

Vue 6

INFINITY AND BEYOND

Adam Benton guides you through your first steps with e-on Vue 6 Infinite and EcoSystems

Artist PROFILE

Adam Benton (Kromekat)

COUNTRY: UK

CLIENTS: 3D World, Visa, MacFormat, Powergen, MGM, Saatchi & Saatchi, Wunderman



Adam is a freelance illustrator, with a passion for sci-fi and fantasy.

Currently he is producing illustrations on a regular basis for a monthly publication in MGM's Stargate Atlantis franchise.

DVD Assets

The files you need are on the DVD

FOLDERS: Scenes and files, full screenshots

FILES: The Loudest Silence.tif

SOFTWARE: Vue 5, Photoshop CS2 (demos)

Creating believable landscapes, with enough natural density and detail, in 3D has never been the easiest of tasks.

There have been a number of packages available, designed for that specific task, many of which excel in the portrayal of vast mountain ranges, huge seas, dramatic skies and the like, and all of them are excellent for strange, barren or alien worlds, but few offer the facility to make these landscapes more akin to what we are familiar with in the greener, lusher parts of our own world. The primary reason for this seems likely to

be that although it's possible to recreate any plant, tree or flower and use it within our virtual scenes, if you try to work with anything more than a handful of these often high poly models, the scene will grind to a halt, and probably take days to render.

Due to this limitation, I have often employed many workarounds using high detail photo texture maps for ground cover, photographic planes of trees for background foliage, or avoided certain viewpoints all together!

However, a new and ongoing commission has forced me to look again

at what is available for these tasks, and my head has been turned by e-on's latest incarnation of its Vue Infinite landscape creation software, and specifically its EcoSystem functionality.

This workshop is rather different to many I have done previously, since this time around I'm inviting you to explore the creation of this scene with me, on only my third attempt at working with the software.

Scene files and many more screenshots are on the cover disc, and will provide the all-important extra details for you to follow along.

1 Finding my way around

Starting to work with any new software can be a daunting and frustrating experience, but I decide to dive in and see what does what. Like most applications these days, Vue 6's GUI can be customised to your own tastes, enabling variations in layout and interface colours. I have gone with Vue 6's default scheme, with a subtle tweak to remove the bright blue colour from around the viewports.



2 The concept

At this stage, I have no specific idea about what my scene will portray, or what it will include, but after a couple of experiments with Vue's EcoSystem tools, I decide I'd like to see if I can create a tangible green landscape as a background for a sci-fi scene, as yet to be decided. I have attempted 3D aerial perspectives of open countryside before, but never with this degree of detail, so I set this as my first goal.

3 Example scene dissection

I open up some of Vue's scene files for clues to get an idea of how the EcoSystem (ES) tool functions in them, and I find one specific file that really helps, which has a variety of trees growing in the shape of the e-on logo. If I can dissect this, I will have a far better understanding of how to make my rolling countryside a (virtual) reality!



4 Greyscale

I find part of the answer in the Density material setting. Like most 3D packages, certain effects, materials or objects can be isolated by using greyscale information – this is how the ES trees in the logo are made to 'grow' only within certain boundaries. With this principle, I should be able to create a textural template for where the different plants can be applied, using monochrome bitmap images created in Photoshop.

5 Field template map

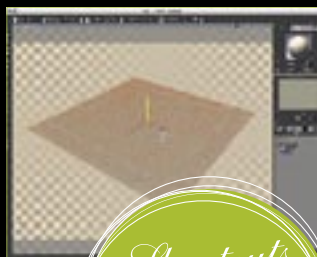
I launch Photoshop, and prepare to paint some hedgerows in black. I use a simple Hard-edged brush to quickly paint a typical aerial view of polygons to represent fields in a landscape, and I draw in a winding road through the centre, as you'd see in a typical map. In case I want a more distant point of view of these fields later on, I need to make the map tileable.



6 On and on...

Making a tileable texture map (that is repeatable in every direction) is a relatively straightforward process in Photoshop, and for this I use the Offset filter (Filters>Other>Offset). My texture map is 1,000 pixels square, so I set the offset to be dead centre at 500 pixels in on both axes. Now it's just a case of making the lines meet correctly wherever they mismatch – some may even need deleting completely and repainting, and as long as the original far edges are left intact, the map will become seamless. ➡





7 Preparing the base

The map complete, I save it as a high quality JPEG, and move back to Vue. I begin by creating a Terrain object (fourth icon down on the left), and use the Camera Navigation tools on the right of the interface to rotate upwards to get a better angle on the terrain. To anybody familiar with Bryce, this object will make you feel right at home, and like Bryce, the objects can be scaled, rotated and moved directly in the viewport.

