

esperient
Creator 3.0
sharing our worlds

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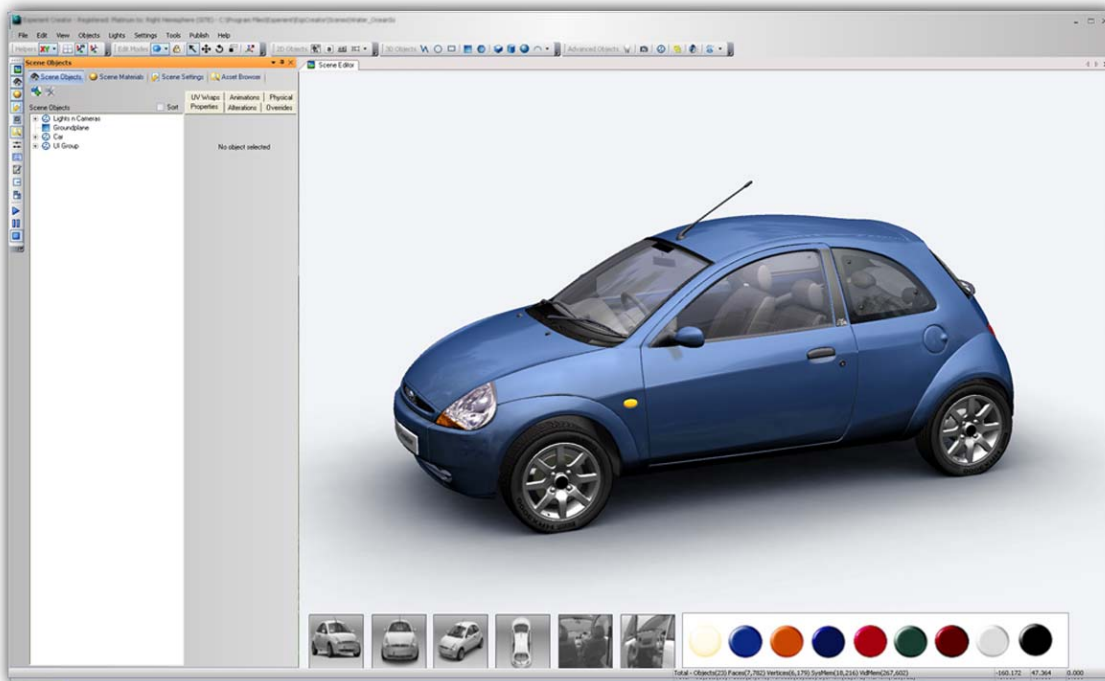
1. Introduction

3D computer games have set a new standard for interactive and engaging media presentation, pushing the boundaries of how we experience information. High quality real time Interactive 3D is a new tool in the designer's toolbox that helps make online, desktop and event-based media experiences more deeply engaging in new and innovative ways. Esperient Creator has been designed to enable you to create the next generation of applications that blend compelling capabilities of interactive 3D game technologies with the ability to innovate in your product communications and product user experiences.

Esperient Creator enables rapid development of compelling interactive 3D applications and content for product communications, presentations, education, training and entertainment. Significantly lowering the cost and time barriers associated with creating interactive 3D media, It is specifically designed for creative artists and media designers. If you use Adobe Creative Suite, Autodesk 3DS Max or Maya, Esperient Creator's workflow was designed with you in mind.

**Discover how to create the next generation of media experiences
Esperient Creator - changing how we learn, work and play**

2. The User Interface

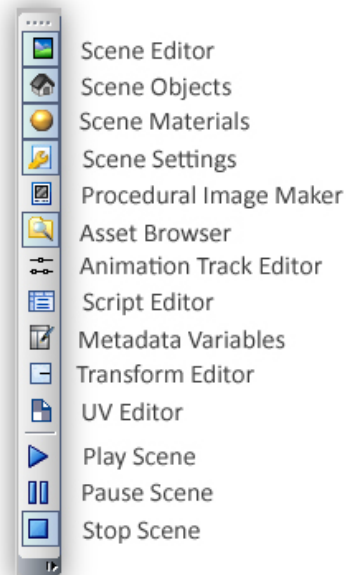


Working on real world projects, creative media designers live with their tools day in and day out. Project times range from tens to hundreds and, sometimes, thousands of hours. The only constant is high pressure deadlines and the need for tools they can trust. We know this, which is why we have spent thousands of man hours designing and refining our user interface, workflow and core technology. Esperient Creator's simple to use development environment is based on standard windows interface and a full What You See Is What You Get (WYSIWYG) interactive authoring environment.

