AUTODESK® **MAYA®**

THE MOST POWERFUL MAYA YET

Image courtesy of Amaru Zeas

The most powerful Maya yet

The most powerful Maya yet enables you to work more efficiently and collaboratively than ever before. With this update, USD is now seamlessly integrated, enabling you to load and edit large data sets at lightning speed and work directly with data using native tools. Maya's animation, rigging, and modeling toolsets also see significant updates to get you working faster and with more precision, and the latest version of Arnold brings even more speed and flexibility to your rendering workflows.

Image courtesy of Roy Bennett

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USD, now seamlessly integrated

USD has now been seamlessly integrated in Maya, allowing you to not only load and edit massive data sets at lightning speed, but also work directly with the data using Maya's native tools.

Load and edit massive data sets at lightning speed

One of the many benefits of USD in Maya is the raw speed at which you can bring in massive data sets. You can now load multiple gigabytes of data into Maya in a matter of seconds.

Seamlessly import and export USD data

A new round-trip import and export workflow lets you take USD data and import it as native Maya data, or take native Maya data and export it as USD data. This allows you to rely on USD as a simple, high speed format for transferring data between Maya scenes or other applications that support USD.

Preview USD scene structure

A new USD Hierarchy View Window gives you a lightweight preview of the USD scene structure. This can be used to see the contents of a USD file, as well as to set the state of the scene, including variants, before import.

Support for in-memory USD stages

A USD stage is an in-memory container of the composed USD scenegraph. The new mayaUsdProxyShape node enables native Maya workflows directly on USD stages. This means you can now work directly with USD data in common Maya editors, enabling native support for the Viewport, Outliner, Attribute Editor, Manipulators, Snapping, and more.

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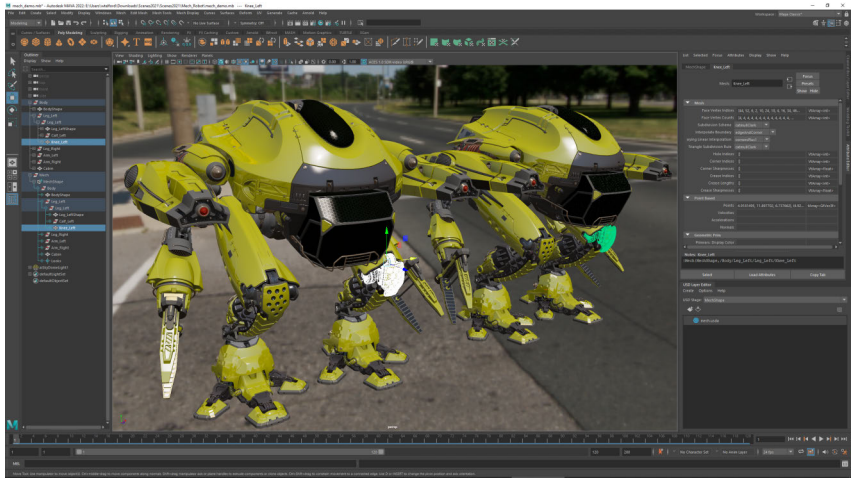

An Outliner experience tailored to USD

There are several new features in the Outliner intended to complement USD workflows. With these improvements, you can quickly and easily identify and manipulate USD data in the Outliner alongside standard Maya objects.

- Data Branch Colors allow you to distinguish between Maya and non-native USD data in the Outliner at a glance.
- Unique USD icons and badges help recognize Prim data types and Composition Arcs.
- Right-click contextual menus provide easy access to common Prim-based operations.

USD in the Viewport

You can now see USD natively alongside Maya data in the Viewport. A new Selection by Kind setting provides you with granular control over Viewport-based selection of USD hierarchies.

New USD Layer Editor

The new USD Layer Editor allows you to intuitively create, view, and manage a USD Stage's complex LayerStack.

Open source and customizable

In addition to shipping with Maya out-of-the-box, the Maya USD plugin is available as an open source project for studios to customize as needed.

Python 3

Python 3 is now the default for Maya on all platforms (Windows, Linux and Mac OS). On Windows and Linux, you still have the option to start Maya in Python 2 mode by setting an environment variable or with a command line flag.

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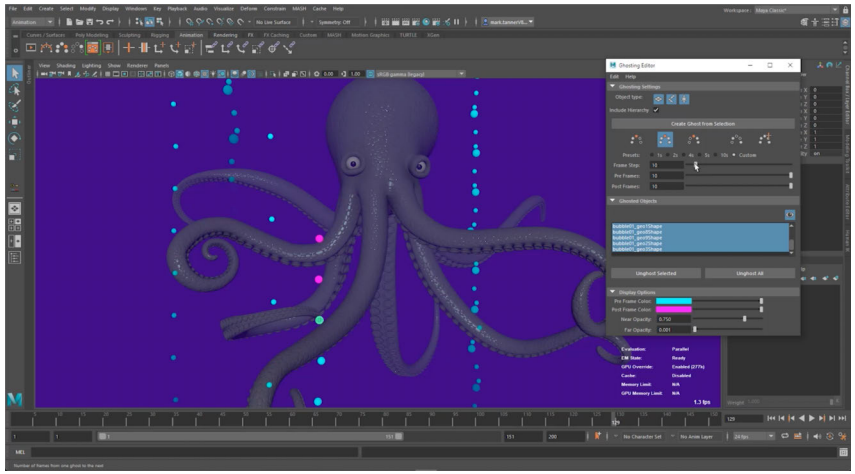
Powerful animation tools

