Subject: Re: Need an "atom" object
Posted by Michael Werger on Thu, 01 Apr 1999 08:00:00 GMT
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David Fanning v	wrote:
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>

> Hi Folks,

>

- > I'm trying to save myself a bit of time and help out a friend
- > at the same time. We are looking for some kind of "atom"
- > object that would be a sphere with a particular color
- > and radius. It might have its own light source associated
- > with it. The idea would be to clump these atoms together
- > into a rotatable "molecule", if you like.

>

Hy object'lers,

I re-arranged code from the recent IDL distribution and put it in some way together what we would think of a simple atom/molecule demo...

IDL> .run cristal IDL> cristal

be warned: have the examples directories of IDL also in your searchable path because it uses surf\_track.pro (wonderful app) and orb\_\_define.pro

(Oh' it doesn't work? feedback is appreciated and I will then return code which should work...)

--

Michael Werger

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Postbus 299 http://astro.estec.esa.nl |
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## File Attachments

1) cristal.pro, downloaded 110 times

Subject: Re: Need an "atom" object

Posted by steinhh on Thu, 01 Apr 1999 08:00:00 GMT

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## David Fanning wrote:

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- > at the same time. We are looking for some kind of "atom"
- > object that would be a sphere with a particular color
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- > with it. The idea would be to clump these atoms together
- > into a rotatable "molecule", if you like.

I think Richard Adams' suggestion of using the "orb" data type would probably fill your needs, David, but just in case you'd like a small, quick'n dirty thing to build on, I made the following implementation of a "ball" object the other day.

Like the "orb" object, it's subclassed from the IDLgrModel class, and contains a polygon object. The surface is built up by a square array, equally spaced in [theta,phi] "space". Input radius r and number of points n.

The polygon vertex list forms a "quad strip" to take advantage of polygon mesh optimization.

I see the "orb" class has an inherent "position", personally I like to implement this through a translation of the "ball" model itself.

Regars, Stein Vidar PRO ball::cleanup self->idlgrmodel::cleanup **END** FUNCTION ball::init,r,n,color=color if n\_elements(color) eq 0 then color=[255,255,255] dummy = self->idlgrmodel::init() x = rebin(reform(findgen(n)/n,n,1,/overwrite),n,n,/sample)y = rebin(reform(findgen(n)/(n-1),1,n,/overwrite),n,n,/sample)

```
theta = x^*(360.0^*!dtor)
 phi = (y-0.5)*(180.0*!dtor)
 sinphi = sin(phi)
 cosphi = cos(temporary(phi))
 costheta = cos(theta)
 sintheta = sin(temporary(theta))
 xp = r^* temporary(costheta)^* cosphi
 yp = r* temporary(sintheta)*temporary(cosphi)
 zp = r^* temporary(sinphi)
 gons = lindgen(5,n*(n-1))
 FOR yi=0,n-2 DO BEGIN
  yyi = [yi,yi,yi+1,yi+1]
  FOR xi=0,n-1 DO BEGIN
    xxi = [xi,(xi+1) MOD n,(xi+1) MOD n,xi]
    gons(0,yi*n+xi) = [4,xxi + yyi*n]
   END
 END
 stop
 xp = reform(xp,n*n,/overwrite)
 yp = reform(yp,n*n,/overwrite)
 zp = reform(zp,n*n,/overwrite)
 ball = obj_new('idlgrpolygon',xp,yp,zp,polygons=gons,color=color)
 self->add.ball
 self->translate,100,0,2*r
 return,1
END
PRO ball define
 dummy = {BALL,$
      INHERITS idlgrmodel $
END
```

Subject: Re: Need an "atom" object
Posted by Richard J Adams on Thu, 01 Apr 1999 08:00:00 GMT
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Dear David,

I have used the 'orb' class that comes with the IDL distribution - I think it is with the planet example. I don't remember that it has its own lamp. However, once you get a few hundred of these, animation get a bit slow on my poor Mac :-( Richard. Richard J Adams richard.adams@physiol.ox.ac.uk Confocal Microscopy Laboratory T: + 44 1865 272506 F: + 44 1865 272469 University Laboratory of Physiology Parks Road Oxford OX1 3PT UK In article <MPG.116c07a333e3cd2b98973e@news.frii.com>, davidf@dfanning.com (David Fanning) wrote: > Hi Folks. > I'm trying to save myself a bit of time and help out a friend > at the same time. We are looking for some kind of "atom" > object that would be a sphere with a particular color > and radius. It might have its own light source associated > with it. The idea would be to clump these atoms together > into a rotatable "molecule", if you like. > > I believe I know how to make such a thing, but I'm > busy getting ready for an IDL class and would prefer to > spend my evenings doing other things. :-) > Any help would be greatly appreciated. > > > Cheers, > David > David Fanning, Ph.D. > Fanning Software Consulting > Phone: 970-221-0438 E-Mail: davidf@dfanning.com > Coyote's Guide to IDL Programming: http://www.dfanning.com/ > Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Need an "atom" object Posted by rmlongfield on Fri, 02 Apr 1999 08:00:00 GMT

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In article <37036F0B.2ABBE82F@astro.estec.esa.nl>, Michael Werger <mwerger@astro.estec.esa.nl> wrote:

> Hy object'lers,

>

- > I re-arranged code from the recent IDL distribution and
- > put it in some way together what we would think of a simple
- > atom/molecule demo...

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- > IDL> .run cristal
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- > be warned: have the examples directories of IDL also in
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- > and orb\_\_define.pro

>

- > (Oh' it doesn't work? feedback is appreciated and I will then
- > return code which should work...)

Hi Michael.

Just tried your program and it works on a Silicon Graphics with IDL5.2 (Once I realized that the name was cristal and not crystal :-). The code looks very simple and its almost tempting to start learing objects. I found just one problem when I pressed the right button:

- % Tag name WLABEL is undefined for structure <Anonymous>.
- % Execution halted at: CRISTAL\_EVENT 9

/usr/people/dlhopols/IDL/crystal.pro

% WIDGET\_PROCESS\_EVENTS

% \$MAIN\$

Also, after the error, I couldn't delete the widget at all and had to exit IDL. Is there a command that would do this from within IDL?

Rose

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