WHATS NEW 2015

VRED Professional 2015
Whats new Document

TABLE OF CONTENTS

Autodesk VRED Professional

WHATS NEW IN AUTODESK VRED 2015

SIMPLIFIED USER INTERFACE

A new **simple UI** enables a user to create image content very quickly. It is specially designed for casual users, who are not very familar with visualization tools. The main intention was to reduce the functionalities to a minimum viable amount.

The **Quick Access bar** completely changed compared to the one from advanced UI. The module arrangement follows the phases within the production process.

The **Asset Manager** helps to manage items like geometries, materials and environments beyond a single project. Several global assets stored anywhere in the network can be accessed like from a local directory. That supports standardization throughout several projects or even across multiple departments within the company.

Simple UI offers a new **Scene module**, which contains all scene elements, like geometry, materials, environments, lights, cameras, and render settings.

Animations can now easily be created by using a wizard; that guides the user through each single step, whether he wants to animate a geometry, material, or environment.

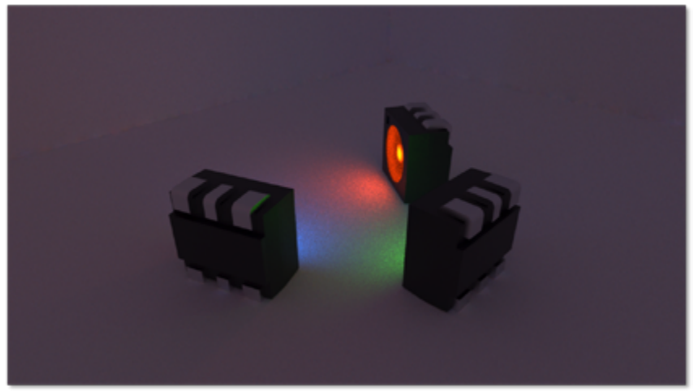
The new **Variants Module** makes different variants of e.g. object's material, its visibility state, lights, environments and viewpoint accessible by one click.

VRED 2015 offers now a new **Render Queue** feature, where the user can prepare the viewpoints, send them to the job queue and execute it once satisfied with the settings.

All settings are described in detail within the simple UI user guide.

RAYFILE VISUALIZATION

VRED Professional supports now **Rayfile visualization**; all light-emitting surfaces can be used as a light source, so no photonmapping is required for rendering ray files. Simple path tracing is enough.



It offers also the capability to **look directly into illuminated light sources**, for example, light pipes, headlights, or any kind of light source, using a rayfile as a calculation basis. All effects like specular reflections/refractions are visible.

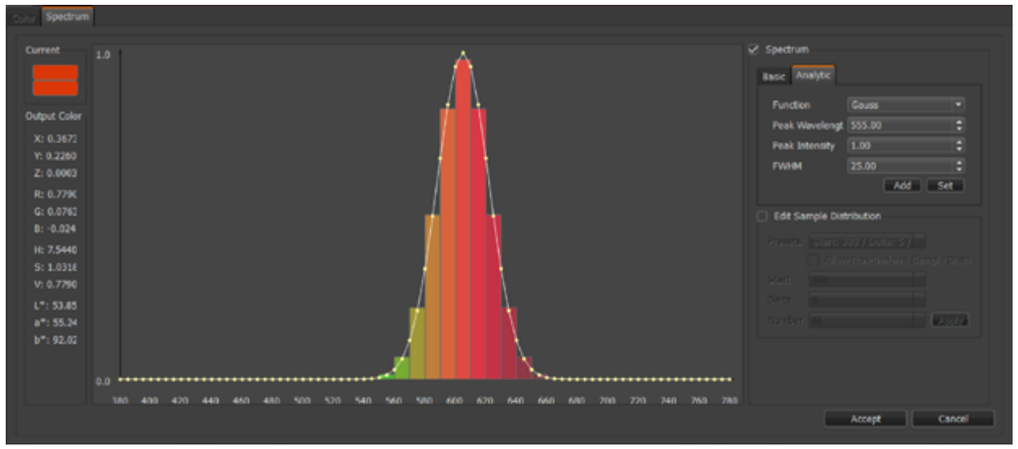
VRED is currently the only solution that is able to look directly into rayfiles. This enables the user to see, how the pre-simulated rayfiles (from Simulation tools like Lucidshape) behave inside a lightsource. This helps to understand lighting distribution inside a scene, the behavior of light sources and how it would behave in reality.

