Welcome to Cebas finalToon Release 4.0

finalToon™ comes deeply integrated into 3ds Max with perfect support of its native features. By adding finalToon as a standard 3ds Max Render Effect, interactive rendering updates are possible without the need to re-render the whole scene over and over again.

finalToon supports many 3ds Max renderers, as long as they are 100% 3ds Max SDK conform, it can be used to create Non-Photo-Realistic renderings with finalToon. However, the best solution for the creative artists is the combination of finalToon and **finalRender™**. This unique combination of powerful co-features multiplies exponentially the creative possibilities.

Making the Optimal Choice with finalToon™ - What's new in R4.0 ?

FinalToon R4 is a fully self-contained True Line Renderer (TLR), with unparalleled line styles, quality and rendering speed.

Moreover, with Release 4.0, finalToon now makes it easier to export 3D models into 2D vectors for editing in Adobe Illustrator. Imagine the immense time-saver for artists requiring several formats and adjusting details in a design. This Release has it done for you!

Motion Blur: Non-Photo-Realistic or line renderers in general, struggle with effects like motion blur or ray-tracing. Not so finalToon 4 ! It offers true motion blur effects including deformation motion blur when used with finalRender as well as normal multipass motion-blur with the Scanline renderer. Other renderers will not render the deformation motion blur and you will need to use a multipass camera motion blur which is slower. See fToon 4 Motion Blur at work.

https://youtu.be/PU5UwcySIng
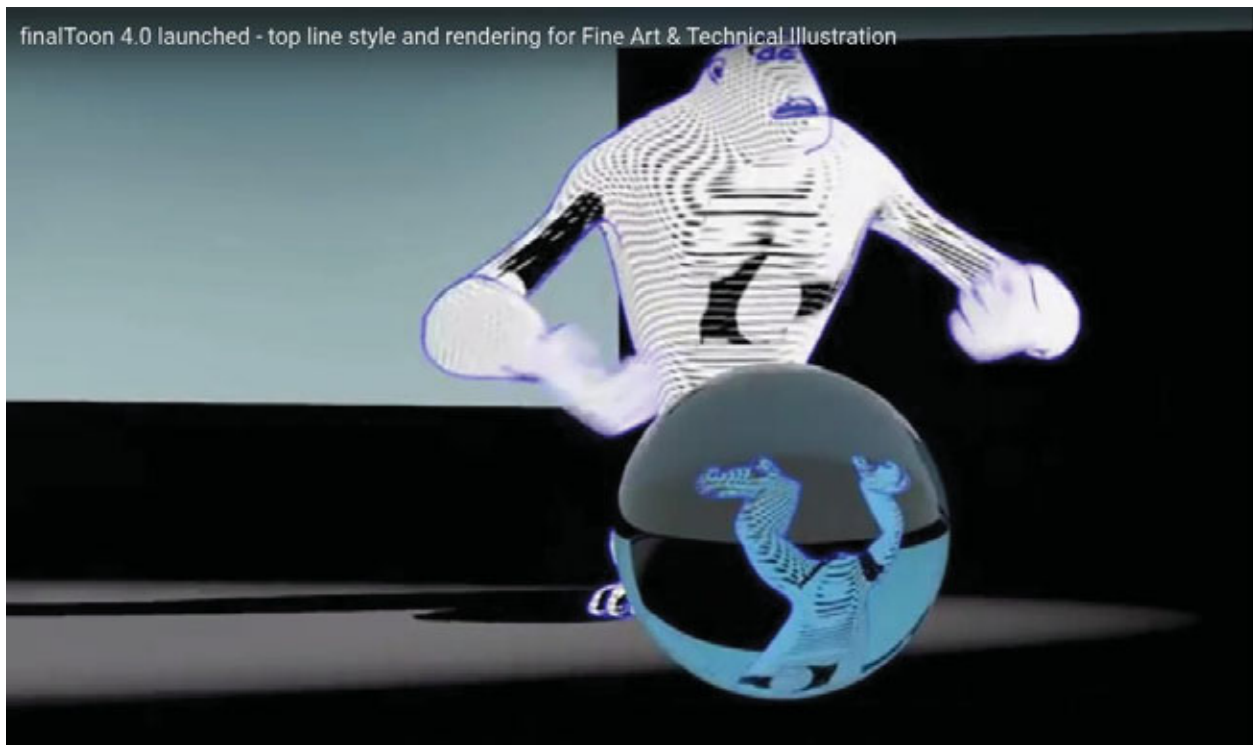
**Procedural Hatching**: finalToon 4 is not only a great tool for Architects and Technical Designers, it is also a creative tool for many art forms of expressions. You can create original, digital master pieces of art! The combination of an artist's hatching plus the ability to modify and render accurate shadows and light open a whole new world of art in 3D rendering.

https://youtu.be/vD0M0yvM2-g
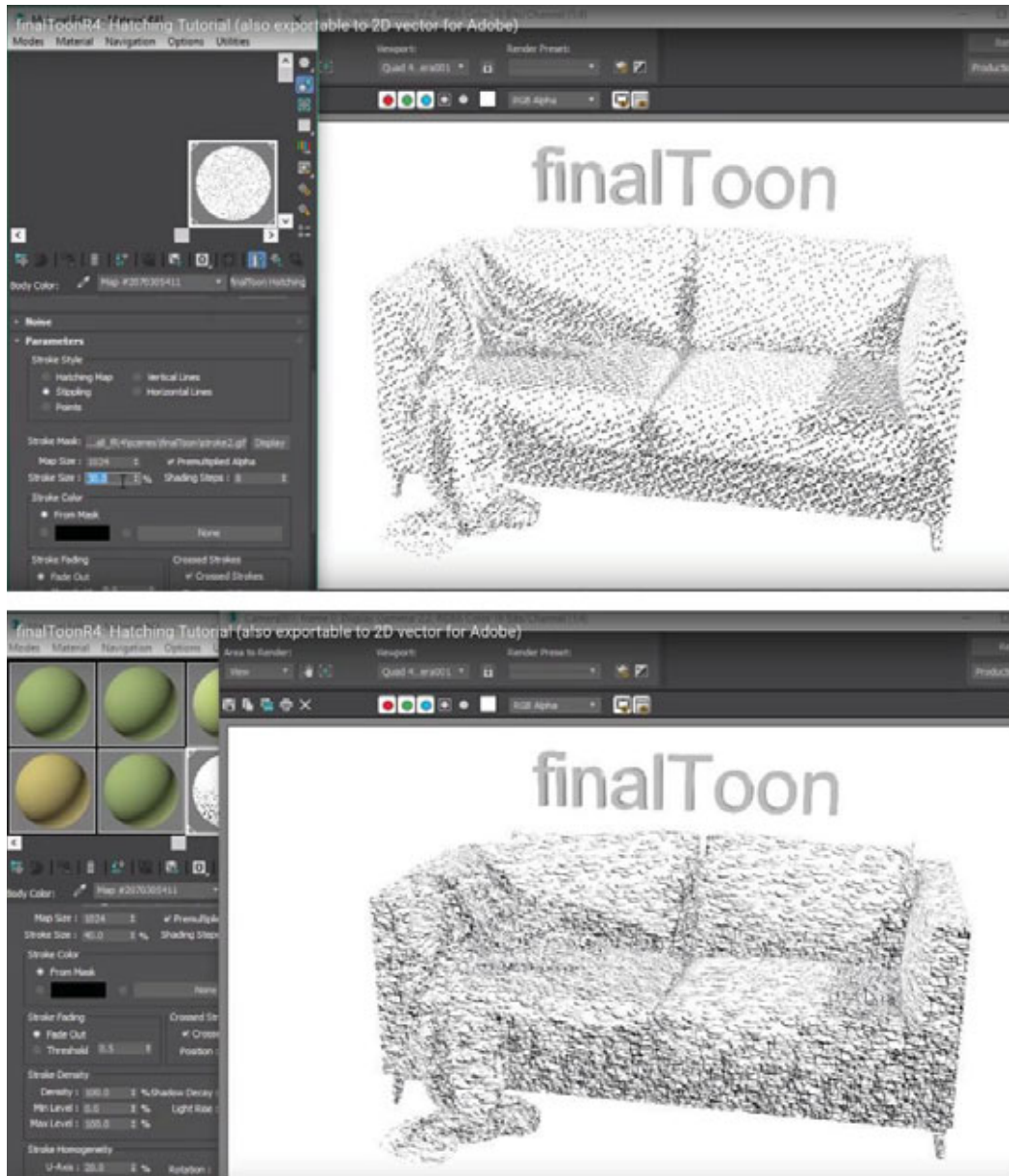
Multi Million Polygons: Complex 3D models are always a challenge and finalToon 4 is up to this challenge as it offers new features to enhance rendering of complex CAD assemblies with multiple millions of polygons and complex assemblies.

https://youtu.be/xlF82kuntik
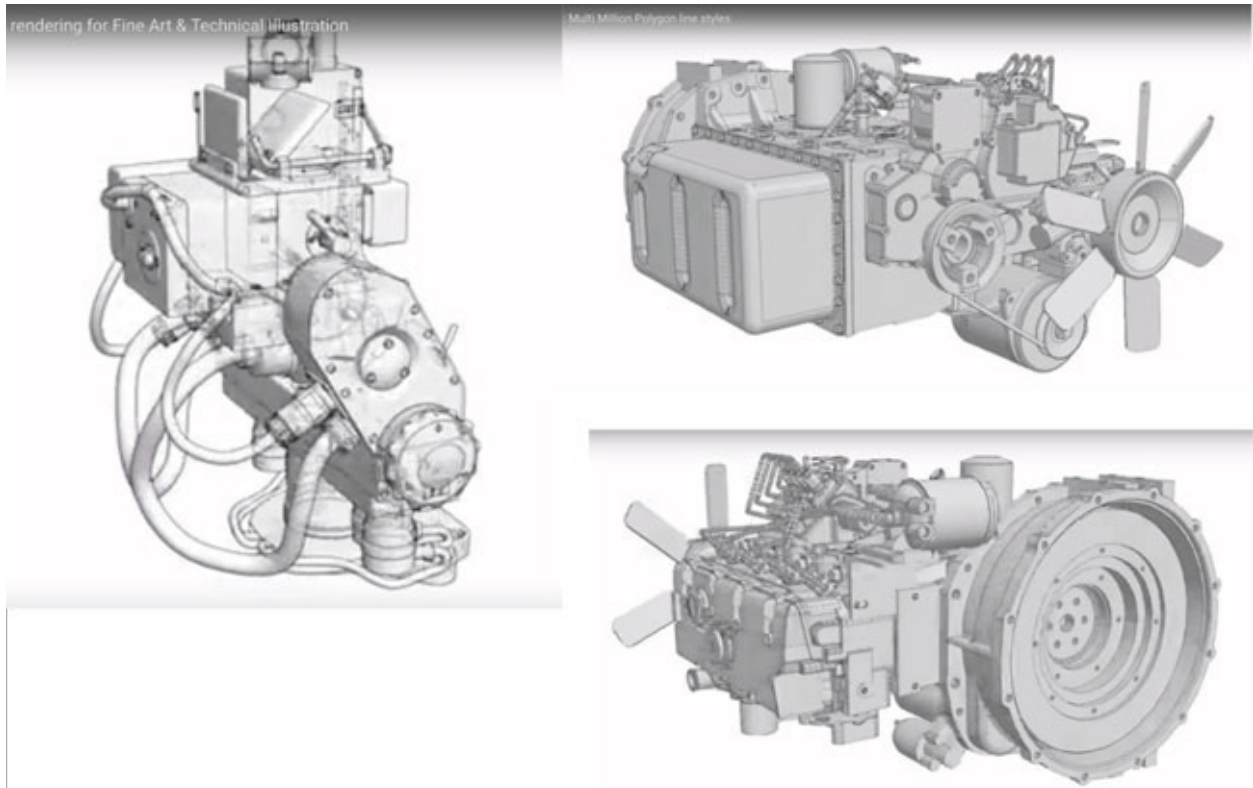
**Orthographic Camera:** finalToon 4 is the premier choice for technical illustrators and architects. Orthographic projection (Orthographic camera) is often used by Technical illustration and Architectural Visuals and finalToon 4 fully supports the Orthographic camera projection built right into 3ds Max. Scroll through http://www.cebas.com/finalToon to read about the new features for R4.

Orthographic Camera

Photo Real - Non Photo Real : Get creative - feed the artist in you! finalToon 4 is not all about creating technically clean and straight lines. finalToon offers the power to unleash creativity and create never seen before artwork, sculpted with the help of a computer in the hands of a true artist!

C E B A S
VISUAL TECHNOLOGY
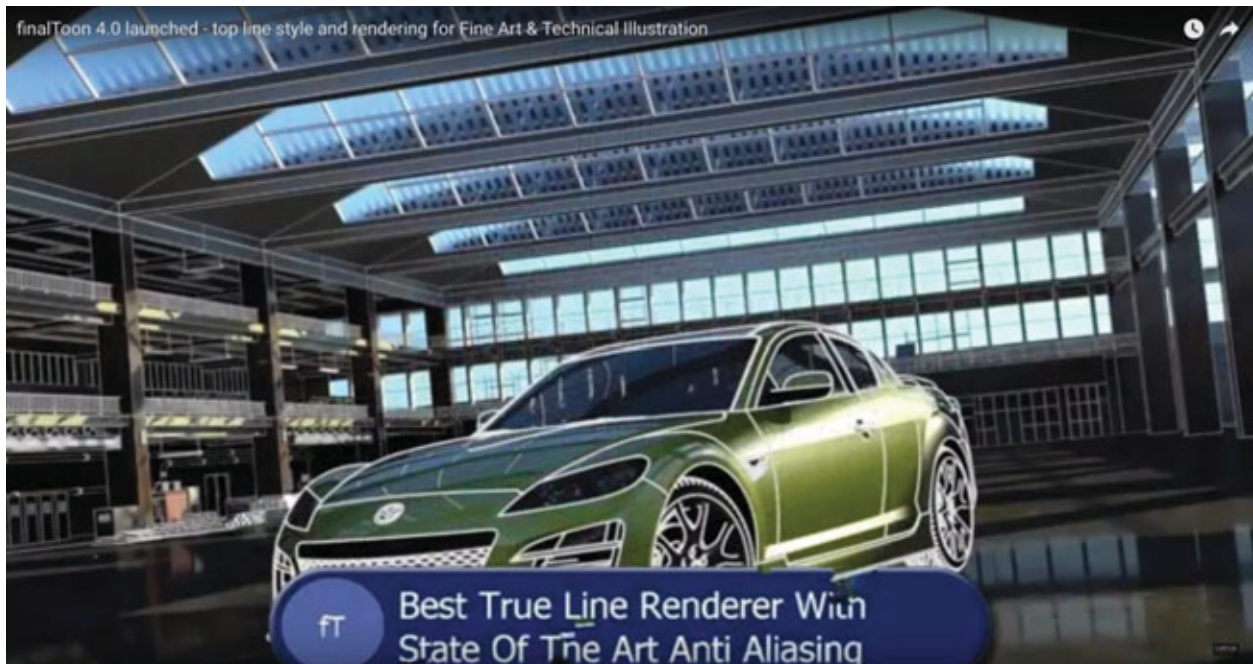
finalToon™ 4 covers all the essentials and more

True Line Rendering

Cartoon or line rendering scenes that may take a long time to render within 3ds Max, are lightning fast in finalToon R4! Suddenly, you can render really fat outlines of an object without the wait and inaccurate dirty look of a shader based solution.

