Optically Dynamic Interfaces

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Host: Bernd Bickel

In the virtual world, changing properties of objects such as their color, size or shape is one of the main means of communication. Objects are hidden or revealed when needed, or undergo changes in color or size to communicate importance. Bringing these features to real-world physical objects, i.e. equipping them with dynamic appearance, can be challenging to achieve. In this talk, I will present techniques to bridge the gap between the virtual and physical world, from conventional WIMP devices such as displays to existing physical objects. The techniques are part of a three level model that describes how physical artifacts and interfaces can be appropriated to allow for dynamic appearance: (1) dynamic objects, (2) augmented objects, and (3) augmented surroundings. I will detail instantiations of each level, for example transparency-controlled physical objects that change their perceived shape without mechanically-moving parts, transparency-controlled displays that allow users to have awareness of the environment behind the display while retaining privacy, and a technique to alter the perception of existing physical objects by modifying their surrounding space. BioDavid Lindlbauer is a Humancomputer Interaction researcher and PhD candidate at TU Berlin, working in the Computer Graphics group with Prof. Marc Alexa. His research focuses on the intersection of the virtual and the physical world, how the two can be blended and how borders between them can be overcome. David created physical interfaces with controllable transparency that can hide and appear only when needed, or changed the appearance of real-world objects by combining them with virtual capabilities through projection and displays. Besides such optically dynamic interfaces, he has worked on projects to expand and understand the connection between humans and technology, from dynamic haptic interfaces to 3D eye-tracking. He holds a Masters degree in Interactive Media from the University of Applied Sciences Upper Austria, and interned at Microsoft Research Redmond in the Perception & Interaction Group.

Friday, March 2, 2018 10:00am - 10:45am
Big Seminar room Ground floor / Office Bldg West (I21.EG.101)

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