Render cluster support enables to create such images very quickly.

Currently VRED Professional is the only commercially available render solution that is capable of doing that kind of rendering.

USER SPECIFIC COLOR SPECTRUM SUPPORT

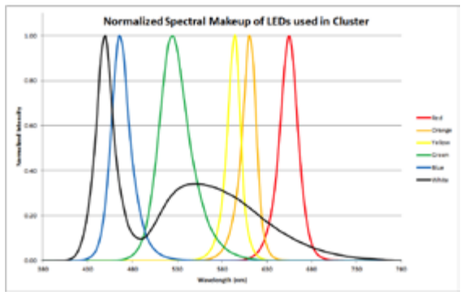
In VRED 2015 Professional it is now possible to define color spectrum on a mathematical basis using FWHM (Full Width Half Maximum). This enables a specialist to set up the desired colors more accurately.

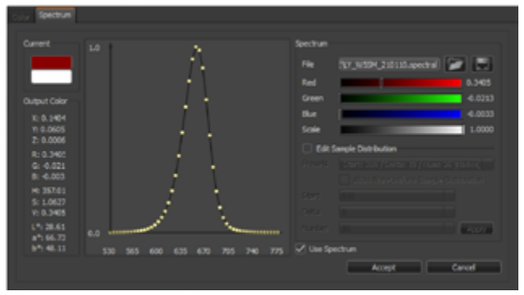


Defined spectrums using FWHM

VENDOR SPECIFIC COLOR SPECTRUM SUPPORT

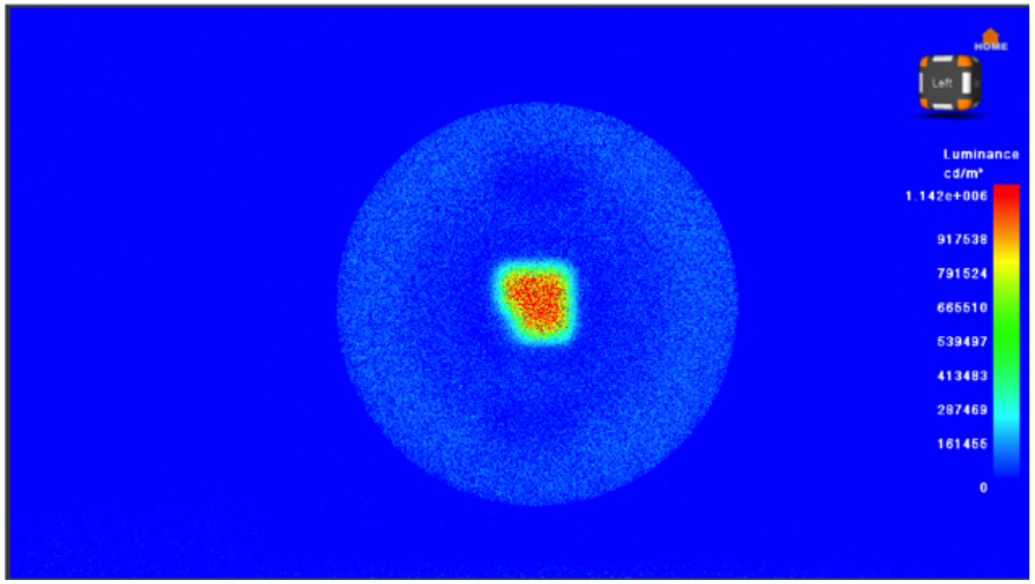
VRED 2015 Professional is now capable of loading Osram and Optis Spectrum files. Spectrum files define color on a wavelength basis. This is especially required if visualization projects needs vendor specific attributes, like light color and material color.





LUMINANCE TONEMAPPER

The **Luminance tonemapper** in VRED 2015 Professional offers the ability to display a legend, which indicates the light distribution inside a scene with false colors.



Luminance tonemapper now supports a legend

COLLISION DETECTION CAMERA

VRED 2015 Professional added features for VR use cases. **Collision detection for Cameras** supports the definition of colliding objects to avoid flying through during a presentation. This helps the operator not to leave e.g. the environment unexpected.

