Subject: Re: Object Graphics: Combine 2d with 3d
Posted by David Fanning on Sun, 01 Aug 2004 17:17:22 GMT
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Ralf Schaa writes:

> actually the mail-subject is not quite correct: I like to plot a
> spacecraft trajectory in 3d, and because it looks so nice :-) I like a
> sphere (a planet ...) in the the middle of the plot.
>
> I already have a set of programs that does it with direct graphics, but
> the programs are very quick and dirty and large and not written by
> myself, so I thougt I do it myself with object graphics ...
>
> On David's website I found the SIMPLE_SURFACE program, from wich I
> started, which means I copied the things I needed into my test program.
>
> Now I have a 3d-Plot with a sphere (Orb-Object) in the middle and it
> looks nice. Before adding a trajectory , I'd like to add some simple
> plottings like a straight line in the xy-plane, or some other plane just
> to see how things work, but that isn't an easy thing to do, is it?
>
> This is what i have done after setting up the sphere in 3d:
>
> ; A plot object
> thisPlot = Obj_New("IDLgrPLOT")
> thisPlotModel = Obj_New('IDLgrModel')
>
> thisPlot->SetProperty,DataX=[0,1],DataY=[0,0]
> thisPlotModel->Add,thisPlot
> objView->Add,thisPlotModel
>
> I wasn't expecting things would look okay right now, but i could not
> find how to manipulate the graph so that it would match in the scene: it
> is always like a 2d curve glued in front of the 3d plot ...
>
> So, how are these kind of things treated ?

I'm not sure I would have put a *plot* into that graphics
scene. It seems to me your trajectory would be a POLYLINE
(IDLgrPolyline), in which each 3D point of the trajectory
was connected by a line. (Sort of a PLOTS vs. PLOT issue,
but in object graphics.) Just create your polyline object
normally, then scale it into the coordinate system set
up by the Viewplane rectangle and the near and far clipping
planes. You will scale the polyline just like the axes were
scaled in Simple_Surface. (And you probably want to remove
the axes if you haven't already.) That is to say, you

get their current X, Y, and Z range and scale them into
your arbitrary coordinate system. (I use NORMALIZE
to do this.)

Cheers,

David

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