

AutomotiveUI 2010

Second International Conference on Automotive User Interfaces and Interactive Vehicular Applications

November 11-12, 2010, Carnegie Mellon University
Pittsburgh, Pennsylvania, USA

Conference Proceedings

Organizers:

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Preface

The idea to hold a conference on human-computer interaction issues related to cars emerged some years back, and culminated in the inaugural conference being held last year. Ubiquitous computing is becoming reality and researchers from computer science and human-computer interaction are moving into new domains. Vehicles and, in particular, cars present an exciting domain that offers many challenging research questions and at the same time new solutions can have a real impact on people's lives. As over the last few years many research projects on vehicle interaction have started and many PhD students now work on this topic, it is definitely time for a forum for this emerging community.

It is with great pleasure that we present the proceedings of the Second International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AUTO-UI-10, <http://auto-ui.org>). This builds on the success of the inaugural conference held last year at the University of Duisburg-Essen. This conference addresses human-computer interaction in the context of cars, including new interaction devices and metaphor use, methods and tools appropriate for this domain, and ethnographic work as well as studies that improve our understanding of interaction while operating a vehicle. New applications, as a catalyst for many new forms of interaction in the car, are a further part of the conference proceedings. This year, AUTO-UI-10 is being held at Carnegie Mellon University in Pittsburgh, Pennsylvania, USA. Major sponsorship is being provided by Carnegie Mellon University and the conference is in cooperation with the ACM, with its proceedings to be archived in ACM's Digital Library.

Automotive User Interfaces

Advances in technology have transformed cars into complex interactive systems. Drivers interact with a variety of controls and applications to operate a vehicle. Besides mastering the primary driving task, drivers make use of entertainment, information and communication systems in the car. Technical systems in modern cars support communication, sensing and consuming media. With these novel technologies, many opportunities arise for creating attractive in-car user interfaces. Nevertheless the challenge of creating such interfaces in a compelling and safe to use manner has grown ever greater. Especially in the automotive context, users expect interfaces that are intuitive and straightforward to use, without having to read a manual. The overall experience of driving a car is more and more influenced by the man-machine interface, and hence creating attractive user interfaces is of great importance for a successful product. Traditional means for user interface development taken from desktop computing are often not suitable, as many other conditions have an influence on the design space for automotive user interfaces. In comparison to many other domains, trial and error while the product is already in the market is not acceptable as the cost of failure may be fatal. User interface design in the automotive domain is relevant across many areas ranging from primary driving control, to assisted functions, to navigation, information services, entertainment and games.

Submission and review process

Authors were invited to submit papers that are 2, 4 or 8 pages long, where the length of the paper should fit the content. The call was open for academic papers, design sketches, interaction concepts, and industrial case studies. We received in total 52 papers of various length, the majority 8 pages and 4 pages long. Authors came from the USA, Germany, Austria, The Netherlands, Korea, Canada, the United Kingdom, Israel, Italy, Singapore, Finland and India. The quality, novelty, and originality of submitted work well exceeded our expectations. All papers received at least 3 independent reviews. The reviews were completed by experts on the program committee and, if required, additional expert reviews were requested. Based on these reviews, the chairs selected the final program, which consists of 12 long papers and 13 short papers. These contributions are included in the proceedings. In addition to the long and short papers, we also have 29 posters that are being presented at the conference.

Acknowledgments

We greatly appreciate and warmly thank the many people who have worked to make this conference possible. We recognize and appreciate all the work the Technical Program Committee members and additional expert reviewers put in to promote the conference, review papers, and select the work that composes these proceedings.

We appreciate the fact that many people helped to make the local organization possible. We are grateful to all the student volunteers for their help to make this conference a pleasant experience. In addition, the chairs appreciate the support from their home institutions.

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