FinalToon 4, being a TLR (true line renderer) doesn't mean that finalToon has to replace your favorite renderer to do shading or other special effects. FinalToon 4 is implemented as a true 3ds Max "Render Effect", and so you can enjoy all the great benefits of such an implementation!

You may adjust line styles in realtime without the need to re-render the whole scene over and over again. This is what we call "The Choice of Quality". All shading and rendering is done with the production proven 3ds Max scanline renderer. When the scanline pass is done, the finalToon line renderer "pops in" and takes over to produce one of the best line renderings available of today. And even better - finalToon perfectly supports finalRender® with all the advanced options, including GI rendering for cartoon style objects!

FinalToon 4 accelerates all line renderings and enables you to even render many more outlines and objects than before. The line rendering algorithms have been worked over in this R4 release to perform much better with increasing image quality. Support for special camera types has also been added by implementing the revolutionary new fT-Outline shader with its unique way of rendering outlines as a shader.

Feature List: The Essentials

Please note, this feature list does not represent the complete set of features! There are hundreds of other features that come with finalToon. The ones listed below are the most prominent features only.

- Revolutionary new fT-Outline shader
- Real 3D Motion-Blur Support with finalRender 3.5
- Special Camera Support: Dome Projection, Fisheye etc.
- Increased Speed
- Better Image Quality
- Different kinds of technical line styles
- Accurate anti-aliasing for high quality output
- 2D Effects like: Extended lines, Opacity and Thickness Pressure, Slash Pen ...
- 3D Effects for Thinner lines and/or opacity lines depending on distance
- Hatching to get a hand drawn look of the image
- Canvas Effect to simulate structured background material (Paper, Linen . . .)
- Save all your different line-style settings to share with others!
- Shadow Lines to see contours in dark shadow areas
- Noise effects like noise opacity, thickness etc.
- Edge Map to use any map to control the bump, color, thickness etc. of the lines
- Connected lines to get a continuity in the dotted lines all over the image
- Reflection/Refraction see accurate line rendering through glass or in a mirror
- Flash (swf) and Adobe Illustrator (ai) output
- Cartoon Shader to get the typical cartoon look
- Color model based on warm/cold color temperatures
- Global/local line style settings for using infinite different line styles in one scene
- Material converter for quickly converting the materials into finalToon materials
- Render Elements support for different line types like hidden lines, visible lines

** finalToon is available as a stand alone product or
with finalRender SE 3.5.
**

Make your purchase at http://www.cebas.com/finalToon or
http://www.cebas.com/finalRender

Material

finalToon 4 introduces a brand new material type that allows you to render most of the outline styles as a shader. FinalToon's approach to do this is a unique one and overcomes many of the known issues with shader based outline rendering. The quality of tracing the outline of an object based on this shader comes very close to the original finalToon Render Effect but with all the great advantages of being a shader and not an effect! This shader allows you to see and render outlines that would be impossible to render with the finalToon render effect. Find below a short list of effects that can be rendered with this shader:

Every Camera Type is supported (Fisheye, Cylinder ...)

- Reflections do work without any tricks
- Refractions do work without any tricks
- 3D Motion Blur works

Using this new material opens up a whole new world of creative possibilities! Things that have not worked before are now possible and by combining them with other effects you can create spectacular imagery.
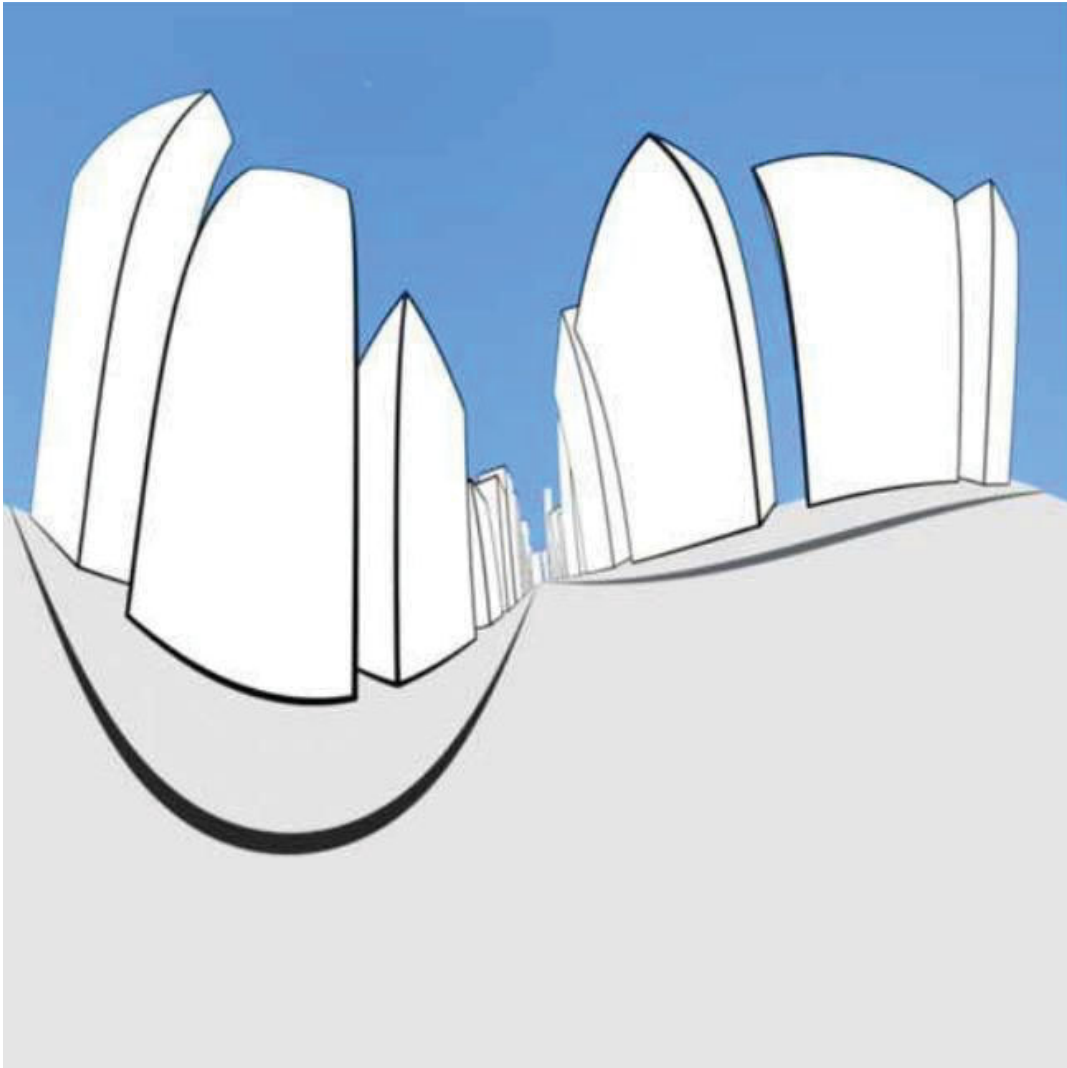
Find below some samples of new possibilities:

Fisheye Camera Sample

360° Fisheye rendering of a finalToon scene
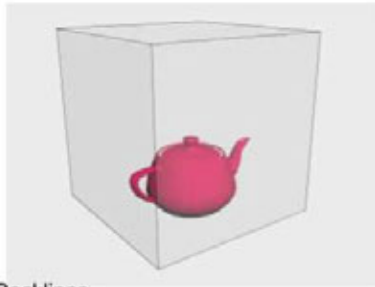
Dome Camera Sample

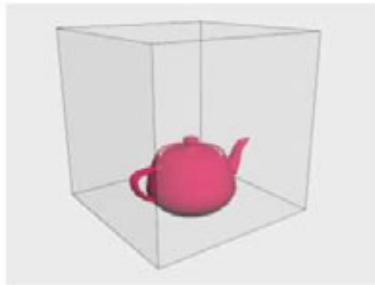
Dome Projection rendering of a finalToon scene

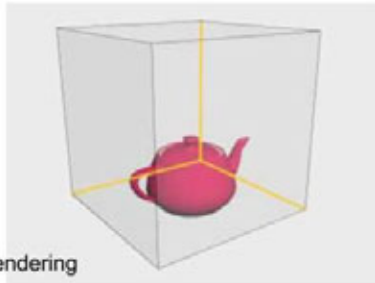Motion Blurred finalToon Scene

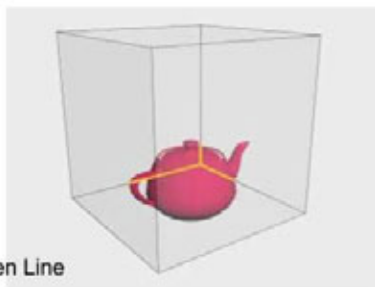# New Line-Style: Backline

Standard Rendering No Backlines
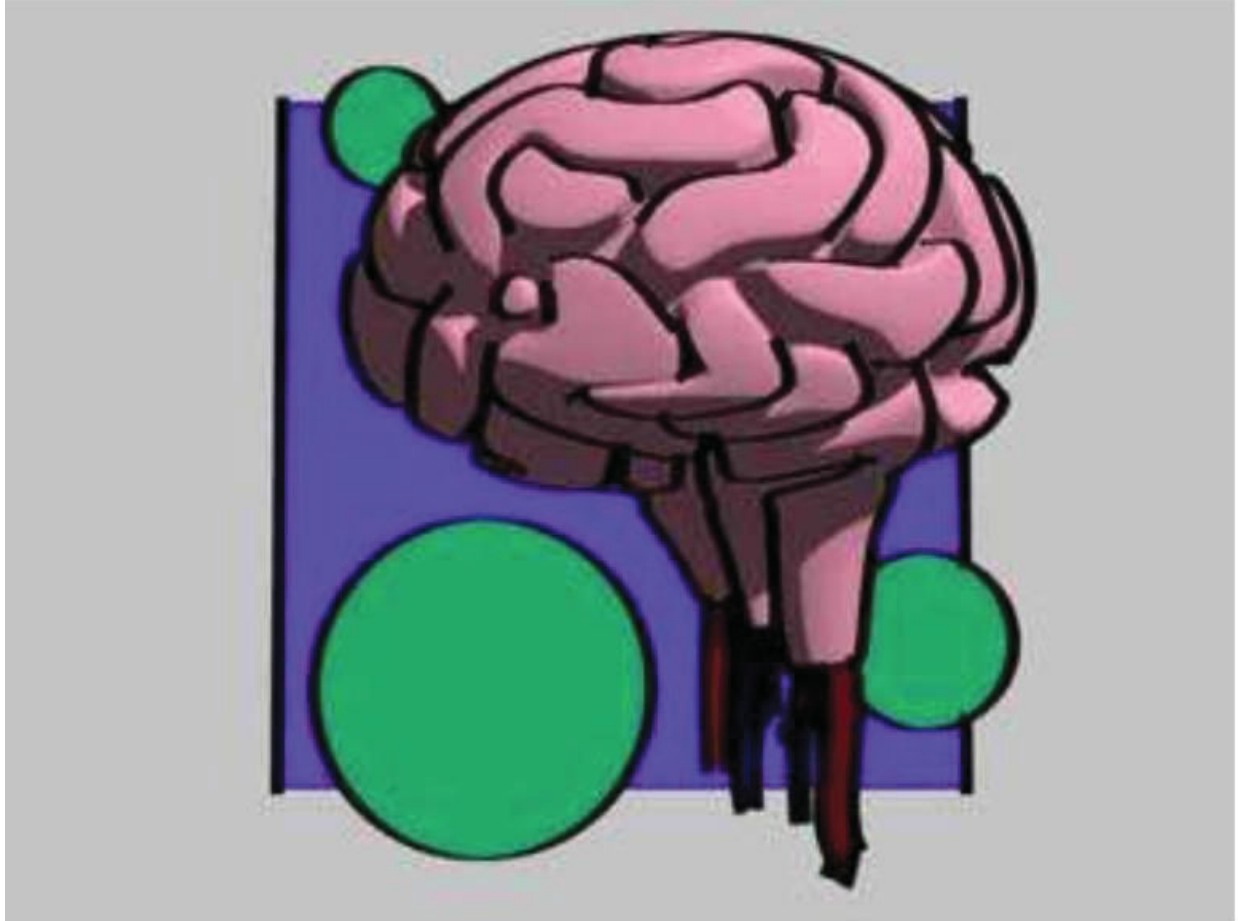

Backlines Visible

Standard Hidden Line Rendering

Backlines Visible + Hidden Line

Backlines opens up another way of being creative in showing technical lines in a whole new way. There are many uses for this new Line-Style.

