Subject: Re: Why IDL Is Not My Favorite Platform (was Re: IDL alternatives?)
Posted by zowie on Thu, 01 Jun 1995 07:00:00 GMT
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Joseph M Zawodny (zawodny@arbd0.larc.nasa.gov) wrote:
: In the future, please keep your "crufting" and "kvetching" to
: a minimum and get to the point (and along the way use real words).

I apologize if I've been too long-winded. The original nitpicky part
was a response to someone asking for specific examples of things
that are broken about the interface. I probably should have
taken it to email at that point, especially before using slangy
words and expressing strong opinions in a trade group.

:...[he's] saying "IDL does not look and feel like $1500 worth of
:software", but ... "despite that I prefer it for some strange
:reason and it does work".

Well, no, actually what I meant (and, upon re-reading, seem to have
said) was more like "IDL is based on a sound idea, but it isn't
implemented well enough to be worth $1500".
--
Craig DeForest

Subject: Re: Why IDL Is Not My Favorite Platform (was Re: IDL alternatives?)
Posted by rep2857 on Thu, 01 Jun 1995 07:00:00 GMT
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In article <3ql6rm$ksv@reznor.larc.nasa.gov>,
Joseph M Zawodny <zawodny@arbd0.larc.nasa.gov> wrote:
> In article <3qkvvn$jkc@nntp.Stanford.EDU> zowie@banneker.stanford.edu
> (Craig DeForest) wrote this and more in earlier posts:
>> I kvetched:
>
> ... and had a long diatribe

CFV: comp.lang.idl-pvwave.advocacy

Seems like an appropriate place to send this.

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Contract Employee. Will visualize data for large amounts of money.

Subject: Re: Why IDL Is Not My Favorite Platform (was Re: IDL alternatives?)
Posted by zawodny on Thu, 01 Jun 1995 07:00:00 GMT
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In article <3qkvvn$jkc@nntp.Stanford.EDU> zowie@banneker.stanford.edu
(Craig DeForest) wrote this and more in earlier posts:
> I kvetched:

... and had a long diatribe

> Craig DeForest

When I read the original post I thought to myself "This guy has hit the
nail on the head and put into words what I have felt for a long time".
Then after careful picking by others, it has become apparent that
Criag has used a good many words to say essentially nothing. His one
real point that I must have originally keyed on is that IDL needs to
be able to vectorize further in some undefined, but natural, way so
that there is a way to reduce the need for looping. I continually
find myself extracting subarrays and performing transposes just to be
able to avoid FOR loops, but this can typically only be done at the
first level of a task and then I have to resort to FOR loops to
perform these tasks repetitively. I do not know exactly what I am
asking for here, but I will know it when I see it (if I ever do). The
remainder of Craig's comments boil down to his saying "IDL does not
look and feel like $1500 worth of software", but then he goes on to
say "despite that I prefer it for some strange reason and it does
work."

In the future, please keep your "crufting" and "kvetching" to
a minimum and get to the point (and along the way use real words).
--
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Subject: Re: Why IDL Is Not My Favorite Platform (was Re: IDL alternatives?)
Posted by zowie on Thu, 01 Jun 1995 07:00:00 GMT
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I kvetched:
: >the n:m and * syntaxes [for array indexing]don't generalize to higher
: >dimensions. ...

William Thompson (thompson@orpheus.nascom.nasa.gov) wrote:
: I don't understand this. One has always been able to use syntax such as
: A = B(3:5,*)

: C = D(*,*,6:*)
: and in my experience IDL 3.5 was no exception to this.

I probably wasn't precise enough in my description -- I've just run into a lot of cases where it would be nice if one could hook up the different dimensions different ways, like an in algebraic analysis. Probably the simplest case is something like "Make each value of the linear array C equal to the sum of the appropriate row in the image A", which won't fit into the syntax -- you run out of vectorizing symbols after summing over the row in A.

You're right that, of course, you can do multi-dimensional selection.

