Welcome to The ImmersaDesk2™

Welcome to NCSA's ImmersaDesk2™ at the Beckman Institute.

The National Center for Supercomputing Applications welcomes you to its ImmersaDesk2™. This portable virtual reality system is used by NCSA's Visualization and Virtual Environments Group to augment research time in the CAVE™ and showcase applications at remote venues. Unlike the CAVE, which occupies an entire room and requires extremely specialized local resources, the ImmersaDesk2 folds up into a crate which may be shipped by air freight, allowing researchers to take their applications "on the road". Located on the third floor of the Beckman Institute for Advanced Science and Technology in Urbana, Illinois, it is the second of NCSA's two virtual reality facilities.

WHERE DID IT COME FROM?

The ImmersaDesk2 is the second generation of a self-contained table-format virtual reality system that affords a small group of users an immersive environment similar to that of the CAVE™. Designed in 1994 by the same group that developed the CAVE (EVL), the ImmersaDesk was created to address the need for a portable medium-scale virtual reality system that could be easily transported to demonstrate VR applications at remote locations lacking preexisting VR facilities.

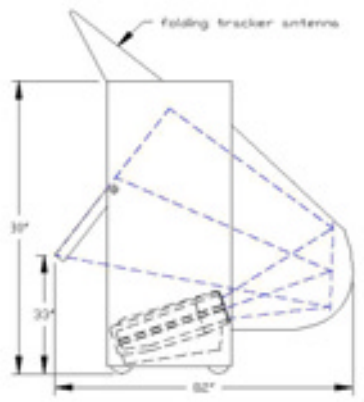
Developed as its successor in 1997, the ImmersaDesk2 stabilized and enhanced the original design, providing for easier and faster deployment and allowing for shipment by air freight. The final product was a self-contained, portable virtual reality system with an 83" screen, stereo graphics, a wand input device, and six degree of freedom head and wand tracking.

Like the CAVE, the ImmersaDesk2 provides users with a uniquely immersive environment, enabling new forms of data and application interaction. It provides the same familiar interface modality as the CAVE, with head tracking and a tracked wand, however, unlike the CAVE, the ImmersaDesk2 provides only a single viewing plane, angled at 45 degrees to the horizontal. This choice of viewing angle was based on observations that CAVE users focused primarily on a single wall, but that the floor was critical in providing certain peripheral cues. When viewed from the proper distance, the majority of the user's field of vision is dominated by the projection screen, which provides maximal immersion with a relatively small screen footprint.

WHAT IS IT GOOD FOR?

The ImmersaDesk2 provides a number of obvious benefits to researchers. Among the most evident, it provides them with the ability to demonstrate their virtual reality applications at any location, rather than restricting themselves to venues with available VR facilities. It is also significantly cheaper than a CAVE, costing only around $100,000 versus the $1,000,000+ for a CAVE. This places it within the reach of many research organizations that cannot afford the steep price tag of a full-scale CAVE.

Additionally, since the ImmersaDesk2 has only a single screen, it can be powered by a single desk-side computer, rather than the refrigerator-sized computer which runs the majority of modern CAVEs. This eliminates the need to have an on-site machine room to house the computer, as is necessary with the larger graphics supercomputers.



WHERE CAN I LEARN MORE?

You can learn more about virtual reality technology on the NCSA CAVE website at http://cave.ncsa.uiuc.edu/. Many of the technologies illustrated on the CAVE website are extremely similar to those used in the ImmersaDesk2.

NCSA™

The textual content of this pamphlet was developed by Kalev Leetaru. Images courtesy NCSA and EVL.