

## TransWall: a transparent touchable display wall (w/ Video)

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In the picture, users can select the color of their drawings. As different users' fingers meet or move closer together, the colored circles create a winding line that is filled with gradient colors. By moving fingers across the TransWall, users can draw something together or separately, creating colorful patterns. Credit: KAIST

At a busy shopping mall, shoppers walk by store windows to find attractive items to purchase. Through the windows, shoppers can see the products displayed, but may have a hard time imagining doing something

beyond just looking, such as touching the displayed items or communicating with sales assistants inside the store. With TransWall, however, window shopping could become more fun and real than ever before.

Woohun Lee, a professor of Industrial Design at KAIST, and his research team have recently developed TransWall, a two-sided, touchable, and transparent display wall that greatly enhances users' interpersonal experiences.

With an incorporated surface transducer, TransWall offers audio and vibrotactile feedback to the users. As a result, people can collaborate via a shared see-through display and communicate with one another by talking or even touching one another through the wall. A holographic screen film is inserted between the sheets of plexiglass, and beam projectors installed on each side of the wall project images that are reflected.

TransWall is touch-sensitive on both sides. Two users standing face-to-face on each side of the wall can touch the same spot at the same time without any physical interference. When this happens, TransWall provides the users with specific visual, acoustic, and vibrotactile experiences, allowing them to feel as if they are touching one another.

Professor Lee said, "TransWall concept enables people to see, hear, or even touch others through the wall while enjoying gaming and interpersonal communication. TransWall can be installed inside buildings, such as shopping centers, museums, and theme parks, for people to have an opportunity to collaborate even with strangers in a natural way."

He further added that "TransWall will be useful in places that require physical isolation for high security and safety, germ-free rooms in

hospitals, for example." TransWall will allow patients to interact with family and friends without compromising medical safety.

**More information:** TransWall was exhibited at the 2014 Conference on Computer-Human Interaction (CHI) held from April 26, 2014 to May 1, 2014 in Toronto, Canada.

Provided by The Korea Advanced Institute of Science and Technology (KAIST)

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