Esperient Creator's unified workspace and workflow incorporates :

- Scene management
- Asset management
- Object properties
- Object modeling
- Material management
- Event based animation
- Key-frame animation
- Runtime Script editor
- Interactive scene pre-view

All functionality is within one application and available at a click of an icon. All authored Scenes may be interactively played and paused directly in the editor prior to publishing.

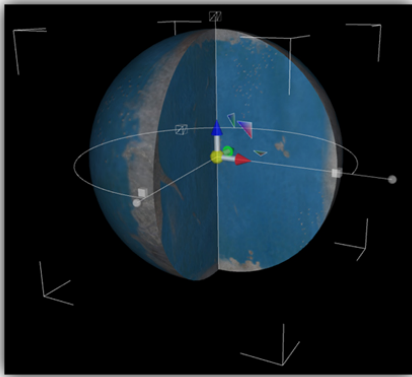


3. File Import Options

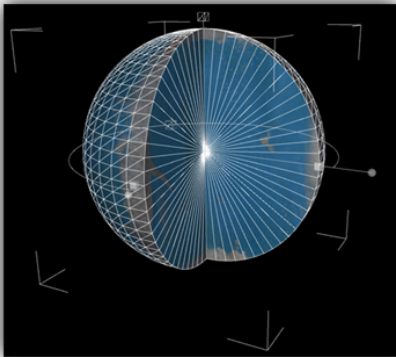


- Import from leading Digital Content Creation tools including Autodesk Max, Maya, Adobe 3D and over other 30 leading 3D file formats.
- Import CAD data via RHI Deep Exploration or Deep Server using the .RH file format.
- Import video, text, audio, and 2D graphics with over 40 different 2D graphics formats supported.

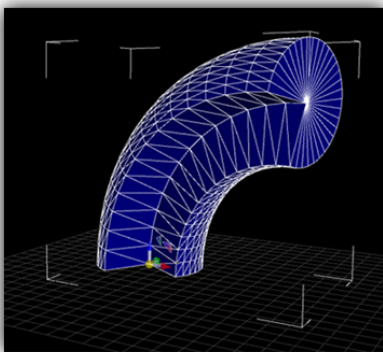
4. Inbuilt Modeling Tools



Over 60 inbuilt procedural modeling primitives



Inbuilt 3D Object modeling and editing tools



Object alterations enable advanced object modeling, visualization & animation

In addition to being able to import existing 2D and 3D content, Esperient Creator comes with a complete toolset to create your own content for your applications. This means you can create next generation applications without requiring any other 3D software.

Esperient Creators features include:

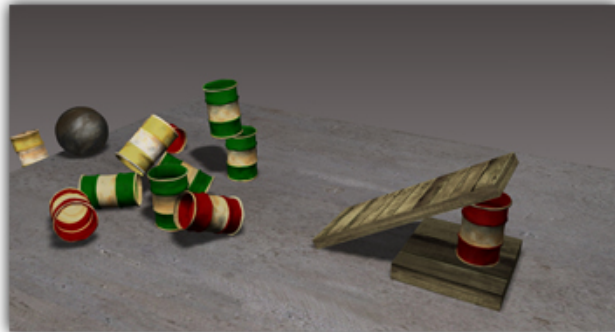
- Over 60 in-built primitive 3D objects ranging from lines, spheres, cubes and planes to complex objects such as stairs, gears, arches, and more. Each primitive object has easy to use property grips to simplify scene placement and object manipulation
- Over 50 3D object alterations including bend, twist, taper, and more which can be used to modify in-built primitives for modeling – enabling creation of complex objects
- 3D Boolean operations including: union, intersection, subtract, fracture, merge
- 2D geometry drawing including line, polyline, arc, circle, ellipse, rounded rectangle, polygon, star, triangle, and more
- 2D UI authoring tools including sliders, text box, radio buttons, text and image blits for standard 2D user interface components
- Object grips and transform axes to visually control object size, position and surface subdivision
- 2D and 3D reference grids to assist with object positioning (including snap to grid, angle snap etc)
- Polygonal editing tools for object, face and vertex editing, together with tools to collapse meshes, invert polygons & flip normals

5. Animation & Simulation

Esperient Creator supports a large number of interactive animation techniques. More than 60 animation behaviors - including object transforms (move, rotate, scale), color change, real time physics, keyboard and joystick controls –are available with just a mouse click.



