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July/August 2005

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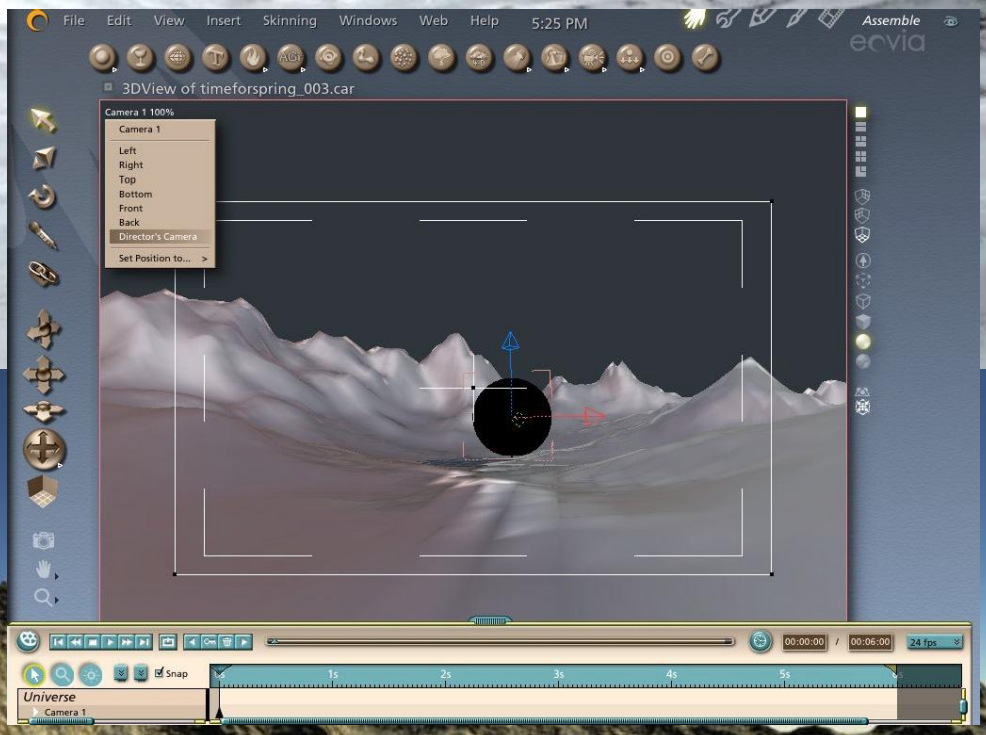

Program: CARRARA 4 2 | Level | Download

Notes : Click the button on the left to download support files for this tutorial. The animated SWF tutorial is located in the resource folder that unzipped/unstuffed with this issue. Open the "timeforspring.htm" page located in the "timeforspring" folder.

Time for Spring

By Claudia Coles

Even though Spring is already gone, I thought that it would be fun doing a tutorial honoring the Springtime. This animation tutorial will show you how to change seasons between two (or more) landscapes with the help of the Proximity Shoestring Shader.

This tutorial requires the Flash Plugin. Load the page provided in the resource folder.

Before proceeding, please visit the ShoeString Shader site - **http://www.des-web.net/html/download**.html and download the trial version of Shoestring shaders, if you don't own a copy already. While you are there, please stop by the Proximity Shader page and review the various features of the Proximity Shader. Some of those features will be repeated here in this article. Proximity Shader Page - http://www.des-web.net/html/proximity.html

STARTING OFF WITH WINTER

It would be a bit difficult to truly appreciate the Springtime if we didn't have a sense of what it would be like without it, so I have decided to start our landscape terrain off with a wintry feel.

1. Go to File and choose "Open Wizard"

2A. Then, go to "Landscape" and choose "Icy Mountain". This will be our base landscape that we want to use. Go ahead and save this document with a new name (such as "Time for Spring") in a folder that you normally use for CAR files.

2B. After this, go to the Shader tab in the Properties Tray (PT), select the "Shader" for the terrain object, and at the top, in the "Name" field found in the General Section, change the name to "Winter".

