

CUSTOM SKY TUTORIAL



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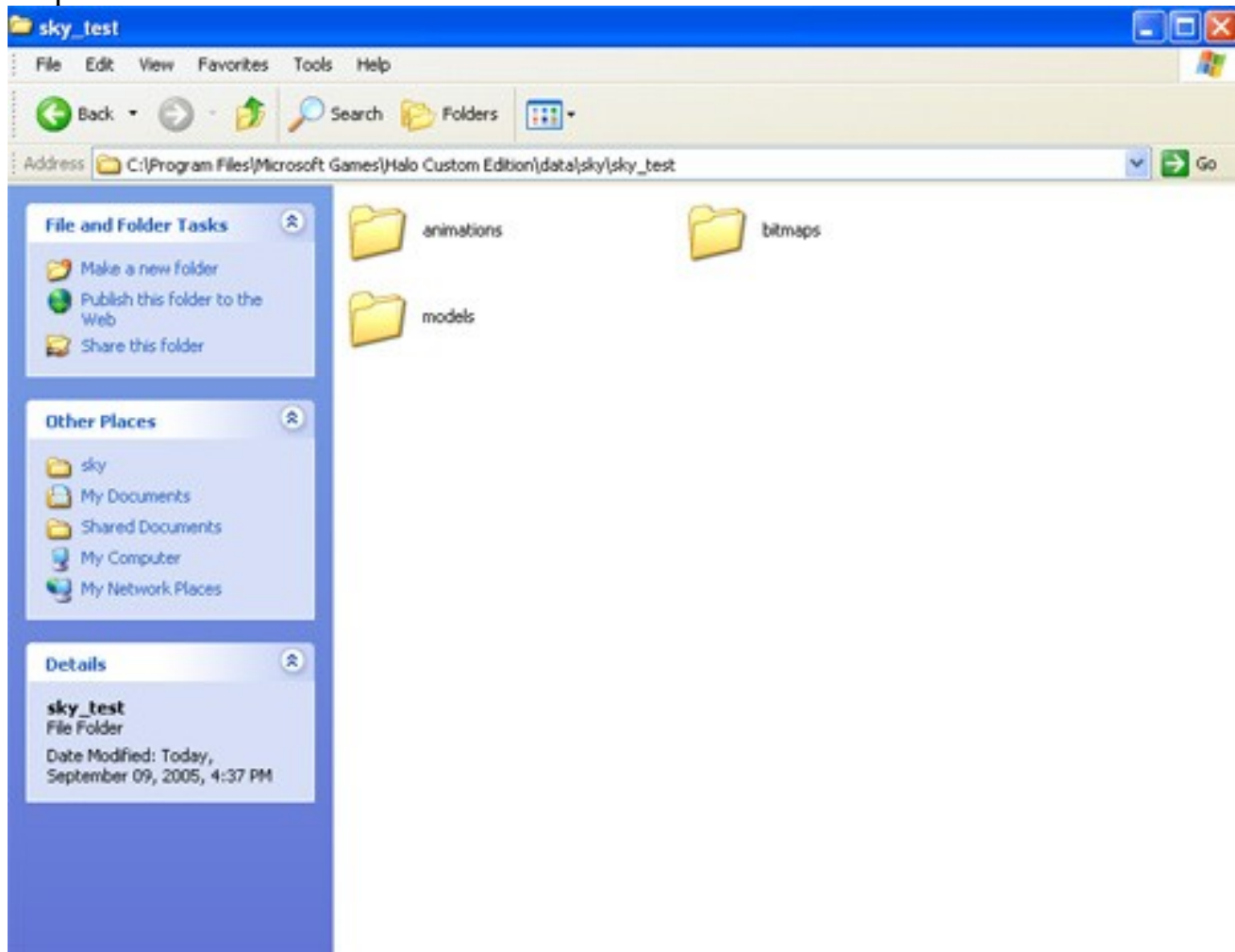
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Preface

Welcome to my tutorial on making a full custom sky this tutorial will cover the following: modeling, skinning, animating, and tagging. So get ready, grab a snack, and sit down, were gonna make a sky.