2D Effects

Advanced 2D Line Drawing Effects

Getting bored with non choice standard lines? With finalToon, you can choose a **slash pen** to add even more "spice" to your line rendering. The illustration above uses a slash pen stroke to draw the lines. Like drawing with a real pen a horizontal line is drawn thinner than a vertical one. The shape and rotation of the pen defines the look of the stroke.
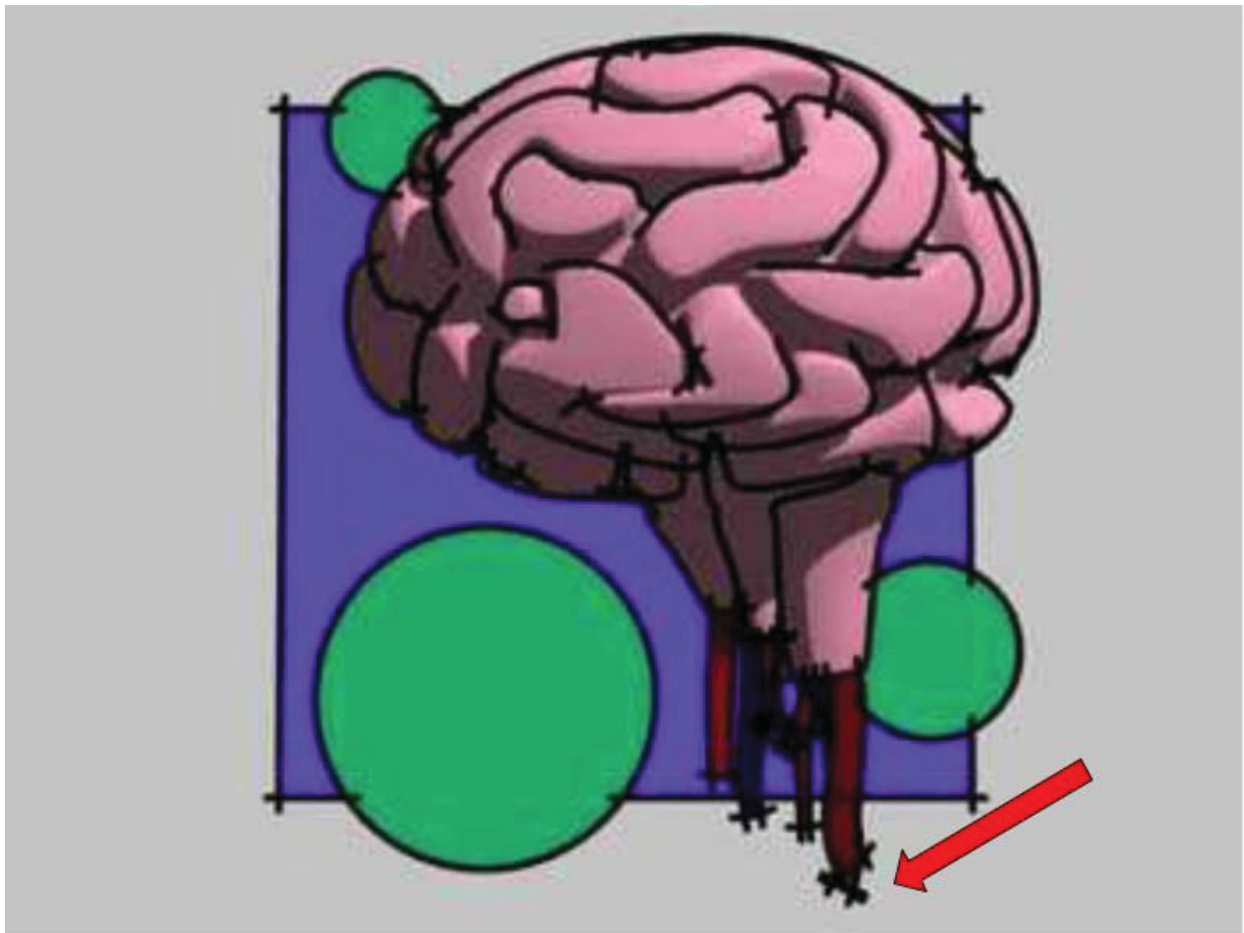
Here, **extended lines** were used to get a look that is more like a drawing that was created in a constructive manner with "guide lines".
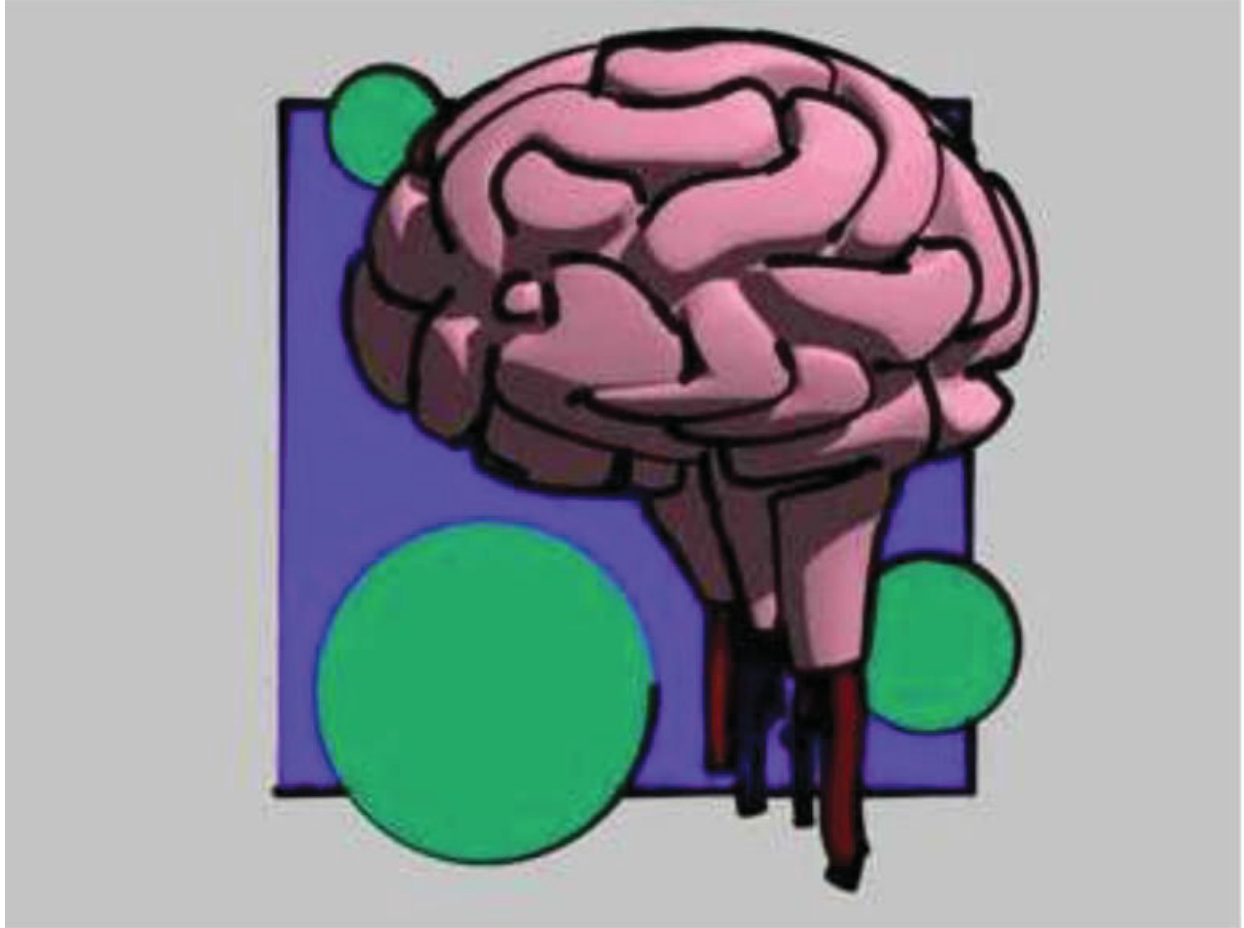
Thickness Pressure is another cool line rendering effect, that works like a brush which runs out of paint. The start of the stroke is drawn with a thick line and becomes thinner the longer it gets. (check the circle in the illustration above)
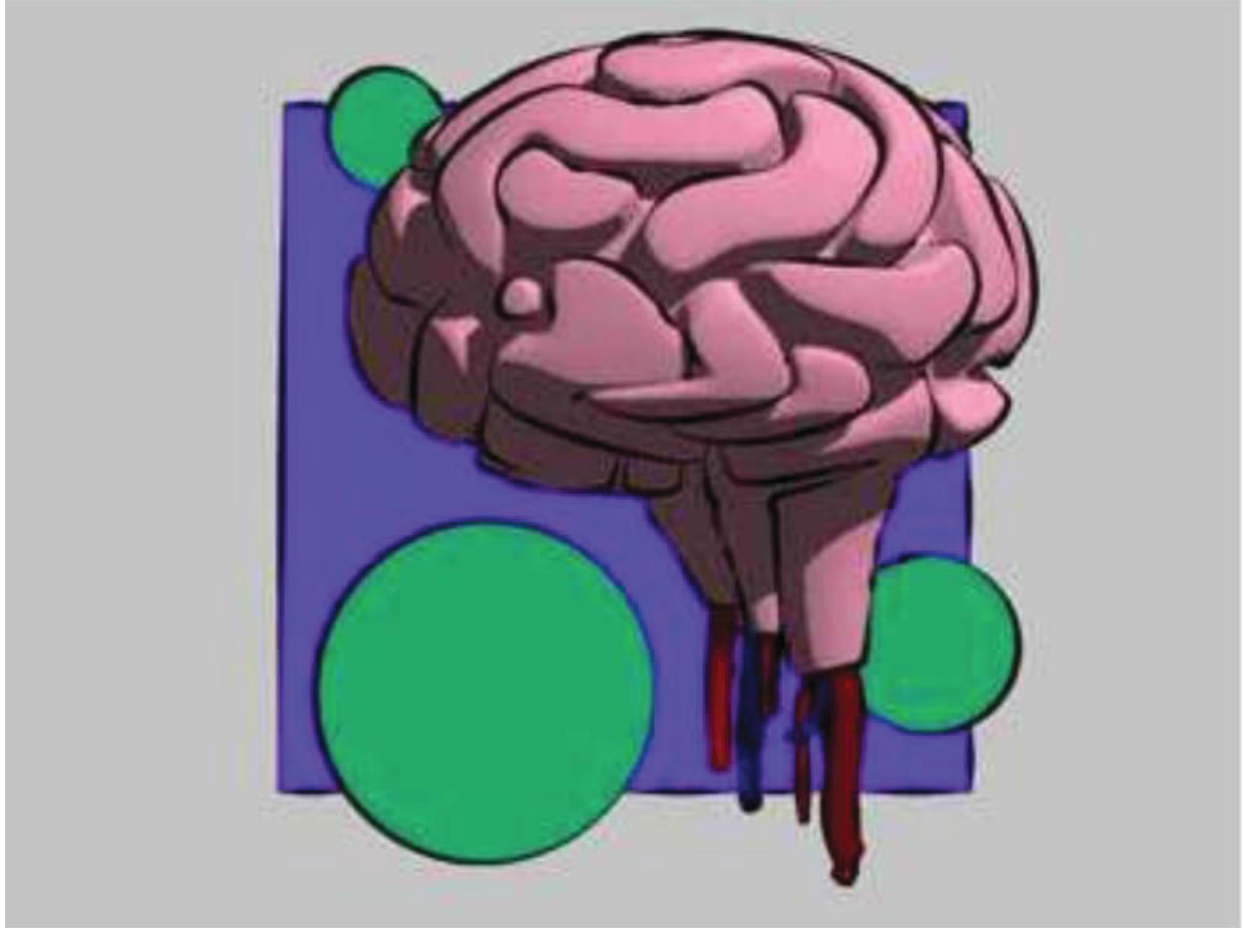
Concave line is another feature you would not want to miss! In the illustration shown above, the center of the line stroke is the thickest part, both ends are thinner. For sure, every parameter can be individually adjusted and even animated!

