Subject: Re: How to get a very large 2D projected surface image
Posted by Rick Towler on Mon, 11 Dec 2006 20:19:39 GMT
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As you have found, (unfortunately) it's impossible to render an image of that size directly using object graphics. It probably doesn't matter anyways because unless you have 1.5GB of texture memory you are not going to be able to display the whole surface with your texture at full resolution.

While this thread has run amok, JD's post is actually the line of thought you'll want to pursue. You are going to have to render this surface in pieces and then stitch the images together. You will need to read the docs regarding the TEXTURE_HIRES keyword and experiment to find the "zoom" level required to display the portion of the surface at full resolution. You will need to determine exactly what ITTVIS means when they say "zoom". Is their LoD code tied to IDLgrWindow requiring you to use IDLgrWindow's Zoom* methods? Or is it more general, determining the visible portion of the surface by calculating surface/frustum intersection? You will then need to write a program that "flies over" your surface and generates the image tiles that you will reconstruct using some 3rd party application. You'll also need to deal with issues of perspective. This technique works best with panoramic style images. If you have a lot of depth of field, it will be hard to stitch the tiles together.

I don't think my camera object is what you would want to use for controlling composition. Since model transformations would be so simple, using IDLgrView and manipulating the surface model via it's translate method would be easiest.

It may also be worth submitting a feature request to ITTVIS for arbitrary IDLgrBuffer dimensions. I'm guessing that the limit is based on a limit with one of the renderers. Just let it go and have the call fail if there are RAM and or renderer limitations.

Good luck!

-Rick

Hongkai wrote:
> Hi, folks,
>
> My problem is about getting 2D projected surface image as large as
> 20000*20000 pixels.
> I have a surface data image (DEM) of 600*600 pixels, and a
> TEXTURE_MAP image of 20000*20000 images. The TEXTURE_MAP image is to be

> texture mapped onto the surface.
> I want to get a projected view of this surface and save the
> projected view as a 20000*20000 image.
>
> I used the IDLgrObjects:
>
> oSurface = OBJ_NEW('IDLgrSurface', DemImg, STYLE = 2, AMBIENT=[255,
> 255, 255])
> oImage = OBJ_NEW('IDLgrImage', TextureImg, INTERLEAVE = 0,
> /INTERPOLATE)
> oSurface -> SETPROPERTY, TEXTURE_MAP = oImage, COLOR = [255, 255, 255]
> ;
> oModel = OBJ_NEW('IDLgrModel',LIGHTING=2)
> oModel -> Add, oSurface
> oView = OBJ_NEW('IDLgrView',PROJECTION=2,COLOR=[138,209,255])
> oView -> Add, oModel
>
> Then I tried the IDLgrWindow, IDLgrBuffer, IDLgrClipboard to get the
> projected image from oView, but their maximum dimension limit are
> 4096*4096, so I can't get a desired 20000*20000 image.
>
> How to deal with this? Thank you very much!
>