Now we are going to make these folders in your sky folder in data first make a folder called sky_test(or whatever your sky is called) and put these folders in it



Layout and Notes

Ok, the first thing to do like every great moder is to think and plan
Things to think about:
What do I want to animate?

What textures will i use?

Ok, so I'm assuming you have something in mind now like animating the clouds and maybe having the planets rotate or the sun moving.

Notes and examples:

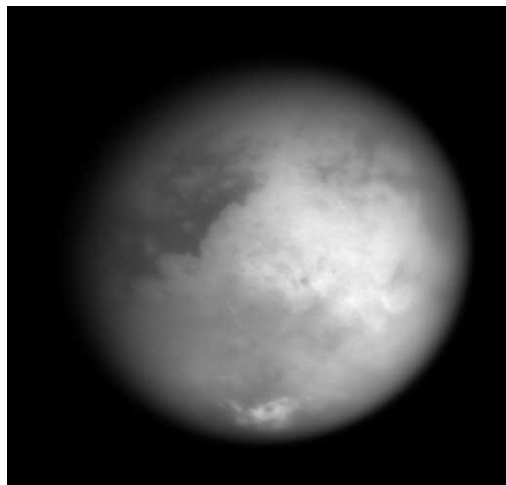
Lets say you want a planet to move but you do not want the rest of the sky to move, what you would do is have more than one frames in the scene so the main frame would be “frame sky” and the frame that will animate the planet will be “frame planet” so you would attach the planet to “frame planet” and attach everything else to “frame sky”. Finally you would attach “frame planet” to “frame sky”

Now if you want to animate your sun, simply animate the “#sun” marker and make sure its linked to “frame sky”

Preparing Bitmaps

I'm assuming you already have your images chosen so make sure they are in the .tif format, the next thing you have to do is make the alpha right if you don't do this your sky will look bad with big black squares.

Here is one of my planets:

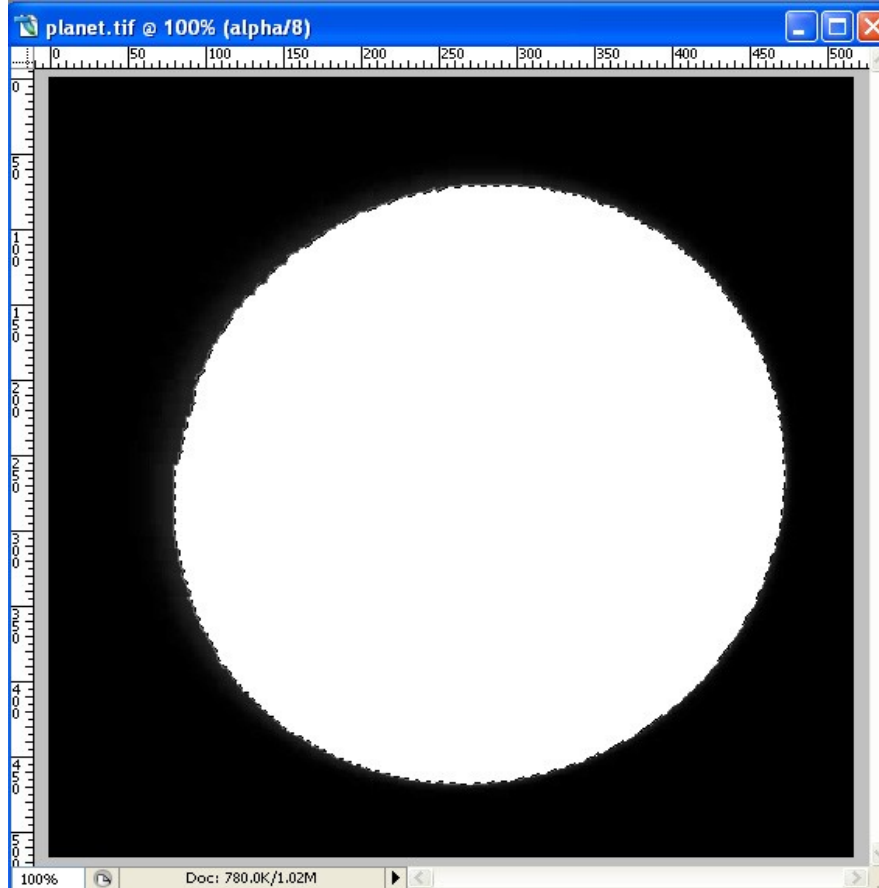


so you notice the black in the background, well we don't want that to show in game, we just want the planet part to show, so we have to edit it in photoshop.