# 3D Effects - 3D Line Rendering Effect!
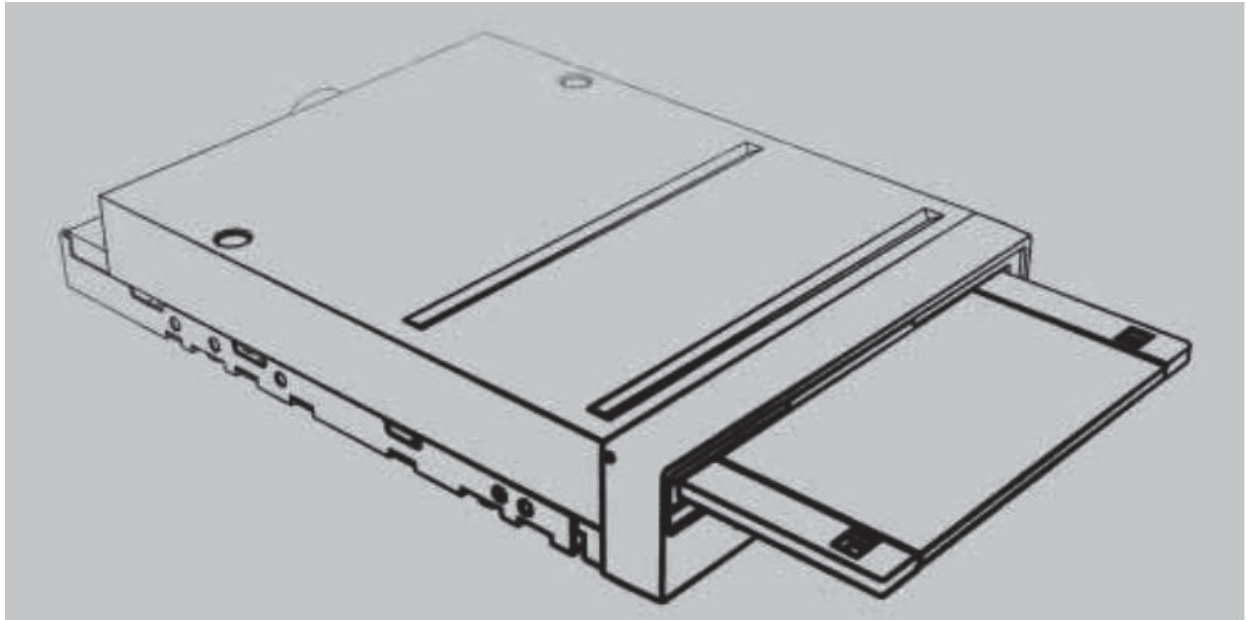
Afraid of line cluttering? It wouldn't help any visualization if you cannot sell your idea for the design. A big mess of lines will not be very helpful. finalToon helps you to avoid such a line overkill, by controlling the line thickness based on the distance to the camera. Objects farther away will show thinner or even no lines at all!
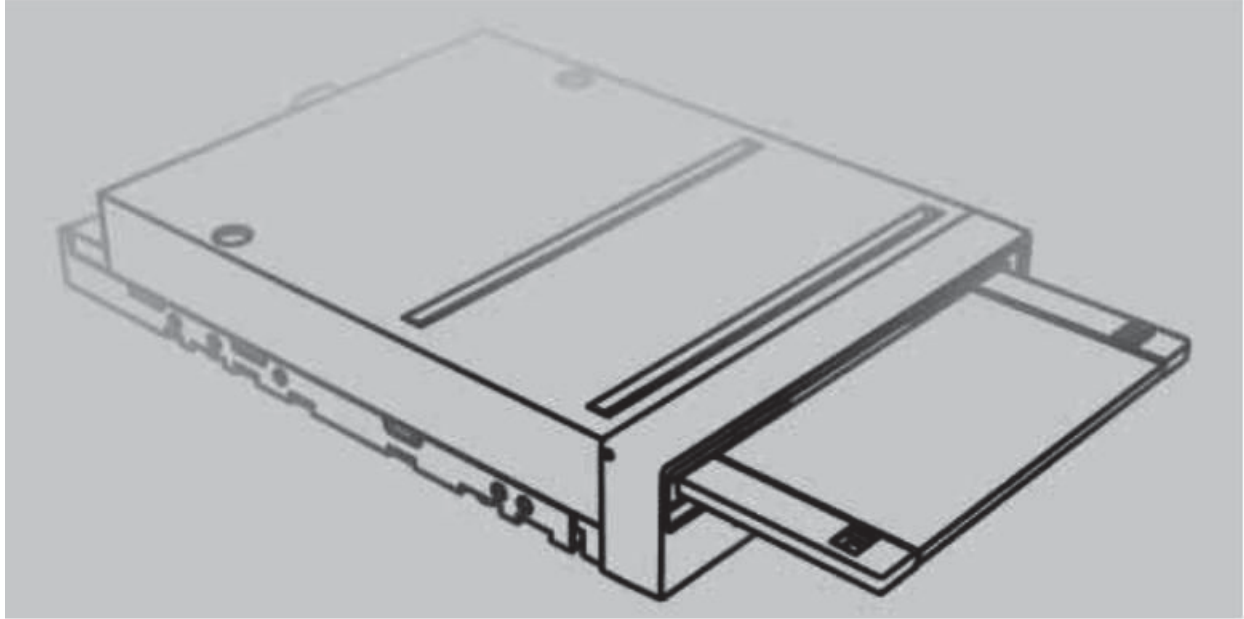
Another 3D effect that can be of great help is the transparency control by distance.
Objects farther away from the camera will show more transparent lines than objects
closer to the camera.

Noise Lines - Noise On Your Lines!
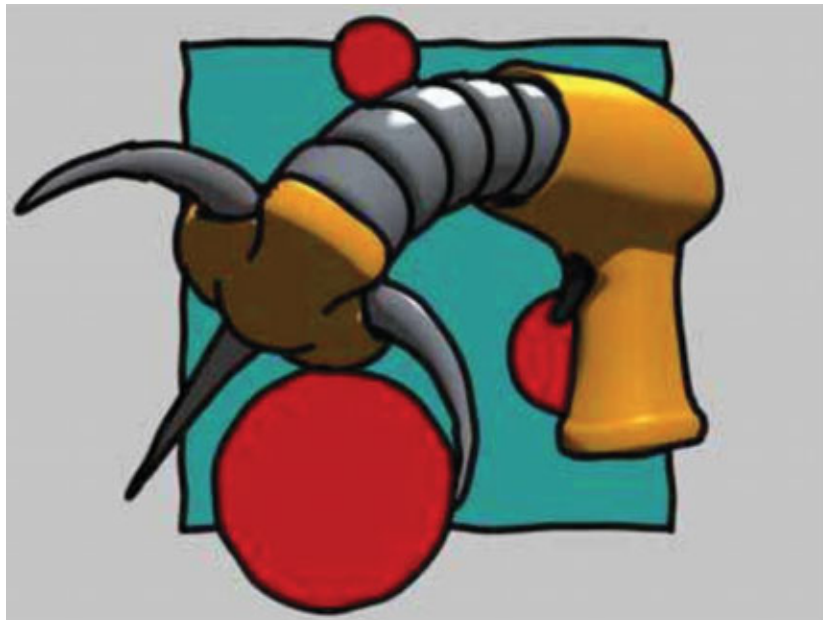
The illustration above, was rendered straight out of finalToon with the **Noise Line** effect. It is a great feature to simulate a hand drawn and inaccurate line style. Sometimes the lines do not exactly match each other like they do when you draw a fast scribble by hand.
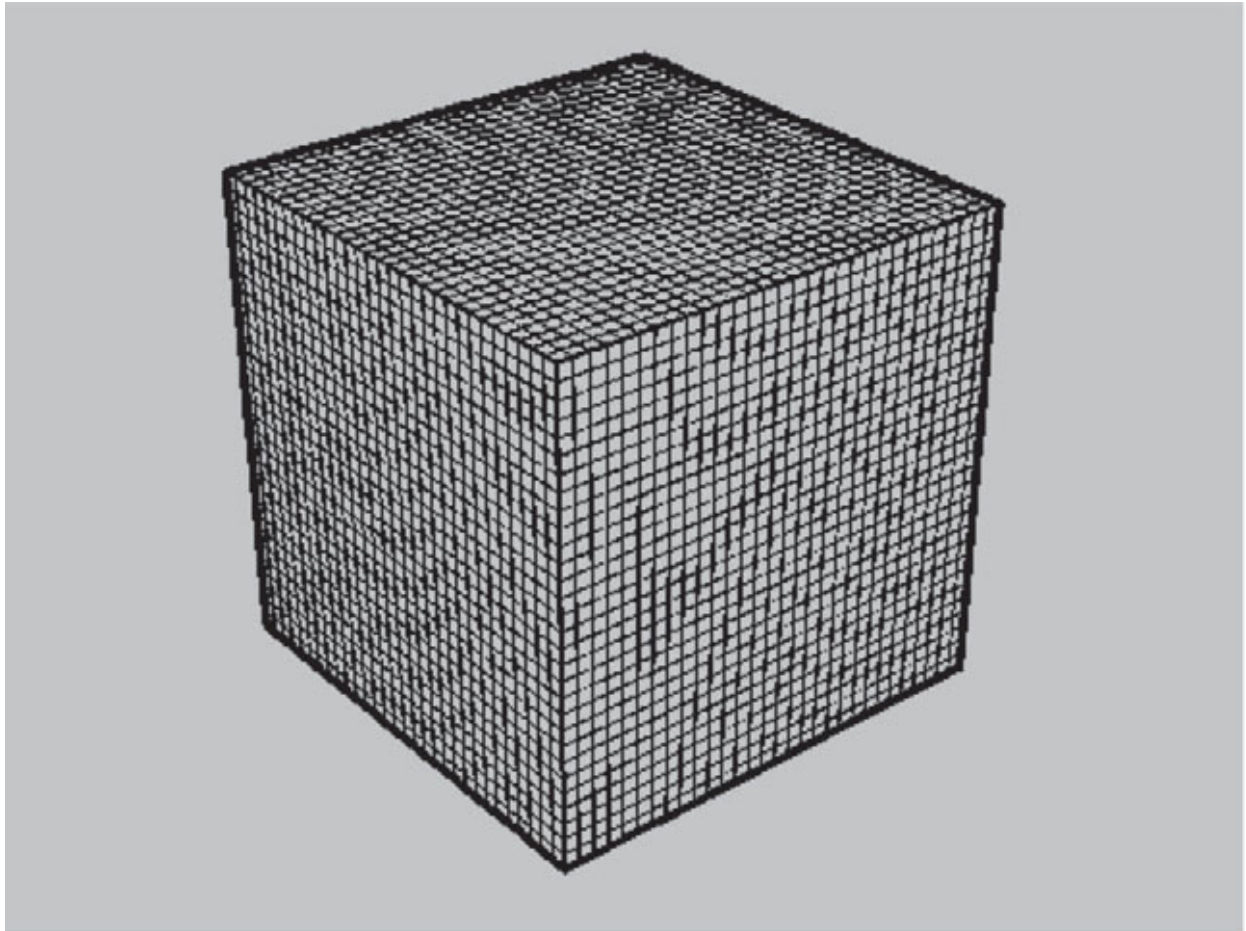

This example shows a **thickness variation** of the lines drawn by finalToon. This look is great to simulate a "non constant" pen speed when drawing the line. Some areas get more ink others don't.
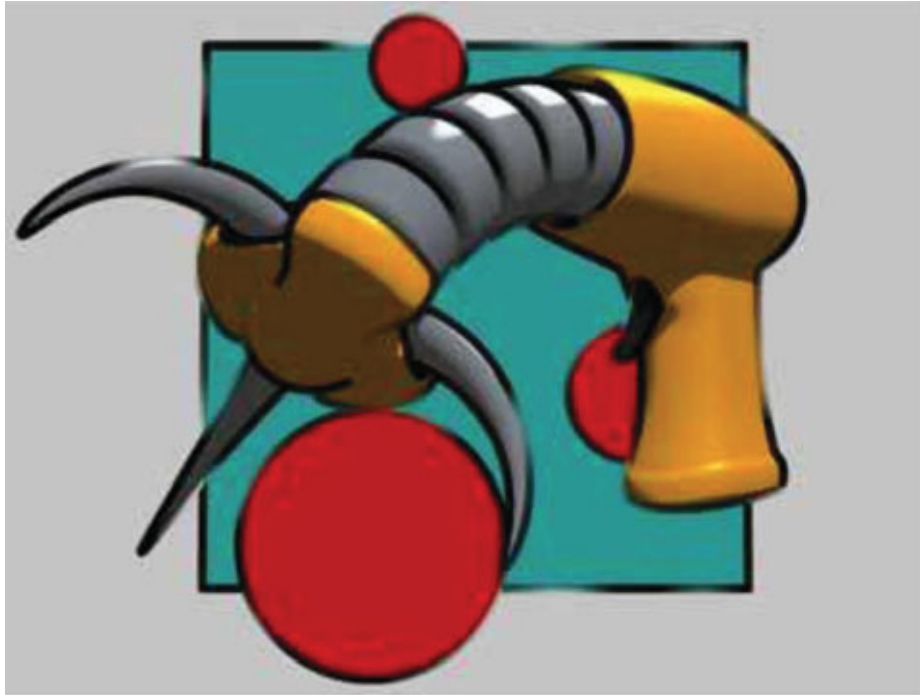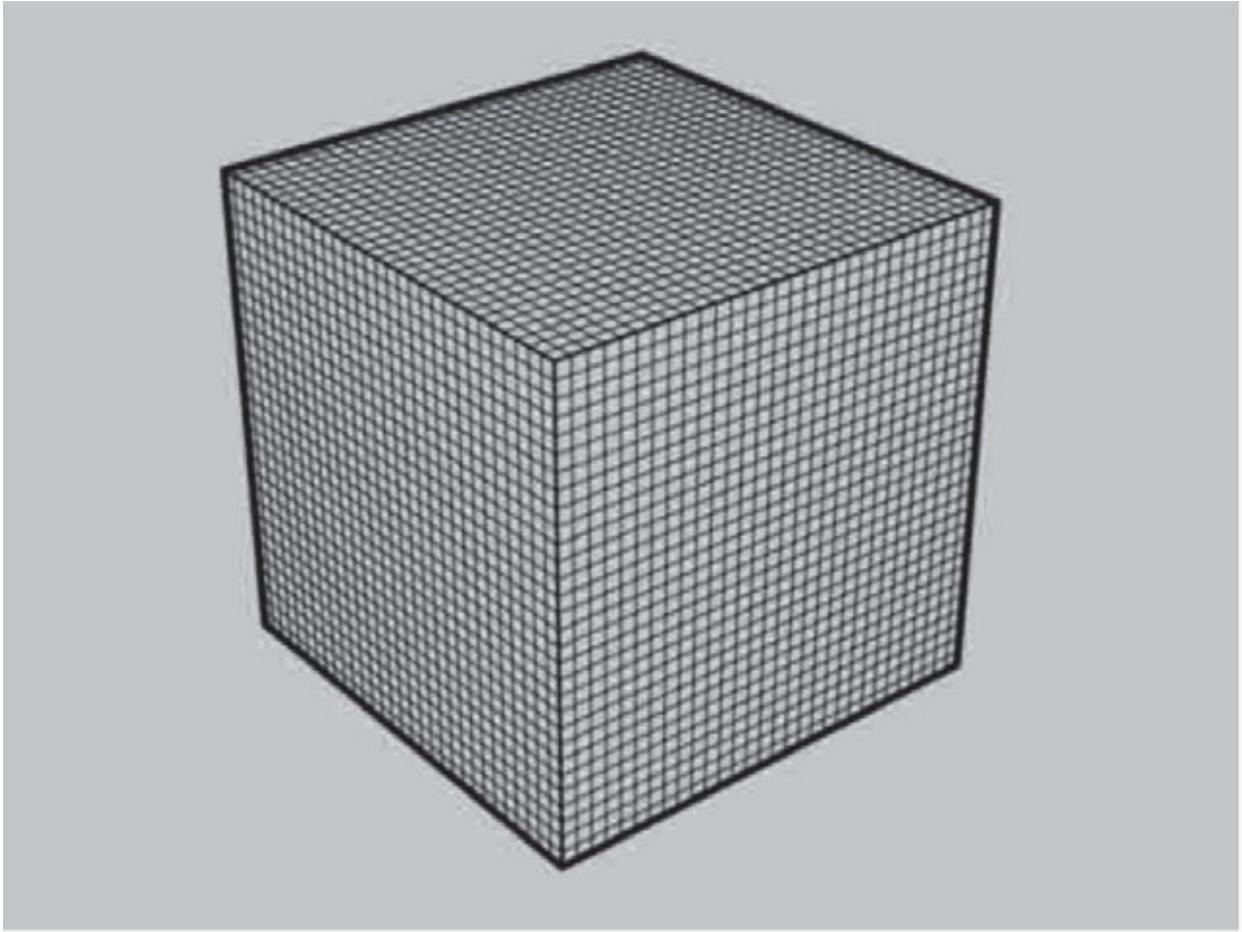
How about this? Modifying the **opacity** along the path of the stroke creates a look like a dried out pencil. Sometimes there is some ink, sometimes not.