However, the method seems to be an amalgamation of more standard 3D packages with a three-axis gizmo, the function of which can be changed by clicking on the small icons displayed next to, or on the selected object. The one on the bottom right is the scale mode, and after clicking on that, I can select the vertical (green) axis, which changes to yellow as I click and drag downwards. The terrain is now flattened, and ready for testing the material.

8 Material settings

I double-click on the spherical material preview in the top right and open the Material Editor. Since I want to



Shortcuts

Atmosphere
[F4] + [F5] (PC and Mac)
Click [F4] to open the Atmosphere editor, and [F5] to load a new Atmosphere.

PRO SECRETS

Jungle rendering

EcoSystems in Vue enables the creation of huge amounts of layered flora and fauna of many kinds. It seems able to do this by creating multiple Instances, which although highly detailed, cause less strain on a computer's resources than you'd expect with other software. This effectively means that a whole jungle worth of plants can be created and rendered relatively easy. From detailed ground cover plants such as grasses, weeds and ferns, to larger items such as bushes and all manner of trees. The potential density possible is staggering, and should be enough to keep any budding naturalist/fantasy scene creators happy.

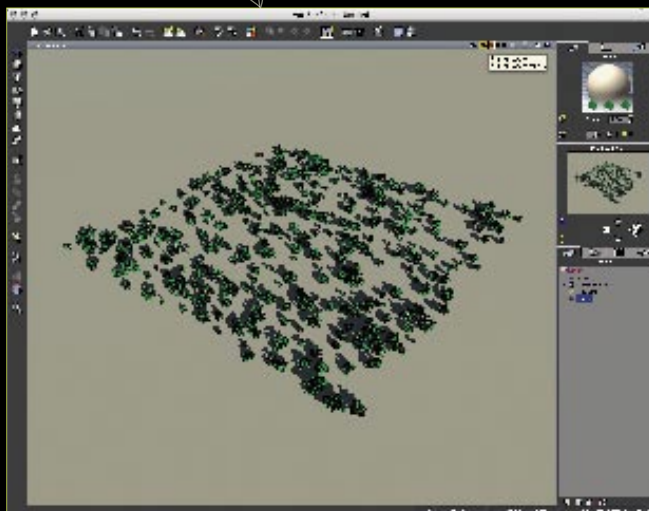
add ES trees and bushes, I switch the EcoSystem type. This creates two layers for our material – the actual colour/texture information (chequered icon) of the Terrain object itself, and a layer that will contain any ES plants (tree icon). Clicking on either of these layers brings up its settings. I am not concerned with the Texture channel yet, so I select the EcoSystem layer. I want to create some hedges, so need to find a suitable bush model in the library.

To select plants to populate the ES, click the Add button in the General tab. This opens a drop-down menu where you choose Plant, Rock or Object. I have added an additional library to the default ones in Vue, and I select the Beaked Hazelnut model. To make an EcoSystem active, click Populate. I do this, close the Material window, and do a quick render.

9 Growing hedges

This offers a quick demonstration of the versatility of an ES material with only one plant, as it creates a random pattern, and the plants are all slightly unique and have various scales – amazing, but not exactly what I need right now! I enter the Material Editor again, and click on the Density tab.

I need to get my tiled hedge map into the Variable Density area. I activate the function by ticking the Variable Density box, and double-clicking on the Preview sphere. I couldn't add my own bitmap images, so after some trial and error I go back to the Material Editor. Right-clicking the Preview icon gives me a drop-down from which I select Edit Function, opening the Function Editor. This is a Node type editor, where I can add a texture map into the Density



function. By clicking on the white circle icon, a texture node is added to the channel, and by clicking on the small yellow arrow at the bottom left, I can access another browser. I then need to click on another icon at the bottom left (a folder with a yellow arrow) and navigate to my hedge tile texture.

This seems to be a little long-winded, but since this is all new to me, it'll just have to do for now!

10 Over-running bushes

Clicking OK in the various windows, I return to the Material Editor, where my hedge texture is in place in the Density channel. I click on Populate again to update the bush models placement, only to discover that there are now more bushes than before, and none of them in neat hedge-like lines! In the example scene file, the texture map was inverted – with white being the area in which the plants grew! I could go back to Photoshop and invert the map, but I'll



try to fix things in Vue, using the slope filter (to the right of the preview in the Density tab). Double-clicking on this brings up a plethora of options, and I locate the one sloping in the opposite direction to the current choice. I click Populate once again, and there is a definite improvement. But the scale of the plants is currently way too large, so I reduce it to 0.100 in the Scaling & Orientation tab. I click Populate, and am pleased to see something much closer to what I am after!