If you got this off the internet and it was a .jpg it won't have an alpha channel so we have to make one.

1.open up photoshop

- 2.click the channels box
- 3.click one of the channels and click duplicate and call it “alpha”
- 4.but you notice that its still the same,so go to your magic wand tool and select the black area on the outside and it will pick the the black part right click and click select inverse
- 5.now go to your brush tool and select white and paint over the whole selected area.



- 6.You are now ready to save as .tif in your data\sky_test\bitmaps folder
- 7.Repeat these steps for each of your textures

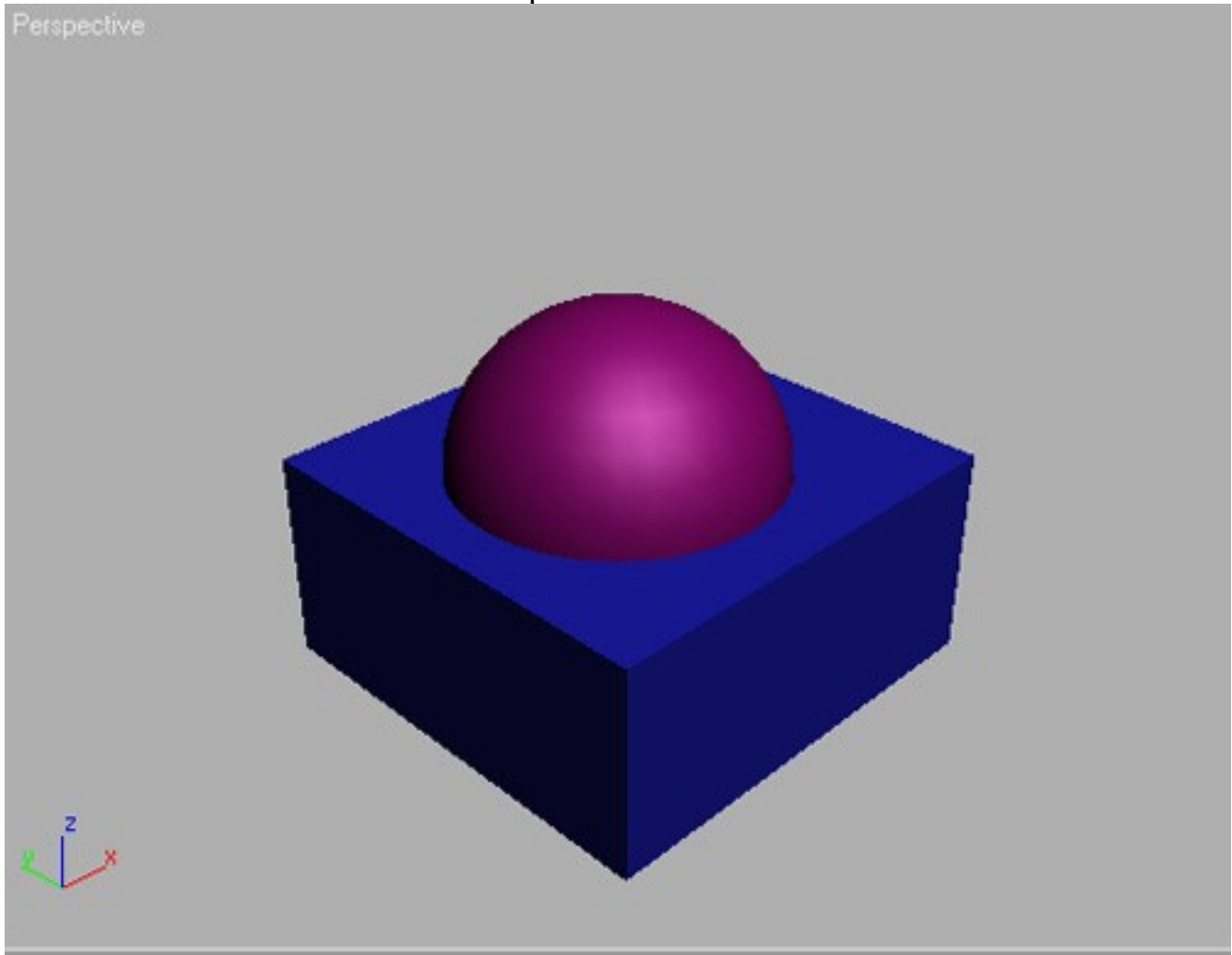
Modeling and Texturing

So we are now ready to model and texture the sky.

