Autodesk Improves Your Creative Experience – Again!

By David Heller.

Extended Functionality for Maya LT, Maya, and 3ds Max

Over the course of each year the Autodesk team adds feature drops, called 'extensions,' to their software products. 2014 was no exception. In fact it was a year when Autodesk introduced Maya LT, their new game asset creation tool, and then massively upgraded it along with Maya and 3ds Max.

The majority of these new extensions come from listening to users and then giving them what they want and need fast and, they get much of their input from 'AREA.' Autodesk's 'AREA' is an online resource where you and other users can learn what the community is currently interested in and where you can add your own requests, make comments, learn, showcase your work, download assets and share video tutorials, scripts and other material of interest to the community. You can go to AREA by simply navigating to area.autodesk.com and, to keep updated and participate in the latest scuttlebutt just select the software you're interested in from the Forum drop down menu.

I had the opportunity to learn about the new additions to these flagship creation tools from Robert Hoffman who heads up marketing for Autodesk's M&E product group and Wesley Adams, who spearheads product marketing for Maya LT. Although I did receive and will present here a list of the top extensions added to these three powerful tools I've also included many valuable insights gleaned from my discussion with these two pros.

So, who gets all these new updates?

All the extension updates we'll cover here are available to customers that have purchased an Autodesk Subscription plan, or who are on active rental plans. They are not available in the base versions of the 2014 releases of their respective products.

Maya LT – Focus on Game Developers

I'm presenting Maya LT first since it is the youngest of the three primary packages from Autodesk's Media & Entertainment group. Maya LT was developed to meet the needs of small indie game developers, and is basically a stripped down version of Maya that includes all the essential game development tools found in Maya plus a few more that are game specific, and all for a very affordable one-time cost of just $795. However, since game developers don't need the software on a perpetual basis they can optionally rent Maya LT for $50/Month or, if they'd like,

they can rent the software on an annual basis for $400 bringing the monthly cost down to just $35. Similar plans are also available for Maya and 3ds Max, albeit at different price points.

What's New in Maya LT 2014

Mel Scripting & .obj

The big news is that MEL scripting capability has been ported in from Maya as an extension and added as a feature so you can now customize workflows and program your 3D modeling experience while working in Maya LT!

The ability to export your models in .obj format has also been added so you can easily share your work without worrying about compatibility issues.

Send to Unity workflow

Now, using 'Send to Unity's' improved workflow you can point Maya LT to your Unity project and simply send your 3D assets directly to a targeted Unity project folder, and you're able to do this in whatever polygonal resolution you want with no cap on resolution.

Increased Polygon Count FBX Support for All Game Engines

Maya LT now lets you to export selected models or an entire scene with up to 65,000 polygons in FBX format. This increase from the tool's initial 25,000 polygon export limit allows artists to export higher resolution models and larger environments for use in all FBX format supported game engines.

New Retopology Toolset
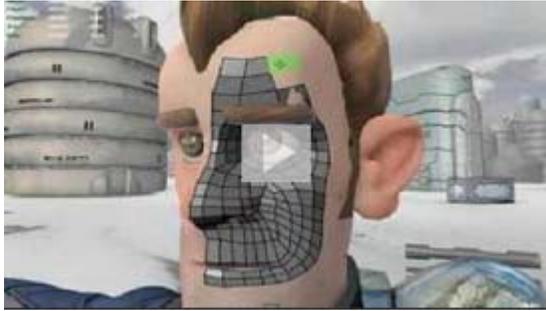
With NEX modeling technology, first introduced in Maya 2014, you're now able to 'retopologize' messy meshes and manually clean them up. This can be very useful when you import a scanned object's data into the tool. Although the object's topology geometry may look good, its polygonal 'mesh may be a mess,' it's not clean, full of holes and not easily 'animateable.' By using the Quad Draw tool with its new Relax and Tweak feature, with Soft Selection, and a new interactive Edge Extend tool artists can now optimize their meshes for cleaner deformations and better performance all directly within Maya LT.

Better Booleans

By very popular demand – *Voce Populi on AREA!* Both Maya and Maya LT now employ a robust and efficient new library for faster and more reliable Boolean operations on polygonal geometry.

FBX Export Improvement

Improved support for exporting geometry normals (binormals), enabling more consistent surface shading when assets are rendered in-engine.

Democracy in Action!

In addition to the two features we highlighted above in Maya LT features; 'Better Booleans' and the 'New Retopology Toolset,' Maya 2014 also boasts two new and very powerful extensions; the democratic XGen Arbitrary Primitive Generator and the Bullet Physics enhancement plug-in for realistic kinetic simulations.