Anti-Aliasing - Avoid Pixel Mud!

The illustration shown above represents an artist's nightmare. Bad aliasing causing Moiré and destroying the continuity of thin lines. Those types of images are really useless.

Now, this looks much better, it is rendered with finalToon! No more Moiré patterns and the lines are not broken anymore. With the high quality and fast anti-aliasing of finalToon you can display the thinnest lines without any problems!
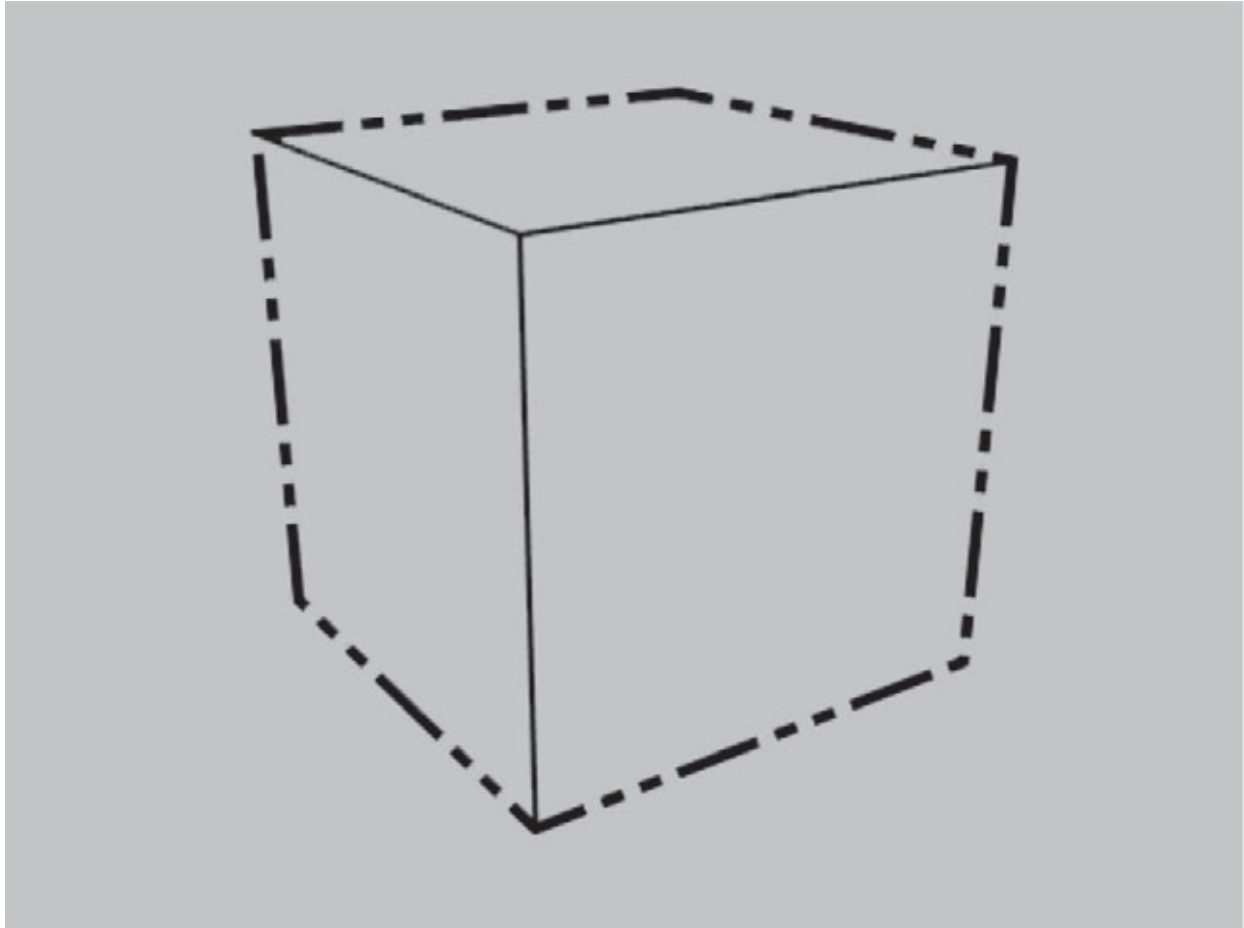
Connected Lines

No Confusing Patterns Anymore
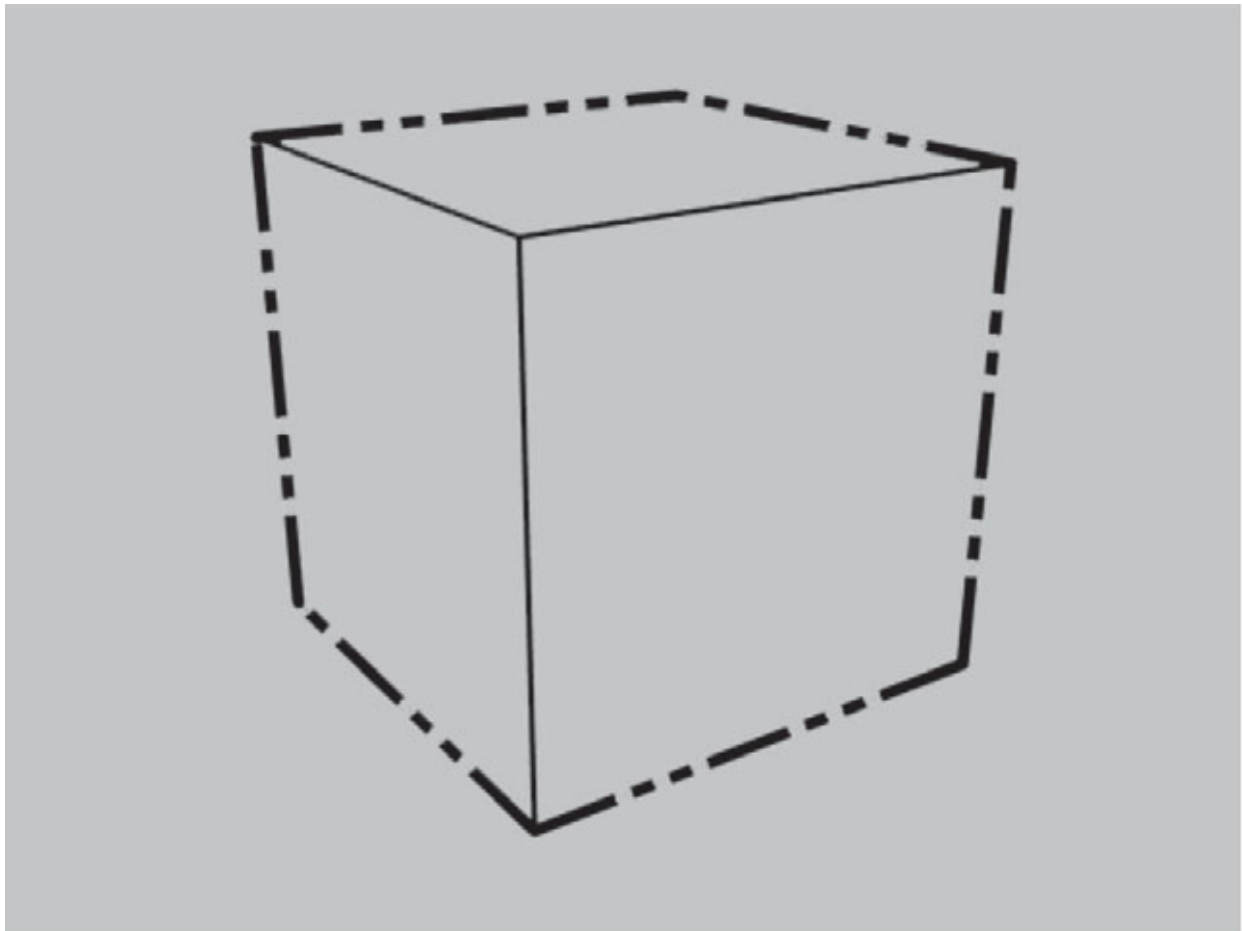
Now, let's talk about quality! This is the most important thing for a technical illustrator. Other illustration renderers might render the image like it is shown above. Have a look at the Phantom line which surrounds the cube. It should be long - short - short - long. But when you look at the lower left corner of the cube you will see that this pattern is not correct anymore! This happens because the lower left edge is not as long as the others. Even worse, cheap implementations of such line style renderings will fall

apart when the object is segmented. Every line pattern will start with each new segment found! finalToon ends the nightmare you might have as a technical illustrator.


finalToon solves the problem described completely, by using true connected lines when rendering such line pattern effects. Use the Connected Lines feature to make sure that the continuity of the pattern works as expected. The illustration above is correct now, and it helps you to get better technical illustrations.
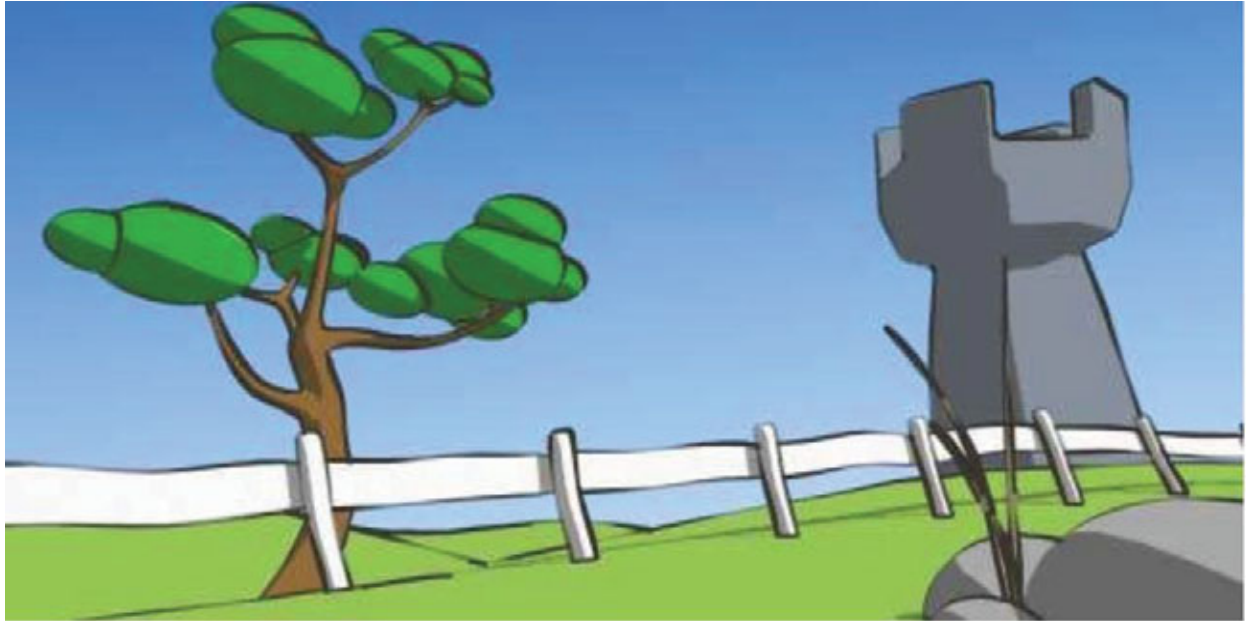
Cartoon Shader - The Toon Style

The illustration above shows a standard 3ds max rendering. As you can see there is no cartoon look applied.
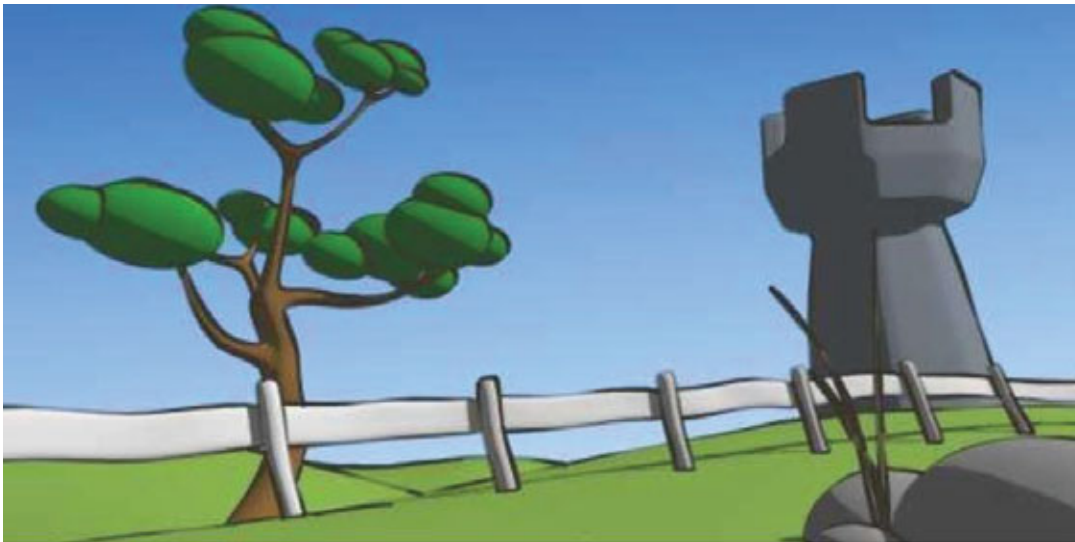
FinalToon lets you smoothly turn any 3ds Max shading into a cartoon shading.