The first thing we are going to do is make half a sphere for the clouds you can do just about anything you want but we are gonna do it this way for the tutorial. Also don't worry about the size we will resize it later in the tutorial, the reason for that is that some versions of max and gmax have problems with the viewports when the model gets too big.

1. so the first thing we are going to do is drag out a sphere and make it 100 in radius and move it to 0 0 0

2. make a box that covers half of the sphere



3. in the create tab go to compound objects, choose the sphere and click boolean, click pick operand B and click the box.

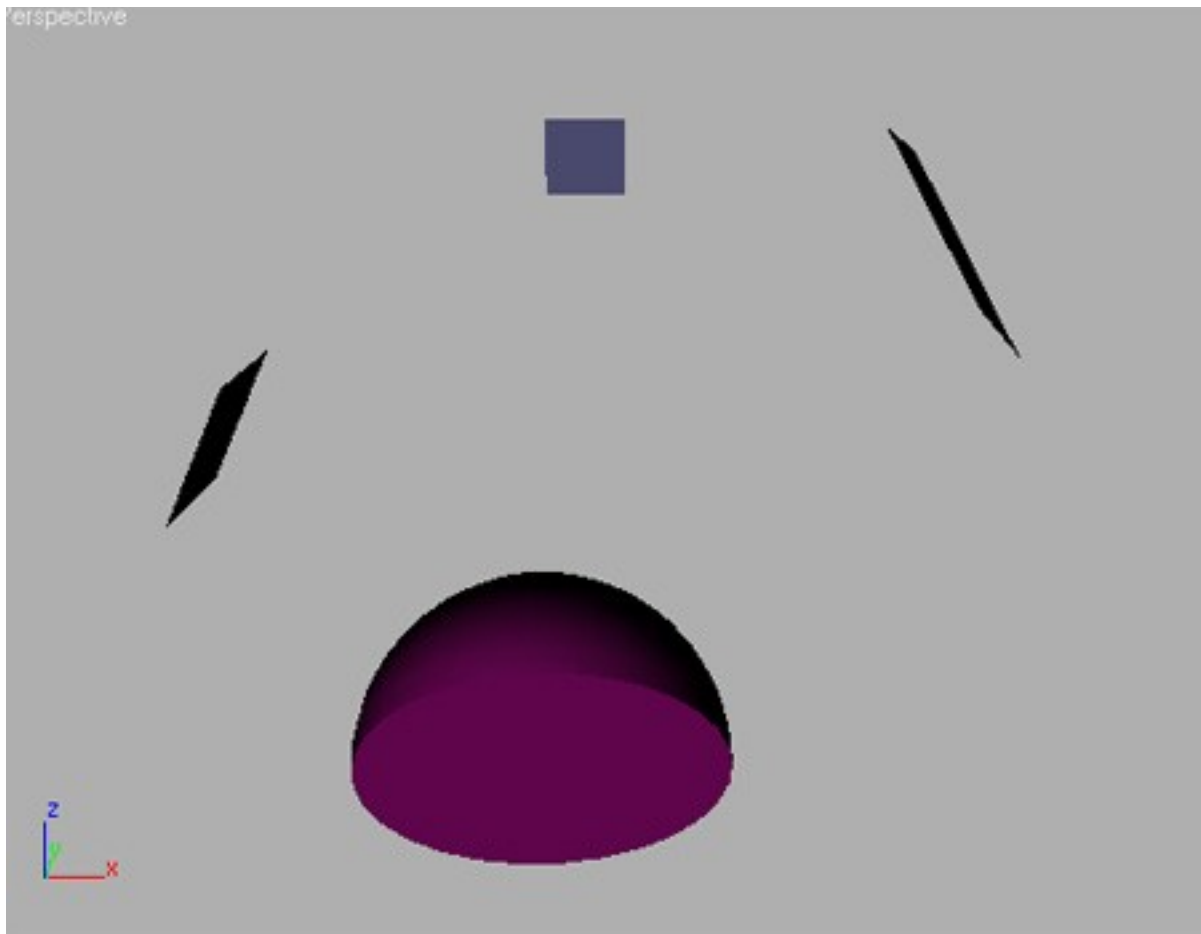
4. you will notice that the box disappears along with half the sphere leaving a hemisphere

