6. Workshop
Automotive HMI

„Cars in the Transition from Manual to Automated Driving"

Under the umbrella of Mensch & Computer 2017

Regensburg, September 10, 2017

09:00 – 17:30 hrs.

Welcome...

- **from the organization team**
  - **Andreas Riener** (Technische Hochschule Ingolstadt and CARISSMA Forschungszentrum)
  - **Bastian Pfleging** (Ludwig-Maximilians-Universität München)
  - **Stefan Geisler** (Hochschule Ruhr West)
  - **Alexander van Laack** (Faurecia Interiors, France)
  - **Philipp Wintersberger** (Technische Hochschule Ingolstadt and CARISSMA Forschungszentrum)

Welcome...

- **to all participants**
  - Affiliation
    - University, University of Applied Sciences?
    - Research institution?
    - OEM?
    - Third-party supplier?
    - Service provider?

Program Overview

- Conference/Workshop registration: from 08:00
  - East wing of Vielberth building (ground floor)
- Introduction and „Speed Dating": 09:00 – 09:50 hrs.
  - **Introduction** by the Workshop Co-Organizers
  - **Speed Dating**: A warm-up session to get known to each other…
- Session 1 (2 talks): 09:50 – 10:30 hrs.
  - **Pilotstudie: Einsatz von mobilen VR-Anwendungen in gleichmäßig und ruhig bewegten Transportsystemen**
    Carolin Wienrich, Martin Zachoszcz, Max von Schlippe, and Richard Packhäuser
  - **Autonomous Driving: A Dream on Rails?**
    Alexander Mirnig, Alexander Meschtscherkjakov, and Magdalena Gärtner
- Coffee break: 10:30 – 11:00 hrs.
  - Vielberth building

Program Overview

- Session 2 (3 talks): 11:00 – 12:00 hrs.
  - **A Robust Drowsiness Detection Method based on Vehicle and Driver Vital Data**
    Thomas Kundinger, Andreas Riener, and Nikoletta Sofra
  - **Natürliche Blickfolgen vor einer Fahrt im Fahrzeug**
    Bastian Hinterleitner, Leonie Gauer
  - **User Interface für assistiertes Parken**
    Franz Koller, Manfred Dorn
- Session 3 ("Brainstorming wall"): 12:00 – 12:30 hrs.
  - **An exercise to loosen up everybody for the afternoon session.**
  - More information will be provided later…
- Lunch break: 12:30 – 14:00 hrs
  - Cold buffet, served in Vielberth building (ground floor)

Program Overview

- **Session 4 (Interactive Workshop): 14:00 – 17:00 hrs.**
  - **Focus topic: Cars in the Transition from Manual to Automated Driving**
    In adherence to the thematic orientation "Spielend einfach interagieren" of the conference, the workshop pays particular attention on topics like artificial intelligence (predictive HMIs, adaptive systems, intuitive interaction), natural user interfaces, acceptance and accessibility for elderly and disadvantaged people, as well as driving fun in the age of driving assistance and automation.
  - **Part A: Split into subgroups and discuss hot topics, build a paper prototype, sketch a design, etc. related to the workshop (prepared by organizers, based on the results of the brainstorming wall)**
  - **Part B: Presentation to the auditorium (few animated? PowerPoint slides or a Flipchart poster per group)**

- **Coffee break: 15:30 – 16:00 hrs.**
  - Vielberth building

- **Workshop closing: 17:00 – 17:10 hrs.**
  - Wrap-up, recap, and next steps

Introduction and „Speed Dating"

- **Short Introduction of participants**
    1. Affilitation / background
    2. Reason for Workshop registration
    3. Expectations from the workshop
    4. Focus topic 2017: "Cars in the Transition from Manual to Automated". What is your perspective?
        - Main benefit?
        - Major pain point?

Session 1

- Session 1 (2 talks): 09:50 – 10:30 hrs.
  - **Pilotstudie: Einsatz von mobilen VR-Anwendungen in gleichmäßig und ruhig bewegten Transportsystemen**
  Carolin Wienrich, Martin Zachoszcz, Max von Schlippe, and Richard Packhäuser
  - **Autonomous Driving: A Dream on Rails?**
  Alexander Mirnig, Alexander Meschtscherkjakov, and Magdalena Gärtner

- Coffee break: 10:30 – 11:00 hrs.
  - Vielberth building

- Please make notes...
  - Q&A after the talk
  - Start for brainstorming round (12:00-12:30 hrs)

Session 2 and 3

- Session 2 (3 talks): 11:00 – 12:00 hrs.
  - **Autonomous Driving: A Dream on Rails?**
    Alexander Mirnig, Alexander Meschtscherkjakov, and Magdalena Gärtner
  - **A Robust Drowsiness Detection Method based on Vehicle and Driver Vital Data**
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- Please make notes...
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- Session 3 ("Brainstorming wall"): 12:00 – 12:30 hrs.
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  - More information will be provided later...