Shown above, we have a mixture of 50% standard shading and 50% finalToon cartoon shading.

Now say hello to final Cartoon! It's a 100% finalToon shading using advanced cartoon rendering effects.

Edge Map - Total Control!

finalToon offers many different ways to control the line style and rendering output in a unique way! With Edge Map you have the control of the line style by using standard texture maps. In the illustration shown above, a standard 3ds max noise material was used as a bump map to deform the line.
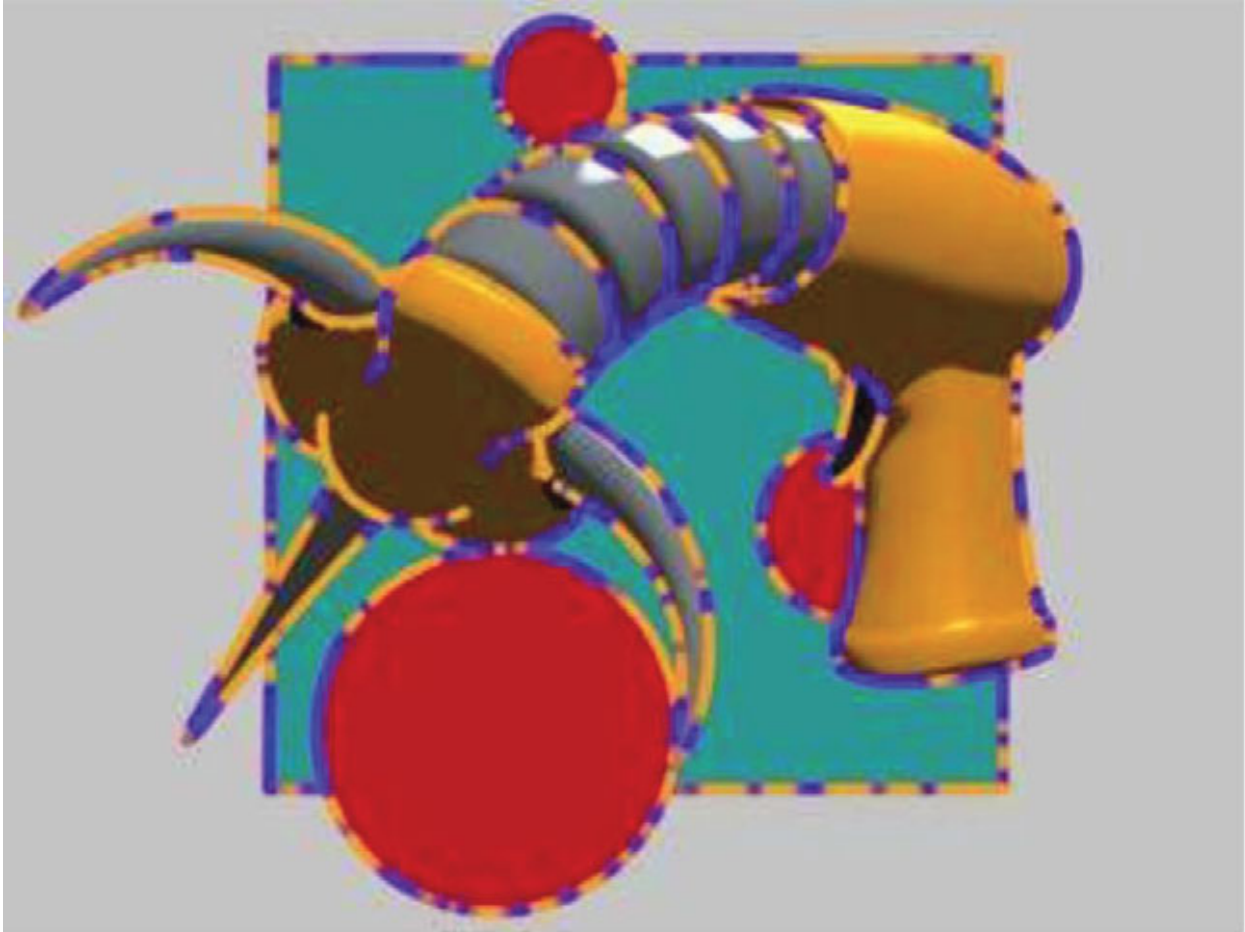
Now, a colored noise map was used to colorize the lines rendered by finalToon.
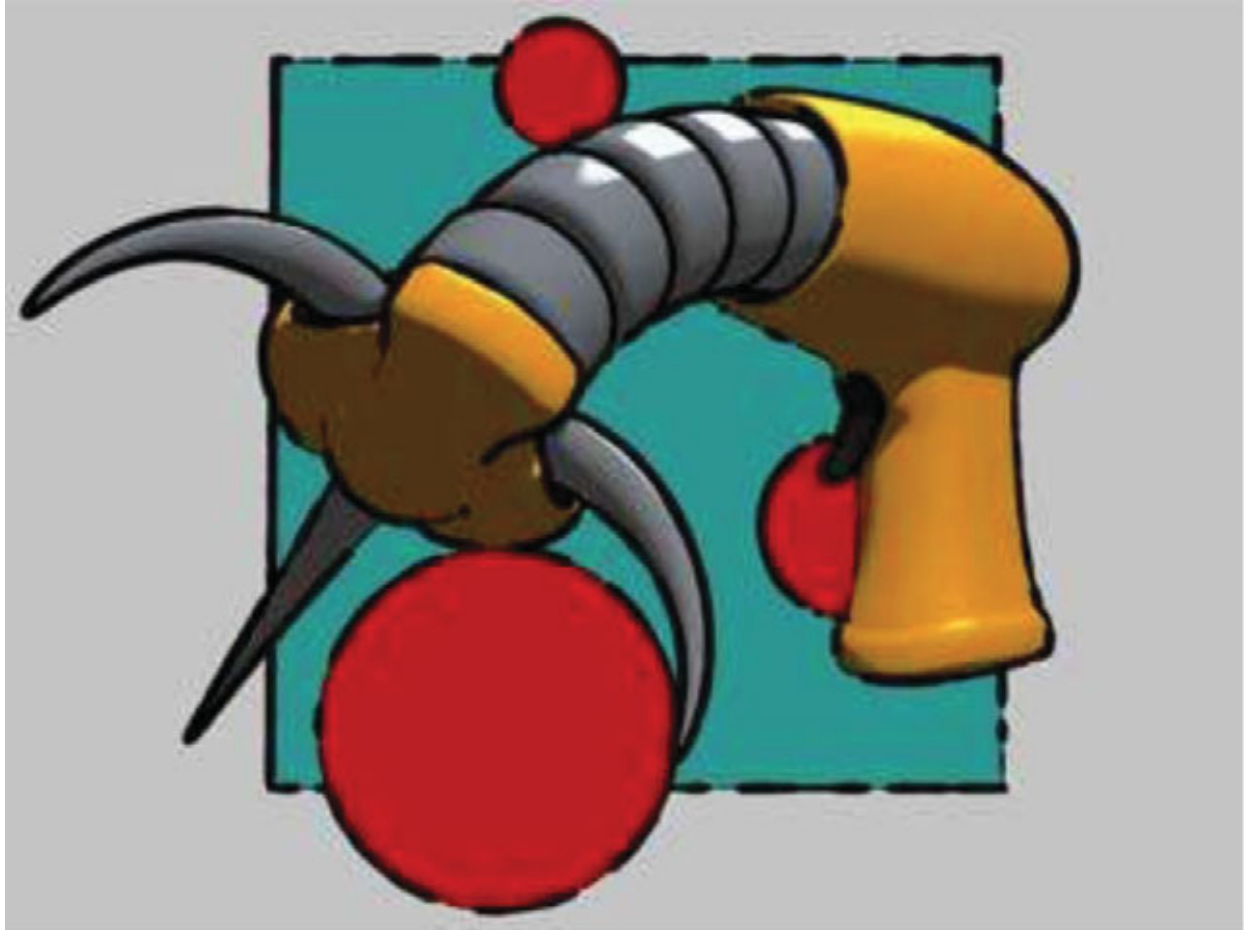
Want to change the opacity of a line? No problem! finalToon lets you control the opacity of the lines with the help of any standard 3ds Max texture map.

Hatching - A new Style!

And not to forget, the line thickness may also be controlled with a standard 3ds Max texture map! Traditional painting uses multiple strokes to apply paint to an image. To simulate depth and shadows, for example, a higher density of strokes is used in certain areas. FinalToon's hatching feature, simulates exactly such a drawing style!

A single stroke is defined by a simple bitmap. This stroke bitmap can be any image you want. However, a real image of a line stroke makes more sense in most cases. finalToon will use a clever procedural approach to make sure that darker areas show a higher density of line strokes than brighter areas.

As written above, the look of the single stroke which is used to create the hatching is defined by a bitmap. So it is very easy to completely change the look of your hatching by just choosing another image.
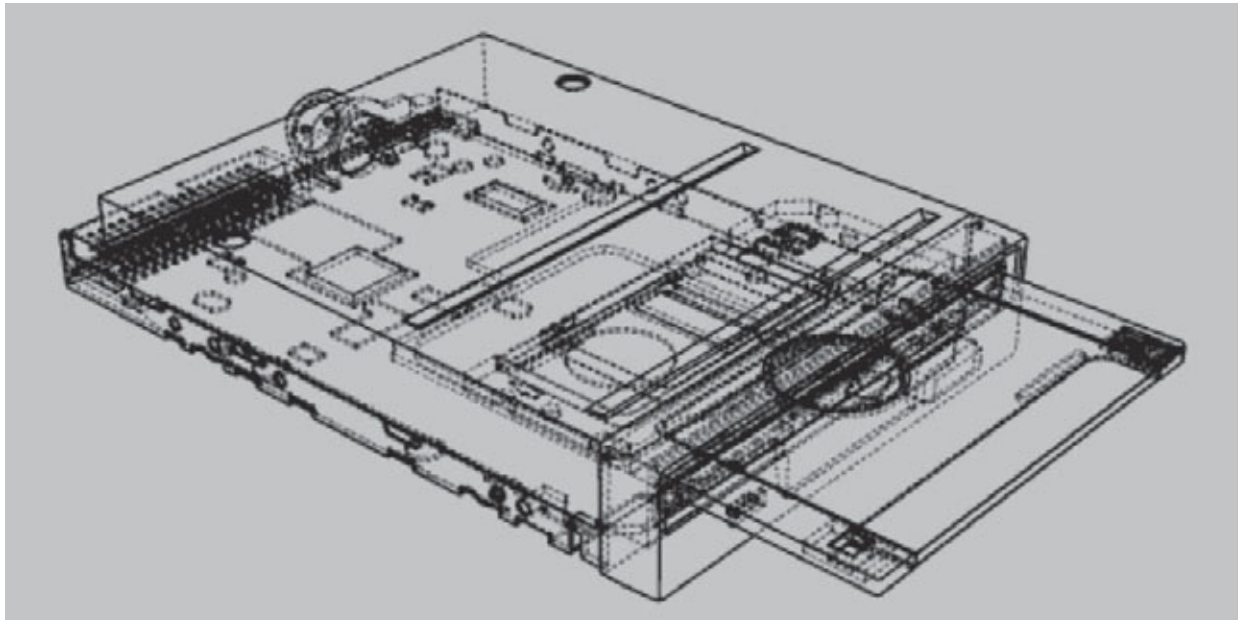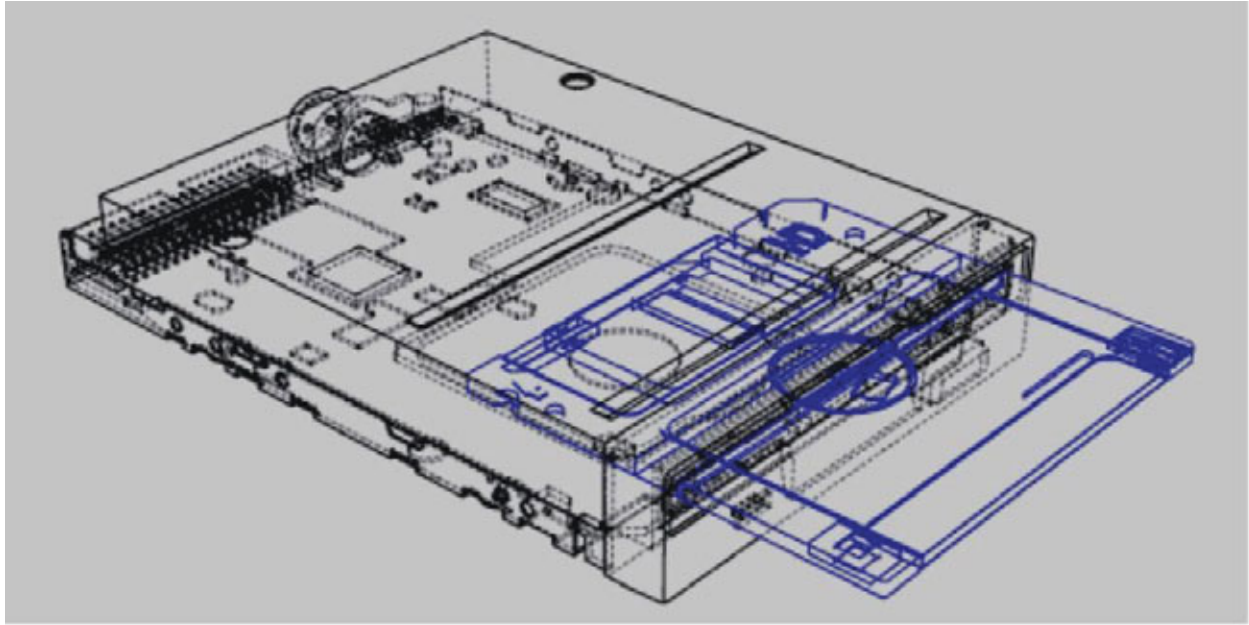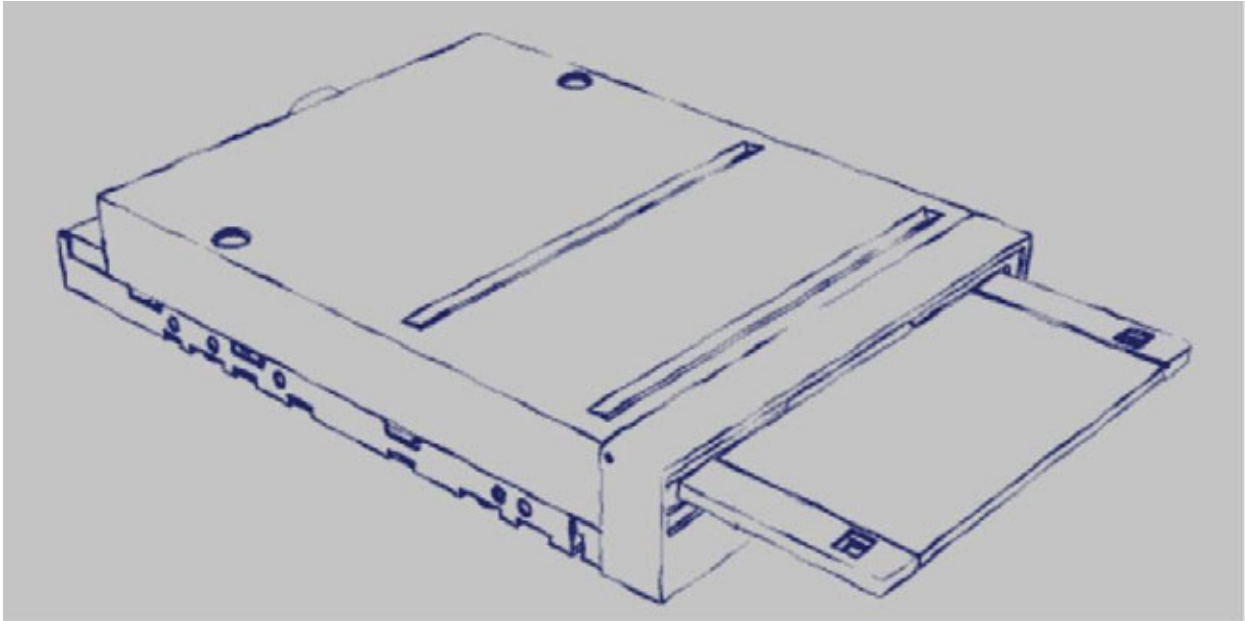
This is just another example. As you can see you can use whatever image you like for the hatching bitmap.

