

## Opening of the Interaktionslabor at the Fraunhofer IAO: Interact with all your senses

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The more people are surrounded by technical devices and machines in their working and living environment, the more important it becomes, that communication with those devices works out smoothly. All the more this is important, because of the ubiquitous availability of ICT in the buildings around us, where the distributed technical components together form an ambient intelligence system.

The newly opened interaction lab (Interaktionslabor) will be a real laboratory and experimental ground, where new ways of interaction are to be experienced and evaluated. The intention is to combine established types of interaction with the emerg-

ing ones, in order to improve the communication between humans and systems, or of humans with each other, with the help of devices.

The first event for the lab's role as a contact point for the scientific community and the industry was the opening event on 28th November 2007. The opening ceremony was surrounded by an interesting program with speakers from science and industry. Besides, the lab is meant to be a think tank for partners from economy and industry, creating new ideas by showing the state of the art and a glimpse of the future. One of the demonstrators exhibited in the lab, is a camera-based system, that can turn any object of everyday life into a remote control by recognizing the objects and the gestures carried out with them.

Other pieces in the lab deal with Ambient Assisted Living, Augmented Reality, Eyetracking and navigation possibilities besides the already very common car navigation systems. In reference to its possibilities to present 3D images and 3D sounds, it is a great laboratory for testing ways of special and multi modal interaction.



Figure 2: A scenery is presented via sound in a three-dimensional room. As motion can be modulated as well, the flight of birds can be observed acoustically

The new lab is located at the Fraunhofer's Centre of Institutes in Stuttgart as a part of the Fraunhofer Institute for Industrial Engineering IAO, where it forms a centre for human-machine interaction research in Germany. Not to forget, the lab has already become a part of daily life at HCI department being used a place for one of the most common types of interaction and interaction patterns, also called "working together".



Figure 1: A playful application: Players can adjust direction and intensity of the penalty shoot using a soap box



Figure 3:  
The "Interactive  
Table" Contains an  
interactive Tic Tac  
Toe Game; Arbitrary  
Objects of Everyday  
Life are Automatically  
Recognized and  
Assigned to Players



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