5. the sphere moves a bit so move it back to 0 0 0

6. right click and convert to editable mesh, select ALL the faces and click flip

7. so now we will add the planets what we do is make a plane that is the same width and length and move it to the position you want

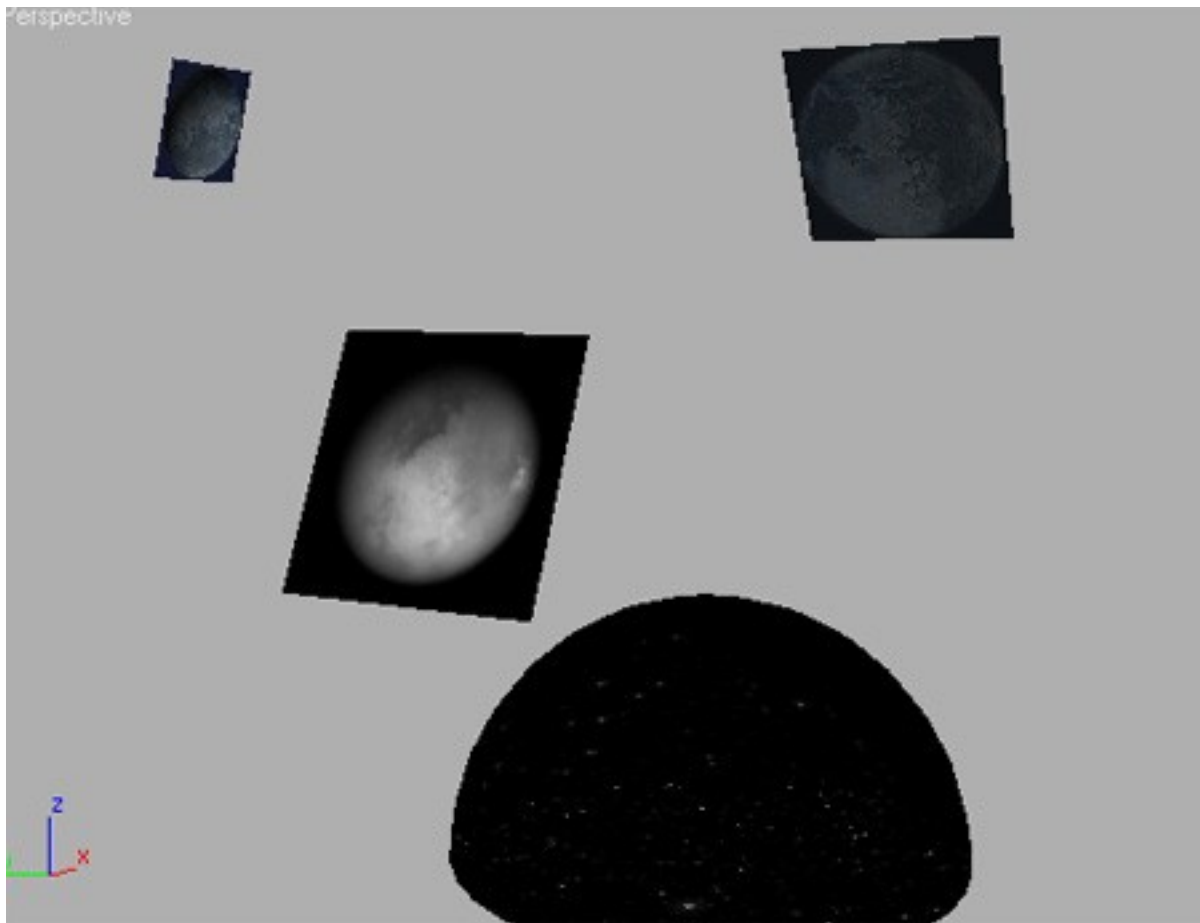
So now it should look something like this