- Lunch break: 12:30 – 14:00 hrs
  - Cold buffet, served in Vielberth building (ground floor)

Session 3 (Brainstorming)

- 14.00 – 14.30 hrs.
- Topics to discuss
  1. "Spielend einfach interagieren"
     - Driving fun/Pleasure
     - Natural user interfaces
     - User experience
     - „Car as living environment"
  2. On the way to automation
     - Acceptance
     - Trust in technology
     - Legal and ethical aspects (BMVI Ethics Commission), Eye contact
  3. Artificial intelligence/Machine learning
     - predictive HMIs/adaptive systems
     - Black-box vs. transparency
     - Self-learning systems (legal aspect)
  - Look on: Challenges, Opportunities: Transparency, etc.

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Session 3 (Brainstorming)

- Brainstorming wall (outcome of brainstorming)

Session 4

- Interactive Workshop, Part A: 14:30 – 15:30 hrs.
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  - **2~~3~~ subgroups**
    - A. „Spielend einfach interagieren" (Fun, pleasure, NUI)
    - B. On the way to automation (Trust, Acceptance, Legal/ethical issues)
    - C. ~~Artificial intelligence/Machine learning (predictive HMIs, adaptive systems, self-learning systems- legal aspect)~~
  - **Tasks**
    - Take results from brainstorming session
    - Think about an idea you want to address in detail for a prototype/concept
- Coffee break: 15:30 – 16:00 hrs.
  - Vielberth building

Session 4 (cont'd)

- Interactive Workshop, Part B: 16:00 – 17:00 hrs.
  - **Focus topic: Cars in the Transition from Manual to Automated Driving**
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  - **Tasks**
    - Develop a concrete concept (scenario/situation/etc.) based on your initial idea and feedback (until 16:30 hrs.)
    - Sketch it on paper or powerpoint (paper prototype, scenario in some frames, etc.)
    - **Presentation to the auditorium (few animated? PowerPoint slides or a Flipchart poster per group)**
      - 5 minutes per group + discussion

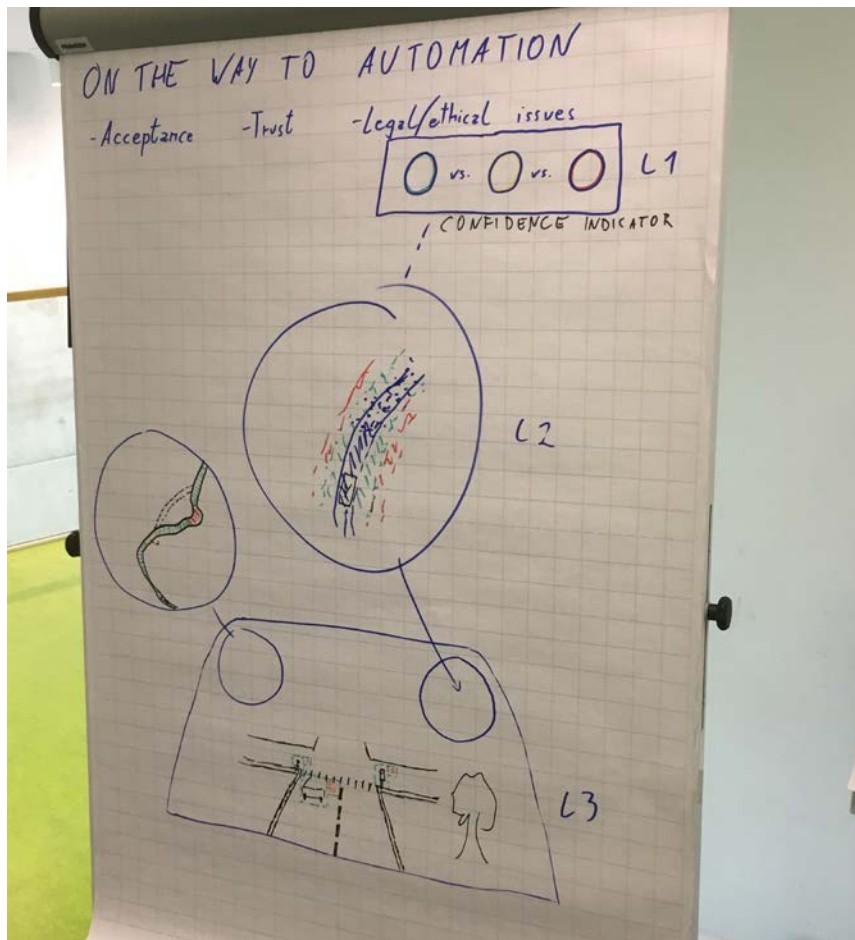- Workshop closing: 17:00 – 17:10 hrs.
  - Wrap-up, recap, and next steps

Session 4

- Interactive Workshop, Results
  - **Group 1: „Spielend einfach interagieren" (Fun, pleasure, NUI)**

Session 4

- Interactive Workshop, Results
  - **Group 2: „On the way to automation" (Trust, Acceptance, Legal/ethical issues)**

Workshop closing: 17:00 – 17:10 hrs.

- Topics to discuss
  - Presenters: Send PDF-slides to andreas.riener@thi.de (to be shared amongst participants only!)
    - participants already took photos from slides...
  - next steps:
    - Follow-up workshop at MuC 2018
    - Special session at ...?
    - Summary article?