3. Now reopen the Wizard to the Landscape section as you did before in Step 1, but instead of selecting Icy Mountain, this time, select "Island". We will be using this terrain shader as our target shader for Spring Time.

4. In the "Island" document, select the Shader tab in the PT and select "Shader". Then, change the name to "Spring".

BRING ON THE SPRING!

5. Now, in the Browser, select "Browser: Shaders" and drag the "Spring" Shader into a Shader folder of your choice (just remember where you placed it). Hit "okay" and then close out the "Island" document (select "don't save" to be safe).

6. You should now be back in the "Time for Spring" (formerly "Icy Mountain") document. With the Terrain model selected, go up and hit the "Edit" button in the PT to enter the Shader Room. Once in the Shader Room, collapse the branches of the shader's tree to minimize the shader as much as possible. (Please note that you may have to rearrange or resize your Browser and PT to see all menus simultaneously).

7. Go to the Edit Menu and select "New Master Shader". Then go to the "Top Shader" and change it to Complex Shaders > Multi Channel Mixer. Collapse the tree so that you can see the Source 1, Source 2, and Blender easily. Now, grabbing the "Winter" Shader by the "Top Shader" text, CTRL (CMD) + Drag the *entire* shader into the Source 1 channel of "Shader 1", the New Master Shader. Now close out the previous "Winter" shader.

8. Staying in the Shader Room, go back to the Browser and double-click on the "Spring" Shader.

9. Collapse the Spring shader's branches to keep things at a minimum. Afterwards, grabbing the "Spring" Shader by the "Top Shader" text, CTRL (CMD)+ drag the *entire* shader into the Source 2 channel of "Shader 1". Now close out the previous "Spring" shader to leave only "Shader 1", the New Master Shader", in the Shader Room. Quickly go back to the Assembly Room and in the PT under

the Shaders Tab, select "Shader 1" and go up to the Name field and rename it "Winter to Spring". Then, drag the" Winter to Spring"' Shader onto the Terrain object. Afterwards, select the terrain object in the PT, click the Edit button and return to the Shader Room. A Flash movie is available to understand Steps 7-9 better– remember to use the "Next" and "Back" keys at the bottom-right of the Flash screen.

LAUNCH FLASH TUTORIAL NOW!

NOW HERE COMES THE FUN PART

10. Continuing with "Winter to Spring" Shader, go down to "Blender" and select Shoestring Shaders > Proximity. Please note that only the x-axis will work in the demo mode, however, you can still perform this tutorial. You will simply see a modified result. However, all axes will work for the licensed version and should be enabled (check marked) upon opening the Proximity Shader.

Now just some quick info about the "Check in Axes" feature:

Side note - CHECK IN AXES
If a box is checked, then that axis is used in distance calculation. If it is not checked, the axis is disregarded." - Mark Desmarais - http://www.des-web.net/html/proximity.html

In the Animation Sequence Tray, I have set the full length of the animation to 6 seconds. Go and do likewise by setting the right-side "Render Range" arrow to 6 seconds.

