Stereoscopic Animations

(Created 04/03/2005)

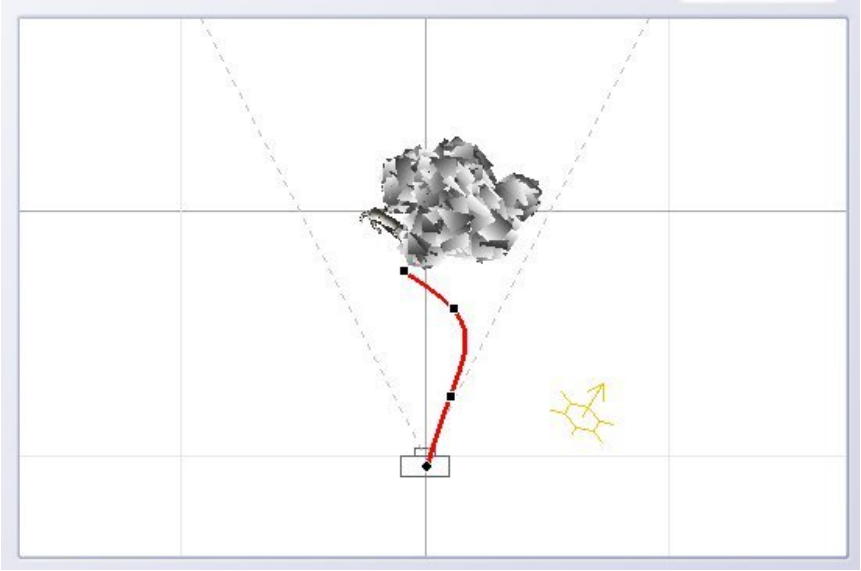
Now that you know how to create stereoscopic images, it's about time to learn how to create stereoscopic animations. The stereo setup scene that you can use for creating stereo images is the perfect starting point. You can download it here. Vue 5 Esprit users have to change the settings in the Render Options to "Only visible layers". Vue 4 Professional and Vue 5 Infinite users can use the scene as it is.

Before you start to create a flight or a walk through a scene you have to imagine what really happens. If you for instance turn left into another street, your left eye moves in a tighter curve than your right eye. If you turn right into another street the left eye moves a longer way than the right one. And what happens if you fly with an airplane? A plane banks when it turns. That means turning to the left the left eye is closer to the ground than the right eye.

Why do I tell you all that? I want you to understand that you can't just apply the same animation path to the left and the right camera. To get a stereo effect in an animation you can't animate the "eyes" (cameras), instead you have to animate the "head" that the eyes are attached to. Let's use a cube to simulate a head.

Now it's time again for some testing. Add some objects to your scene to prove if the setup works properly. Attention! If you want to change the position of your camera or the point of view select just the cube to achieve the settings. The left and right camera will follow accordingly. Don't do any changes to the camera directly!!! When you're pleased with your test scene select the CUBE (head) to animate it. The easiest way is to use the Mover Wizard in Vue 4 Professional, respectively the Animation Wizard in Vue 5 Esprit and Vue 5 Infinite.

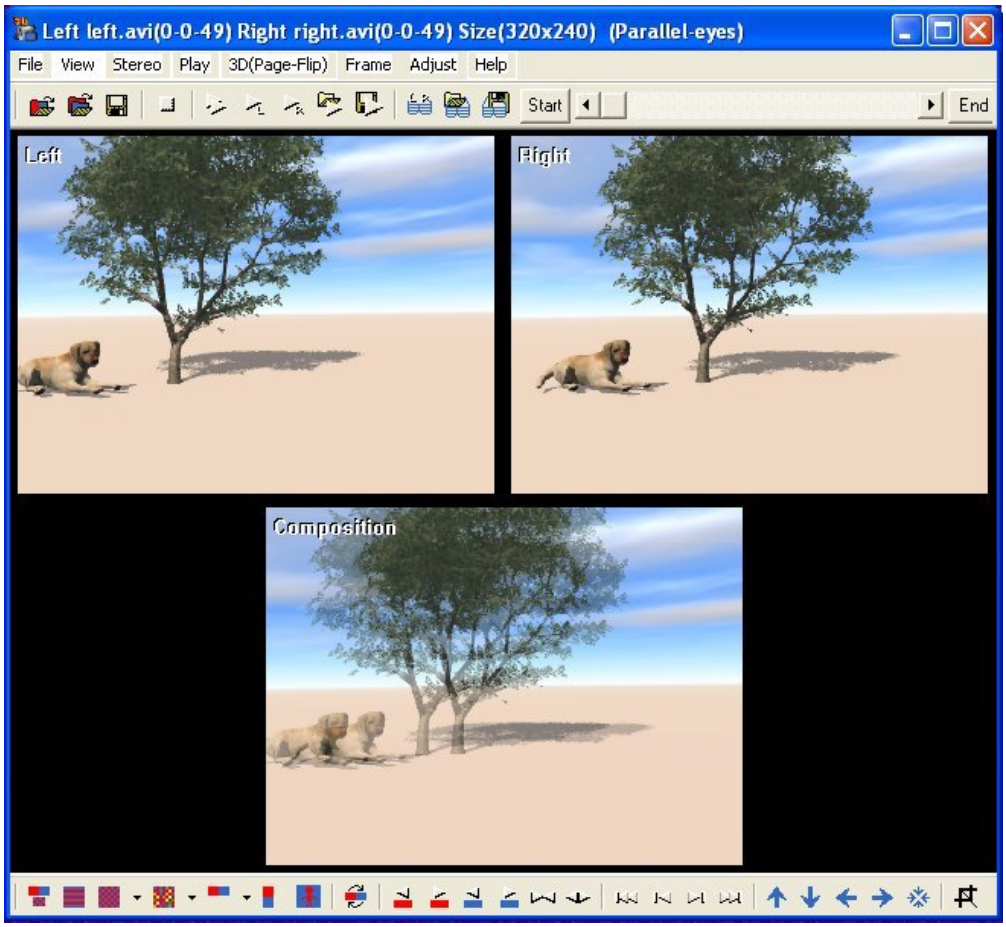
Open it by right-clicking the animation icon  . Click Next and select Airplane to test if the cameras follow the cube properly when it banks. Click Next to get to the next page. You'll see that "- Y axis" is chosen for the main axis. That would mean the cube (and also the camera) looks into your direction. You want it to look in the opposite direction, and that's why you'll select "+ Y axis" for your main axis. Click Next and you'll see the cube moving in a preview. We don't want to change anything here for this test, and so you click Next again. This is the most important part because now you'll create the animation path of the cube. To let the airplane bank, you have to create a curvy path similar to the screenshot below.



