
Subject: Ready to quit after 25 years...

Posted by [Haje Korth](#) on Thu, 23 Jun 2011 21:49:26 GMT

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I never thought that I would ever post a message with this subject here. But after hours of utter frustration of not getting the job done because of lack of decent documentation for recent IDL versions, I see no way forward.

It all started so nicely trying to do a vector plot on a polar view of the Earth using the commands:

```
dbmap=map('Stereographic',dimensions=dimensions,center_latitude=90,center_longitude=0,limit=[latmin,lonmin,latmax,lonmax ],  
$
```

```
position=[0.05,0.05,0.45,0.9],grid_longitude=45,grid_latitude=10,label_show=0,transparency=50,name='dbmap')
```

```
vector=vector(v_east,v_north1,lon,lat,/overplot,data_location=0,/head_proportional,head_size=0.5,length_scale=0.5)
```

The sh*t hit the fan when I realized that the same vector plotted at two different latitudes does not have the same direction. I assume this is because of the decreasing radius of the latitude circles from the equator toward the poles. Since this recovery I have tried uncountable number of methods to account for this to no avail. Conveniently, the examples in the documentation all show rectangular grids which do not suffer from this problem.

I was able to plot the vectors using the arrow function, but doing this one vector at a time takes so long that I would be embarrassed sharing this code with anyone. So as for the work around.... FAIL

So I am at a loss with nowhere to turn. This is just one a many examples of problems with the new graphics system that were either very tedious or impossible to sort. I do not ever see this new graphics system being adopted widely if people cannot teach themselves how to use it.

Enough ranting, gotta dig for another language to get this code done....

Disappointed,
Haje

Subject: Re: Ready to quit after 25 years...
Posted by [Klemen](#) on Wed, 29 Jun 2011 09:50:17 GMT
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Try to normalize you `v_east` by the cosine of position latitude.
`v_east = v_east * cos(lat)`
Just a guess but it might help.
Klemen

Subject: Re: Ready to quit after 25 years...
Posted by [Haje Korth](#) on Thu, 30 Jun 2011 20:59:49 GMT
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Chris,
yay, google groups is working again. I believe we have sorted all this out by e-mail in the mean time. It is my guess that vectorizing ARROW (and SYMBOL) would reduce the `arg_present` overhead and do the trick to speed this up. Also, keep me posted on what you find out what's going wrong with vector in a stereographic projection.

Cheers,
haje

On Jun 28, 5:40 pm, Chris Torrence <gorth...@gmail.com> wrote:

> Hi Haje,
>
> I think my previous post got swallowed, so I'll try again.
>
> Sorry to hear that you are having so many problems. I've already talked to Mark Piper about adding the ability for the Arrow and Symbol functions to accept array arguments. Regarding the Vectors on non-rectangular maps, I'll take a look at the code to see what it is doing.
>
> As far as the `Arg_Present` issue, I wonder if this is partly because of having to loop over all of the Arrows. Perhaps if the Arrow function were changed to accept arrays, then this problem would go away. Regardless, I'll take a look at our implementation of `Arg_Present` to see if there are any optimizations that we can do.
>
> Hope you're having a better day today. Keep giving us feedback on the new graphics - we definitely appreciate it!
>
> Cheers,
> Chris
>
> Dr. Christopher Torrence
> Lead Architect for Desktop Products
> ITT Visual Information Solutions

Subject: Re: Ready to quit after 25 years...
Posted by [Michael Galloy](#) on Fri, 08 Jul 2011 19:33:35 GMT
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On 7/8/11 10:58 AM, Haje Korth wrote:

- > Hi Bob,
- > no doubt the response from Chris and colleagues to arising issues is
- > superb and prompt. Communication has significantly improved under the
- > ITT umbrella and cannot be compared to the KODAK firewall I tried to
- > climb over unsuccessfully most of the time (Thanks to Ali Bahrami for
- > opening a back door here and there).

I agree.

- > The issues I am having is that all the information on the new graphics
- > system (NG) I absorb from the forum should be available via the IDL
- > documentation in absence of third party books. In the past i went to
- > David's book where the help was insufficient. I was desperately
- > waiting for him to publish a book on the matter, but I gather from the
- > forum he does not believe in it presumably due to lack in flexibility.
- > Mike's new book is great but the 15-page NG chapter is not
- > comprehensive enough to fill the holes I have in using the system. To
- > my knowledge no other books exist describing NG. My lack of knowledge
- > combined with the inability to fill it, results presently in regular
- > outbursts of anger. :-)

Yes, I agree that I don't have enough NG information in the book to describe it sufficiently to switch to it for daily tasks, but I am stuck in a similar situation as iTools: the information is not documented yet. I could provide some extra routines, hacks, and examples that workaround some of the limitations of the current new graphics, but the next version of IDL would probably change them drastically.

