

The Spherical "True" 3D Display

Written by Marco Attard
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Researchers from the University of São Paulo and University of British Columbia reveal what one might describe as a "true" 3D display-- Spheree, a spherical device allowing one to admire and interact with 3D objects.



Described as the first "3D perspective-corrected interactive spherical scalable display," Spheree was revealed at the SIGGRAPH 2014 conference. In another mouthful from the team, it "arranges multiple blended and calibrated mini-projectors to transform a translucent globe into a high-resolution perspective-corrected 3D interactive display."

The researchers add Spheree does not have seams and blind spots, since it uses no special mirrors or lenses. Instead it uses an auto-calibration algorithm dubbed FastFusion to combine the resolution and brightness of the pico-projectors, while a basic webcam provides the positions of each projector's images on the globe.

To track viewers (and correct perspective appropriately) the system requires the use of special headbands and 6 infrared cameras. A Leap Motion controller handles interaction with on-screen objects.

SIGGRAPH had two versions of Spheree-- a 4-projector version with an 18-cm diameter display, and a 51cm, 8-projector version. Technically the FastFusion algorithm allows for any number of projectors, allowing for increasingly larger Spherees.

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The researchers predict future Spheree versions might be useful for 3D animators and modelers, as well as provide new experiences for videogames or interactive museum displays.

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