BendDesk introduced: the desk that is a touch screen (w/ Video)

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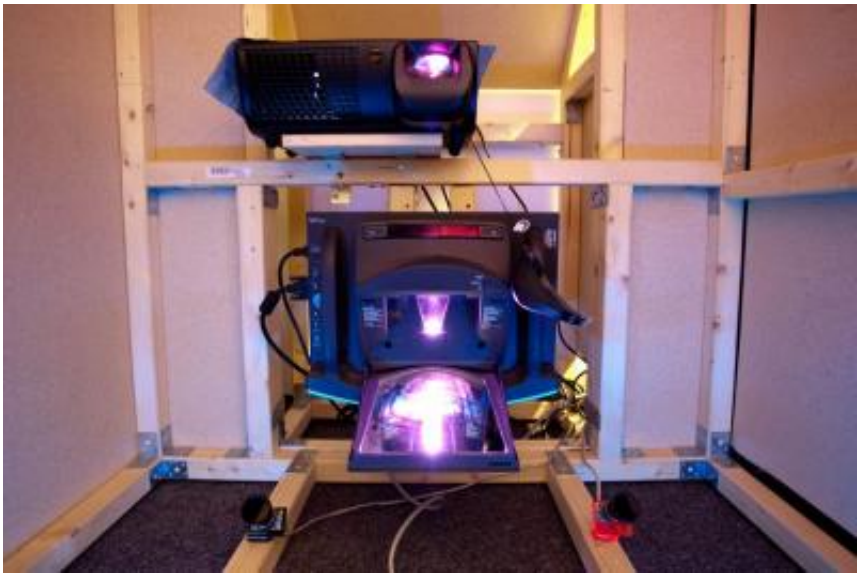
(PhysOrg.com) -- A research project from the RWTH Aachen University Media Computing Group and Department of Work and Cognitive Psychology in Germany is developing a desk in which the entire curved surface is a multi-touch touch screen and display, removing the need for keyboard, mouse and separate display.

Most desks these days include a vertical display for digital information, such as a PC or laptop screen, and user interfaces and input devices on the horizontal surface, such as a keyboard and mouse. The desk surface

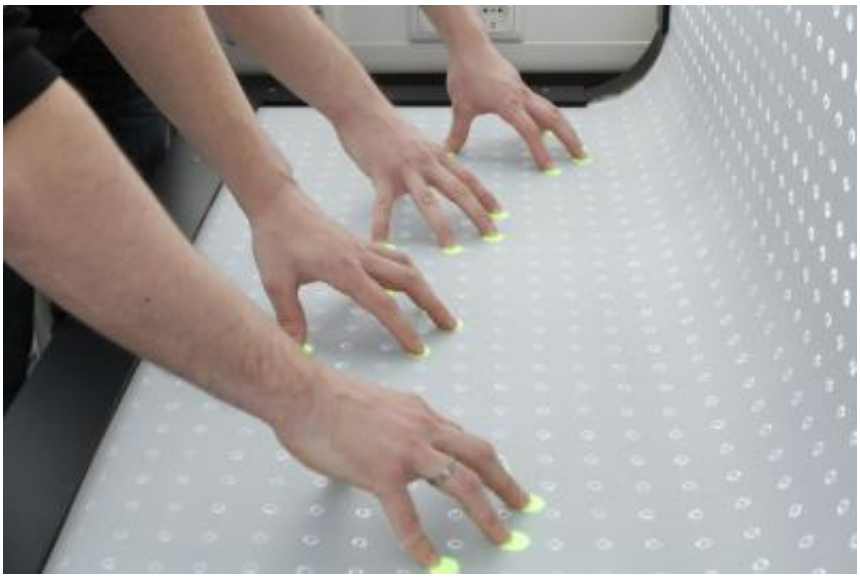
would also often be covered with papers, and objects such as pens and coffee mugs.

The designers of BendDesk say the vertical and horizontal areas of the desk are separated and this makes it difficult to move documents from one surface to the other. They also point out that the user interacts differently with the vertical and horizontal areas of the desk, for example, interacting with objects on the vertical area with a mouse, and the horizontal with a pen. They say the project is their “vision of a future workspace that allows continuous interaction between both areas.”

The result of their vision is BendDesk, which has horizontal and vertical surfaces made of a single 104 cm x 104 cm piece of bendable acrylic. The entire area serves as both display and multi-touch screen, which enables the user to interact with virtual objects anywhere on the surface. The system uses two projectors, three cameras for touch input, and strips of infrared light emitting diodes (IR-LEDs) set into the sides of the desk surface.



The developers, Malte Weiss, Simon Voelker, and Professor Jan Borchers, head of the Media Computing Group, and Christine Sutter from the Department of Work and Cognitive Psychology at RWTH Aachen University, say they took special care over the ergonomics and users can sit comfortably at the desk and can still place physical objects on it. However, they note in their paper that some of the test volunteers became fatigued after only a few minutes, and the volunteers were almost all males between the ages of 24 and 32, and more work would need to be done on exploring the ergonomic aspects.



Possible applications for the BendDesk include manipulation via multi-

touch gestures of objects such as photographs, documents, or videos, and video games.

The project is at the research stage and may never be commercialized. It is partly funded by the German B-IT Foundation.

More information: hci.rwth-aachen.de/benddesk