

Key Features and Benefits

Autodesk® 3ds Max® 2012 software delivers inspiring new creative toolsets, enhanced iterative workflows, and an accelerated graphics core that together help increase overall productivity. With this release, 3ds Max enables artists to better handle the conflicting demands of shrinking deadlines and increasing consumer expectations for quality.

Featuring lightweight, resolution-independent procedural textures, multi-threaded rigid-body dynamics, the physically accurate “point-and-shoot” iray® renderer from mental images, and the Nitrous render-quality accelerated viewports, 3ds Max 2012 delivers cutting-edge tools that leverage the latest hardware advances. Moreover, with single-step interoperability with other products in the Autodesk® 3ds Max® Entertainment Creation Suites and an enhanced method for UVW mapping, 3ds Max 2012 gives artists more time to make better creative decisions.

Top Features and Benefits

Nitrous Accelerated Graphics Core

A top priority of the Excalibur (XBR) initiative to revitalize 3ds Max is to introduce a new viewport system engineered to help provide dramatic improvements in performance and visual quality. Nitrous leverages accelerated GPUs and multi-core workstations to enable artists to iterate faster and handle larger data sets with limited impact on interactivity. Advanced scene management techniques, together with multithreaded viewport scene traversal and material evaluation, result in a smoother, more responsive workflow. Furthermore, Nitrous provides a render-quality display environment that supports unlimited lights, soft shadows, screen-space ambient occlusion, tone-mapping, and higher-quality transparency. It also enables progressive refinement of image quality without blocking changes to the scene, helping artists make better creative decisions in the context of their final output.

Substance Procedural Textures

Achieve a vast range of look variations with a new library of 80 Substance procedural textures. These dynamic, resolution-independent textures have a tiny memory and disk space footprint, and can be exported to certain game engines via the Substance Air middleware offering (available separately from Allegorithmic). Alternatively, artists can quickly convert textures to bitmaps for rendering using a GPU-accelerated baking process.

mRigids Rigid-Body Dynamics

As part of the XBR initiative, 3ds Max 2012 introduces the MassFX unified system of simulation solvers, and delivers its first module: mRigids rigid-body dynamics. With mRigids, artists can leverage the multi-threaded NVIDIA® PhysX® engine to create more compelling, dynamic rigid-body simulations directly in the 3ds Max viewport. mRigids supports static, dynamic, and kinematic rigid bodies (the latter for rag doll simulations), and a number of constraints: Rigid, Slide, Hinge, Twist, Universal, Ball & Socket, and Gear. Animators can quickly create a wide range of realistic dynamic simulations, and can also use the toolset for modeling, such as creating a randomly placed landscape of rocks. Assigning physical properties—friction, density, and bounciness—is as simple as choosing from a set of initial preset real-world materials and tweaking parameters as required.

iray Renderer

Creating realistic images has never been easier with 3ds Max, using the newly integrated iray rendering technology from mental images. Another major milestone in the Rendering Revolution, iray enables artists to set up their scene, press “render”, and get more predictable, photo-real results without worrying about rendering settings—similar to a “point-and-shoot” camera. Artists can focus on their creative vision as they intuitively use real world materials, lighting, and settings to more accurately portray the physical world; iray progressively refines the image until the desired level of detail is achieved. iray works with standard multi-core CPUs, however, NVIDIA CUDA-enabled GPU hardware will significantly accelerate the rendering process.

Single-Step Suites Interoperability

Take advantage of the focused toolsets in the 3ds Max Entertainment Creation Suites 2012, with new single-step interoperability between 3ds Max and Autodesk® Mudbox™ 2012 software, Autodesk® MotionBuilder® 2012 software, and the Autodesk® Softimage® 2012 software’s Interactive Creation Environment (ICE). Export 3ds Max scenes to Mudbox to intuitively add organic sculpted and painted details, and then update the scene in 3ds Max in one simple step. Take a 3ds Max scene to MotionBuilder to access the animation toolset, without having to think about file format details. And tap into the power of the Softimage ICE particle system directly from your 3ds Max scene. With single-step interoperability, artists can enjoy easier access to the best tools for the task at hand.

Enhanced UVW Unwrapping

Create better UVW maps in less time, with a new Least Squares Conformal Mapping (LSCM) method, enhancements to existing tools, and more streamlined workflows. The LSCM method preserves local angles of the mesh faces in order to help minimize texture distortion. Employed in a new ‘Peel’ tool, the new method produces unwrapped UVWs from cut seams with a single click. Moreover, new shortcuts and better defaults for common actions, together with improved tools for alignment, cluster positioning, and edge selection help speed the entire texture mapping process.

Vector Displacement Map Support

With new support for Vector Displacement Maps (VDMs) in 3ds Max, artists can use mental ray or iray to render complex high-resolution details created in Mudbox or certain other packages on low-resolution geometry. VDMs can represent directional displacements that do not simply follow the normal: for example, forms with appendages, undercuts, folds, and bulges, such as a human ear.

Sculpting and Painting Enhancements

Artists can enjoy greater control over brushstrokes and their effects on geometry, thanks to new sculpting and painting workflows. Useful in topology reduction workflows, the new Conform brush guides geometry towards another surface, with the degree of the conforming effect varying from softly approaching to shrink-wrapping. Modelers can slide vertices along target surfaces with the new transform brushes: Move, Rotate, Scale, and Relax. In addition, Paint Deform brushstrokes—for tools

such as Push, Flatten, and Exaggerate—can be constrained to a spline, enabling it to be used as a guide or ruler, or to easily repeat freehand strokes. Moreover, artists can now save and load brush settings to quickly toggle between favorite presets, and choose a source for the Clone brush from anywhere on the screen when painting bitmaps in the Viewport Canvas.

Other Key Features and Benefits

Unified F-Curve Editor

Animators can easily switch between multiple products in the Autodesk® 3ds Max® Entertainment Creation Suite Premium 2012 thanks to a new F-Curve Editor that provides a more unified user interface and consistent terminology for editing animation curves. The new curve editor also offers better in-context curve controls, multi-point editing, and the ability to quickly toggle between the controller tree and the curve view.

Stylistic Rendering

Create a variety of non-photorealistic (NPR) effects that simulate artistic styles created by hand, with the new ability to render stylized images in the viewport and with the Quicksilver renderer.

Enhanced FBX File Link

Work in parallel to finish faster, with an enhanced dynamic Autodesk® FBX® asset exchange technology file link that now supports files from a wider range of sources, and can handle animation data. Changes made to the FBX file in MotionBuilder, Mudbox, Softimage, or Autodesk® Maya® software are automatically updated in 3ds Max, helping to reduce errors and eliminating the need for time-consuming file merging.

ProOptimizer Enhancements

Artists can now optimize models faster, more efficiently, and with better results, using the enhanced ProOptimizer feature. It offers normal and UV interpolation, together with the ability to keep high-resolution normals on the low-resolution result.

Improved Start-Up Time and Memory Footprint

Enjoy a faster start-up together with a lower memory footprint, thanks to targeted performance improvements developed as part of the XBR initiative that enable tools to be more intelligently loaded as required.

UI Enhancements

An enhanced user interface (UI) adjusts to dark UI color schemes, performs faster, and offers a more consistent contextual UI location and access to help.

Caddy Improvements

The Caddy in-canvas UI offers better usability, with a more predictable contextual UI location, quicker interaction, and default behavior which does not occlude the artist's selection.

For a complete review of the new features and enhancements in Autodesk 3ds Max 2012, view the "What's New" documentation on the 3ds Max product center at www.autodesk.com/3dsmax-documentation.

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