11. Now go to the Assembly Room and the select Insert > Sphere. A sphere will be placed in your scene.

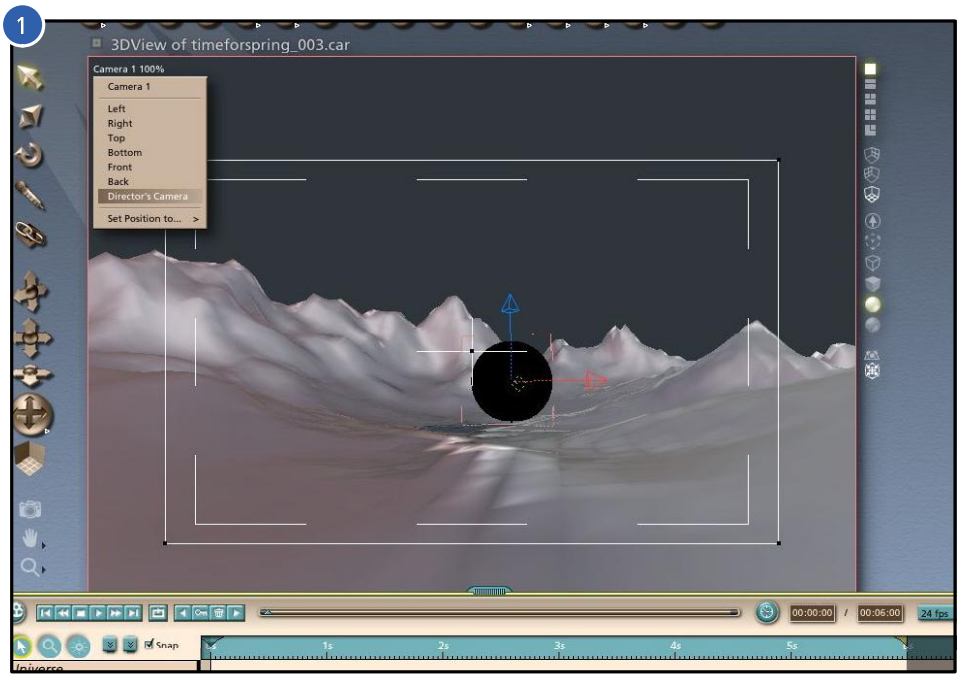

Figure 1.

However, it may not appear in the center of your terrain. So, making sure that the animation "Current Time Bar" is at the beginning of the animation (at zero seconds), move the sphere and center it in your terrain. Also, place the sphere just above the terrain object. (**See Figure 1**).

(Note** - Because making any movements to Camera 1 affects your animation, switch to the "Director's Camera" and adjust the camera to see your entire scene or use the "toggle animation" feature in the timeline window. Then move the Sphere to the center of the scene. After you finish, switch back to Camera 1 - also see Figure 1).**

12. Our next step is to make the Sphere invisible. With "Sphere" selected in the Properties Tray, Go to the General section and deselect the "visible" setting. Doing this hides the Sphere object from the camera during rendering, but allows you to use it as a target object in the Shader Room, as you will see.

13. Now, selecting the Terrain object, once more select the Edit button and go back to the Shader Room. Making sure that the animation "Current Time Bar" is at the beginning of the animation, go back to the Blender Channel of your Shader and in the Proximity menu, find the "Object to Reference" field and type in the word "Sphere" (please make sure the "S" is capitalized).

Now before proceeding to the next step, I would like to share an excerpt from the Proximity author, which explains how the "Distance to begin fade" feature works:

Side note -
DISTANCE TO BEGIN FADE
Distance from the center of the Object to Reference to the specified point on the object being shaded that the shader starts to return a value other than black (0). For example, if you set a DTBF of 20 units, and your object is 25 units away, you will get nothing (0, black) back from the shader. When you get inside that 20 units, the shader

returns the percentage of how close you are. . . so at a distance of 10 units, you will get a .5, or 50% gray. At a distance of 5 you will get .75. If the two points co-incide, you will get a 1, or full white.

Shaders are called for each point on the surface of an object . . . so if the DTBF is 10 units, and your object is 20 units long, the front of it could be returning a 1 while the back of it is still returning a 0, since the front could be 0 distance from the center of the object being approached, while the back is still 20 units away." - Mark DesMarais - http://www.des-web.net/html/proximity.html

14. Now, go to the "Distance to begin fade" (DTBF) field and type in the number "0". This ensures that Source 1 (the Winter shader) will be at full potency when the animation starts.

15. After this is done, slide the "Current Time Bar" to the 5-second mark in the animation time line. Then return to the "Distance to begin fade" field and type in the number "100". This will cause the shader found in Source 2 (Spring shader) to be at its full potency at this time in the animation. BTW, I deliberately chose 5 seconds instead of the end of our animation at 6 seconds to give some "padding" to the animation so that the final effect would not be cut off abruptly as soon as it is achieved.

16. Now let's test our animation. Go to the Render room and in the Rendering Tab select Renderer > Draft > Gouraud for the Rendering Mode. Then go to "Output", and for image size, select the "Keep Proportions" box and type in a small image size, such as 200 x 125. Because we want to do a lot of testing to guarantee that we produce the right results, rendering with this image size and with a Gouraud draft mode will help keep our rendering time down to a minimum. (Please note that because of limitations with the demo version, users will need to stay in "Photorealistic" render mode. However, using a slightly smaller image size should help with speed.)