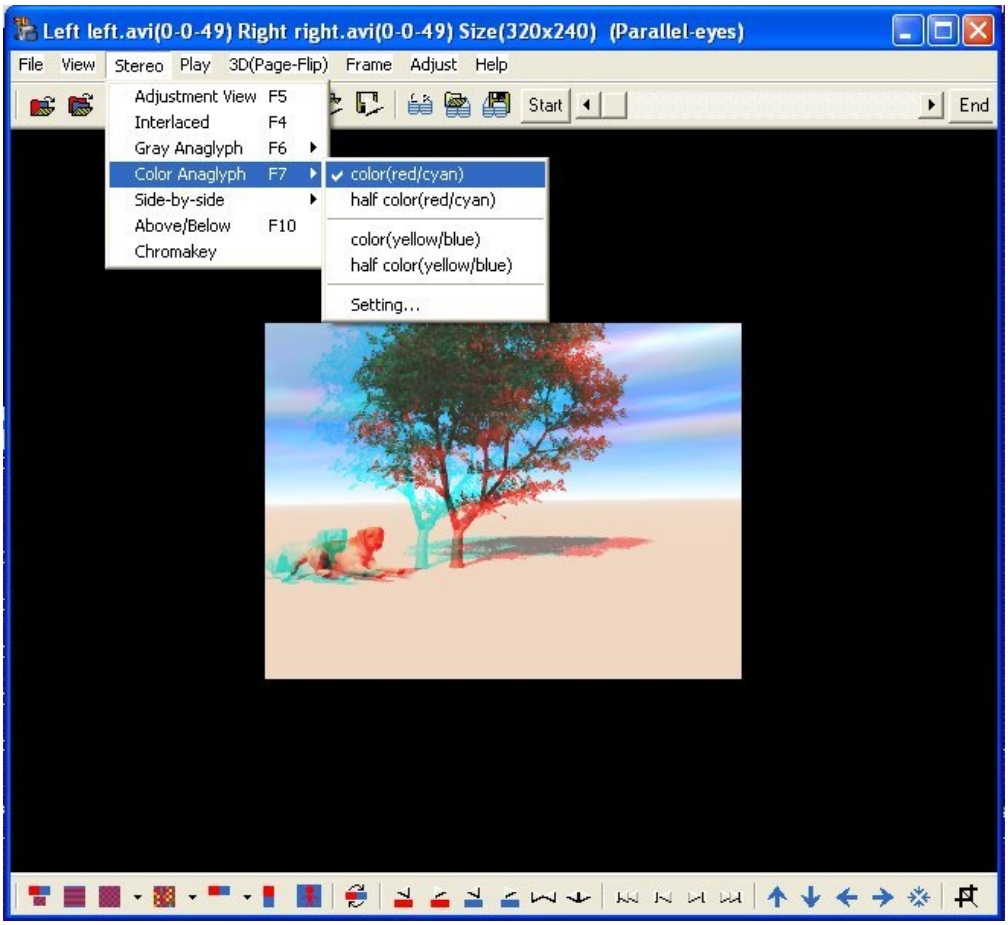
Click Next to go to the next page. You can ignore this page for now and go to the next one. Here you would normally see a preview of the animated cube, but because it's placed in an invisible layer you can't see it, of course. :) Click Next and then click Finish. That takes you back to the working space and you see the animation path in all 4 views.

Activate your left camera and left-click at the animation icon to display the Timeline. Here you'll see the duration of your animation. Each added way point is displayed as a keyframe. You can render a small preview of your animation by clicking the left icon on the timeline. It gives you an impression of your animation to see if you have to change something. When you're pleased click the right icon on the timeline to render the left eye animation. To get a good stereo animation I recommend to use a lossless file format. I used an uncompressed AVI file format and saved the file as "left.avi". When that's done activate your right camera and render the animation. I chose "right.avi" as a file name.

Now we have to create a stereo animation from the "left.avi" and the "right.avi" file. I used the freeware StereoMovie Maker. Go to File / Open Left/Right Movies... to open both your animations. You'll see both animations and beneath them a composition that shows you the difference of the views.

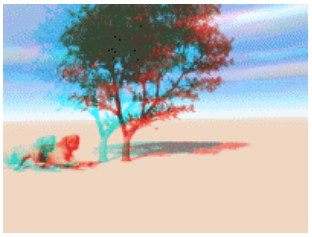


Now you have to decide what type of stereo output you want to create. Go to Stereo in the menu to select the type you want. I chose Color Anaglyph/color (red/cyan).



Now you can play your stereo animation to see how it works (Play/Both). BTW, if you want to view your animation side by side in cross-eye view you'll have to swap the animations (View/Swap Left/Right). When everything is OK you can save your stereo animation (File/Save Stereo Movie).

Here is a small version of the created animation:



I hope this tutorial is also easy to understand and easy to follow.