OCULUS RIFT SUPPORT

Oculus Rift is an immersive head-mounted display with special distortion lenses. The focal length is more than 100 degrees, which enables a very good immersion and comparable to high-end HMDs.

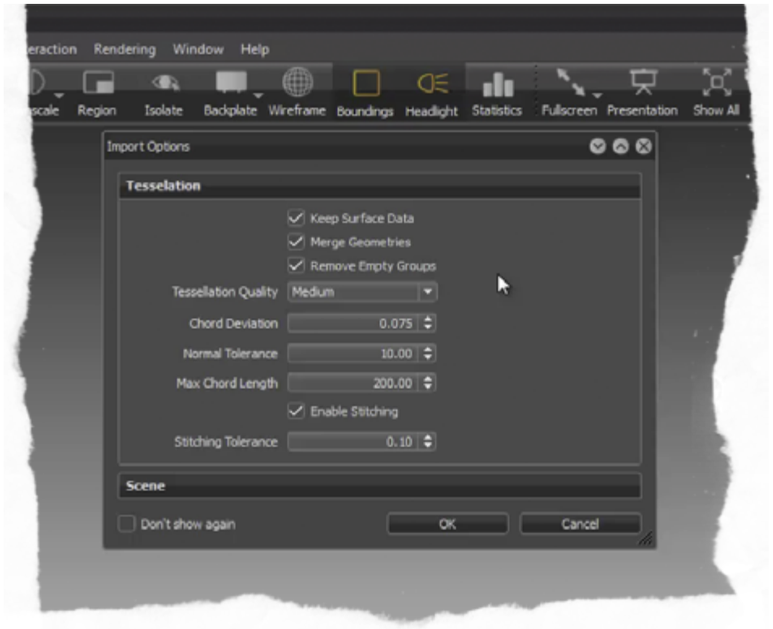
Currently, Oculus Rift supports orientation tracking. It is still in development, position tracking will be available in the future as well.

Wearing the head-mounted glasses enables an immersive evaluation of a product. As an example a seating buck use case is used to evaluate cars and cockpits. In combination with Raytracing, reflection and refraction behavior can also be evaluated. Additional tracking system support for ART and Vicon enables virtual walk around.

- Special distortion of rendered image enables a very deep immersion within the scene
- Supports OpenGL rendering
- Supports real-time Raytracing rendering, in combination with RTRT cluster

SUPPORT FOR ALIAS LAYERS / CATIA LAYERS

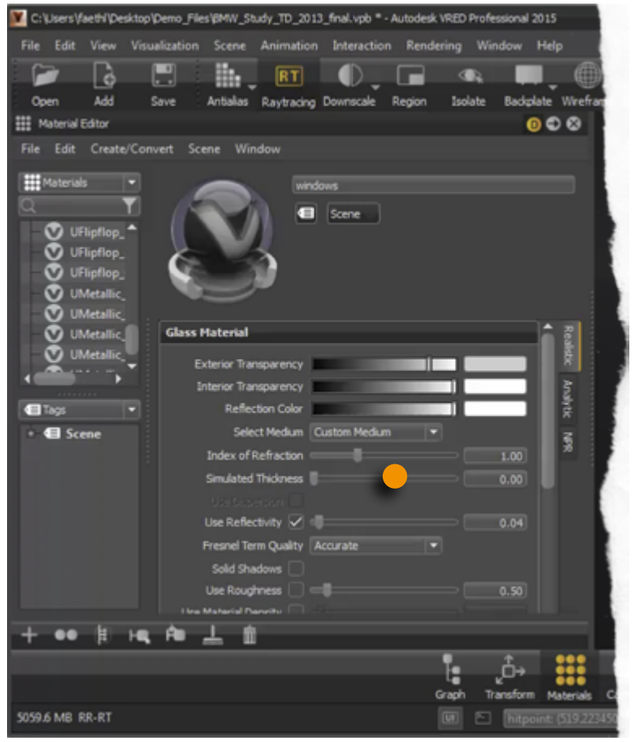
Alias wire files were now imported into VRED 2015 Design and Professional with all corresponding layer information. **Alias and CATIA Layers** will be imported as tags.



The user can now select objects according to the layer information. This enables a much more fluent workflow between Autodesk® Alias® software and VRED. Retaining the Alias layer structure shortens time for data preparation and eases the user`s workflow.