Skinned and boned animated characters can be imported from Autodesk 3DS Max, Maya and a number of other animation programs or created within Esperient Creator



Event based animations and real time physics enable dynamic interactive responsive environments to be created quickly and easily



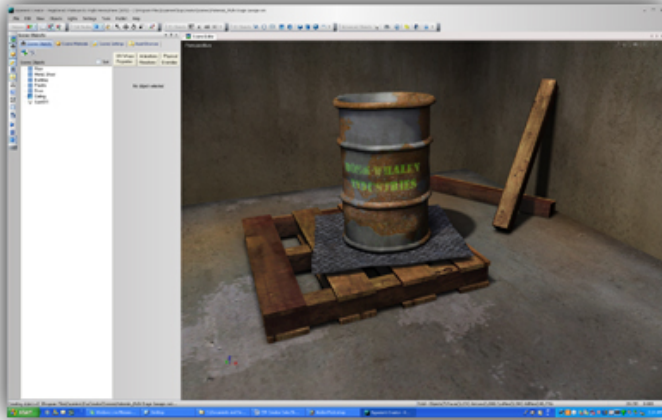
Video content can be used as textures

Animation categories

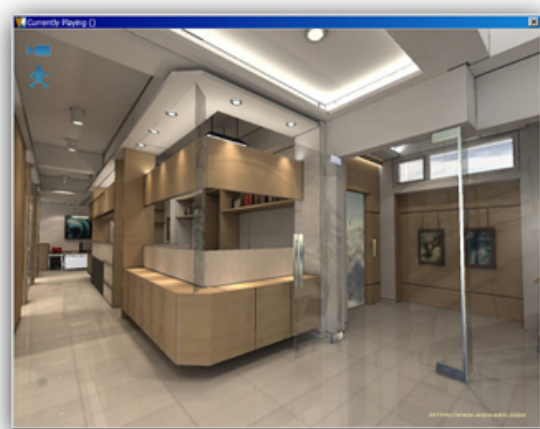
6. Visualization



Dynamic shadows give depth perception cues increasing visual realism in your visual applications



Support for multi-layer materials enables the creation of object and environment surfaces with color, texture, depth (bump) and reflection maps



Created as a demo by www.wowarc.com –modeled in 3DS Max, with Esperient Creator used for real time display

Effective use of materials, lighting and shadows are the key elements to the visual quality of interactive 3D user experiences.

Esperient Creator is equipped with:

- Dynamic lighting including point, spot, directional and ambient lights
- Real time shadows with support for many shadow techniques
- Real time shader-based dynamic lighting & shadow casting
- Mip-mapping to preserve texture quality
- Model 3 vertex and pixel shaders
- Multistage textures
- Bump & normal mapping to give depth perception cues directly from textures and materials
- Reflection maps
- Import light maps
- Light map generator
- Ambient occlusion alteration

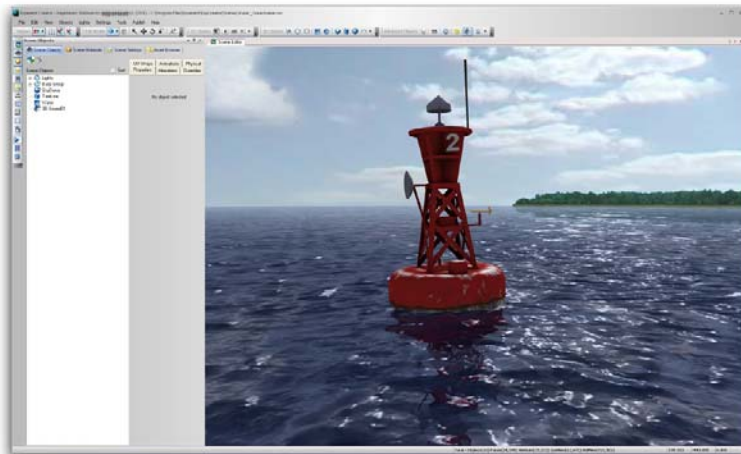
Advanced render functionality includes:

