3-D design, in and out

UNIVERSITY OF MONTRÉAL SYSTEM ALLOWS EMBODIED AND COLLABORATIVE SKETCHING

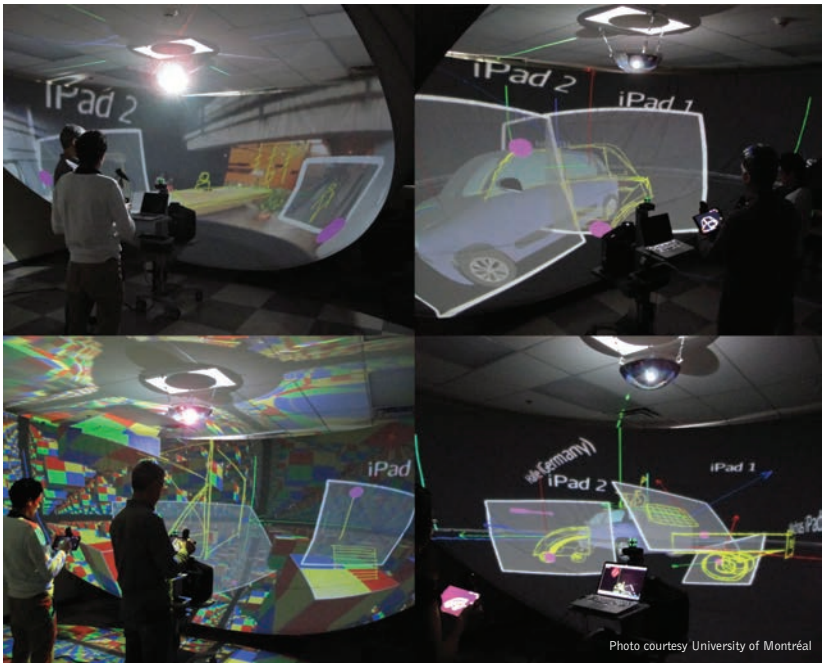
Imagine designing the outside of a car and then hopping in to work on the interior instrumentation.

That virtuality could become a reality with the Hyve-3D system developed at the University of Montréal. Lead researcher Tomás Dorta, a professor in the university's School of Design, said the new interface allows embodied and collaborative 3-D sketching.

"The system is a full-scale immersive 3-D environment," Dorta said. "Users create drawings on hand-held tables. They can then use the tablets to manipulate the sketches to create a 3-D design within the space."

Hyve-3D has industrial applications in fields that range from industrial or architectural design to engineering, medical 3-D applications, game design animation and movie-making.

Hyve-3D stands for "Hybrid Virtual Environment 3D." Univalor, the university's technology commercialization unit, is supporting the market launch of the system.



The Hyve-3D sketching system could revolutionize design interaction and collaboration.

Until now, 3-D design required complicated or expensive equipment. But Hyve uses a MacBook Pro laptop, a tracking system with two 3-D sensors, and two iPad mini tablets.

Each iPad is attached to a tracker. The software handles networking, scene management, 3-D graphics and projection, and couples sensor input and iPad devices.

The 3-D images result from an optical illusion created by a widescreen high-resolution projector, a specially designed spherically concave fabric screen and a 16-inch dome mirror that projects the image onto the screen.

Postponed master's

NCEES WON'T REQUIRE ADVANCED DEGREE FOR PROFESSIONAL ENGINEERING LICENSURE

The U.S. engineering and surveying licensing boards that make up the National Council of Examiners for Engineering and Surveying have voted to modify the approach that would have required a master's degree or its equivalent before engineers earn their initial professional licensure.

According to NCEES officials, the language about post-bachelor's degree education had not been adopted by any individual licensing board, causing confusion among students, educators and professional engineers. Now, as before, the rules require an engineering bachelor's degree from an accredited program before an engineer can earn professional licensure.

An advisory committee plans to develop a position statement that supports additional education beyond a bachelor's degree for initial licensure. NCEES could consider adopting that position at its 2015 meeting.

In another change, NCEES also decided that engineers can take the Principles and Practice of Engineering (PE) exam before they have four years of professional experience. However, candidates must attain that experience before actually earning their initial license.

This change is subject to implementation at the state level, so some states might implement it while others won't, officials said.