Creative 3D modeling, texturing & rendering tools

Design, Games, Advertising, VFX, & Animation
Today’s challenges
Today’s challenges

Typical CAD workflows are construction, not creation - structure before artistic workflows.
Productivity – need get more done faster, with fewer resources.
Multiple resolutions/target platforms.
Consumer expectations for high-quality/realism.
Increasing complexity (next-gen platforms)*
Asset proliferation.
Look differentiation and variations.
Market Position

Image courtesy of Tor Frick
Modo is a polygonal modeling tool, separate from 2D sketching and NURBS modeling

<table>
<thead>
<tr>
<th></th>
<th>Sketching</th>
<th>Polygonal modeling</th>
<th>NURBS modeling (CAD)</th>
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</thead>
<tbody>
<tr>
<td>Software function</td>
<td>● Initial product idea and concept drawings, typically in 2D</td>
<td>● Early design phase product representation</td>
<td>● Detailed technical product drawings and specifications</td>
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<td></td>
<td>● Used to convey product meaning and purpose without a high level of technical details</td>
<td>● Used to digitally explore product forms, colors, and textures prior to physical creation</td>
<td>● Informs production operations such as machining requirements and manufacturing processes</td>
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<tr>
<td>Primary users</td>
<td>● Design artist</td>
<td>● Industrial designer</td>
<td>● Design engineer</td>
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<td></td>
<td>● Industrial designer</td>
<td>● Game artists</td>
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<tr>
<td>Key providers</td>
<td>● Autodesk Sketchbook</td>
<td>● Modo</td>
<td>● Autodesk AutoCAD</td>
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<td></td>
<td>● Adobe Photoshop</td>
<td>● Autodesk 3ds Max</td>
<td>● Dassault Solidworks</td>
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<td></td>
<td>● Pen and paper</td>
<td>● Autodesk Maya</td>
<td>● Rhinoceros 3D</td>
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<td>● Pixologic Zbrush</td>
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Note: NURBS stands for “Non-Uniform Rational Basis Spline”, which is a mathematical model to represent curves and surfaces
Source: Company websites; User interviews; Develop3D Magazine
Vision
Modo 11 Series - key areas of focus

- Modeling workflow improvements with direct modeling, UVs, MeshFusion, and procedural modeling
- Efficiency and performance improvements in several key areas: viewport, animation playback, rigging and deformers, MeshFusion and OpenSubdivison
- Out-of-the-Box experience - usability and the first customer experience with defined example workflows.
Modo 11.0 – Modeling workflow improvements

Auto Retopo Improvements
- Add automatic poly count mode
- Add curvature metric
- New mesh option

MeshFusion Workflow Enhancements
- Add shortest edge metric
- Cut copy paste fusion items

Misc Minor Features
- Clean up merged polygons to remove stray vertices

Procedural Modeling Implicit Item Selection
- Implement implicit selection of items that are related to the same MeshOp stack so that we can see all their properties at the same time

Procedural Modeling Improvements
- "Edit base mesh" command
- Select by previous operation MeshOP
- Auto-activates ghosted mode

Sculpt Brush Preview
- Draw a preview of the brush on the surface when a tool with a brush is in the pipe whether it is active or not
Modo 11.0 - Performance and efficiency

- Item draw cache
- Easily accessible UI for selection sets
- Fix curve particle generator twisting
- Fix spline and bezier deformer twist
- Refine game export tools
- Evaluation localization
- In situ compound trims/primaries
- Item list improvements for selection and visibility of items
- Implement OSD3 draw package
- Better node snapping
- Speedup replicator and instance drawing
Modo 11.0 - Out of the Box experience

Irradiance Caching Improvements
- Anisotropic irradiance values
- Store direct light

Mesh Lights 2
- Mesh light caustics
- Mesh lights can use world transforms of input geometry

Minor Render Tweaks
- "Progressive bake" menu entry in render menu
- Add preview render region toolbar

Procedural Modeling Rigs
- Add proc modeling rigs

Render Output Masking
- Integrate render output masking

Simplification of Render Settings
- Get rid of refinement shading
- Property form simplification
- Simple render settings preset system
Modo Subscription & Maintenance

- Get in the game for less upfront
- Stay current with the latest technology
- Plan ahead with regular payments
- Enjoy the flexibility of login-based licensing
- Get help fast, full access to our support teams
- Stay ahead of the pack, with access to beta and exclusive technology previews.
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<th>USD</th>
<th>GBP</th>
<th>EUR</th>
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Please note that your pricing currency will be based upon location. All prices are shown excluding any applicable taxes. Future pricing is subject to change.
UV Workflows

Take the drudgery out of tedious UV creation tasks, with a highly efficient built-in toolset that offers many automated options, supports UDIM workflows, and—unlike some other 3D content creation tools—integrates fully with modeling and selection workflows.

