AUTODESK VRED PROFESSIONAL

VIRTUAL PROTOTYPING AND INTERACTIVE MULTIMEDIA SOLUTION

WHATS NEW 2014

VRED Professional 2014
Whats new Document

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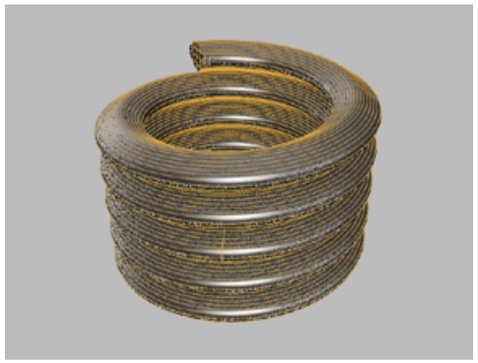
Autodesk VRED Professional

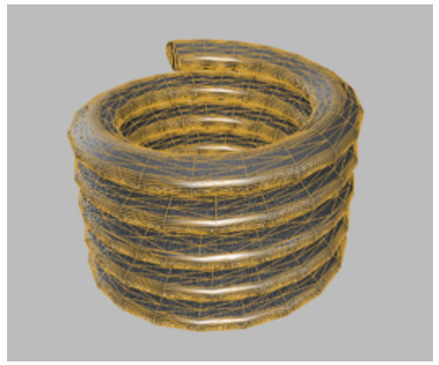
Whats new in Autodesk VRED 2014

True NURBS Concept 2014

VRED's trueNURBS concept provides the usage of CAD NURBS data directly within the scene. Switching between directNURBS Raytracing and OpenGL polygon rendering is possible at anytime.



directNURBS Raytracing



OpenGL polygonal rendering

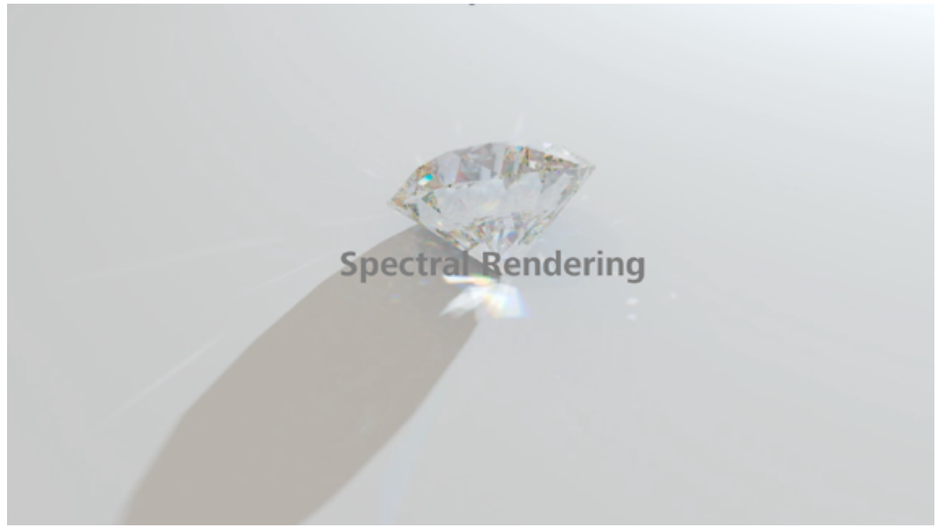
NURBS shells and patches coexist besides the polygonal data (within the same node); it enables interactive re-tesselation without reloading the files before to receive a use case depending polygon quality.

Stitching provides to re-build existing topology on tesselation - it makes edges of selected shells align to each other and it avoids ragged edges on the polygonal representation.

On 3D data preparation sometimes it is not clear wether the part of an object will be required or is it hidden by another object. To avoid reloading the file it is recommended to define regarding shapes and its components as A/B sides.

Spectral rendering with dispersion effects

In addition to the simulation of more reliable colors of materials, the wavelength based spectral rendering allows the user to illustrate realistic dispersion effects.



Especially the evaluation of lighting behaviors e.g. headlights and rearlight requires specific wavelength depending on the index of refraction. The Usage of photon mapping and caustic effects enabled, allows the computation of realistic prismatic colors.

It adds more beauty to the scene for artists; engineers receive more realsitic and reliable results for the illustration of their construtions data.

Simplified module dialogues (Standard UI)

Camera Editor: The simplified camera editor allows the user to create his desired perspectives quickly. He has the possibility to create camera tracks in order to get either a sequence of fly animations or hard cuts between different viewpoints; helpful for the operator on interactive presentations. Dolly Zoom allows the user to focus an object on camera movement very easily.

