Subject: Re: Linux Question
Posted by Paolo Grigis on Thu, 17 Feb 2005 09:53:25 GMT
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Marshall Perrin wrote:
> David Fanning <davidf@dfanning.com> wrote:
>
>> I am always amazed with what people put up with,
>> but this was really an eye-opening experience.
>> I recommend *anyone* who writes software for a
>> living go spend a couple of months with the end-users.
>> You will never be the same. :-)
>
>
> I feel that someone needs to stand up here and offer a valiant defense
> of the astrophysics community, but I fear it's too late and we've
> all already been irrevocably branded as hopeless luddites. :-)

Thanks Marshall!

>
> I think part of the problem is that IDL ships with poor default settings
> in many cases. It can be configured to do the right thing, if you know
> how to tweak your .idlstartup file to add some DECOMPOSED and RETAIN
> keywords, etc, but you shouldn't have to do that to get reasonable
> functionality! I think many astronomers come to IDL with previous experience
> with things like Matlab or Mathematica, where you *don't* need to do
> that sort of tweaking. Window repaints work correctly in Mathematica
> right away! So when faced with IDL windows that get permanently damaged
> as soon as something passes in front of them, why isn't it reasonable to
> assume that's "just how IDL is"?

Just to *reiterate* it: let's say you've just started you're PhD thesis,
you sit in front of you're shiny new linux box, and just spend a couple
of days and nights learning IDL. You don't feel like a newbye anymore,
and you think you're ready for your first big project:
a nice colored movie of your favorite supernova exploding.
You have made a nice plan in your head on how the animation will
look like and you think you might be optioned for the next academy
award.

Proud, you start coding and displaying your frames... just to find out
your animation looks like it was done in the thirties: desperately black
and white. You think: IDL cannot be so backwards, can't it? Suddenly you
also find out that when you put your mouse cursor over the plot windows,
colors magically show up, making your plot so nice and screwing
everything else up, but who cares if you're nice background image of M81
by Hubble now looks like an old X-ray false color image...

So you gear your hope up, but still find the limitation of having to
keep your mouse on the windows a little harsh. Brilliant idea: check
up the documentation. You type "? colour" at the command line and
a fine message windows tells you: the topic "COLOUR" does not exist.
Fine, you remember RSI HQ being based in colorado and not in colourado,
so you try again "? colour", but that doesn't work either. So what?

Slowly finding you're way through the 10000+ pages of documentation,
you discover on page 3856 of the appendices the section that you should
have read first: "The X Windows Device". You read the chapter carefully
twice, and you summ up your findings: out there exist direct color, true
color, pseudo color, static color, gray scale, static gray. The last 2
don't interest you, since you have already managed B&W, sort of.
So which one should you pick? You learn they come in different flavours,
8 bit, 16 bit, 24 bit. Also there is a mention of colormaps: they come
as shared, private, static (but you find no mention of dynamics ones,
pity, as an astrophysicists you have been trained to think that
hydrodynamics is superior to hydrostatics). So, now, which one will
work for you? Of course the guide does not help you in *that* matter,
so you choose to apply the "scientific method": try out all the
possible combination until you find the one that suits you
(but still you're not really sure why that particular
combination works and the others failed...).

I am sure that the above picture is not too far from the actual
experience of at least some people, and maybe even a few
"computer-wise" ones.

Ciao,
Paolo

>
> That's not to say I disagree completely with the tone of this thread.
> There *are* a lot of people who don't understand computing nearly as
> well as perhaps they should; I'd love to see more computer emphasis
> added to the undergraduate physics curriculum, but the invariable
> faculty response is "but there's already too much material; what
> courses should we drop if we add a computer requirement or two?"
> Still, I think it needs to happen sooner or later. But I see a
> distinction between fundamental issues of numerical data analysis
> (e.g. representation of floating-point numbers, error propagation,
> algorithms, and so on) versus details specific to some individual
> piece of software (setting RETAIN=2 or knowing how to convert between
> DATA and NORMALIZED coordinates, or whatever). One should strive to
> minimize how much of the latter one needs to know, so that you can
> concentrate on the former! In my opinion, something like imdisp or
> tvimage should become *standard* with IDL: too many people out there
> end up learning "tv" first and then getting stuck rolling their own

> more useful display codes from scratch, and that's a waste...
>
> On a regular basis, I program in IDL, C/C++, Perl, Tcl/Tk, various
> shells, and Motorola DSP assembler (and occasionally I end up in
> Python or Fortran too). That menagerie of languages is my problem, not
> yours, but I hope you don't fault me for wanting to get the most
> science done in IDL as possible with the minimum amount of screwing
> around with configuration parameters or learning language esoterica!
> (Same reason why I, and nearly every other astronomer I know, have
> switched to Macs as much as possible: minimal need to screw around for
> hours just to get things working!)
>
> I'll go crawl back in my hole with the other end-users for a while
> now and be quiet again. :-)
>
>
> - Marshall
>