17. Now, while in the Render Room, select the Render button and create the animated sequence.

18. When finished, play the animation and see what you get. You should see a whitish landscape turn into a greenish landscape. But it looks like it may be going a bit too fast for the effect we want. So let's slow things down.

THE FINAL STRETCH

19. Return to the Shader Room and move the Current Time Bar to 2:15 seconds. Then go to the Shader and in the Distance to begin fade" field, type in "20". This adds a keyframe to the animation time line. Then at 4:00 seconds, change the Distance to begin fade" field to "30". This adds another keyframe. The overall result is that these additional keyframes slow down the effect of the Proximity shader by signaling Source 1's change over to Source 2 to occur more gradually over a longer period of time. Basically we are asking the Proximity shader to take its time in changing Source 1 over to Source 2. Now render the animation and view your results.

See testrender.avi in the support files included with this tutorial.

20. As you can see, the results are much slower than what they were initially. To be absolutely sure of the effect, however, it is best to go back to the Render room and select "Photorealistic" for the Renderer to see exactly how the effect will play out. If you want to create even a slower effect, experiment on your own with either adding additional keyframes (one or two should do), changing the DTBF setting to a lower number, moving the existing keyframes along the time line (drag keyframe with the mouse), or a combination of all three. Remember to switch between Draft and Photorealistic modes while checking your work. I decided to add two more keyframes and place then at the 3:19 and 4:13 time marks with the DTBF values of 45 and 65, respectively. After spreading the Shader keyframes along the time line, I finally ended up with the following keyframes and values for the DTBF:

a) 0:00 = 0.00
b) 1:17 = 20.00
c) 2:21 = 30.00
d) 3:19 = 45.00
e) 4:13 = 65.00

21. The finishing touch is to change the atmosphere. Since we started with a wintry one, we want to end up with one that matches Spring time. Back in the Assembly Room, make sure that you are on the last keyframe of your animation. Go to the PT and select Scene. Now, disable "Ground" in the Realistic Sky tab. Then hit the "Edit" button to enter the Realistic Sky Editor. Change the following Settings:

a. Atmosphere - Haze Altitude and Haze Density = 0
b. Fog - Intensity and Altitude = 0
c. Cloud Layer 1 - Altitude = 0
d. Cloud Layer 2 - Altitude = 0
e. Make sure all other cloud layers are disabled.

Perform a test render to see your results.

(Note** - If you see a problem with the horizon line within the last few frames of you animation, simply move the "Scene" keyframe several frames *outside* of the Render area (app. 6:15), and it should go away.)**

22. When you get the effect you want, you may want to change your camera position slightly to add a more interesting look to your animation. With the "Current time bar" over the last keyframe in the sequence, rotate the camera slightly to create an animated camera movement. Experiment with camera movements and remember to use draft mode to check your work.

23. When you finally achieve the effect that you want, go ahead and set the Renderer back to "Photorealistic", change your image size to the desired dimensions and render your final animation. Your movie clip should look something like the following file:

See finalmovie.avi in the support files included with this tutorial.

WHAT HAPPENED TO THE FLOWERS?

Cool huh? Now your next question may be "...but if it is supposed to be Springtime, where are all the flowers?" Good question. That will be an exercise you can try out on your own, but I will give you a hint: you can add a speckled type effect with multiple colors to a terrain layer in Source 2 to help achieve such an effect. I have included the CAR file for "Time for Spring" which includes the extra layer for the "flowers" [See download section - "timeforspring_w_flower_layer.avi" / "timeforspring_w_spring layer.car"]. Certainly not the best way to do it (you have to work at taking out the "noise" in the scene), but good enough for you to study to see what I did and see if you can come up with a better way to create flowers for the Springtime Shader.

Well, that's it. Feel free to contact me on the Yahoo forum with the Message Title "Time for Spring" or on 3dXtract's forum. I hope you enjoyed the Spring!

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