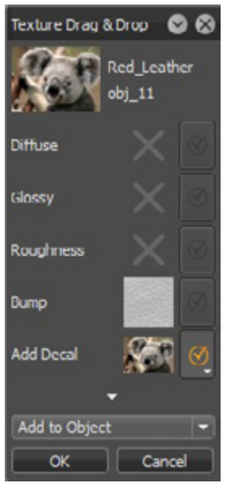
Light Editor: A reduced dialogue supports casual users on setting up light sources. Different area light sources are added by now (disk, rectangular and spherical). Group nodes independent from scenegraph help to keep an overview about the light setup.

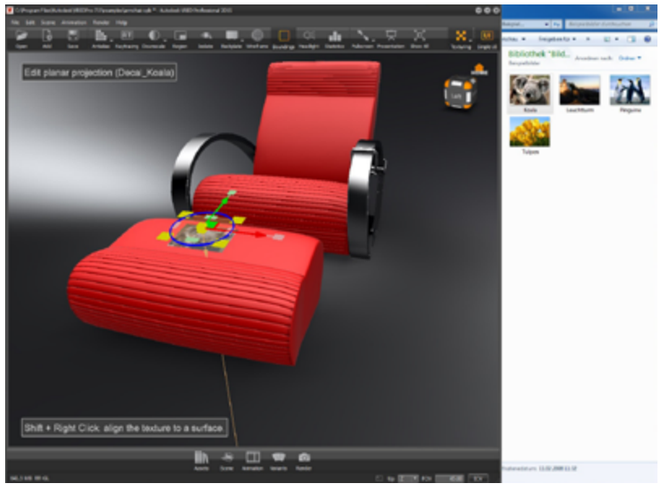
Material editor: Drag and drop feature adds common features like e.g. replacing all occurrences of a material or creating switch- or multipass materials. Multi selection on materials enables the creation of material switches in a simple and comfortable way. Group node support is added as well.

Texture edit mode

Most materials has now a planar projection mode; the user can switch easily between UV and the planar mapping type. The planar projection mode provides also the ability to have textures only visible on one side of the geometry.

The new Texture editing mode allows the user to interactively place and modify textures without opening the Material Editor. Drag and drop moves textures directly from the Windows Explorer to the desired material. A wizard guides the user on the assignment procedure - either to a texture channel or to an own slot within a multipass material.





General improvements

Clip Maker: The usage of variants and viewpoints within the animation timeline completes the storytelling capabilities of Clip Maker.

New Environment Concept: Environment switch node creation is now done automatically in the background. Gizmo based ability to orient and position texture files interactively.

Node attachments: VRED 2014 supports the ability to store attachments (e.g. metadata) within each node.

Metadata: Metadata can be displayed of textures/backplates/HDR

Animation re-usage: Any kind of animation can now easily be saved and re-used within other projects. Global library support enables the standardization across several projects or even multiple departments. Copy and paste for animations within the scenegraph is available by now.

Turntable Animation: Are accessible directly from context menu within the scenegraph. A keyframe animation with the corresponding clip will be created automatically.

Zoom: Animated zoom to function on scenegraph and render view is now integrated.

Scenegraph: Switchable node types like cameras, lights and geometry switches can now directly be activated in the scenegraph without using the corresponding modules. The creation of switches is now accessible from the categorized context menu.

Camera Navigation: The user can now instantly switch between the standard navigation behavior and the ability to change the camera orientation without any translation (head view) in that moment.

File IO improvements

Native Autodesk® **Showcase® 2013** and **Showcase® 2014** Importer supports adopting the following kind of contained data:

- Material assignments
- Material Behaviors
- Texture Assignments and Texture Coordinates
- Decal Materials
- Material Switches
- Environments
- Environment Switches
- Views and Cameras
- Animations
- Variants

DWF™ File loader for Scenes from Autodesk® Navisworks® - not all geometry types are supported!

Rhino 5 Loader for polygonal and NURBS data.

Native **Opticore** Loader provides scenegraph structure, viewpoints, materials and textures, VariantSets, viewpoints and animations created in Opticore.

Showcase 2013/2014 and **Opticore projects** can be loaded directly into VRED. All necessary Scene elements are imported in order to have a fluent data migration.

Renderer improvements

Anisotropy Filtering for textures: 0 switches filtering off; 1 gives Bilinear filtering; values above 1 activates EWA filtering.

Support to have **Photonmap** based visualization (Indirect Illumination Mode); different Photonmaps for interactive- and still frame rendering are assignable.

Final gathering quality is adjustable interactively.

Tracedepth supports threshold above 32.

Update time of scene with many nodes decreased ~factor 6

Cluster: 2 level architecture added. Stillframe oversampling support included by now. New Cluster debug node helps on setup of such configurations. Improved Cluster connection time.

Rendering: Support for normal maps added. Viewport representation of rayfile lightsources available now.

Raytracing: Local clipping planes are available by now. Support for Spectral Rayfiles from Lucidshape added.