- Dynamic procedural textures
- Dynamic render to texture from any scene object or camera
- Real time reflections
- Real time refraction



A soap bubble dynamically reflecting its environment

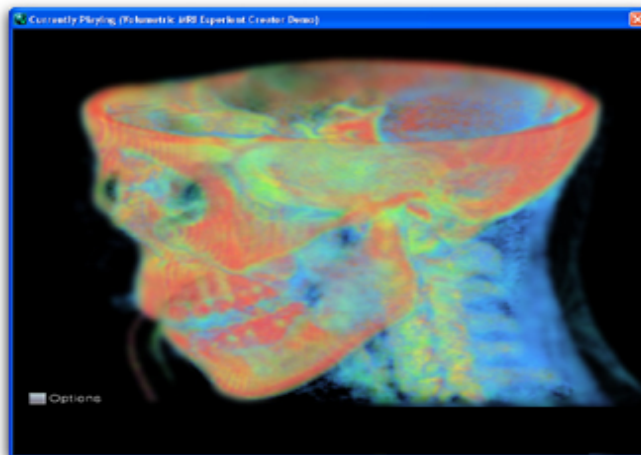
Esperient Creator 3.0 ships with over 100 pre-built shader effect files including: Metals, glass, water, ocean, reflection and post-processing effects such as motion blur, bloom, sepia, skybox and depth of field.



Real time reflection and refraction on simulated ocean water

Esperient Creator 3.0 also ships with a unique ability to view volumetric datasets using real time shaders and intermix these with polygon based content or use as standalone tools

Pre-built shaders for volumetric smoke, coral, and volumetric solids are available.



Volumetric display of MRI data



Mirror object used to provide reflective ground surface

Esperient Creator 3.0 ships with a number of visualization tools to create various special visual effects for presentation, games and interactive visualizations.

The Mirror object and Floor shaders provide means to deliver real time reflective surfaces depending on target hardware.



Skybox shader for environment / particle system for rocket exhaust

Esperient Creator has built-in particle systems based effects including:

- Basic
- planar,
- contact
- projectile

Particle systems respond to scene forces and scene gravity. Gravity and Force objects can be used to create particle flow around objects, enabling visual simulation atmospheric effects.