The XGen Arbitrary Primitive Generator

The big production houses create specialized in-house technologies to achieve advanced high-tech effects and a look that is in sync with their *im*age. These specialized and advanced tools are only held by a small number of people doing extraordinary work. In Autodesk's push to democratize technology they have now added XGen technology to Maya 2014. Now, Maya artists have the same access to the XGen Arbitrary Primitive Generator technology used by Walt Disney Animation Studios in the hit animated films *Tangled*, and *Bolt*, and by Pixar Animation Studios in *Toy Story 3*.

XGen technology or Arbitrary Perimeter Generation empowers artists to generate curves, spheres, or custom geometry on the surface of any polygonal mesh. This technology allows artists to create things like hair, fur or feathers and they can also create forests or desolate landscapes with rocks and jagged outcroppings, or if they want, they can quickly populate a meadow with grass and flowers or any scene with any type of data, and lots of it. XGen is extremely efficient so you can create and populate eally complex and incredibly detailed and data-rich environments but still be able to maintain interactivity while you're working and then get all the fine detail at render time.

Autodesk's mission here is to take cool high end tools like XGen that have only been available to a small number of people and make them available to everybody. As Robeert Hoffman said, "It's all about giving people the best tools we can, and the good thing is that the XGen toolset in Maya 2014 has been proven for years and used extensively by the major studios before being adapted. It is a major piece of technology."

Bullet Physics Enhancements

This is a major enhancement to the bullet physics plug-in. AMD creates some very interesting technologies, and the original Bullet Physics plug-in delivered in conjunction with Autodesk was integrated into Maya some years ago

This new extension for Maya 2014, also in conjunction with AMD delivers several enhancements to the Bullet plug-in enabling artists to use the open source bullet physics engine to create large-scale, highly realistic dynamic and kinematic simulations within Maya. It offers you the ability to create compound collision shapes from multiple meshes; produces better collisions with concave shapes and thanks to a new Hierarchical Approximate Convex

Decomposition (HACD) algorithm; integrates with Maya Forces; and delivers rigid sets for increased scalability for the artist.

What's New in 3ds Max 2014

Point Cloud Support
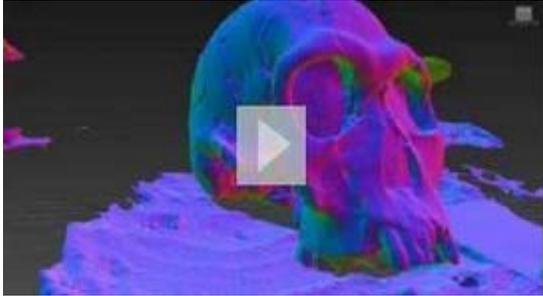
With this new capability designers and artists can create precise models from real-world environments by importing massive data sets of scanned data captured from reality as point clouds. This data is then displayed as editable geometry in the 3DS Max viewport in true color where you're able to make adjustments and create new geometry in context by snapping to point cloud vertices.

Designers, for example, can display a building they're creating in context with a cityscape that surrounds it by taking a LIDR scan of the environment and then importing it as cloud data directly into the 3ds Max viewport.

Support for .rcp and .rcs file formats also lets designers and artists take advantage of 'connected reality capture workflow' with other Autodesk solutions, including: Autodesk® ReCap™Studio, AutoCAD®, Autodesk® Revit®, and Autodesk® Inventor® software.

Python Scripting

Adding Python scripting empowers developers and technical directors to get the most versatility from this already versatile tool. Rob Hoffman told me that many 3DS Max users think that adding the popular and easy to learn Python Scripting language is "the cat's meow" because it now gives them the ability to customize and extend the software's functionality. For example, scripting allows you add new capabilities, automate the software for respective tasks and more while the software coexists in a production pipe-line in concert with all the other tool sets.

As a bonus, you can also access a subset of the 3DS Max API from Python scripts, including the ability to evaluate MAXScript code.

Stereo Camera

You can now create, adjust and see your creations in stereo right inside 3ds Max. The new Stereo Camera Feature set is available as a plug-in from the [Autodesk Exchange](#) application store at no cost for customers on active Autodesk subscription. With it you'll be able to create stereoscopic camera rigs and produce Left Eye, Right Eye, Center, or Anaglyph views in the Nitrous viewport. In addition to this Passive Stereo viewing mode, customers with a recent AMD FirePro™graphics card and a supported HD3D Active Stereo monitor or equivalent can also take advantage of Active Stereo viewing.

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If you're not an Autodesk user the best way to explore these new additions to these Autodesk creative products is to try them for yourself. Autodesk offers free trial versions of all their software and here's how to get there fast:

Autodesk Maya LT 2014   [Explore and Learn](#)   [Download Trial Software](#)(15 days)

Autodesk Maya 2014   [Explore and Learn](#)   [Download Trial Software](#)(30- days)

Autodesk 3ds Max 2014   [Explore and Learn](#)   [Download Trial Software](#)(30-days)

If you are an Autodesk user and use one of these tools please make sure to check out [AREA](#)and also please send your comments, suggestions and recommendations to me here at this blog.