

# The Hugging Driver's Seat

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**Abstract.** To address the distraction problem of mobile communication in the car, the hugging seat concept is proposed to enable intimate communication with a driver across distance. Initiated through e.g. a phone call, actuators in the driver's seat induce a contraction of the seat cushion elements to imitate a hug. The concept is seen as reducing driver distraction by providing aspects of mobile communication needs like emotional presence while driving. Furthermore, the imitated hug communicates positive emotional intentions of the initiator that affects the mood of the driver in a positive way.

**Keywords:** intimate communication, hugging seat, car, safety, distraction

## 1 Introduction

Distraction in the car is a serious problem as it affects the safety of all traffic participants. The driver can be distracted amongst others by passengers, the radio, or through interaction with an information system. One of the major distraction sources however is the use of mobile phones, why many states enacted laws, to forbid mobile phone usage inside the car. The driver is forced to use a hands-free car kit, which is nowadays also criticized as distracting [2]. We want to address the distraction problem inside the car by proposing the hugging seat concept for intimate communication across distance to enhance safety.

## 2 The Hugging Driver's Seat

Intimate communication is rich and involving physical interaction that addresses multiple senses [1]. A hug conducted through the driver's seat, imparts a sense of presence which is important for maintaining social bonds as well as the emotions and physical health of the driver. Thus, distracting phone calls or SMS texting is no longer necessary to fulfill these emotional needs. A simple hug from the driver's seat might be able to reduce the desire to actually use a mobile phone and thus account for reduced driver distraction.

The design concept is built upon the idea to re-use existing elements in the car. Today's premium cars provide the functionality to adjust the driver's seat individually. To enable this functionality, the control elements for seat adjustment

already drive a set of actuators included inside the cushion and the lumbar support of the driver's seat. In combination with a receiver that interprets a phone call, an SMS or an Email, the actuators are used to re-adjust the seat elements and embrace the driver, who feels a gentle squeeze from the adjusted elements. Afterwards, the elements return to the starting position (time frame: 5s).

(a) Actuator position inside the drivers seat (b) Contraction direction of the seats side cushion elements and lumbar support

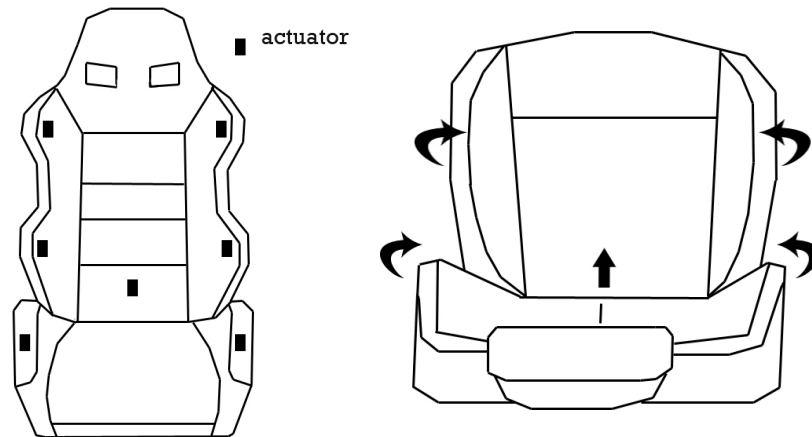


Fig. 1: The hugging driver seat: actuator position and contraction direction

## 2.1 Conclusion

Boosting emotional communication through intimate connections via the hugging seat, has the potential to reduce driver distraction and positively affect the mood of the driver. Nevertheless, detailed studies regarding distraction and the emotional status of the driver need to be conducted. It also has to be considered that a suddenly contracting seat can scare and distract the driver. A solution could be to implement vibrating elements to announce an incoming hug.

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## References

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