Back in the Density tab again, I increase the Overall Density to 95, as the bushes are spaced too far apart to make a hedge at 50 per cent coverage.

11 Eureka!

After zooming in and doing a quick preview render, I realise that the hedges are still a little too large for the map area, and reduce them further to 0.050 scale. Another Populate update gives me exactly the result I am after. I'm still impressed at the speed and density at which I'm able to create even with these hedgerows.



12 Adding trees

Hedgerows are almost always dotted with trees, so it's time to return to the ES material, and add some additional layers. In the Material Editor, click Add Layer. This creates a simple material, and I change it to EcoSystem. I delete the texture layer that comes with

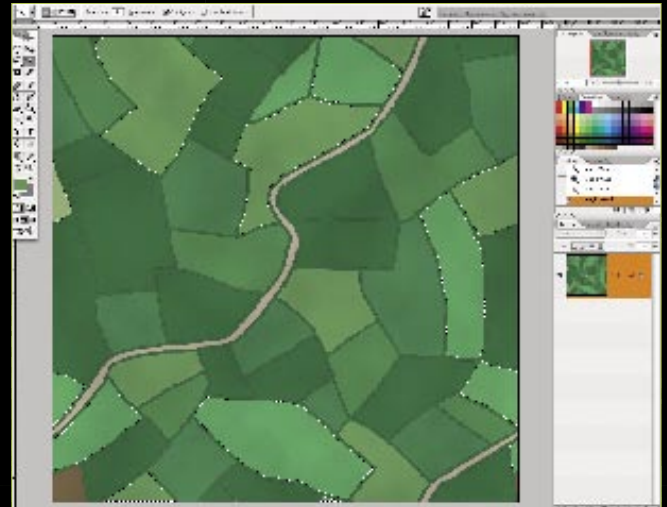
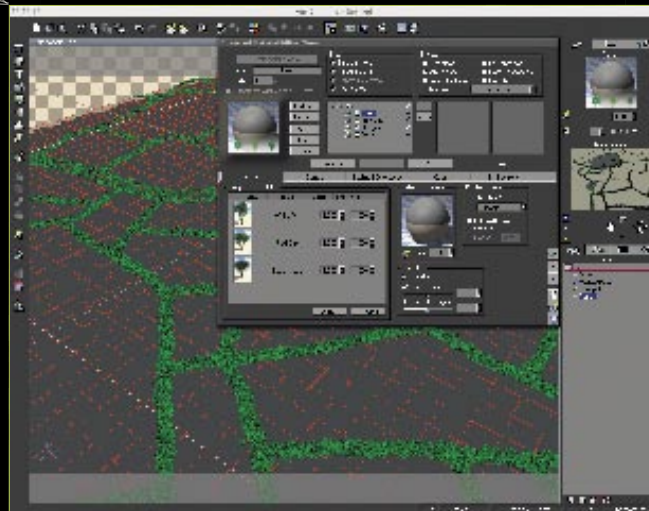


the ES layer by highlighting it and clicking Del Layer. With the Trees ES layer highlighted, I can browse the plant library as before and add a selection of tree types. I don't want the trees to be as dense as the hedges, so I set the Overall Density at 60. I restrict the trees placement to only the hedgerows area.

After reducing the scale of the trees to match the hedge (roughly 0.050), I experiment with the EcoSystem Population details. Here I can specify if I want one tree to be more prevalent than another, by reducing the Presence figure. The White Ash (set to 0.500) will occur half as many times as the Sugar Maple (set to 1.000) for example.

13 Fields of green

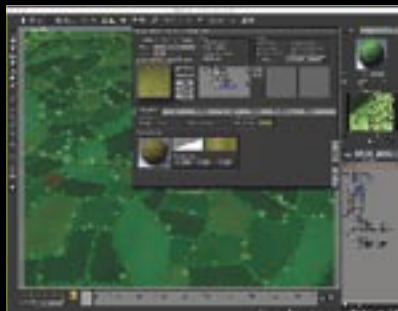
I'm confident that the hedges and trees will work. Now I need to create a base colour map for the field in Photoshop. Returning to my hedges document, I use the Magic Wand tool to select random fields, and the Paint Bucket tool to add shades of green. Since I am working with a tileable texture map, I need to ensure that I match up the colours for areas that overlap either side. I also colour the road a pale beige, and all of the hedges in a darker green so that the colours blend together better.



