

New Right Hemisphere® Technologies Advance the State-of-the-Art for 3D CAD Model Reduction and Image Quality

New Technologies More Efficiently Shrink, Render, Light, and Transport 3D CAD Data for Reuse on Desktops Across the Entire Enterprise

SIGGRAPH — August 9, 2004, Los Angeles, CA — Right Hemisphere, a leading provider of visual communication solutions software, advanced the state-of-the-art in computer graphics today by unveiling two new technologies for polygon reduction and real-world lighting effects. The company's new polygon reduction technology dramatically shrinks complex computer-aided design (CAD) data down to small, polygonal models of higher visual quality and lesser size than was previously possible. In internal testing, Right Hemisphere observed an improved reduction capability of up to 50 percent over existing optimization tools by employing its own reduction techniques. Another new Right Hemisphere technology, called Realight™, mimics the effect of real-world lighting conditions on 3D models. This takes real-time visualization to a new level of quality by removing the harsh computer-generated look and allowing users to more easily see critical functional and design aspects of a 3D model.

"The size of 3D models has always been a critical factor in determining the potential re-use of that CAD data for downstream applications," said Ken Versprille, Ph.D., a partner and PLM research director at Collaborative Product Development Associates, LLC. "Over the last two to three years, we've seen an increased executive focus on how to better plan out the full product development process upfront. Tools and technologies, like Right Hemisphere is bringing to market, offer an opportunity for greater reuse of CAD engineering assets in other parts of the enterprise by reducing the file size and format concerns to virtual non-issues. The end result is a more efficient way for enterprises to develop, train, and market manufactured products over the lifespan of those products."

Both of Right Hemisphere's new technologies have been incorporated in its CADtools software, an easy-to-use module that unlocks CAD data from engineering departments for reuse across the entire enterprise. CADtools software optimizes 3D objects for display and manipulation, with minimal loss in visual definition. The module also includes tools for automating the creation of exploded view diagrams and animations, as well as a range of other 3D optimization tools. The CADtools Module is available for use with Right Hemisphere's enterprise software, Deep Server™ 1.8.

Polygon Reduction Technology Unlocks 3D Models for Widespread Use

By significantly reducing the file size of 3D CAD data, Right Hemisphere's polygon reduction technology enables better, faster responsiveness to user interaction, as well as more fluid walkthroughs, faster downloads for web-based applications, and higher quality visual content.

"While other proprietary data types exist, polygonal models are by far the most easily re-used 3D data type," said Mark Thomas, president and founder of Right Hemisphere. "It is, however, critical to make polygonal data as optimized as possible to get the widest range of re-use opportunities. Right Hemisphere's new polygonal

reduction technology enables a wide range of applications that were previously impossible or impractical due to file size limitations. With our approach, you can now realistically display an entire engineering assembly—such as a bulldozer—as a 3D web object and at levels of visual quality never seen before.”

Realight Technology Enables More Realistic Real-Time Rendering

Non-engineering users are often critical of the unnatural and sometimes “harsh” look of CAD computer graphics. Traditional real-time rendering of CAD and other 3D data is done using very crude lighting models that do not provide the contrast and detail definition needed for complex shapes and components. Right Hemisphere’s Realight rendering technology achieves a more natural, higher quality rendering by changing the way the lighting is calculated.

Though Realight rendering changes the way that lighting is calculated, it remains compatible with most common visualization and rendering tools, including Right Hemisphere’s own Deep View™ 3D viewer for Web and Microsoft® Office applications. This compatibility makes it ideal for use in visualization applications where understanding the true shape and form of objects is required. For example, an online 3D parts catalog must enable users to quickly identify subtle, visual differences in parts or components. In addition to online parts catalogs, Realight can be used for technical documentation, 3D computer-based training, and virtual reality applications. Working hand-in-hand with Right Hemisphere’s polygon reduction technology in the CADtools Module, Realight is well-suited to any application that requires both optimal quality and file size efficiency.

The creation of Realight textures for models is an easy one-step process that can be done on a per model basis via Right Hemisphere’s client tools. It can also be fully automated and controlled using Right Hemisphere’s Deep Server enterprise 3D processing engine to create Realight rendering en-masse for entire 3D model databases.

“The true value of 3D data previously trapped in engineering departments can only be effectively realized through the widespread adoption of 3D viewing technologies,” Thomas continued. “Right Hemisphere’s mission is to lower the cost and raise the quality of the 3D experience. We aim to make 3D a more natural, accessible, and pleasurable experience for all users so that companies may multiply the value of their CAD assets.”

Pricing and Availability

Both Right Hemisphere’s new polygon reduction and Realight technologies will be featured additions in the company’s new September CADtools Module release. The CADtools Module will be available globally for download at the company’s website at www.righthemisphere.com and in North America through Jeff Burgess & Associates, Inc. (JB&A) at www.jbanda.com. For more information about Right Hemisphere’s CADtools Module for Deep Server, please email deepserver@righthemisphere.com or call Right Hemisphere toll free at (877) 309-3204.

Right Hemisphere

Right Hemisphere is the leading provider of visual communication solutions. Right Hemisphere enables non-engineering staff to easily re-use engineering data in visual communication solutions like training, documentation, marketing and support. The company’s Deep Server software replaces expensive manual processes with automated, open, and scalable solutions that make high-impact *interactive* 2D and 3D content an affordable reality for communicating technical information, marketing highlights or complex support procedures. Enterprises can now efficiently capitalize

on investments in engineering design to increase sales; cut documentation, support and training costs; and speed products to market. For more information please visit: www.righthemisphere.com or call toll free at (877) 309-3204.

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