GLASS MATERIAL SUPPORTS THICKNESS

The glass material can simulate thickness for a proper IOR. Usually window surfaces are imported as single sides surfaces. With that option enabled, VRED simulates a solid geometry to render the appropriate IOR. This option enabled provides the ability to achieve the appropriate index of refraction.



LAYERED MATERIALS

A layered material allows to stack multiple materials on top of each other. Unlike the multipass material the order of traversal is determined by the normal of the geometry. This allows to use the layered material as a two-sided material. It can also be used to visualize multi-layered colored glass, e.g. rear light cover glass - the outside consists of clear glass and inside, there is red glass.

All settings are described in detail within the simple UI user guide („Scene module - Material tab“ Page 32).

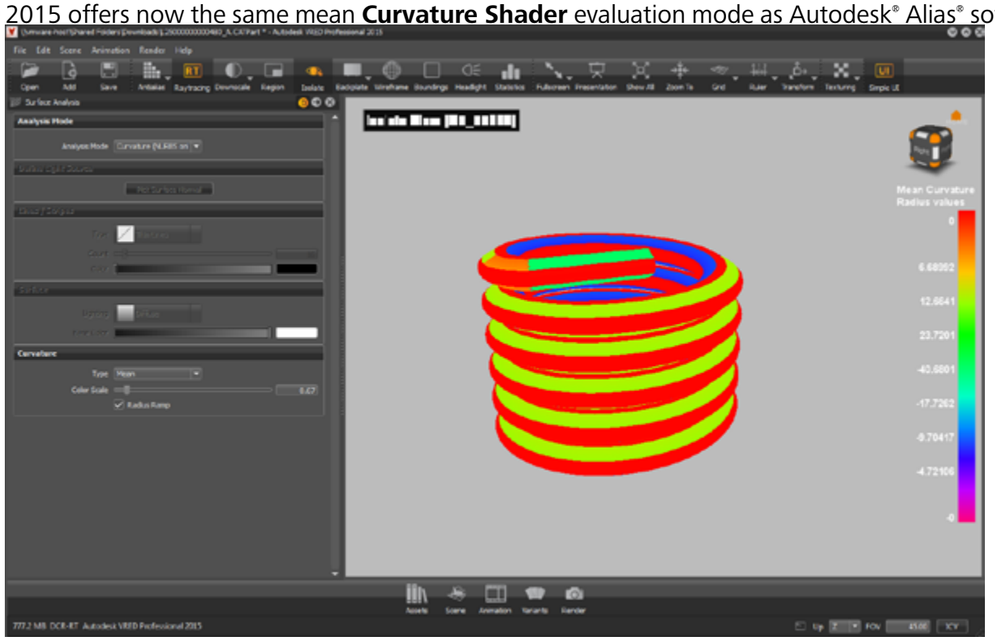
COPY PASTE MATERIAL ATTRIBUTES

It is now possible to copy and paste material attributes, like diffuse and specular information of materials. This enables to adopt settings from other materials very quickly.

All settings are described in detail within the simple UI user guide („Scene module - Material tab“ Page 32).

CURVATURE SHADER (NURBS)

VRED 2015 offers now the same mean **Curvature Shader** evaluation mode as Autodesk® Alias® software.



The major difference is that VRED renders the Curvature Shader directly on NURBS surfaces. This enables a 100% accurate evaluation of surfaces without any tesselation artifacts. The user can evaluate the degree and tension of NURBS surfaces.

The Curvature Shader currently works only in combination with NURBS data and NURBS Raytracing mode.

VRED APP

VRED app is a platform independent web application that enables to control VRED scene remotely. It provides the ability to switch variants and viewpoints; it helps the operator to navigate through the scene or to change render modes.

It runs on any mobile device connected to the network. The VRED app is now enabled within the Professional release.

AXF SUPPORT FROM X-RITE

AxF (appearance exchange format) is the new appearance format from X-Rite. It combines measured BRDF and BTF information - one file stores the full appearance of a material, like diffuse color, specularity, bump, and so on.

Additionally it is also possible to load X-rite information into a texture slot of the phong, plastic or triplanar material. This let the material retrieves individual color components.

PRESENTATION MODE

The new **presentation mode** disables all VRED internal hotkeys except user definded hotkeys from the variants module.