Maximum impact

What's packed with professional features, fairly priced, and one to watch in video production? Benjamin Woolley puts the new Infini-D in the frame. Plus, MetaStreams: will it swamp VRML?

A 3D graphics authoring package claiming to offer professional-grade features for around £600 has got to be worth a look, given that alternatives can cost three or four times as much.

The product in question, Infini-D, is a rather odd one in terms of its position in the market. Version 4.5 was launched last April and I finally got my hands on a review copy in June. I was eager to see what you got for such a reasonable price and keen to experiment with its ability to produce objects that are compatible with MetaStreams, the new file format for streaming 3D over the web.

More on MetaStreams below, but first I'll deal with the Infini-D package itself. It claims to offer "Maximum 3D for Video Professionals" and substantiates that claim by littering its publicity material, documentation and CD with examples of its use to generate title sequences for television shows such as America's Funniest Home Videos.

Cheers!

This is 3D graphics at its cheesiest: flying logos, glinting text, crude colours and messy design. I suppose someone has to do it — and they evidently do it with Infini-D. However, it would be a mistake to view this package as being as hideous as some of the images it produces. It turns out to be quite a powerful tool for creating animations for video.

It is published by MetaCreations as part of a rather haphazard kit of 3D tools that the company has acquired through various mergers (Bryce, Poser, Painter 3D). MetaCreations even boasts another complete 3D authoring suite in its line-up, Ray Dream Studio (which is only about half the price of Infini-D), now aimed at graphic designers, web developers and multimedia producers.

Infini-D bears no obvious relationship to any of these other products; it does not even support their respective proprietary file formats. It stands alone, offering a different interface and feature set.

You can tell that it is aimed at video production because the renderer includes many of the tools you need to successfully output animations to video. Probably the most important is that it will render to fields as well as to frames. This is essential because video is made up of two fields for each frame, one interlaced with the other. If an animation is rendered without fields you end up with a flickery result when it is converted into video.

Other useful video-specific facilities include automatic colour adjustment to ensure that the colours in the final render come out the same no matter whether the video is to be broadcast using NTSC, the video encoding standard used in America and Japan, or PAL, used in most of Europe (except France) and parts of the Far East.

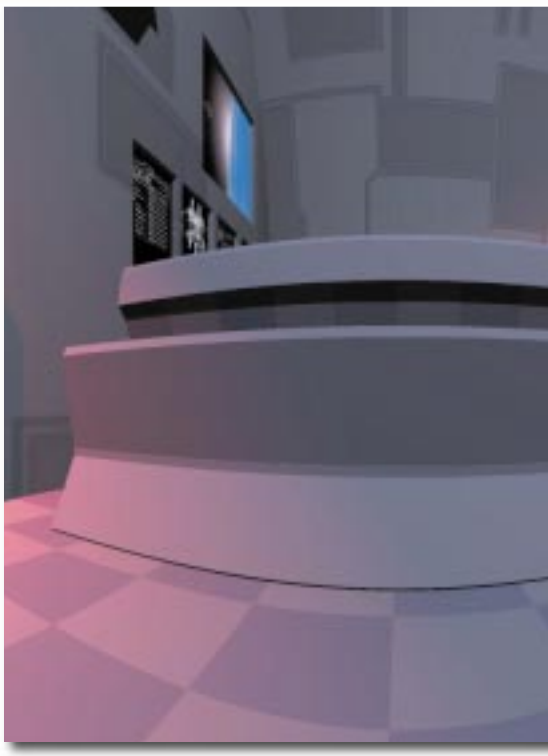
Infini-D will also check that the colours are "safe". In other words, that they do not go beyond the legal broadcast limits set by broadcasters and regulators (to stop TVs being blown up).

Another feature which produces a subtle but important difference is an ability to render "non-square" pixels: i.e. pixels that are slightly stretched to reflect the aspect ratio of a TV screen, which is flatter than that of a computer monitor.

Compositing, where you layer one image (usually a computer-generated one) over another (often live action) is well supported. For example, there is the "ShadowCatcher" facility. This is a property that can be set for an object so that when it is rendered, its shadow information is put into the alpha channel, which can then be used as a mask to add the shadow to the background.

Audio (another element of post-production) is supported via the animation sequencer. The implementation is adequate but rendered rather useless if you don't use the QuickTime movie format for sound; no other format is supported.

These are the minimum facilities you need when you are using 3D graphics to



create video and it is worth looking out for them when choosing an authoring package. Infini-D provides an adequate though hardly lavish set, combined with a good modeller and texture editor.

On the Mac track

Infini-D has a few peculiarities and several omissions, though. Most of these relate to it being a Mac product almost grudgingly turned into a Windows one.

For Mac users, this turns out to be good news. Not only do you get network rendering but almost complete support for authoring QuickTime media (for example, QuickTime VR panoramas like that illustrated above). QuickTime is excellent and version 3.0 works well under Windows. The trouble is, most of the tools and conversion utilities will only run on the Mac.

The price is wrong

These are mere quibbles, however, compared to my biggest criticism of Infini-D, or rather the company selling it: you can buy it in the US for the same number of dollars as pounds in the UK — we have to pay well over a third extra for exactly the same product (the same applies to Ray Dream Studio). MetaCreations even has an online store

▲ A QTVR panorama, created using Infini-D

at its web site offering the product at a knockdown US price — and then informs you that only US and Canadian customers are eligible. For the (almost) £150 price difference, you could afford to fly out to America and buy a copy there!

Streaming 3D

VRML is facing competition from another quarter, other than Microsoft (*see box, below*) in the form of the new MetaStreams standard. MetaStreams was developed by MetaCreations in collaboration with Intel (which is interested in any development that demands a fast Pentium system to be fully appreciated) and is designed to "stream" 3D content over the internet.

To use it, you need a special viewer, from <www.metacreations.com>. It works very smoothly, running as an Internet Explorer 4 plug-in on a 300MHz Pentium II. The streaming means that low-resolution versions of the model and its textures are downloaded first and these become steadily more refined as more data arrives down the line. Meanwhile you can inspect what you've received so far, using the viewer's simple but effective navigation tools.

The streaming has partly been made possible by MetaCreations' Real Time Geometry (RTG) technology, which provides a method of dynamically controlling the resolution (i.e. number of polygons) of 3D objects, or the frame rate at which they can be animated. Infini-D 4.5 is the first package that supports both RTG and the MetaStream format, and my experience of both is that they are neat and powerful.

So is MetaStreams going to swamp VRML? MetaCreations claims it is designed to do a more specialist job, as it is about delivering 3D objects, rather than worlds, over the internet. However, the company intends the standard to become a public rather than proprietary one, which means that it clearly wants to establish its use across the web, not just in some particular niche.

Worse, from VRML's point of view, Microsoft has just negotiated a licence to integrate it with DirectX, which is already established as something of a standard on Windows 95 systems. This will mean that soon everyone with an up-to-date version of DirectX running on their Windows system will be able to view MetaStreams files without going through the bother of downloading a viewer.

FRIENDS, ENEMIES & CHROME 3D

There were once hopes that VRML, the 3D modelling language for the web, would become as widespread as HTML. It does not now look so likely. Microsoft launched an attack on VRML's technological inadequacies at the influential WinHEC conference in March, and if you've got enemies like that, you're going to need powerful friends. Microsoft was announcing its own version of a 3D language for Windows, codenamed "Chrome". Details remain sketchy, and it could yet turn out to be another of Microsoft's tactical manoeuvres rather than a technological development. It demonstrates, though, that at least as far as Microsoft is concerned, 3D is too valuable to leave to the public domain.

● See also, "Streaming 3D", main text

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