Subject: Re: 3-D (stereo) visualization
Posted by Michael Galloy on Sun, 28 Feb 2010 22:47:15 GMT
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On 2/28/10 1:03 pm, Kenneth P. Bowman wrote:
> My students and I have an iTools-based visualization tool that is
> primarily used to display surfaces in 3-D atmospheric volumes.
> An example can be seen on my profile page
>
> http://atmo.tamu.edu/profile/KBowman
>
> The iTools are useful in this case due to their ability to easily rotate
> and zoom interactively.
>
> I have been asked whether it is possible to make this into a 3-D stereo
> application (i.e., with funny glasses and all).
>
> Can anyone tell me whether this is possible in IDL?
>
> This is something that I have been hoping for for years, but have
> never heard of this ability. Since IDL bills itself as a premier
> visualization environment, I hope this is possible. I realize that
> special hardware is probably necessary.

I have classes to do red-cyan anaglpyhs in object graphics, but have never integrated this into the iTools (I don't know if there are any hooks to allow the specification of the object graphics destination for an IDLitWindow):

http://michaelgalloy.com/2006/06/16/anaglyphs-mggr3dconverte r-and-mggrwindow3d.html

I also have some classes to do 3-dimensional display on Alioscopy's autostereoscopic displays (see http://www.alioscopy.com/). This requires special hardware, i.e., a $5000+ monitor from Alioscopy (but no special glasses required).

Mike
--
www.michaelgalloy.com
Research Mathematician
Tech-X Corporation

Subject: Re: 3-D (stereo) visualization
Posted by Dick Jackson on Tue, 02 Mar 2010 05:57:02 GMT
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Hi Ken,

On Feb 28, 12:03 pm, "Kenneth P. Bowman" <k-bow...@null.edu> wrote:
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> primarily used to display surfaces in 3-D atmospheric volumes.
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> Can anyone tell me whether this is possible in IDL?

I bet the ITT gang will think I put you up to this... at the User
Group meeting I mentioned Stereo OpenGL support as a big potential win
for them, with possibly not a big effort on their part. Then, your
video driver can handle the many output devices that are out there.
Perhaps the new 3-D standards are a better target to aim for, but I
haven't looked into that. Write someone at ITT VIS to add your voice
to the chorus who want to see their 3-D data in 3-D!

> This is something that I have been hoping for for years, but have
> never heard of this ability. Since IDL bills itself as a premier
> visualization environment, I hope this is possible. I realize that
> special hardware is probably necessary.
>
> Thanks, Ken

Ken, I'll give you a call and tell you about what I've done to make
XObjView able to send left-eye and right-eye views to two displays.
This can work beautifully with a system like this Planar model that
uses polarized glasses and gives stunning results:
  http://www.planar3d.com/3d-products/sd1710/
Current MSRP $2395.

In theory, the display output could also go to two projectors with
polarizing filters on them (available mail order, or I hear that Saran
Wrap works!), again with the polarizing glasses.

Cheers,
-Dick

Dick Jackson --- dick@d-jackson.com --- Victoria, BC, Canada

Subject: Re: 3-D (stereo) visualization
Posted by Kenneth P. Bowman on Tue, 02 Mar 2010 14:20:42 GMT
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In article
<f88f85f2-7b76-4c1b-b2b5-0d94256afe8f@o16g2000prh.googlegroups.com>,
 Dick Jackson <dick@d-jackson.com> wrote:

> Hi Ken,
>
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> Group meeting I mentioned Stereo OpenGL support as a big potential win
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> Wrap works!), again with the polarizing glasses.
>
> Cheers,
> -Dick
>
> Dick Jackson --- dick@d-jackson.com --- Victoria, BC, Canada

Thanks, Dick. And to Michael Galloy too.

Cheers, Ken

Subject: Re: 3-D (stereo) visualization
Posted by penteado on Tue, 02 Mar 2010 15:08:58 GMT

On Feb 28, 5:03 pm, "Kenneth P. Bowman" <k-bow...@null.edu> wrote:
> I have been asked whether it is possible to make this into a 3-D stereo
> application (i.e., with funny glasses and all).

On the cheaper side, there are 3D glasses that work with some graphics cards, and with the proper drivers, to render the OpenGL content in 3D. But I have never tested any of those with IDL.

Subject: Re: 3-D (stereo) visualization
Posted by Kenneth P. Bowman on Tue, 02 Mar 2010 19:53:10 GMT

I want to thank Michael Galloy and Dick Jackson again for their advice on this.

My suggestion to ITTVIS: there should be a /STEREO keyword for all of the iTools to turn on stereo rendering. And, of course, it should just work automatically if I have stereo graphics hardware attached.

:-)

Ken
