The World's Coolest Film Renderer

NVIDIA® GELATO™ 1.0 HARDWARE-ACCELERATED FINAL-FRAME RENDERER

Gelato is breakthrough, rendering software from NVIDIA, designed with a new architecture that leverages advances in mainstream graphics hardware to accelerate film-quality rendering. This software renderer takes advantage of the programmability, precision, performance, and quality of NVIDIA Quadro® FX professional graphics solutions to render imagery of uncompromising quality at unheard-of speeds. Gelato offers all the features film and television customers demand today and is flexible and extensible enough to satisfy their future requirements.

The combination of Gelato, NVIDIA Quadro FX, and the latest generation servers and server blades opens up powerful new hardware configurations to film production. NVIDIA is leading this revolution in digital graphics technology.

NO COMPROMISES ON IMAGE QUALITY

Gelato is built on one fundamental principle: never compromise on the quality of the rendered image. Featuring smooth antialiasing, adaptive tessellation, beautiful motion blur, layered shaders, and the full range of geometric primitives, it delivers to the most rigorous demands of the film industry. It also provides for flexible shading and lighting, including layered shaders, global illumination with ray-traced reflections and shadows, indirect illumination, and ambient occlusion.

Key to this doctrine of no compromises is Gelato's use of NVIDIA graphics hardware. Gelato uses the NVIDIA Quadro FX as a second floating-point processor, taking advantage of the 3D engine in ways far beyond gameplay. Gelato is one of the first in a wave of software applications that use the graphics hardware as an off-line processor, a "floating-point supercomputer on a chip," and not simply to manage the display.

FAST AND GETTING FASTER

Gelato unleashes the processing power of the graphics hardware that currently sits idle on studio workstations and will soon become standard in the server farm. Through its unique hybrid design, Gelato accelerates rendering functions on the graphics hardware, while carefully managing and optimizing other system resources such as memory footprint, multithreading, and multiple CPUs.

And Gelato does not begin to approach the limits of how fast the system can get. The speed of graphics hardware is increasing at a faster rate than that of CPUs, providing rapidly improving performance, especially when factoring in advances in bus speeds that will come with PCI Express.

PRODUCTION READY

Gelato was designed for easy integration into any production pipeline, whether using standard off-the-shelf tools or proprietary systems. It ships with a simple, but powerful C++ API that is used to integrate it into existing production pipelines and to create plug-ins for other pipeline products.

Gelato is also scene file format agnostic, shipping with plug-in interfaces for industry-standard scene formats. With the API, users and product manufacturers can create plug-ins for other formats and products. Gelato ships with a plug-in that allows Alias® Maya® users to use Gelato for final frame rendering. This plug-in eliminates the need to translate the Maya output to meet the renderer's specification.

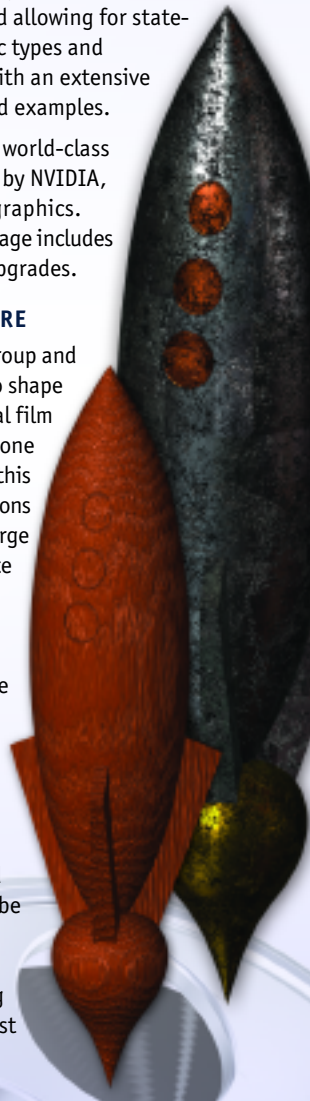
Gelato's new shading language incorporates a simple and streamlined syntax based on C, making it familiar and easy for most programmers to learn and allowing for state-of-the-art shader-specific types and functions. Gelato ships with an extensive set of shader libraries and examples.

Gelato is available with a world-class support package, backed by NVIDIA, the global leader in 3D graphics. The annual support package includes all product updates and upgrades.

LOOKING TO THE FUTURE

The NVIDIA Digital Film Group and its partners are helping to shape the evolution of the digital film production, and Gelato is one its chief tools for making this transition. As new generations of graphics hardware emerge along with innovations like 64-bit computing and PCI Express, integrating and managing change in the digital production pipeline will become increasingly intimidating.

By developing more interactive tools and techniques built on mainstream hardware and standards our clients will be able to advantage of the ever changing hardware environment, maintaining a competitive edge in a fast changing market.



NVIDIA GELATO 1.0 FEATURES AND SPECIFICATIONS

QUALITY IMAGES
- Antialiasing
- True displacement on all geometric primitives
- Motion blur
- Automatic adaptive tessellation
- Ray tracing and global illumination
- Image output 8-bit, 16-bit, and float (per channel)
- Output image channels for any value computed in shaders

GEOMETRY
- NURBS, bicubic, and bilinear patches
- Polygon meshes
- Subdivision surfaces
- Hair
- Particles
- Procedural geometry plug-ins

SHADING & LIGHTING
- Programmable shading and lighting
- No uniform or varying
- Layered shaders
- Anti-aliased texture, environment, and shadow mapping
- Atmospheric effects
- Vertex variables
- Unlimited number of lights
- Global illumination
- Ambient occlusion
- Ray-traced reflections, refractions, shadows
- Example shaders and shader function library

PRODUCTION-READY
- Efficiently handles complex scenes
- Unlimited image resolution
- Fully selective lighting
- Holdout matte objects to combine CG with live action
- No eyesplits—ever
- Runs on both Linux and Windows XP
- Floating licenses available
- All formats are open, documented, and royalty-free

PERFORMANCE
- Hardware accelerated by commodity graphics hardware
- Support for multithreaded CPUs
- Efficiently handles complex scenes
- Efficient memory use
- Selective ray tracing

EXTENSIBLE TOOLSET
- Simple but powerful C++ API
- Python binding
- Plug-ins for image I/O—read and write from any format
- Plug-ins for reading geometry—read any scene format
- Plug-ins for procedural geometry
- Plug-ins callable from shaders
- iv - image viewer
- gslc - shader compiler
- maketx - convert image files to textures
- Shader developer libraries

COMPREHENSIVE SUPPORT
- Technical Reference Manual
- Source code examples of plug-ins & shaders
- Online support forums
- Enterprise support available from NVIDIA

PLATFORM REQUIREMENTS
- Intel Pentium III, AMD Athlon, or better
- NVIDIA Quadro FX 700 or better
- Windows XP or Linux

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