Subject: "hyper" PS_FORM
Posted by Craig Markwardt on Tue, 13 Jan 1998 08:00:00 GMT
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The sample programs provided by David Fanning at

http://www.dfanning.com/documents/programs.html

contain a wealth of good ideas. In fact, I use XWINDOW, TVIMAGE and PS_FORM daily to do most of my graphics output. Thanks David!

One thing I had always wished for was a version of the PS_FORM function that could be customized with different plot layouts and paper sizes. I found myself wanting to make a series of plots with the same margins and layout. I also suspect that many European IDL users would like a PS_FORM that understands metric paper sizes. So, I set to work to update PS_FORM.

I am pleased to announce my own version of PS_FORM, available from the web, which I am distributing with David Fanning's permission. My version was designed for use with IDL 4, but it has been tested cursorily on IDL 5 by Fanning. You will find it at

http://astrog.physics.wisc.edu/~craigm/idl/idl.html

Although it retains its ancestral ties to PS_FORM, much of the program is new, and David Fanning can't be responsible for it. This is pretty much my own work here. Please let me know if it helps you out.

Craig

From the web page:

PS_FORM.PRO

Originally by David Fanning, this function creates a printer setup dialog that can be used when sending output to a Postscript printer. The user interactively selects the desired attributes of the Postscript output, such as color and size. The return value of the function is a structure which can be sent to the DEVICE command. David Fanning's other superb graphics programs use this function to set up Postscript printers.

This version is significantly enhanced from Fanning's original, but is still a drop-in replacement. New features:

* Selection of paper size, including A4 and a myriad of other eurometric paper dimensions. Please test this for me, since our printers are

exclusively US Letter size here.

* Custom plot layouts, selectable by dropbox. This is a great way to
ensure that every plot comes out with standard margins. Several of my
favorite layouts are included as the default, but you can include your
own by declaring a common block. The technique is documented under
"COMMON BLOCKS" at the head of the program file.

* Streamlined internal operations. The program file is quite a bit
shorter than the original.

--

Craig Markwardt, Ph.D.
EMAIL: craigm@lheamail.gsfc.nasa.gov

Subject: Re: "hyper" PS_FORM
Posted by Craig Markwardt on Mon, 19 Jan 1998 08:00:00 GMT
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hahn@hrz.tu-darmstadt.de (Norbert Hahn) writes:
> European users should add the /isolatin1 to the parameter list of device.
> This simplifies the use of national characters.

I can try to put this into PS_FORM as well.

> [snip]
>> * Selection of paper size, including A4 and a myriad of other eurometric
>> paper dimensions. Please test this for me, since our printers are
>> exclusively US Letter size here.
>
>
> ... A more modern procedure should be able to read the PPD
> of the printer and find out the imageable area. The user may then shrink the
> imageable area to suit his purposes.
>
> Maybe I've overlooked it: How does ps_form center the printable area?

Neither my nor Fanning's version of PS_FORM will intelligently select
the print area. In my version, you can specify a default margin, but
that does not address the more general problem. Indeed, I am not sure
that the general problem can be solved to everybody's satisfaction.

My version of PS_FORM does support custom page layouts. You may
supply a list of "named" configurations to PS_FORM which appear as

predefined page layouts in the dialog box. I have used this to define
a "portrait", "landscape", etc. You could do the same for your
special purpose printers, enterring the specific margins for each.
You could enter this as a common block in your startup file and thus
have the same printer setups available in each IDL session. It's not
perfect, but it can work.

As for the use of common blocks, I understand Fanning's trepidation.
I chose to use them because they provide named, persistent, and global
storage between calls to PS_FORM. I didn't see any other facilities
in IDL to do this. If you are a stickler, you can call PS_FORM with
the NOCOMMON keyword and then the common is not declared or accessed.
I'm open to suggestions.

Craig

P.S. For those who are coming late, you can find my revised PS_FORM,
an IDL widget dialog box for configuring your PS printer, at

http://astrog.physics.wisc.edu/~craigm/idl/idl.html

It is originally based on David Fanning's IDL procedure of the same
name, but heavily modified. More documentation is on the web page.

--

Craig Markwardt, Ph.D.
EMAIL: craigm@lheamail.gsfc.nasa.gov

Subject: Re: "hyper" PS_FORM
Posted by davidf on Mon, 19 Jan 1998 08:00:00 GMT
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Norbert Hahn (hahn@hrz.tu-darmstadt.de) writes:

> Maybe I've overlooked it: How does ps_form center the printable area?

Poorly. :-(

PS_Form was one of the first really "useful" IDL widget
programs I ever wrote. I shamelessly copied it from a similar
version that I first saw in ENVI. Unlike the ENVI version
(I suspect, since I never saw the code) my version is terrible.
It is one of the worst widget programs I ever wrote. It is
a continual embarrassment to me that it is also one of the
most widely used. The worst thing about it is that everything

in it is hardcoded, especially the printable area.

I guess you could say that everything I know today about writing
modular widget programs that can be easily extended and maintained
I learned in response to this ill-tempered program. Maybe one of
the reasons I never find the time to re-write it correctly is that
I secretly like to have it around to remind me where I came from. :-)

I've been thinking about re-writing it for a long time to
incorporate other page sizes, but whenever I get some
free time other, higher priority tasks push their way into my
consciousness. Craig Markwardt finally got tired of me dragging
my heels and asked me if he could publish his solution. I'm
grateful for his help, but his use of a Common block gets
in the way of my wholehearted endorsement. :-)

Anyway, I have a number of ideas of how it "ought" to be
written. (And, frankly, it "ought" to be written as an
object.) One of these days I am going to have another go
at writing it correctly.

Cheers,

David

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Subject: Re: "hyper" PS_FORM
Posted by hahn on Mon, 19 Jan 1998 08:00:00 GMT
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Craig Markwardt <craigm@cow.physics.wisc.edu> wrote:

> The sample programs provided by David Fanning at

[snip]
> I also suspect that many European IDL
> users would like a PS_FORM that understands metric paper sizes. So, I
> set to work to update PS_FORM.

European users should add the /isolatin1 to the parameter list of device.
This simplifies the use of national characters.

[snip]
> * Selection of paper size, including A4 and a myriad of other eurometric
>   paper dimensions. Please test this for me, since our printers are
>   exclusively US Letter size here.

A couple of plotters will be quite happy with this procedure. However, some devices with cut paper may show a problem: The printable area is smaller than the paper size: We have 6 special purpose PS printers, all support A4, some printers support a couple of other paper sizes as well. I checked the PPDs of some ouf our printers and found it a horrible task to process a PPD with IDL.

A long time ago there was a procedure called phaser.pro (which now resides in the obsolete directory) that handles the printable area of some Tektronix Phaser printers... A more modern procedure should be able to read the PPD of the printer and find out the imageable area. The user may then shrink the imageable area to suit his purposes.

Maybe I've overlooked it: How does ps_form center the printable area?

... just a couple of thoughts

Norbert