: >An example of poor data structure design: Matrices act like their
: >transposes. Enough said. ...
: Is this another one of those row-major versus column-major wars?

I'm not complaining about indexing arrays from within the langage, I'm complaining about how matrix i/o (or, alternatively, matrix math) works. Check this out:

```
 IDL> a = [[0,1],[-1,0]]
 IDL> b = [[1,2],[ 3,4]]
 IDL> print,a,' # ',b,' = ',a#b
   0 1
  -1 0
 #
   1 2
   3 4
 =
      -2  1
      -4  3
```

Transposing all matrices on i/o is confusing at best. Alone, it wouldn't detract much from the language -- but it's one more thing that comes between the programmer and the scientific application he's trying to implement.

Having only done scalar work in FORTRAN, I can't comment on FORTRAN-90's matrix i/o. I must be mising some historical context here.

: The complaint that IDL has grown organically rather than being developed from
: the ground up is valid. ... Over the years additional features were added,
: such as as image processing and widgets ...It's burdened by the need to be
: backwardly compatible for those institutions like here which have spent many
: years developing code under it. For all of that, I like it. I think the
: advantages far outweigh the disadvantages.

I agree. IDL has a curious, homegrown, useful-yet-lashed-together feeling that I normally like in a piece of software. My objection is that the software, which comes complete with a lashed-together quick-fix look, feel, and approach, is sold and distributed at a slick, well-designed product's price. While it's certainly possible to get useful work done with it, it would be possible (and easy) to get so much more done with a more carefully implemented tool.

: For Windows and Mac platforms, however, it's a very expensive product. Of
: course I could be wrong, but I think that RSI sees the product as something
: that people buy primarily for workstations but also want to use on their PCs
: and Macs as well. That's unfortunate, if true.

Yep. Our latest power macintosh runs faster than the UNIX workstation (a DEC 5000/200) we run IDL on and comparable Linux machines can be had for less than the cost of the appropriate license for IDL!
When multimillion dollar, air-conditioned computer emplacements were the rule, IDL was state of the art, and the cost of licensing it was a drop in the financial bucket. Now, however, the rules have changed: people (like me) expect their software to be more accessible from the standpoints of both one's productivity and one's pocketbook.
--
Craig DeForest

Subject: Re: Why IDL Is Not My Favorite Platform (was Re: IDL alternatives?)
Posted by thompson on Thu, 01 Jun 1995 07:00:00 GMT
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zowie@banneker.stanford.edu (Craig DeForest) writes:

> For an example in the language syntax itself [one of many], the vector
> processing is very nice -- but (at least, in 3.5 -- don't know if this
> has changed in 4.0) the n:m and * syntaxes don't generalize to higher
> dimensions. ...

I don't understand this. One has always been able to use syntax such as

```
A = B(3:5,*)
C = D(*,*,6:*)
```

and in my experience IDL 3.5 was no exception to this.

> An example of poor data structure design: Matrices act like their
> transposes. Enough said. ...

Is this another one of those row-major versus column-major wars? You'll find proponents on both sides of this issue. IDL differs from C in this, but agrees

with FORTRAN, so take your pick.

The complaint that IDL has grown organically rather than being developed from the ground up is valid. It started out as a plotting tool for Tektronix 4010 type interfaces. Over the years additional features were added, such as as image processing and widgets, and it's been ported to a bunch of operating systems it wasn't originally developed for. It's burdened by the need to be backwardly compatible for those institutions like here which have spent many years developing code under it. For all of that, I like it. I think the advantages far outweigh the disadvantages.

As far as price goes, it is expensive. From what I've been able to tell, its price is roughly comparable to other high end scientific processing packages available for Unix and VMS platforms. That's not to say that I wouldn't want to see it cheaper.

For Windows and Mac platforms, however, it's a very expensive product. Of course I could be wrong, but I think that RSI sees the product as something that people buy primarily for workstations but also want to use on their PCs and Macs as well. That's unfortunate, if true.

Bill Thompson