The latest updates to Maya's animation toolset help you animate faster and in fewer clicks. With continued focus on performance and efficiency, a new Ghosting Editor allows you to quickly see animation spacing over time, making it easier to pinpoint where edits need to be made and how poses work together in animations. A number of improvements to the Time Editor, including support for cached playback, and new filters in the Graph Editor, simplify animation workflows and save you time.

New Ghosting Editor

Ghosting in Maya now takes full advantage of Cached Playback, displaying the information already stored in the cache. The new Ghosting Editor lets you create images that echo your animations, so you can visualize movement and manage how and what parts of your characters you would like to see in the Viewport.



Ghosting Editor

Cached Playback support for simulations and dynamics

Maya also improves the speed and performance of simulation and dynamics caching, enabling you to stay in flow and iterate your work in real-time at final frame quality.

Cached Playback support in the Time Editor

The Time Editor now fully supports Cached Playback allowing you to work and hit play without needing to playblast. When loading a scene with Time Editor clips, Cached Playback is no longer automatically disabled.

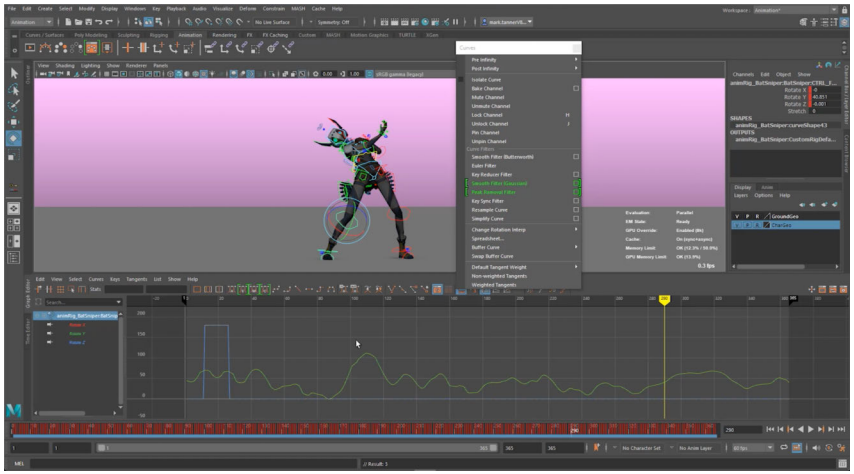
Additive Animation Clips in the Time Editor

You can now set clips to be additive, allowing you to mix two clips together seamlessly. For example, a clip of an arm waving can be blended with a clip of someone walking, even as the animation moves forward in space.

Features available by downloading Maya 2022

Graph Editor Improvements

Maya also adds several improvements to the Graph Editor, bringing you a smoother animating experience. A new Peak Removal filter enables you to clean up unwanted spikes and peaks in your animation curves and a new Smooth (Gaussian) filter gives you more control over the range and width of blur effects.



Graph Editor Improvements

New Auto Tangent Types

New options for Auto Tangents in the Graph Editor offer an improved algorithm, giving you better control and more predictable results.

Modern rigging workflows

Maya introduces several procedural, topology-independent rigging workflows. Component Tags and Deformer Falloffs bring you modern methods for defining membership and weighting, as well as seamlessly sharing that data between geometry and deformers. Building on Maya's already extensive deformation toolset, the release also adds powerful new Solidify and Morph deformers.

Component Tags

Component Tags allow geometry to store named sets of components directly on a shape node. These sets can then be passed to and used by other nodes. Component Tags simplify the deformer graph by significantly reducing the number of nodes and connections required for deformation.

Deformer Falloffs

Deformer Falloffs provide a new method for defining deformation weighting. Unlike traditional deformer weighting, once defined, falloffs can be shared and reused in a topologically independent way. You can take advantage of Deformer Falloffs with many of the most commonly used deformers, including Skin Cluster, Cluster, BlendShape, Proximity Wrap, Tension, Lattice, Wire, Delta Mush, and all nonlinear deformers.

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EvalFalloff Node

A new evalFalloff node can be used to expand the falloff system to support legacy deformers. You can use this node to evaluate falloffs on geometry to drive traditional weighting on deformers such as BlendShape targets.

Solidify Deformer

The new Solidify deformer enables you to create areas of geometry that appear more solid when deformed. For example, this new technique can be used to define rigid parts of a character that should be preserved when the character is being deformed by a skeleton.

Morph Deformer

With the new Morph deformer, you can seamlessly blend from one shape to another. Using the component lookup feature, it is now possible to morph a shape using only a subset of its components. This provides a modern alternative to the BlendShape deformer with benefits that include GPU acceleration and topology independence.

