Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by David Fanning on Sat, 24 Jan 2004 15:09:33 GMT
View Forum Message <> Reply to Message

Neil writes:

> Simulation of shapes viewed with optical systems normally culminates
> with the final image being convoluted with the point spread function
> of the optical equipment. This just blurrs the image, according to the
> laws of diffraction, thus accurately representing real effects in
> nature. This convolution is of course a one line operation in IDL and
> easy to implement in Direct Graphics.
>
> Does anyone know if there an equivalant equally effective way to do
> the convolution in Object Graphics?
>
> If this is possible it would significantly enhance scene simulation
> software for optical systems.

I guess I could be missing something here, but if this is
a one line solution in direct graphics, then it can't
possibly be more than a three line solution in object graphics.

In pseudo code:

1. Get the data out of the object. (GetProperty)
2. Apply the convolution. (Convol)
3. Put the data back into the object. (SetProperty)

Cheers,

David

P.S. The three to one ratio is a bonus. The typical ratio
of object graphics code to direct graphics code is ten to one. :-)

--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by Nuno Oliveira on Mon, 26 Jan 2004 15:43:50 GMT
View Forum Message <> Reply to Message

"David Fanning" <david@dfanning.com> wrote in message
news:MPG.1a7c38977949f04e9897b4@news.frii.com...
> P.S. The three to one ratio is a bonus. The typical ratio
> of object graphics code to direct graphics code is ten to one. :-)

I get surprised with all these arguments. I still learning. but.

I heard somewhere that object oriented languages where more easy and practical to use. Or you just don't like the way IDL's graphic objects are build?

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by David Fanning on Mon, 26 Jan 2004 16:59:39 GMT
View Forum Message <> Reply to Message

Nuno Oliveira writes:

> I heard somewhere that object oriented languages where more easy and
> practical to use. Or you just don't like the way IDL's graphic objects are
> build?

No, no. You misunderstand. I *love* object oriented programs. Nearly all the programs I write for clients are object oriented. They are slick, easy to maintain, easy to write (once you have a decent library of routines) and elegant.

But that doesn't mean they don't require a lot more code up front. They do. The payoff is on the back end, once you have a number of building blocks for creating functionality.

I have no objection at all to object graphics, except that they are mostly overkill and unnecessary for the kinds of programs my clients want. For me, direct graphics objects are much simpler to use and write.

Of course, if you are doing anything at all in 3D space, object graphics are hard to beat.

Cheers,

David

P.S. I have recently had occasion to see a 2D application that was written in object graphics and I must admit, I was greatly impressed with the look and feel. In fact, it was

spectacular! I couldn't come close to it it's look and feel
in direct graphics (at least until RSI gives us some decent
direct graphics fonts). But having some idea of the work
involved, I'm not sure the polish was worth the elbow grease. :-)

--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by Paul Van Delst[1] on Mon, 26 Jan 2004 18:45:06 GMT
View Forum Message <> Reply to Message

Nuno Oliveira wrote:
>
> "David Fanning" <david@dfanning.com> wrote in message
> news:MPG.1a7c38977949f04e9897b4@news.frii.com...
>> P.S. The three to one ratio is a bonus. The typical ratio
>> of object graphics code to direct graphics code is ten to one. :-)
>
> I get surprised with all these arguments. I still learning. but.
>
> I heard somewhere that object oriented languages where more easy and
> practical to use. Or you just don't like the way IDL's graphic objects are
> build?

In my experience, it depends on your definition of "easy" and "practical". And those definitions can change for the same programmer from one project to another.

The object-graphic-y-ness or direct-graphic-y-ness of a particular visualisation tool in IDL is something I care not a whit about. I just want to look at my data using PLOT, SURFACE, CONTOUR, etc etc. and interactively muck about with the plot to prettify it. If those tools are implemented using OG (which they bloody well should be) then it's transparent to me -- and that's how I like it. If it takes more than, oh, say, 5-10 minutes to put something together to view said data (e.g. automatically reading in the file format du jour), then I'm not interested.

iTools may be the solution, but I'm still using v5.5 and the nightmarish memories of the "insight" tool from when IDL OG was first introduced has made me not so keen to upgrade just for that. I'm amazed that the first thing that didn't happen when OG was introduced was to transition the "regular" plotting tools (PLOT, SURFACE, CONTOUR, etc etc) to OG. For things like, e.g. PLOT, cantankerous users such as myself would notice no difference until we read the on-line help, or accidently clicked in the plot window, and saw all the extra neato things available -- e.g. using the mouse to adjust axis and plot titles, or

legends (position, font, etc etc)...or clicking on a particular line in a series of PLOT/OPLOTs so I could change the colour/PSYM of just that line (updating the legend entry at the same time of course)... before we created a PostScript output file including the changes. Matlab users have doing this sort of thing, "easily and practically", for about 10 years or so.