Modeling

Modo offers a unique combination of best-in-class direct modeling tools working hand-in-hand with both a highly robust and flexible procedural modeling system. Additionally, Modo features the award-winning MeshFusion Boolean tools, integrated sculpting and retopology tools.
Sculpting

Bring your artistic expression to 3D modeling, as you use Modo’s integrated brush-based sculpting tools to intuitively rough out volumes and add multiple levels of fine detail with speed.

Shading

Use fast and flexible layer-based and nodal shading systems to easily build sophisticated, convincing materials. Drag-and-drop presets to quickly develop the look you want, or simply select from a huge library of highly realistic physically based materials.
Rendering

Photorealistic rendering at amazing speeds and limitless resolutions — even network rendering is free. Modo’s production-proven physically-based renderer offers a rare blend of speed and quality.

Baking

Review textures as you bake, and watch them refine progressively. Modo allows you to tweak settings and make surface changes without waiting for a final render, and accurately bakes to Unity or Unreal standards, with no extra tools required.
Rigging

Featuring a non-destructive, non-linear toolset and fully-integrated modular workflow, Modo's flexible node-based rigging system lets you easily create, edit, manage and reuse complex character rigs.

Animation

Incorporating traditional animation techniques applied in innovative ways, Modo's 3D animation framework is highly customizable to meet the most demanding of production challenges.
**Effects**

Modo’s rule-based, directable particles work together with the fully-integrated rigid and soft bodies, and procedural shattering, to let you create compelling dynamic simulations in less time.

**Hair & Fur**

Modo lets you create and manipulate realistic hair, fur, grass, feathers and other fiber-based effects as actual geometry that can be sculpted, shaded and rendered directly in your scene.
Camera & Projection Tools

Modo’s advanced tools for virtual camera creation and digital matte painting are perfect for set extensions and product placement shots, while the spherical camera rig lets you work with 360° video.

Presets

Segment your work into more manageable parts, avoid repetitive modeling tasks and create repeatable looks with saveable, shareable, reusable assemblies and presets. Plus, convert a series of procedural modeling operations into a new specialized tool to share with others.
Collaboration & Customization

With in-viewport support for Unity and Unreal-compatible PBR materials, and built-in export tools, Modo delivers a true WYSIWYG asset creation experience for games and VR authoring. Plus, support for a wide range industry-standard file formats, together with Python and macro scripting, means it’s easy to make Modo work in your pipeline.
Why Modo
Modo’s strengths are centered around creating singular assets that flow into other tools or areas of the workflow.

- Product design – items consumed by downstream CAD tools, used to communicate to internal stakeholders.

- Games – character, prop, or environment items to be consumed by the game engine’s world builder app.

- Advertising and marketing – Photorealistic product shots of singular items.
<table>
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<tr>
<th>The industry’s best modeling toolset</th>
<th>Perfect UVs without the pain</th>
<th>Baking that’s as easy as pie!</th>
<th>Integrated workflows from concept to engine</th>
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<td>Modo offers a unique combination of best-in-class direct modeling tools working hand-in-hand with both a highly robust and flexible procedural modeling system, and the award-winning MeshFusion Boolean toolset. And that’s not to mention the powerful integrated sculpting workflows, precision snapping and automatic retopology tools. When every vertex counts, Modo gives you everything you need to create clean, optimized meshes in less time.</td>
<td>Modo takes the drudgery out of tedious UV creation tasks, with a highly efficient built-in toolset that offers many automated options, supports UDIM workflows, and—unlike some other 3D content creation tools—integrates fully with modeling and selection workflows. You can even use falloffs and sculpting tools to deform, smudge and smooth your UVs—something even specialized standalone toolsets can’t touch.</td>
<td>With Modo texture baking tools, you can review your textures as you bake, and watch them refine progressively; tweak settings and make surface changes without waiting for a final render; and store bake-related parameters for reuse with different assets. There’s even a Bake Wizard to streamline the setup. And Modo accurately bakes to Unity or Unreal standards, with no extra tools required.</td>
<td>With in-viewport support for Unity and Unreal-compatible PBR materials, the ability to work directly with their base shaders, and built-in export tools, Modo lets you develop the look you want with the confidence it will hold up in the real-time engine. Plus, support for a wide range industry-standard file formats, together with Python and macro scripting, means it’s easy to make Modo work in your pipeline.</td>
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Creative exploration without constraints

With a unique combination of both direct and procedural modeling systems; the award-winning MeshFusion Boolean toolset; and integrated sculpting—all working together—Modo lets you focus on creation, not construction. Whether you’re roughing out volumes or refining highly detailed forms, the artist-friendly tools and intuitive workflows give you the freedom to fully explore your creative options without the constraints inherent in CAD systems.