14 Texture blending

Back in Vue, I open the terrains material again, and click on the Default layer. To add my coloured fields texture, I need to click on the Colour tab, and switch from the default Procedural Colours to Mapped Picture. I click the small yellow arrow below the Preview box and browse to my colour map. The result looks good, but the surface colour and texture is too smooth to look natural. I create a new layer and load the Distant Fields texture preset in. The textures become mixed, and the necessary added detail and variation is now apparent in the overall texture. ➡





15 Spreading out

It's time to start thinking about viewpoints in my illustration. I decide to maintain an aerial perspective, but like the look of the fields disappearing into the distant horizon. For this to work, I need to create duplicates of my first Terrain object, and tile them to the edges of the first, to create a seamless pattern of fields. This works really well, and the repetition is not obvious.

16 Atmosphere

Next I look at the various atmosphere presets to see what kind of lighting looks interesting. Go to Atmosphere>Load Atmosphere. This brings up a library window. One in particular stands out – Godrays in the Effects section of the Atmosphere Library. I select Edit Atmosphere and tweak the cloud settings to play around with the pools of intense sunlight, and where they fall on the fields. For this I simply altered the Altitude and Height sliders under the Clouds tab.

17 Saucer invasion

I'm going to add some vast, saucer-shaped craft. I open my modelling app of choice (Cinema 4D) and create a very simple saucer object using a flattened sphere and some basic editing of the shape. Once this is done, I place the polygonal form inside a HyperNURBs

PRO SECRETS

How green is the valley?

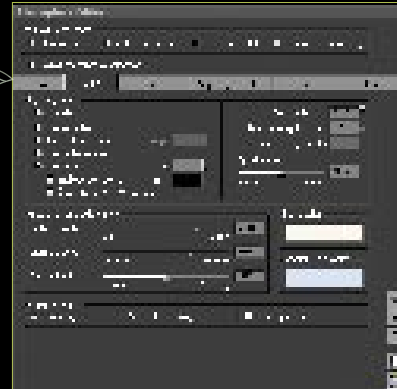
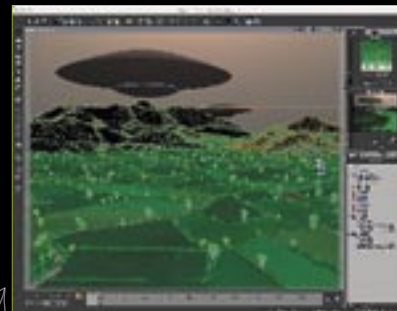
Be careful with the colours you choose for making lush green fields, since what you think might look right in Photoshop can look a whole lot more vivid and unnatural in Vue once you get the scene lit with sunlight and ambient illumination. It's better to make the greens a little more neutral than you'd like, and let the light in the 3D app do the rest.

object to make it nice and rounded, before exporting it as a Wavefront Object. I import it to Vue using (File>Import Object).

With some further scaling and repositioning my saucers are in place and ready to be textured. I saved my saucer in a couple of separate parts – the main saucer shell, and the windows. These can now be textured separately. I choose a simple Aluminium material from the preset Metals library, and an interesting illuminated texture for the windows from the Special Effects library.

18 Last steps in Vue

I add some hills and mountains, and also some EcoSystem trees to, but without constraint on their placement, making them look more natural. I also edit the atmosphere, and use the Global Radiosity Lighting Model under the Light tab, so that the green of the fields bounces back up at the saucers. I take a look at Vue's render options to get a high-res version. I go for the Broadcast quality setting for better anti-aliasing detail, and render at 3,000 x 2,500.



19 Final touches

The render took over 24 hours at that scale and quality, which although long compared to what I am used to in Cinema 4D, wasn't so bad given the complexity of the environment, and the fact that I chose to use Global Radiosity to bounce light around the entire scene. However, it will take me some more time and experience to make the optimal use of the various settings. The final touches in Photoshop include some contrast tweaks, colour adjustments, and the addition of a photographic cloud element to the upper right of the image.

After all of this, I have to say that Vue Infinite 6 is one hell of a beast for landscape creation – I am totally impressed with its capabilities, and I think matte painters would find it a great addition to their arsenal for augmenting or extending real landscapes. ●

