In-Vehicle Ambient Light

WP3 – Multimodal Interaction

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1. Objectives
Ambient lighting systems have been introduced by several manufacturers to increase the driver’s comfort. We are searching for **light patterns** that can not only **warn drivers in critical situations** but also **keep them informed in a non-distracting way**.

2. The Right Location
- **Nine locations** in initial brainstorming
- **Online-Survey** with 58 participants
- Found **qualitative feedback, alternatives** and **two preferred locations**

3. Exploring Designs
- **Five drivers, eleven ideas**
- **Seven designs** derived
- **Tried out and discussed**
- **Two kinds of patterns** identified

4. First Evaluation
- **Patterns based on ISO 17387**
- **Discrete** pattern led to **worse performance**
- **Continuous** pattern led to **better efficiency**

5. Conclusion
Our contribution is a **novel way of supporting drivers during lane change** using an ambient in-vehicle light display. We plan to make the pattern **adapt to a model of the driver’s uncertainty**. We will further explore the **impact of different features of light**. Another goal is to compare our light display to other modalities and combine them into a **multimodal display**.