I originally had a chapter on developing with the iTools in the book, but between writing the examples and writing the text of the chapter a new version or two of IDL came out and my examples no longer worked (and that was sticking to the *documented* interface which was certainly not adequate to begin with)! I didn't want to get in the same position with iTool's offspring, NG.

And while I'm complaining about the docs (which I consider to be a strength of IDL's, by the way), are we going to get the full set of documentation in the online help browser again? I really miss the External Development Guide.

I did see a positive change in the docs recently. While Googling for one of the ENVI routines (I think, ENVI_OPEN_FILE), the first hit was the PDF of the ENVI Programming Guide on ITT VIS' own website! It was the PDF, not an HTML page, and I couldn't find any IDL documentation, but

it's a great to see that maybe the online documentation might be put online someday! Let's hope that it wasn't an oversight for the PDF to leak out...

- > Apparently some of the issues I am having are due to, let's say,
- > unoptimized codes. While this is not unexpected, the present
- > development cycle implies that these probably small fixes which would
- > make my life easier will takes 6-12 months to reach my system. It is
- > very likely that the codes I am using right now will no longer be in
- > use by the time a fix becomes available. This leaves me with the
- > question, whether it is actually worth bothering with the new
- > technology. No, I do not think I want to know the answer. :-)

While I think the NG routines are very exciting, I can't see myself switching to them yet. I still use direct graphics for 2D graphics and hand coded object graphics for 3D graphics.

- > Oh, well just my two cents, back to the pile of work in front of me...

Mike

--

Michael Galloy

www.michaelgalloy.com

Modern IDL, A Guide to Learning IDL: <http://modernidl.idldev.com>

Research Mathematician

Tech-X Corporation

Subject: Re: Ready to quit after 25 years...

Posted by [David Fanning](#) on Fri, 08 Jul 2011 20:07:08 GMT

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Haje Korth writes:

- > The issues I am having is that all the information on the new graphics
- > system (NG) I absorb from the forum should be available via the IDL
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- > David's book where the help was insufficient. I was desperately
- > waiting for him to publish a book on the matter, but I gather from the
- > forum he does not believe in it presumably due to lack in flexibility.

Mostly I don't "believe" in them because I don't know anyone who uses them. I can't really say why this is so. I don't use them because I don't think they behave intuitively. I always find myself getting annoyed when I use them. Life is too hard to work with tools that annoy you! :-)

Personally, I think they haven't been accepted because no one has a chance in hell of building a tool on their own. They are unbelievably complex. I can teach someone, even someone who knows next to nothing about IDL, how to build a new Coyote Graphics tool in half an hour. You get the same functionality, it's much faster than these function graphics tools, and you can understand how it works. Why would anyone want to use anything else!?

I've thought about writing a book about them from time to time. But, writing a book is so hard, and takes so much out of you, that I don't think I could do it and handle the inevitable frustration with the lack of documentation, etc. at the same time. I'd be kicking the dog all day long! Plus, my wife's tolerance for sullenness is not all that high these days. :-(

Also, I agree with Mike. There is no shelf life for a book. In another year and a half, we will have another "new" system to deal with. The last thing I need is another 1000 books filling up my garage. :-)

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Sepore ma de ni thue. ("Perhaps thos speakest truth.")

Subject: Re: Ready to quit after 25 years...

Posted by [penteado](#) on Fri, 08 Jul 2011 21:33:43 GMT

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On Jul 8, 5:07 pm, David Fanning <n...@dfanning.com> wrote:

> Haje Korth writes:

>> The issues I am having is that all the information on the new graphics
>> system (NG) I absorb from the forum should be available via the IDL
>> documentation in absence of third party books. In the past i went to
>> David's book where the help was insufficient. I was desperately
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- > intuitively. I always find myself getting annoyed when
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- > annoy you! :-)

I agree. Which is why I do not use direct graphics. Too annoying.

Now I use a mix of iTools and New Graphics, because some of the functionality from the iTools GUI is not in NG.

To me, the problem with both systems is not complexity, it is the lack of documentation.

Subject: Re: Ready to quit after 25 years...
Posted by [David Fanning](#) on Sat, 09 Jul 2011 03:22:11 GMT
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Paulo Penteado writes:

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- >
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- > functionality from the iTools GUI is not in NG.
- >
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- > of documentation.

Paulo, I always thought you were the one who was going to write the NG book. How about it? Should we do it together? Perhaps I wouldn't be so frustrated if I had someone who knew the answers! :-)

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>
Sepore ma de ni thue. ("Perhaps thos speakest truth.")

Subject: Re: Ready to quit after 25 years...

Posted by [penteado](#) on Mon, 11 Jul 2011 15:45:36 GMT

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On Jul 9, 12:22 am, David Fanning <n...@dfanning.com> wrote:

> Paulo Penteado writes:

>> I agree. Which is why I do not use direct graphics. Too annoying.