Line Styles

Save Your **Line-Styles** To Share With Others.

These are just a few examples of line styles you can create with finalToon.
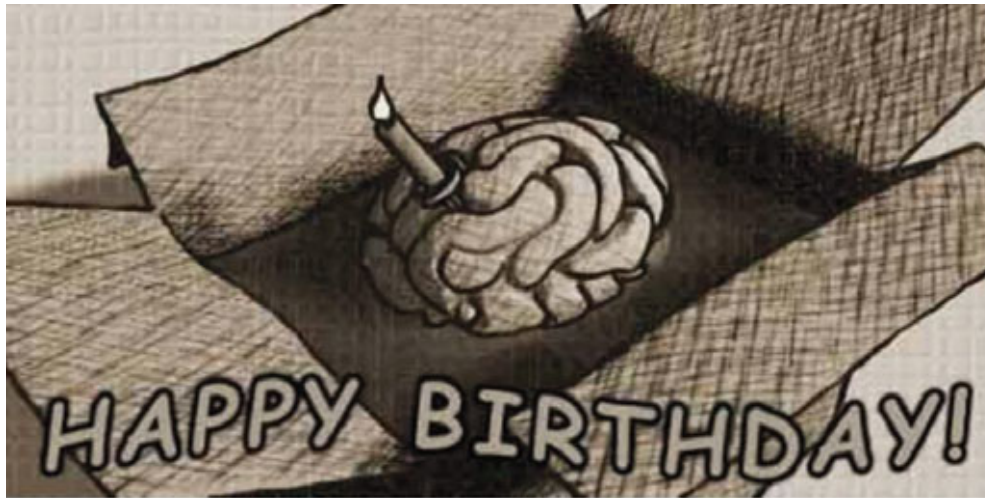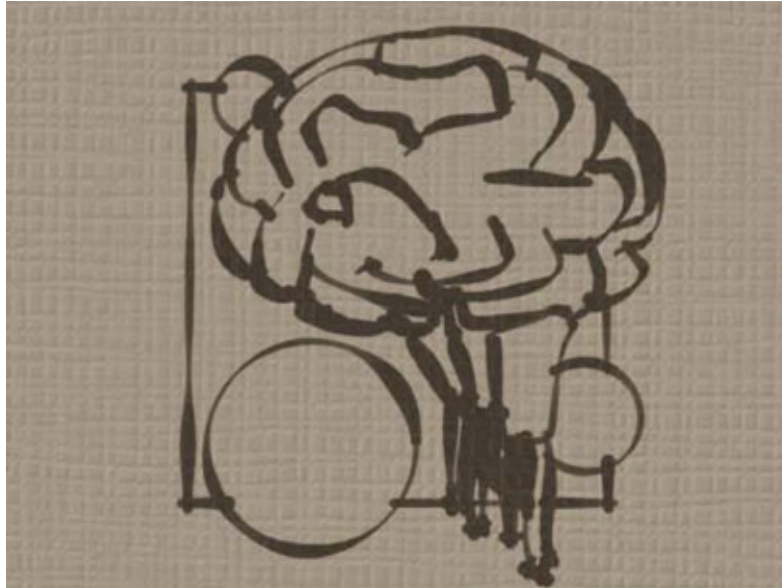
Once created you can save the settings of your line style so everyone can use exactly the same styles of lines. This is very useful for bigger projects to get a continuity of the look.
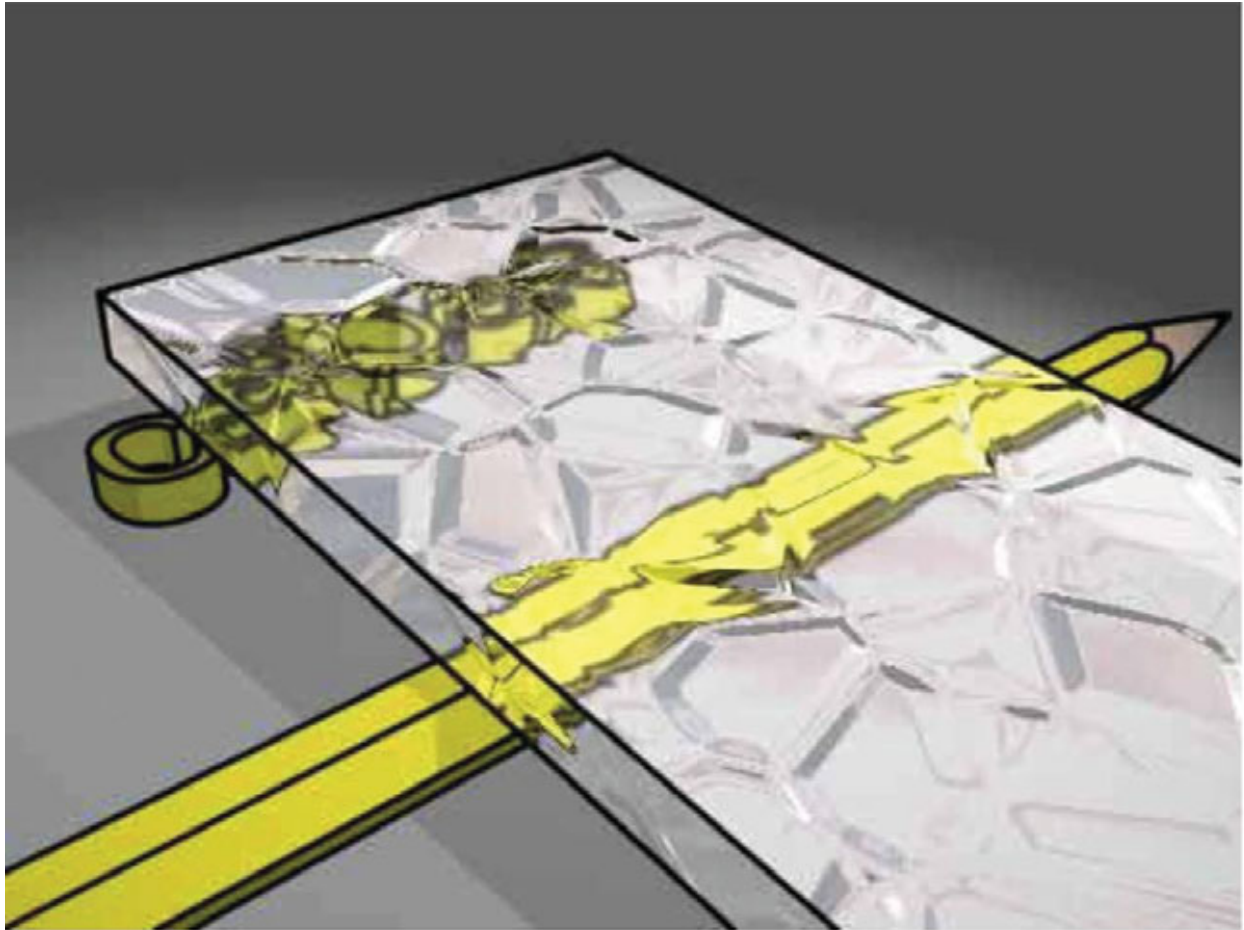
Paperwork

Make Your Rendering look Like it was drawn on Paper!

Use any kind of structure on which the strokes should be painted on. finalToon even simulates the ink bleeding into the background structure.

Reflection/Refraction of Lines

Refracted lines? Is this possible?

Yes, finalToon does it! finalToon is able to reflect/refract lines correctly. Even bumpy glass is no problem. This is a real unique feature right now, a true line renderer like finalToon is even able to reflect/refract hidden lines.
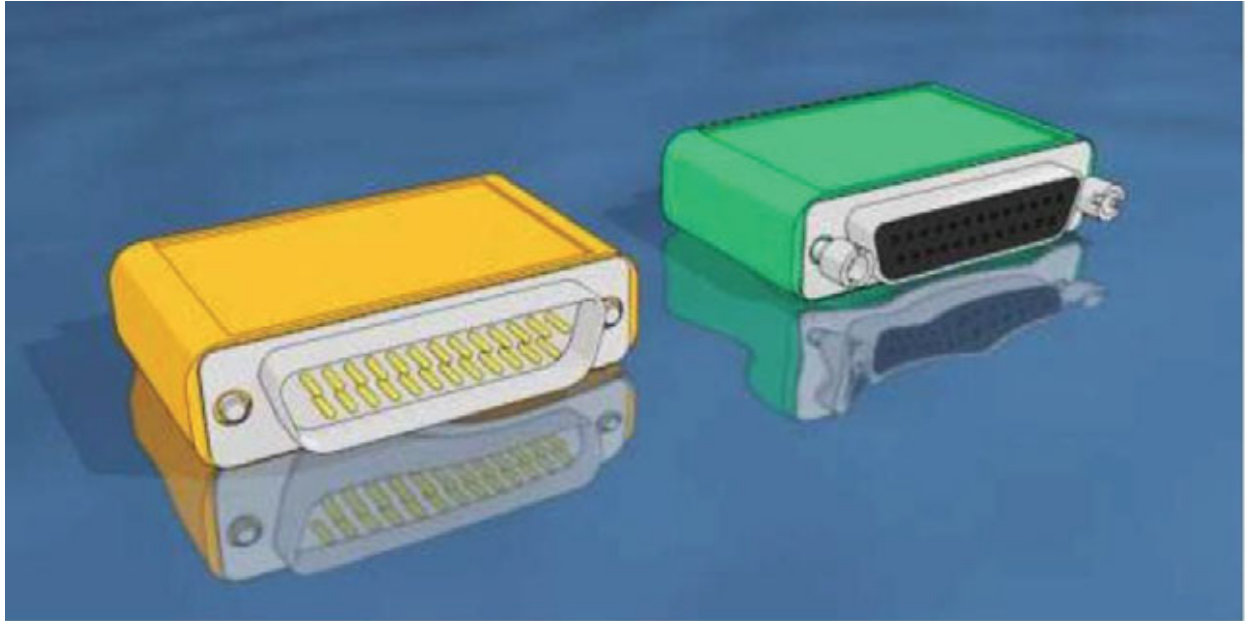
Here, you find an example of a reflection of rendered lines. And keep in mind this is not a shader based line renderer that can also do this kind of effect but with unacceptable line quality.

