowledge of the study participants.

3. ACKNOWLEDGMENTS

The financial support by the Federal Ministry of Economy, Family and Youth, by the National Foundation for Research, Technology and Development and by AUDIO MOBIL Elektronik GmbH is gratefully acknowledged (Christian Doppler Laboratory for "Contextual Interfaces").

4. REFERENCES

- [1] M. Hassenzahl. The effect of perceived hedonic quality on product appealingness. *Int. J. Hum. Comput. Interaction*, 13(4):481–499, 2001.