8. if you want a sun make a sphere with radius of 2 call it "#sun" with no " marks move the "#sun" to where u want the sun to be
9. make a box 2 X 2 X 2 and call it "frame sky"
10. if you want the clouds or the planets to move ONLY one of the two make another frame call it "frame clouds" or "frame planets" (doesn't really matter)
11. now move "frame sky" and "frame planets" (I assume you called it that) to 000, If you want to move frame clouds up a bit to make it easier to select when you animate do it.

Next it is time to apply the textures I am using the planet I showed, and 3 other textures that come with the HEK

1. put all your textures in the material editor (make sure the names in the material editor is the same as the .tif)
 2. drag them to your desired place
 3. do your other texturing stuff UVW etc...
- It should now look something like this



4. make sure everything is linked right
5. save the file in your models folder, as sky_test.max

Animating

Now we are ready too animate now you don't have to do this if your texture is tillable like for example the stars you can just animate the shader, but if you want the planets to move them keep following.

1. click the time configuration icon on the bottom and change the length to 3
2. so click the auto key button and click the key button to add a frame, the first frame is the default position
3. for 2 rotate the “frame planets” to the next position
4. for frame 3 rotate the “frame planets” to the next position
5. for the last frame it is recommended that you copy the second frame so it looks right, select the first key hold shift and drag it to the 4th key.
6. you will notice that when you play it in max it will move fairly fast, don't worry about that you will change it in guerrilla

Preparing for export

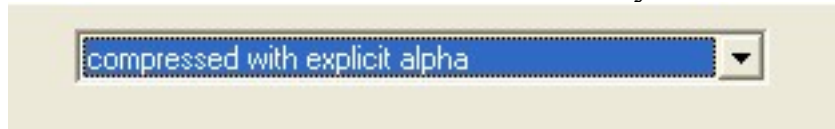
So now we are going to scale everything up to super size

- 1.select everything and scale it a lot if its not enough or too much it wont show in game so you can fix it later until it works
- 2.select the “frame sky” and move it back to 0 0 0, as you can see it moved a lot
- 3.you are now ready to export so export as sky_test.JMS in the models folder, export again in the animations folder this time as sky_test.JMO

Tagging

Now we are going to tag the sky so it will be ready to test in game

- 1.run tool type in “tool bitmaps sky\sky_test\bitmaps” wait for them to compile,open guerrilla and open all the .bitmap tags it compiled and change them to “compressed with explicit alpha” you must to this or it will not work correctly.



- 2.recompile the bitmaps
- 3.in the tags folder create a folder named “shaders”
- 4.in guerrilla create 4 “.shader_transparent_chicago” tags(or more depending on how many you made.
- 5.scroll down to maps, click “add” and where it says map select the bitmap for that shader
- 6.do the same for all shaders and save them with the same name as their bitmap in the “shaders” folder

Optional part:

now if you want to animate the texture so it moves vertically or horizontally or whatever go down to 2d texture animation

2D texture animation

u-animation source

none

u-animation function

one

u-animation period

0

seconds

u-animation phase

0

u-animation scale

0

repeats

v-animation source

none

v-animation function

one

v-animation period

0

seconds

v-animation phase

0

v-animation scale

0

repeats

rotation-animation source

none

rotation-animation function

one

rotation-animation period

0

seconds

rotation-animation phase

0

rotation-animation scale

degrees

rotation-animation center

x

0

y

0

extra flags

☐ don't fade active-camouflage
 ☐ numeric countdown timer

mess with that until you get desired results.

