## Subject: An Interactively rotating 3D animation? Posted by milan08 on Mon, 09 Feb 2004 14:50:51 GMT

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Currently, I am using XObjView to display a 3D icon (IDLgrPolygon) at different positions inside a volume. I take a snapshot of the icon at each position via XObjView\_Write\_Image and then stream the images together using XInterAnimate. The problem is I need this in the form of a 3D animation because I want the user to be able to interactively rotate the model as the icon is animating through the volume. Does anyone have some thoughts on how I might accomplish this?

Subject: Re: An Interactively rotating 3D animation? Posted by dick on Tue, 10 Feb 2004 06:26:06 GMT

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[Apparently my first reply didn't get out to everyone, perhaps because I used an attachment. Rick covered the answer nicely, but I'll re-insert my two cents' worth, for what it's worth!]

Hi,

milan08@hotmail.com (Erica Stanley) wrote in message news:<5755059c.0402090650.390b8d4f@posting.google.com>...

- > Currently, I am using XObjView to display a 3D icon (IDLgrPolygon) at
- > different positions inside a volume. I take a snapshot of the icon at
- > each position via XObjView\_Write\_Image and then stream the images
- > together using XInterAnimate. The problem is I need this in the form
- > of a 3D animation because I want the user to be able to interactively
- > rotate the model as the icon is animating through the volume. Does
- > anyone have some thoughts on how I might accomplish this?

Seeing as how you're using XObjView anyway, this code might be just what you're looking for. Just compile and run it. I set up

a timer widget to trigger the updates, and you can still use the XObjView controls... if you're lucky and don't click as it's doing a redraw. :-(

If anyone has an idea for getting better response from the XObjView widgets while the animation is running, let me know!

==== AnimateXObjView.pro ===== ;; AnimateXObjView :: ------

An example of how to use XObjView to display an animated 3-D scene, where the view can be manipulated while the animation is in progress. Note: The XObjView controls can be somewhat unresponsive, but they will work if you click them enough times! Note: Making start/stop buttons would be a nice feature, and could easily be added to the TimerTLB widget, which should then be shown on the screen by changing Map=0 to Map=1. Note: I added the tricky flags to XObjView and XManager so that this can be used with IDL Runtime or IDL Virtual Machine. Numerous object classes need to be loaded before creating a working .sav file, but a simple way to do this is: - Compile this file (Alt-F5) - IDL> Resolve\_All - Run this file (F5) - Spin the scene a bit - Close the window - IDL> Save, /Routines, File='AnimateXObjView.sav' February, 2004 ;; Dick Jackson dick@d-jackson.com D-Jackson Software Consulting / http://www.d-jackson.com Calgary, Alberta, Canada / +1-403-242-7398 / Fax: 241-7392 PRO AnimateXObjViewTimer\_event, event Handle one firing of a timer event: - change the scene in XObjView - cause XObjView to redraw - set another timer event to fire Get UValue of top-level base, it contains a pointer to our info structure Widget\_Control, event.top, Get\_UValue=p IF (Tag\_Names(event, /Structure\_Name) EQ 'WIDGET\_TIMER') THEN BEGIN Check on XObjView window: if it is gone, destroy this window IF NOT Widget\_Info((\*p).xObjViewTLB, /Valid\_ID) THEN BEGIN Widget\_Control, event.top, /Destroy Return ENDIF;; XObjView window is gone

```
;; Modify objects viewed in XObjView window
 stepDelta = (*p).delta
 FOR i=0, N_Elements((*p).oOrbs)-1 DO BEGIN
   (*p).oOrbs[i] -> GetProperty, Pos=pos
   pos = pos-(Replicate(stepDelta, 3)/2)+$
       RandomU(seed, 3)*stepDelta
   (*p).oOrbs[i] -> SetProperty, Pos=pos
 ENDFOR ;; each orb
   Cause update in XObjView
 XObjView, Refresh=(*p).xObjViewTLB
 :: Set another timer event to fire
 Widget_Control, event.top, Timer=(*p).interval
ENDIF ;; Widget_Timer event
END ;; AnimateXObjViewTimer event
·-----
PRO AnimateXObjViewTimer_Cleanup, tlb
   Get UValue of top-level base, it contains a pointer to our info
   structure
Widget_Control, tlb, Get_UValue=p
   Destroy objects and pointers used here
Obj_Destroy, (*p).oOrbs
Ptr Free, p
END ;; AnimateXObjViewTimer_Cleanup
PRO AnimateXObjView
nOrbs = 10
                     ; Number of orbs
                     ; XObjView refresh interval (seconds)
interval = 0.1
delta = 0.1
                    ; Max. amount to wiggle each orb in
                 ; each time interval
   Make array of orb objects
oOrbs = ObjArr(nOrbs)
FOR i=0, nOrbs-1 DO$
 oOrbs[i] = Obj_New('Orb', $
            Pos=2*RandomU(seed, 3)-1, $; Range: -1:1
```

Color=RandomU(seed, 3)\*256); all colors Create XObjView window loaded with orbs XObjView, oOrbs, TLB=xObjViewTLB, Block=LMgr(/Runtime), \$ Just Reg=LMgr(/Runtime) Create widgets to generate timer events info = {xObjViewTLB:xObjViewTLB, \$ oOrbs:oOrbs, \$ interval:interval. \$ delta:delta} timerTLB = Widget\_Base(/Column, Title='Timer Base', \$ UValue=Ptr\_New(info), Map=0) Widget Control, timerTLB, /Realize Set a timer event to fire Widget Control, timerTLB, Timer=interval Register timer base widget to handle events XManager, 'AnimateXObjViewTimer', timerTLB, \$ No\_Block=LMgr(/Runtime) EQ 0, \$ Cleanup='AnimateXObiViewTimer Cleanup' END :: AnimateXObiView ===== Cheers,

Radius=RandomU(seed)\*0.1+0.1, \$; 0.1:0.2 Density=RandomU(seed)\*0.9+0.1, \$; 0.1:1.0

Subject: Re: An Interactively rotating 3D animation? Posted by milan08 on Tue, 10 Feb 2004 16:58:21 GMT View Forum Message <> Reply to Message

Thanks guys for the help. Rick's solution was a neat instant fix (I thought I was going to have to do some complicated thread programming) and I'll probably implement a few of Dick's ideas because adding start/stop functionality and also getting this to work with IDL VM are both future goals. thanks again.

-Dick

Dick Jackson

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## -Erica

dick@d-jackson.com (Dick Jackson) wrote in message news:<24b73b2a.0402092226.1fb5792@posting.google.com>...

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- > I used an attachment. Rick covered the answer nicely, but I'll
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