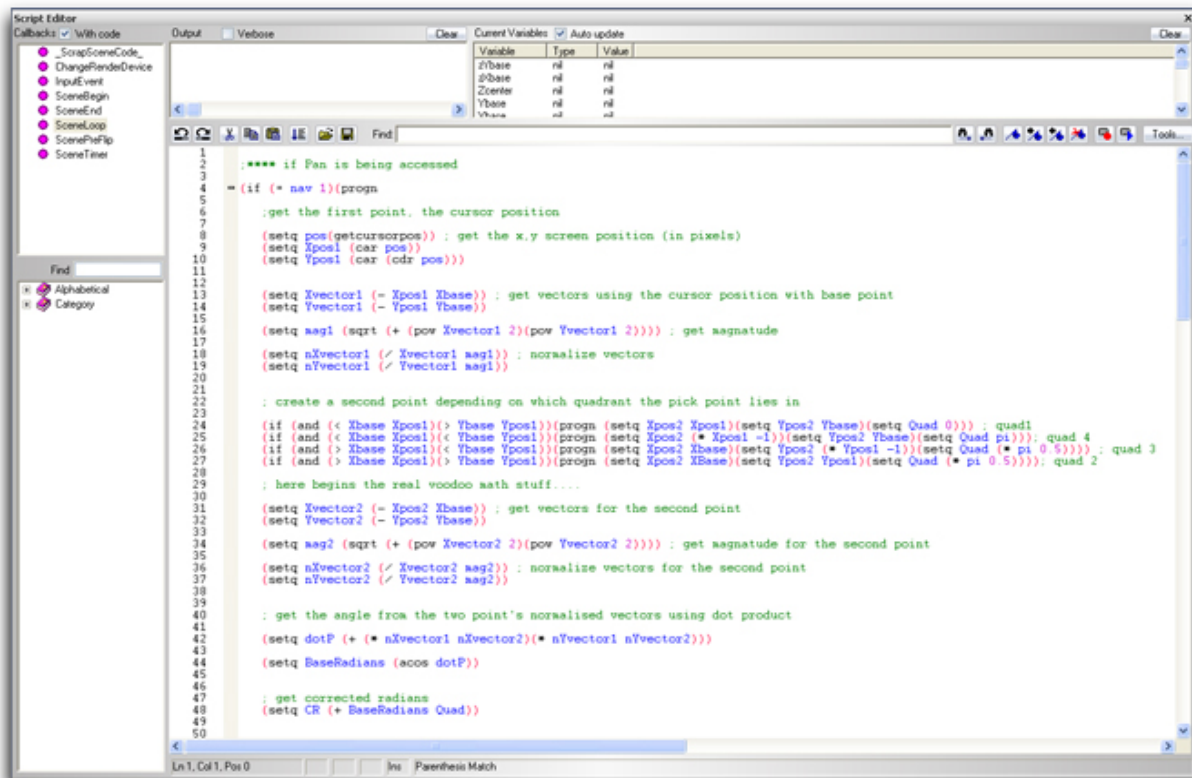


Particle systems for dust trail and contact particles for tire tracks

Particle systems also provide means to create visual effects including smoke, sparks, dust etc.

Contact particle systems enable designers to visually represent environment changes in response to object movement e.g. Tire tracks, footprints, or surface scratches.

7. Advanced Applications Development



In built Scripting

- Powerful game engine with a choice of two in-built scripting languages one based on lisp and the other on C/JavaScript syntax
- Easy to use professional scripting development environment with color coding, intellisense-like command completion, integrated help
- Web browser, visual basic and embedded program communication direct from both scripting languages
- Extremely easy to use application programming interface with over 300 API commands with extensive documentation and examples

Database

- ODBC database connectivity for relational database integration

Networking

- Integrated easy to use network send data support and chat
- TCP/IP Socket animations & API commands for sending messages and text between clients and server applications

Extensible API

- Easy to use C++ Application Programming Interface
- Comprehensive documentation and samples for Microsoft Visual Studio
- Extend authoring capabilities through custom C++ plug-ins
- Extend scene simulation and visualization capabilities through deployable custom C++ plug-ins

8. Scene Publishing: Desktop, Web & Surface

Esperient Creator publishes interactive content to desktop, web, stereo and for surface based displays.

Esperient Creator’s publishing solution is based around:

- free distributable runtime viewer
- free distributable Active X based web browser viewing
- self contained executable with viewer and data embedded together for direct publishing

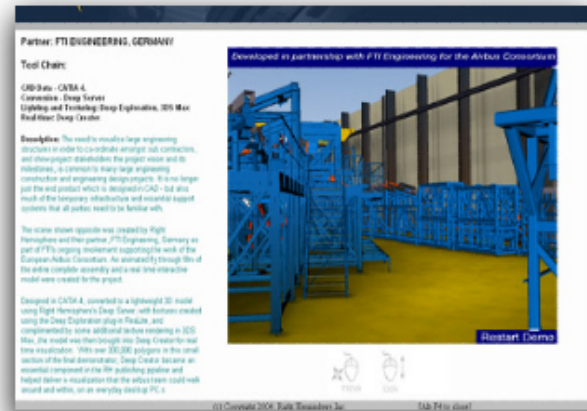


Desktop: published as self contained executable with viewer and data

Esperient Creator scenes can be published as part of web applications and SCORM compliant learning content.

There are no licenses fees for distributing content created with Esperient Creator.

Esperient Creator runtime viewer can display scenes in passive stereo on a single screen or networked non-stereo on multiple screens (e.g. power-wall displays) for large area surface based displays projects.



Web: Creator apps can be easily embedded in web pages With bidirectional communication with javascript



Surface: A four projection screen-based display with a 32 foot wide display area - showing one continuous display of a networked interactive Esperient Creator Scene.

9. System Requirements



- Microsoft Windows XP or Microsoft Vista
- Pentium 1 GHz processor or higher.
- Microsoft DirectX, version 9.0c or greater
- Microsoft DirectX, version 9.0c or greater compliant graphics card compliant video card with hardware accelerated 3D rendering, and at least 128MB RAM
- Scenes using shaders require a shader Model 2 Pixel and Vertex shader card support (this is standard functionality on modern graphics and games video cards)
- 128mb memory (512mb recommended minimum)
- Network Card (for network visualization and simulation capabilities)