Apologies for the whinge.

paulv

--
Paul van Delst
CIMSS @ NOAA/NCEP/EMC

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by Nuno Oliveira on Tue, 27 Jan 2004 10:56:00 GMT
View Forum Message <> Reply to Message

Comes to me another few questions "object related". I'm used to build programs with functions: when a portion of code, with a limited number of variables, repeats in the program several times then I make a function. And what about the objects? When do you say "well this can be an class object defined with these class methods"?

And what are the requirements to build class objects and methods in IDL?

When you say volume visualization it's easier with IDLgrVolume class object. is there another way?

Cheers,

Nuno.

"David Fanning" <david@dfanning.com> wrote in message news:MPG.1a7ef563ba4ea31e9897b7@news.frii.com...
> No, no. You misunderstand. I *love* object oriented programs.
> Nearly all the programs I write for clients are object oriented.

> They are slick, easy to maintain, easy to write (once you have
> a decent library of routines) and elegant.
>
> Of course, if you are doing anything at all in 3D space,
> object graphics are hard to beat.
>
> Cheers,
>
> David
> --
> David W. Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Phone: 970-221-0438, E-mail: david@dfanning.com
> Coyote's Guide to IDL Programming: http://www.dfanning.com/
> Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by David Fanning on Tue, 27 Jan 2004 13:46:29 GMT
View Forum Message <> Reply to Message

Nuno Oliveira writes:

> Comes to me another few questions "object related". I'm used to build
> programs with functions: when a portion of code, with a limited number of
> variables, repeats in the program several times then I make a function. And
> what about the objects? When do you say "well this can be an class object
> defined with these class methods"?

Whenever I find myself passing info structures all over God's
green earth, the notion of an object appeals to me. That is to
say, nearly every time I write a widget program.

> And what are the requirements to build class objects and methods in IDL?

Open-mindedness, perseverance, a willingness to challenge the
IDL newsgroup received wisdom. A taste for adventure might help.
Basically the same things you need to be a successful learning
any foreign language. :-)

> When you say volume visualization it's easier with IDLgrVolume class object.
> is there another way?

I wouldn't think so.

Cheers,

David

--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by Nuno Oliveira on Wed, 28 Jan 2004 11:32:23 GMT
View Forum Message <> Reply to Message

So, if I want volume visualisation in Virtual Machine running in Unix does
it mean that I have a big problem!!!

"David Fanning" <david@dfanning.com> wrote in message
news:MPG.1a8019a4cc60c4a59897b9@news.frii.com...
> Nuno Oliveira writes:
>> When you say volume visualization it's easier with IDLgrVolume class
object.
>> is there another way?
>
> I wouldn't think so.
>
> Cheers,
>
> David
>
> --
> David W. Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Phone: 970-221-0438, E-mail: david@dfanning.com
> Coyote's Guide to IDL Programming: http://www.dfanning.com/
> Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by David Fanning on Wed, 28 Jan 2004 14:01:24 GMT
View Forum Message <> Reply to Message

Nuno Oliveira writes:

> So, if I want volume visualisation in Virtual Machine running in Unix does
> it mean that I have a big problem!!!

It would appear so. Have you had a chat with the people
you forked over all that money to? :-)

Cheers,

David
--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by Nuno Oliveira on Wed, 28 Jan 2004 15:34:48 GMT
View Forum Message <> Reply to Message

It is not complete decided but the question is that there is a strong
intention (and it is not my personal option or decision) to run it in
Virtual Machine in Unix. By the way, you make you're your applications for a
specific operating system or you code your programs so they can run either
in Unix and Windows?

"David Fanning" <david@dfanning.com> wrote in message
news:MPG.1a816ea4454a24db9897ba@news.frii.com...
> Nuno Oliveira writes:
>
>> So, if I want volume visualisation in Virtual Machine running in Unix
does
>> it mean that I have a big problem!!!
>
> It would appear so. Have you had a chat with the people
> you forked over all that money to? :-)
>
> Cheers,
>
> David
> --
> David W. Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Phone: 970-221-0438, E-mail: david@dfanning.com
> Coyote's Guide to IDL Programming: http://www.dfanning.com/
> Toll-Free IDL Book Orders: 1-888-461-0155

Subject: Re: Object Graphics + Convolution with Point Spread Function
Posted by David Fanning on Wed, 28 Jan 2004 16:18:25 GMT
View Forum Message <> Reply to Message

Nuno Oliveira writes:

> By the way, you make you're your applications for a
> specific operating system or you code your programs so they can run either
> in Unix and Windows?

Within the constraints of IDL, and with God's grace,
my programs run everywhere.

Cheers,

David

P.S. Let's just say I wouldn't put too much faith in
the marketing literature, and I would test like a
banshee. :-)

--
David W. Fanning, Ph.D.
Fanning Software Consulting, Inc.
Phone: 970-221-0438, E-mail: david@dfanning.com
Coyote's Guide to IDL Programming: http://www.dfanning.com/
Toll-Free IDL Book Orders: 1-888-461-0155