Import and iterate

Do you find yourself constantly reinventing the wheel? There’s no sense starting from scratch when data already exists in digital form. With Modo’s support for an extensive range of file formats, you can import, fix and combine data from many CAD and 3D applications. Then, use Modo’s intuitive modeling and sculpting tools to make the design your own; iterate quickly to explore every creative avenue and refine your design to its ultimate potential.

A custom fit for your workflow

Build your own kit of specialized tools that match your exact needs by combining different operations, with Modo’s flexible tool assembly system. You can even collapse assemblies down so that they become first-class modeling operations, and share them with your team, or keep them all to yourself to reuse on repetitive tasks. With Modo, every job you do becomes easier, as you develop efficiencies that make you more productive.

Communicate your design intent

Conveying the subtleties of your design is key to communicating your intent. With Modo’s advanced texturing tools, physically-based materials and easy-to-use decal placement, you can quickly iterate on looks and preview them right in the interactive viewport—so you can make faster design decisions. Then, use Modo’s high-performance photorealistic renderer to create breathtaking photorealistic images that show off your design to its best advantage.
Creative asset creation

Focus on your art and let Modo worry about the technical side, with a best-in-class asset creation toolset that’s fast, intuitive and extremely powerful. With direct modeling, procedural modeling and MeshFusion Boolean systems all working together—alongside Modo’s built-in sculpting and 3D painting toolset—all you need to think about is what you want to create. The artist-friendly tools you need to create it are at your fingertips.

Work smarter, not harder

Segment your work into more manageable parts, avoid repetitive modeling tasks and create repeatable looks with saveable, shareable, reusable assemblies and presets. You can even convert a series of procedural modeling operations into a new specialized tool that you can share with your team, or keep to yourself to reuse on repetitive tasks. With Modo, every job you do becomes easier, as you develop efficiencies that make you more productive.

Fast, flexible look development

Exploit the power of Modo’s fast and flexible layer-based and nodal shading systems to easily build sophisticated, convincing materials. Create, modify or reuse presets with intuitive drag-and-drop workflows to quickly develop the look you want, or simply select from a huge library of highly realistic physically based materials that mirror their real-world equivalents with astonishing accuracy—making synthetic photography workflows easy.

High-performance photorealistic rendering

When it comes to creating the final still or animation that will communicate, visualize or sell your idea, Modo has you covered. Photorealistic rendering at amazing speeds and limitless resolutions comes right in the Modo box—even network rendering is free. From the powerful preview renderer that updates as you fine-tune your scene, to your final pixel-perfect frame, Modo’s production-proven renderer helps you stay on deadline and on budget.
Benefits
Creation, not Construction

Sketching an idea in 3D is vastly more beneficial to the overall design and production process:
- Rapid iteration
- Reuse of existing assets (e.g. mesh mixing or kit bashing)
- More accurate visual communication

The main benefit to designing in 3D is that you’re producing much better data:
- This happens *all the time*: the concept artist produces a photoshopped 2D illustration of a creature or design asset, and the director loves it.
- The artwork is sent to the modeler to build, only to find out the illustration cheats perspective, the proposed anatomy is non-functional, the design looks ridiculous from a different viewpoint or with different lighting, etc. etc.
- The design of a 3D asset needs to be solved in 3D!

Create an artistic flow that is infinite in resolution, uninhibited by technical thought processes and procedures, centered around creating singular assets that seamlessly transfer into other tools or areas of the workflow.
Our Customers
“With speed and versatility as an indie’s most important demands, Modo's ability to let you focus on creation and to tailor the tools to your needs makes it the go-to software for taking 3D models from concept to the game engine.”

Frederic Hein, 3D Artist, Blindflug Studios

“Modo has an amazing modeling, texturing and rendering workflow that few other software solutions can duplicate.”

Kaoru Toyoguchi, JVCKENWOOD Design Corporation

“What I like about Modo is speed. It’s that simple. It’s very fast to learn, fast to use, and fast to render. Almost anyone can jump in, follow some of the introduction tutorials and start creating some cool art pretty quickly.”

Mike Campau, Mike Campau Digital Imagery
Modo is for artists and designers who need to create high-quality organic or inorganic polygonal assets for product design, real-time content creation, advertising images, or film and video production. Modo is a 3D modeling, texturing and rendering solution that fosters creative exploration. Unlike 3ds Max, Cinema 4D and Maya, Modo offers both creative direct modeling tools, and powerful, flexible and robust procedural modeling tools.