Always Draw on Top attribute

When the new Always Draw on Top attribute is enabled on a Curve shape node, the curve will be visible in the Viewport even when occluded by other objects in the scene. This is particularly useful for control rigs. Curves that are used as rig control objects can now be displayed in the Viewport on top of other objects, improving visibility of the rig.

Skin Binding using Proximity Wrap

You can now use the Proximity Wrap deformer instead of the classic Skin Cluster node when binding a mesh to a skeleton. Unlike the legacy Skin Cluster node, Proximity Wrap allows you to drive geometry with joints in a topologically independent way.

Skin binding using Proximity Wrap
Image courtesy of Antony Ward

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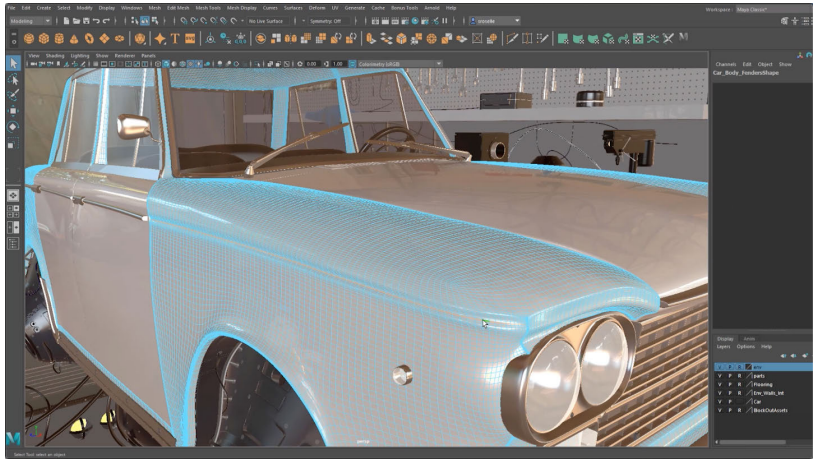
Community-inspired modeling updates

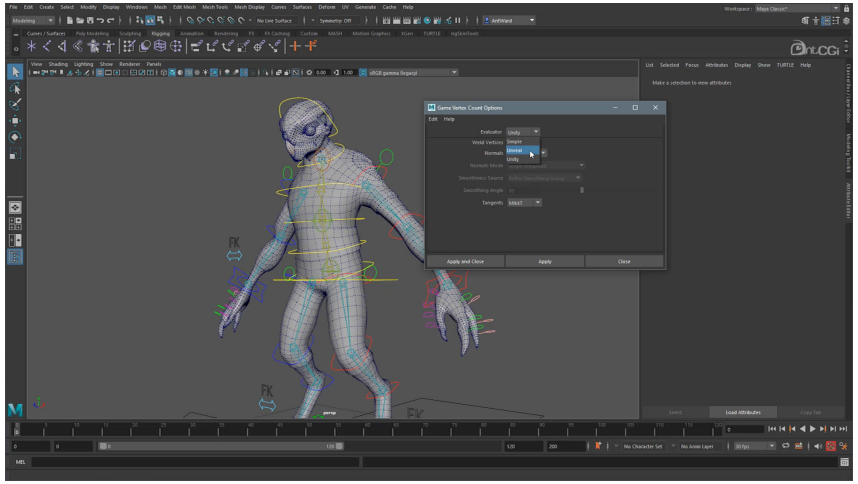
A number of additions to Maya's modeling toolset enable you to have more control over your models. The Sweep Mesh tool allows you to procedurally generate geometry and adjust attributes such as profile shape and size, with just one click. In collaboration with the Maya community, several user-requested updates have also been made to improve the overall modeling experience.

Sweep Mesh

Sweep Mesh is a new, one-click, procedural tool for generating polygon geometry from NURBS and Bezier curves. Using Sweep Mesh, you can procedurally control profile shape, size, tapering, twisting, alignment, subdivisions, and UV creation. This feature is useful for creating a wide range of both organic and hard surface forms such as tubes, pipes, ribbons, cables, ropes, roads, horns, and hair, as well as complex architectural details such as crown molding.



Sweep Mesh



Game Vertex Count plugin
Image courtesy of Antony Ward

Game Vertex Count plugin

A new Game Vertex Count plugin creates a game-centric alternative to Maya's standard Poly Count Heads Up Display (HUD). Using the plugin, you can more accurately estimate how assets in Maya impact in-game vertex count budgets before exporting them to game engines.

Features available by downloading Maya 2022

User-requested updates

A slew of modeling workflow improvements based on pro user feedback have been added to Maya as well, including pivot enhancements, better extrude thickness, and performance improvements.

Fast and flexible rendering with Arnold 6.2

Maya now includes Arnold 6.2, bringing even more speed and flexibility to your workflows with new post-processing nodes for better control of lighting effects and tools for automatic denoising after each render. This update also continues to build Arnold's GPU toolset with a number of enhancements to help artists render more efficiently as well as improved USD support.

Learn more

Check out our Maya Timeline for a look back at how far Maya has come since 2016.

Visit the Maya learning channel for the latest how to's.

Learn how customers around the world are using Maya today on AREA.

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