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# Prototyping a gesture controlled Head Up Display using a Leap Motion

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**Abstract**

In today's cars, the design of a Head Up Display (HUD) and the arrangement of its components are rather fixed. In a world where everyone wants to be able to customize everything according to their needs, this paper shows our ideas on how to implement a HUD for cars which can be modified using simple gestures. The paper also provides approaches how a Leap Motion can be used to recognize gestures in order to control the HUD. Furthermore, user experiences, possible risks and problems we faced in the implementation will be described within this paper.

**Author Keywords**

LeapMotion; HUD; Head Up Display; Automotive; Gesture recognition

**ACM Classification Keywords**

H.5.m [Information interfaces and presentation (e.g., HCI)]: Miscellaneous; See [<http://acm.org/about/class/1998/>]: for full list of ACM classifiers. This section is required.

**Introduction**

Automotive UI - a very interesting topic. But still, finding an idea which has never been considered before is very hard. Therefore, we thought about existing UIs in cars and how we can change the interaction with the user. In particular, this paper describes an approach on how a dynamic HUD

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can be designed and how its control can be realized with the help of a Leap Motion. The control will be handled by gestures only, so no touchpad or any other device than the Leap Motion is needed to modify the HUD.

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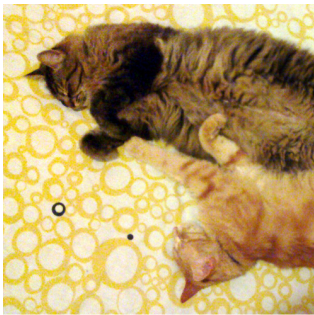
Name	First	Test Conditions	
		Second	Final
Marsden	223.0	44	432,321
Nass	22.2	16	234,333
Borriello	22.9	11	93,123
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### Acknowledgements

We thank all the volunteers, publications support, staff, and authors who wrote and provided helpful comments on previous versions of this document. As well authors 1, 2, and 3 gratefully acknowledge the grant from NSF (#1234–2222–ABC). Author 4 for example may want to acknowledge a supervisor/manager from their original employer. This whole paragraph is just for example. Some of the references cited in this paper are included for illustrative purposes only.

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**Table 2:** A simple narrow table in the left margin space.