Shadow Lines- Light in the Dark

Imagine an object with black outlines, what happens in the shadow or darker areas? Right, you cannot see them. This is very annoying when you have an architectural illustration where the sun is casting a harsh shadow on other buildings or installations. finalToon is able to solve this problem. Have a look at the following image:

Finally, you can see the stuff in the shadow area which you couldn't see before. This simple scene shows how finalToon can be used to get the extra touch out of your renderings!
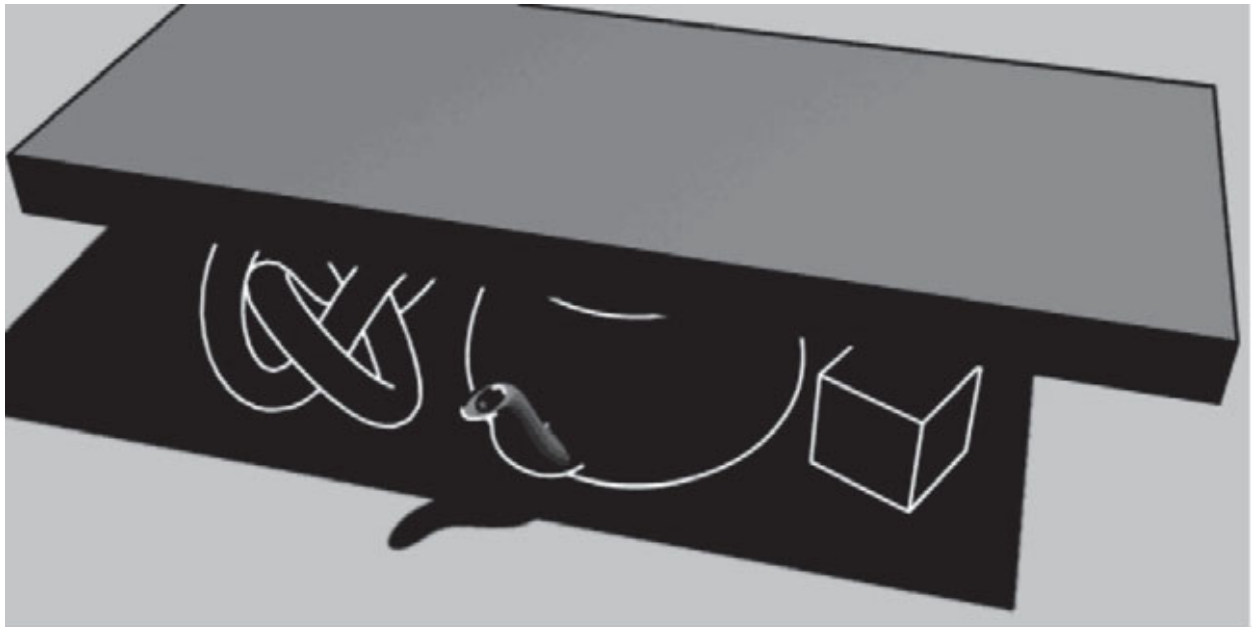
Temperature Shading Model
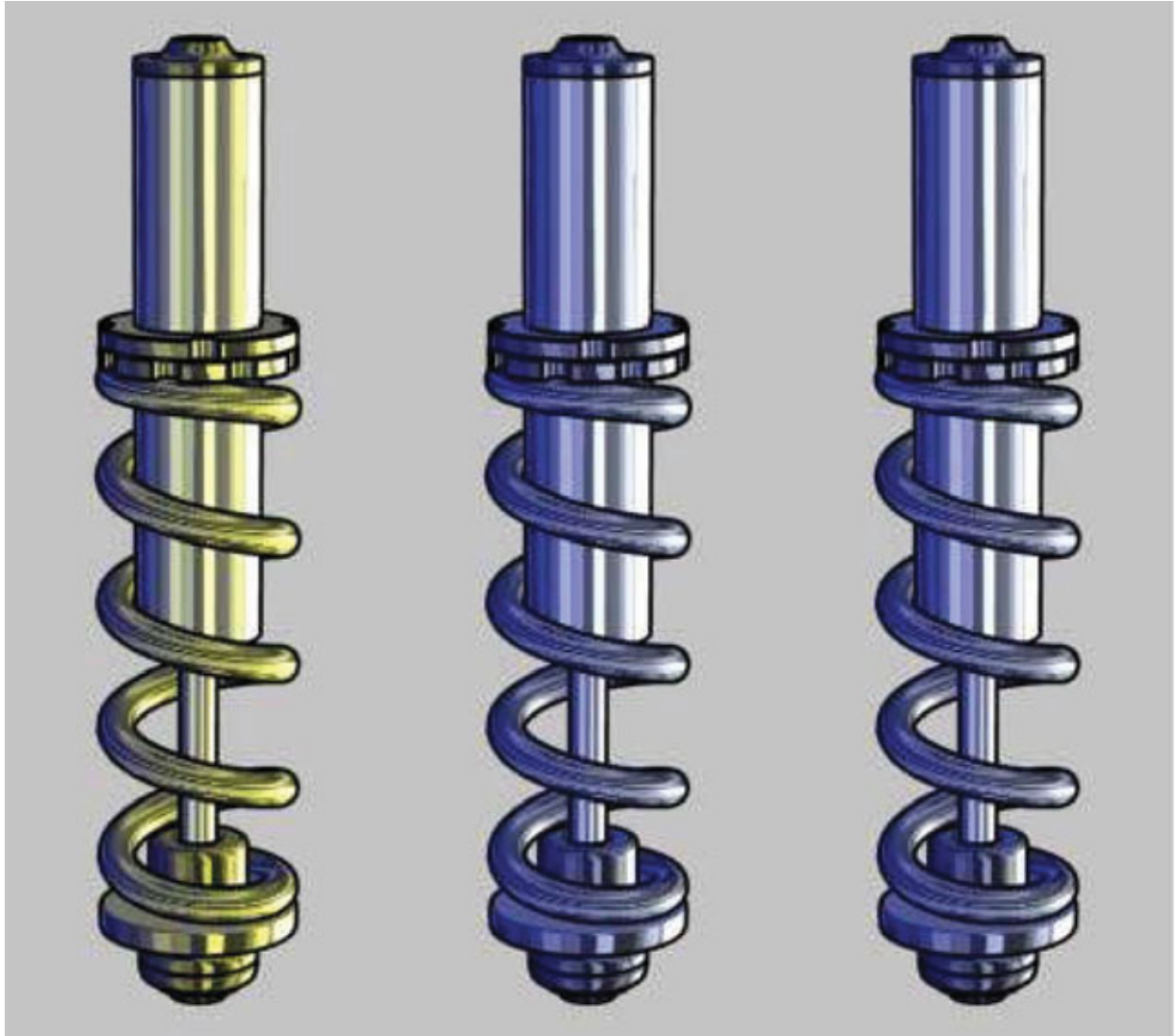
Technical illustrations become more and more important nowadays. Almost all manuals describing technical objects (car, stereo, machines) use illustrations rather than real photographs. Such technical illustrations are quite different from standard renderings created by 3d rendering software. finalToon offers a new shading algorithm

based on cool-to-warm color tones. The idea behind all this is, that in technical illustrations thick outlines stay clear and visible against the shading of the surface. It is assumed that when lines are drawn, a very low dynamic range is needed for the shading. Such a shading is contrary to realistic surface shading models usually found in rendering software, but it's more than acceptable in technical illustration renderings.

FinalToon handles such NPR (Non-Photo-Realistic) rendering effects very efficiently and it's easy to control.

File Output

Flash (swf) and Adobe® Illustrator® (ai) Output
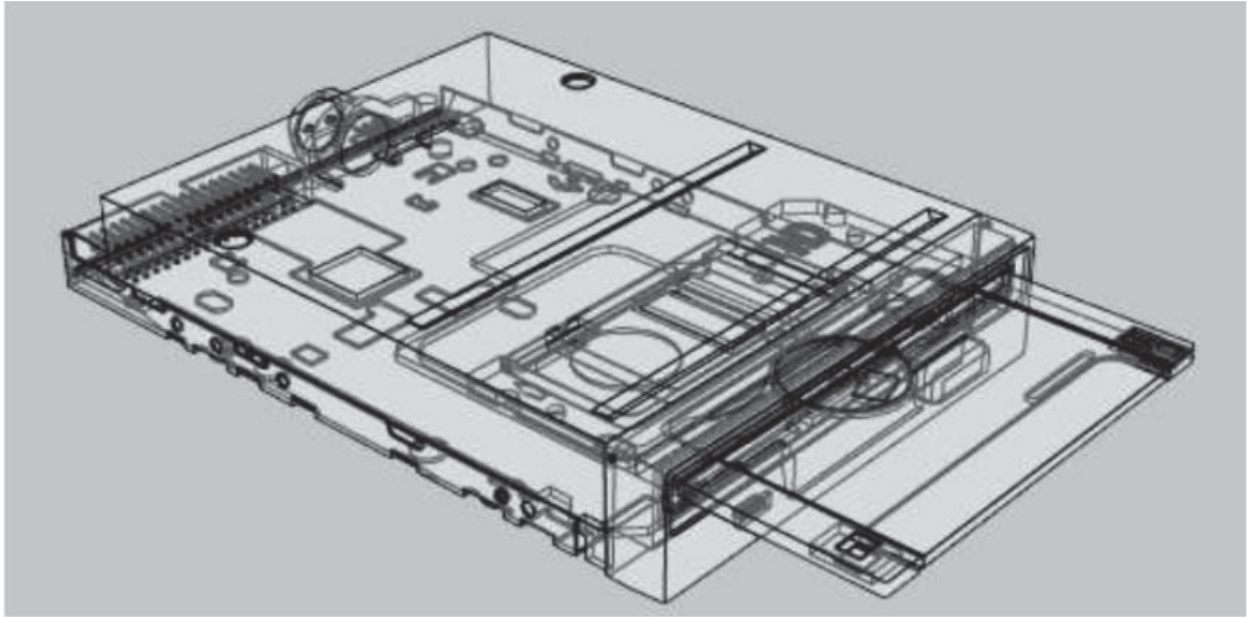
Click on the Image to open the Flash file.

http://www.cebas.com/products/images/finaltoon/floppy-drive2.swf
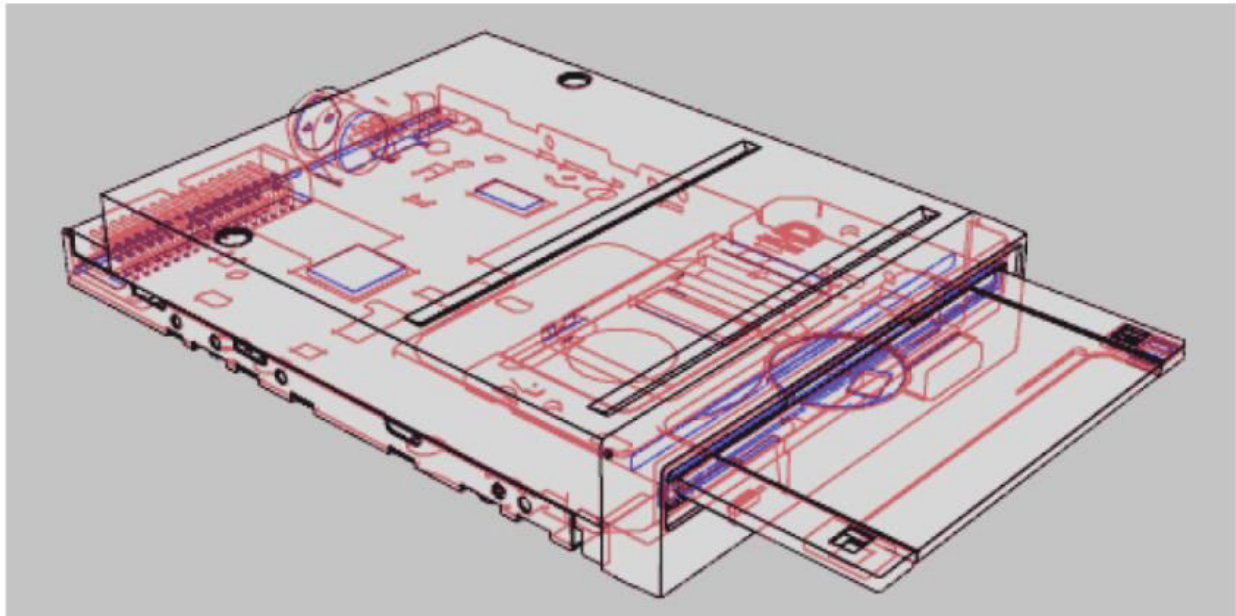
With finalToon you are able to render the lines as vector and export them as a Flash or an Adobe Illustrator file.

Click on the Image to open the Flash file.

http://www.cebas.com/products/images/finaltoon/floppy-drive.swf

Testimonial

"I don't know what I would do without finalToon. Any time the job calls for a cartoony look, finalToon is my goto plugin. The line quality is unsurpassed. One of my favorite features is its ability to adjust line thickness and opacity automatically based on distance from camera."

Bobby Standridge

(See creative work at http://www.bobbysbrane.space/branemation-index#espn)

" For me, finalToon has many immediate use on production. I cannot name them all but there is the 'wireframe turntable' that I use on Calls for Offer; finalToon 'edge drawing' for production; 'wireframe glowing' in production shot, and the '3D to 2D shape' (.ai export) => to 3D shape (reimporting shape .ai inside 3Ds Max to use them as spline or 2D shape extrude fake planar 3D; and the help guide for 2D artist, to name a few...I use finalToon lines a lot for the 2D/3D models of architecture such as cathedrals and large buildings, sometimes with many highly detail carvings of antiquity. They do a good job."

Marc Auvigne, Videomapping specialist

https://fr.linkedin.com/in/marc-auvigne-807b12bb/en

MUSEE DES BEAUX ARTS

3ds Max Render Elements

finalToon supports all standard 3ds Max Render Elements and it offers also its own additional Render Elements were every single line type may be rendered into a single Render Element. Optional you may also choose to render multiple line types into a single Render Element. Once all of the passes are rendered, you can take the elements and assemble them within a paint package like Adobe Photoshop or any compositing product like Nuke, Adobe After Effects, Fusion, Natron, etc. many more. The great thing is that you get full control over each single line style without ever having to re-render the entire scene. The Passes: (see image below).

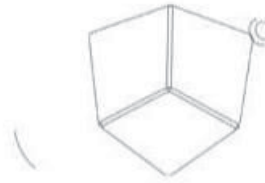![CEBAS VISUAL TECHNOLOGY]
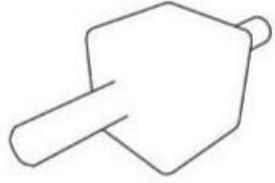
Visible Folds Render Element

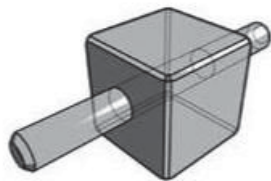Hidden Folds Render Element

Hidden Folds Render Element

Hidden Creases Render Element

Visible Intersection Render Element

Hidden Intersection Render Element

The final Result

For more information, goto http://www.cebas.com/finalToon or email
info@cebas.com