7.now go back to tool and type “tool model sky\sky_test” and press enter wait for it to compile

8.type “tool animations sky\sky_test” wait for it to compile if you get a warning just ignore it

9.open your model_animations tag in guerrilla and on “objects” click add and change it to your animation where it says none

OBJECTS

0. animation_graph_object_ove

Add

Insert

Duplicate

Delete

Delete All

animation

sky_test

function

A out

function controls

frame

save your tag and close it

10. make a new “.lens flare” tag and put these settings

The screenshot shows the 'Lens Flare' settings panel in Corona Renderer. It is organized into several sections:

- falloff angle**: 0 degrees
- cutoff angle**: 25 degrees
- occlusion**:
 - occlusion radius: 50 world units
 - occlusion offset direction: toward viewer (dropdown)
 - near fade distance: 0 world units
 - far fade distance: 0 world units
- bitmaps**:
 - bitmap: js:\lens flare\bitmaps\flares_generic (with an 'Open' button)
 - flags: sun (checkbox)
- corona rotation**:
 - rotation function: rotation-translation (dropdown)
 - rotation function scale: 55 degrees
- corona radius scale**:
 - horizontal scale: 0
 - vertical scale: 0
- REFLECTIONS**:
 - 0. lens_flare_reflection_block (dropdown)
 - Buttons: Add, Insert, Duplicate, Delete, Delete All
 - flags:
 - ☐ align rotation with screen center
 - ☒ radius NOT scaled by distance
 - ☐ radius scaled by occlusion factor
 - ☐ occluded by solid objects
 - bitmap index: 0
 - position: 0 along flare axis
 - rotation offset: 0 degrees
 - radius: 0.30 to 0.35 world units
 - radius scaled by: none (dropdown)
 - brightness: 0.5 to 0.6 [0.1]

save it as “sun.lens_flare” in the sky_test folder and close it

11. now make a new “.sky” tag

12. put in your “.gbxmodel” and your “.model_animations” tag at the top

13. change the colors to your preferred ones

indoor ambient radiosity color	r	0.00392157	g	0.027451	b	0.0470588	
indoor ambient radiosity power		0					
outdoor ambient radiosity color	r	0.643137	g	0.933333	b	0.94902	
outdoor ambient radiosity power		0					
outdoor fog color	r	0.745098	g	0.921569	b	0.972549	
outdoor fog maximum density		0 [0,1]					
outdoor fog start distance		0 world units					
outdoor fog opaque distance		0 world units					
indoor fog color	r	0	g	0	b	0	

depending on your type of sky if its day put light colors if night put dark colors

14.under animations click add and leave animation index to 0 change the seconds to the number of second you want your animation to be

15.under lights add the following

you should also add another light for radiosity just don't put a lens flare

LIGHTS

Add Insert Duplicate Delete Delete All

LENS FLARE

lens flare
...
Open

lens flare marker name

RADIOSITY

these parameters control how the light illuminates the world.

flags
☒ affects exteriors
☐ affects interiors

color
r
g
b


power

test distance

direction
y
p

diameter

16.save your tag as sky_test

Testing

Now you are ready to test

- 1.open your scenario in guerrilla and change the sky to sky_test
- 2.open sapien and open your map look at your sky check it through don't have all the same settings I did if something is wrong go back and change it.

End and Credits

That's the end of the tutorial, if your sky didn't come out like you wanted go back and change the settings mess with it until it works thats the way to learn

Special thanks to Tiamat for showing me how to make the animations part and helping me out with other stuff

Special thanks to KiLLa for helping me with some stuff when I'm stuck

If you need help with this tutorial email me or IM, PM or etc..

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