

Company Profile

About mental images

mental images®, founded in 1986, is the recognized international leader in providing component and platform software for the creation, manipulation and visualization of 3D content. Its world leading rendering and other technologies are used by the entertainment, computer-aided design, architecture, scientific visualization, and other industries that require sophisticated images primarily as part of their software products and application services.

mental images is a privately held company with headquarters in Berlin, Germany, a subsidiary in the United States, mental images, Inc., and an office in Stockholm, Sweden. mental images has a multinational staff of top-qualified engineers exclusively dedicated to basic research and development in the area of 3D graphics and 3D Web Services technologies.

OEM Partners and Customers

mental images's products are integrated by the world's leading manufacturers of computer-aided design and digital content creation software into their own products. mental images supplies, among other technologies, the high-end rendering software component of Autodesk® 3ds Max®, Autodesk® Maya®, Autodesk® Image Studio™, Autodesk Inventor® Series and Autodesk® VIZ by Autodesk®, Avid® 3D and SOFTIMAGE®|XSI® by Avid®/Softimage®, CATIA® V.4 and V.5 by Dassault Systèmes, FreeForm® by SensAble and SolidWorks® by SolidWorks. In addition to integrating mental images's technologies in their own products on an OEM basis, all major OEM customers of mental images also re-sell standalone versions of mental images products such as its mental ray® rendering software to professional end users.

Software developers and system integrators can obtain developer versions of the above products directly from mental images for integration into a wide range of applications, including computer aided design, digital content creation, interactive entertainment and other Web-based or standalone applications.

mental images's products are in use for many years by some of the most advanced and discriminating users of high-end visualization technology in a number of industries. In addition, mental images is working with a number of them directly in helping them meet their unique, and often proprietary, advanced visualization requirements from the physically correct simulation of automobile lights and textured surfaces to the most stunning visual effects in several hundred motion pictures.

mental images Products

RealityServer®

RealityServer is a server-based, scalable infrastructure software platform for creating and deploying 3D Web Services. These are applications and application services that permit interactive and collaborative remote creation, manipulation and visualization of 3D digital content (of essentially unlimited complexity). Users can for instance access 3D models based on original CAD data, participate in collaborative online design reviews games or play multi-player games from any device with only a browser and Internet connection – including mobile phones.

mental ray®

mental ray is a high performance, photorealistic rendering software which produces images of unsurpassed realism from computer-aided design and digital content creation data by relying on patented and proprietary ray tracing algorithms. It dynamically supports the latest 64-bit CPUs and graphics processors (GPUs) for maximum rendering speed. mental ray is the first rendering software to combine the physically correct simulation of the behavior of light with full programmability for the creation of any imaginable visual phenomenon.

mental mill™

mental mill enables professionals without programming skills to develop, test and maintain complex shaders and shader networks for animation, visual effects and games rendering through an intuitive graphical user interface with real-time feedback. Software companies can incorporate parts or all of mental mill in the form of software libraries into their own products. Shaders are written in the MetaSL™ language, designed by mental images to comprise all current and even the most powerful future shading languages. Complex shader graphs are encapsulated into Phenomena™. The mental mill compiler technology generates Abstract Syntax Tree (AST) representations of shaders and Phenomena that are then translated by optional back-end plug-in modules into various dedicated or general purpose target languages for compilation to one or more target platforms with the respective native compilers, including CPUs (C++), GPUs (Cg, GLSL, HLSL) and other future platforms, eliminating the need to re-engineer shaders and Phenomena for each of them. Whenever possible, mental mill produces real-time visual feedback utilizing the target platform for closing the interactive feedback loop.

mental matter®

mental matter is an advanced modeling technology used to develop modelers based on NURBS (Non-Uniform Rational B-Splines) and HSDS (Hierarchical Subdivision Surfaces). It allows the creation of arbitrarily complex geometrical objects consisting of one single surface for styling and 3D animation in a highly interactive fashion. The revolutionary Shape-by-Shading (SbS) module permits the interactive creation of 3D geometry in HSDS representation from the traditional shading process of the artist performed with an electronic pen on a computer tablet or Tablet PC substituting the traditional lead-pen or charcoal and the drawing paper.

mental mesh®

mental mesh is a software library providing the world's most efficient 3D geometry compression algorithm for data reduction, for example for the transmission of 3D data in mobile applications, and extremely efficient pre-processing algorithms for software and graphics hardware rendering of even the most complex 3D data.

mental queue™

mental queue is a distributed process manager to efficiently distribute rendering and other interdependent compute tasks to even the largest networks of machines and to manage the entire production or compute service pipelines. Its unique architecture enables node management across different operating systems and multiple interconnected production networks in different locations, dynamically allocating resources in the most efficient way possible at any moment of time.

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MI-B-001-02