Subject: Re: IDLgrWindow Pickdata on an IDLexObjView Obect.
Posted by Dick Jackson on Mon, 11 Jun 2001 20:38:34 GMT
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Hi Don,

"Don J Lindler" <lindler@rockit.gsfc.nasa.gov> wrote ...
> Does anyone have any suggestions on how to get the correct 3-D position
> using the Pickdata method for an IDLgrWindow object which is displaying an
> IDLexObjView. Pickdata correctly finds the objects but returns incorrect
> x,y,z values. I am trying to modify xplot3d.pro to return the x,y, and z
> coordinates of a IDLgrPolyline displayed using Orbs for each datapoint.

I've used this a lot, with good results. I'm not sure where you are calling
the PickData from, but here is one point to note. You should either:

1) call PickData passing the primitive graphic object itself, retrieved
using Select:

```
oSel = oWindow -> Select(oView, [event.x, event.y]) ; returns object array

IF Size(oSel, /TName) EQ 'OBJREF' THEN BEGIN ; no selection returns -1

  pick = oWindow-> PickData(oView, oSel[0], [event.x, event.y], dataXYZ)

ENDIF
```

or:

2) call PickData passing the "innermost" model that contains the object
directly (note: in an IDLexObjView, it is that view's oModel3 that
contains added non-stationary objects, and this model can only be
accessed inside a method of IDLexObjView or a subclass of it.
IDLexObjView::Update is a good place to use this)

"self" would be the instance of IDLexObjView:

```
pick = oWindow -> PickData(self, self.oModel3, [event.x, event.y], dataXYZ)
```

Hope this helps!

Cheers,
--
-Dick

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Subject: Re: IDLgrWindow Pickdata on an IDLexObjView Obect.
Posted by m.hadfield on Mon, 11 Jun 2001 21:41:15 GMT
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> Does anyone have any suggestions on how to get the correct 3-D position
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> coordinates of a IDLgrPolyline displayed using Orbs for each datapoint.

How are they incorrect?

I've never used an IDLexObjView before but I just coded up a short (and very crude!) test program and the PickData method seemed to give the right answers. The test program is below.

One odd thing that I noticed about IDLexObjView is that the Get method has been overridden (subverted?) so that it returns a reference to the atom it's displaying. I would expect a view's Get method to return the view's child model(s). Overriding a superclass's key method like this so it does something completely different is bad practice IMHO. The preferable way would have been to add another method, called something like GetAtom. (This may or may not be relevant to your problem. I wanted to look at the transformation matrices of the models in the IDLexObjView.To get at them I had to "Get" the atom then work up through the graphics tree. It turns out there are 4 models and all have an identity transformation matrix. This would change if the atom is manipulated by the mouse.)

Perhaps your problem is related to the fact that your 3D objects are attached to a polyline as symbols?

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National Institute for Water and Atmospheric Research

```
pro mgh_test_idlexobjview

    ; Create a view object

    oview = obj_new('IDLexObjview')

    ; Create vertex & connectivity data for a sphere of unit radius

    n_vertices = 30
    mesh_obj, 4, vert, conn, replicate(1, n_vertices+1, n_vertices)

    ; Scale vertices & create spheroid object
```

```
   vert[0,*] = 0.5 * vert[0,*]
   vert[1,*] = 0.9 * vert[1,*]

   oatom = obj_new('IDLgrPolygon', DATA=vert, POLY=conn)

   ; Add object to view

   oview->Add, oatom

   ; Display

   owin = obj_new('IDLgrWindow', UNITS=0, DIMENSIONS=[500,500], RETAIN=2,
GRAPHICS_TREE=oview)
   owin->Draw

   ; Pick data

   if owin->Pickdata(oview, oatom, [200,200], xyz) then $
      print, 'Picked data at', xyz

   ; Skip remainder of code.

   return

   ; Check that atoms, [X,Y,Z]RANGE properties are as expected.

   oatom->GetProperty, XRANGE=xrange, YRANGE=yrange, ZRANGE=zrange

   print, oatom,xrange,yrange,zrange

   ; Get all of the atom's parent models and print their transformation
matrices.

   oatom->GetProperty, PARENT=omodel

   while obj_isa(omodel, 'IDLgrModel') do begin

      omodel->GetProperty, TRANSFORM=transform

      print, omodel, transform

      omodel->GetProperty, PARENT=omodel

   endwhile

end
```

--
Posted from clam.niwa.cri.nz [202.36.29.1]
via Mailgate.ORG Server - http://www.Mailgate.ORG

Subject: Re: IDLgrWindow Pickdata on an IDLexObjView Obect.
Posted by Don J Lindler on Tue, 12 Jun 2001 13:25:10 GMT
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"Don J Lindler" <lindler@rockit.gsfc.nasa.gov> wrote in message
news:9g2til$hv5$1@skates.gsfc.nasa.gov...
> Does anyone have any suggestions on how to get the correct 3-D position
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> x,y,z values. I am trying to modify xplot3d.pro to return the x,y, and z
> coordinates of a IDLgrPolyline displayed using Orbs for each datapoint.
>
> Thanks,
> Don Lindler
>
>

Thanks for the input. It convinced me to keep looking for the problem. It
turns out that the routine XPLOT3D.PRO uses the following line to add the
model to the view.

```
Oview2 -> setproperty, subject = Omodel
```

which appears to be the same as:

```
Oview2 -> add, Omodel, /alias
```

When I replaced the line with simply:

```
Oview2 -> add, Omodel
```

Pickdata worked fine.

Thanks,
Don Lindler