>

>> Now I use a mix of iTools and New Graphics, because some of the

>> functionality from the iTools GUI is not in NG.

>

>> To me, the problem with both systems is not complexity, it is the lack

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>

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> to write the NG book. How about it? Should we do it

> together? Perhaps I wouldn't be so frustrated if I

> had someone who knew the answers! :-)

And I was thinking that Michael was more likely to write it, until I read his post above.

It would be interesting to write, NG and iTools are fun to work with, despite the frustrating lack of documentation. Which I always found odd: they had all the work to develop these systems, but the functionality goes unused because nobody gets told about it.

Subject: Re: Ready to quit after 25 years...

Posted by [Michael Galloy](#) on Mon, 11 Jul 2011 21:54:24 GMT

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On 7/11/11 9:45 AM, Paulo Penteado wrote:

> On Jul 9, 12:22 am, David Fanning<n...@dfanning.com> wrote:

>> Paulo Penteado writes:

>>> I agree. Which is why I do not use direct graphics. Too annoying.

>>

>>> Now I use a mix of iTools and New Graphics, because some of the

>>> functionality from the iTools GUI is not in NG.

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> despite the frustrating lack of documentation. Which I always found
> odd: they had all the work to develop these systems, but the
> functionality goes unused because because nobody gets told about it.

I would be interested in writing about new graphics, but not until things calm down and ITT VIS plugs some of the holes in the new graphics including the documentation.

Mike

--

Michael Galloy

www.michaelgalloy.com

Modern IDL, A Guide to Learning IDL: <http://modernidl.idldev.com>

Research Mathematician

Tech-X Corporation

Subject: Re: Ready to quit after 25 years...

Posted by [Haje Korth](#) on Tue, 12 Jul 2011 12:16:06 GMT

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Chris,
thanks for the insight on the inner workings of profiler, and your change makes a lot of sense to not lead the user down the wrong path. I look forward to the vectorized arrow function to get 2+ order magnitude speed improvement. I volunteer as beta tester. :-)

Haje

On Jul 8, 12:53 pm, Chris Torrence <gorth...@gmail.com> wrote:

> Hi Bob,
>
> Thanks for the kind remarks!
>
> Now, regarding the problem with Arg_Present - it turns out to not be a problem with Arg_Present at all. The Profiler introduces a slight overhead when it computes the time spent per iteration and records the information in an internal data structure. For most routines this overhead is negligible compared to the execution time of the routine. However, for very fast routines (like Arg_Present), the overhead is significant. The real problem is that Arg_Present was getting called 15 million times. So what you were really measuring for things like Arg_Present, Obj_Isa, etc. is just the speed of the profiler!
>
> I just made a change to the way the Profiler works. Now, by default it will not include the following routines: ARG_PRESENT, KEYWORD_SET, N_ELEMENTS, OBJ_ISA, OBJ_VALID, PTR_VALID, SIZE. You can still turn on profiling for these routines, but you need to do it explicitly.

For example:

> PROFILER, /SYSTEM ; turns on profiling for all system routines except the above
> PROFILER, 'ARG_PRESENT', /SYSTEM ; also turns it on
>
> Hopefully with this change, your profiling results will no longer be biased towards routines like Arg_Present and N_Elements, and you will be better able to discover the real bottlenecks in your code.
>
> For example, in Haje's case with the Arrow function, the real problem is that he has to call Arrow 1500 times because it doesn't accept array arguments. We're also working on that for IDL 8.2.
>
> Cheers,
> Chris
> ITTVIS

Subject: Re: Ready to quit after 25 years...

Posted by [chris_torrence@NOSPAM](#) on Wed, 13 Jul 2011 15:23:34 GMT

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Hi Ben,

No, the SYSTEM keyword just tells the Profiler that you want to profile built-in system routines (things like FFT, TOTAL, etc) as opposed to .pro routines like DIST, HANNING (and your own routines). It has nothing to do with whether things like ARG_PRESENT are profiled or not. except for the fact that you need to specify /SYSTEM when you do want to turn on profiling for those routines (since they are built in routines).

Hope this makes it a bit more clear.

-Chris

Subject: Re: Ready to quit after 25 years...

Posted by [ben.bighair](#) on Wed, 13 Jul 2011 20:11:56 GMT

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Hi,

On Jul 13, 11:23 am, Chris Torrence <[gorth...@gmail.com](#)> wrote:

> Hi Ben,
> No, the SYSTEM keyword just tells the Profiler that you want to profile built-in system routines (things like FFT, TOTAL, etc) as opposed to .pro routines like DIST, HANNING (and your own routines). It has nothing to do with whether things like ARG_PRESENT are profiled or not. except for the fact that you need to specify /SYSTEM when you do want to turn on profiling for those routines (since they are built in routines).
> Hope this makes it a bit more clear.

Yes - I get it now. Now all I need is IDL 8!

Thanks!
BEn
