Subject: Re: Display widgets' scaling factors
Posted by Liam Gumley on Wed, 09 Sep 1998 07:00:00 GMT
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David Fanning wrote:
> The proper thing would be to draw into the first window
> and *immediately* save the system variables.
>  WSet, window1
>  Plot, data
>  p1 = !P
>  x1 = !X
>  y1 = !Y
>  z1 = !Z

I also recommend saving the !MAP system variables, just in case you use a map projection. I've used the technique David outlines quite successfully in my IDL Frame Tools, available at http://cimss.ssec.wisc.edu/~gumley/frame.html. That reminds me that I really should put the source code on the web site (right now it's SAVE files).

Cheers,
Liam.

Subject: Re: Display widgets' scaling factors
Posted by davidf on Wed, 09 Sep 1998 07:00:00 GMT
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TJ Saunders (tjs@u.washington.edu) writes:

> Something that often crops in up my widget programming is the difficulty I
> have in trying to have two child draw widgets under one parent, each with
> different xy ranges, scaling, that sort of thing. Ideally, I would like
> to be able to draw in each widget with the correct scaling factors. But,
> I have found that the scale factors for the last plot drawn remain in
> effect, even if WSET is used. I have tried to manually change the !P, !X,
> !Y, and !Z system variables for each display, but that doesn't seem to
> work. I'm sure that there is a solution somewhere...any ideas?

Oh, I'm working on my web page this morning and I was looking for good ideas for tips. :-)

You write "even if WSET is used". Believe me, in a widget program WSET *must* be used! But I don't want to get into *that*. :-)

You are correct that WSET has absolutely no bearing on

the plot scale factors in the window. It's one and only purpose is to allow you to select the current graphics window (I.e., the window that very next graphic command will be sent to).

Data scaling parameters are set in the system variables. If you keep track of these for each window, then you will have no trouble getting things to work properly. The fact that you *are* having trouble, even when you try setting them suggests you are not doing it properly.

The proper thing would be to draw into the first window and *immediately* save the system variables.

```
WSet, window1
Plot, data
p1 = !P
x1 = !X
y1 = !Y
z1 = !Z
```

Then, do the same thing for the other window:

```
WSet, window2
Plot, moredata
p2 = !P
x2 = !X
y2 = !Y
z2 = !Z
```

When you want to go back to the first window (perhaps to overplot on the plot that is already there), you simply restore the proper system variables before overplotting:

```
WSet, window1
!P = p1
!X = x1
!Y = y1
!Z = z1
OPlot, stillmoredata
```

Of course, in a widget program these values will have to be saved in the info structure so you can access them. If I have time later today I'll write this idea up more formally and put an example on my web page.

Cheers,

David

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Subject: Re: Display widgets' scaling factors
Posted by steinhh on Thu, 10 Sep 1998 07:00:00 GMT
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David Fanning wrote:

> The proper thing would be to draw into the first window
> and *immediately* save the system variables.

Yep. That's the name of the game. I wrote a couple of routines
many years ago (ca 1994!) to deal with this kind of task. They're
used like this:

```
plot,something
p1 = pstore(1)     ;; Returns a "plot region ID number"

plot,somethingelse ;; You may have more than one plot in
                   ;; a window.

p2 = pstore(2)     ;; Hence the number "2"

wset,some_other_window
plot,third_thing
p3 = pstore(1)     ;; First plot this window

prestore,p1        ;; Restores variables + does wset
oplot,on_top_of_first_one

prestore,p3
oplot,on_top_of_third_plot
```

etc.

To get just these files, look at

http://sohowww.nascom.nasa.gov/softops/cds/idl/util/display/

Get files pstore.pro, prestore.pro, pfind.pro and pconvert.pro.

The routines were designed to work with scaled (rebinned), displayed images as well (actually, mostly!), hence the mention in the doc's about data X/Y size etc.

I think these routines are *mostly* independent of other routines in that S/W tree, but you may have to change

TRIM() -> STRCOMPRESS(STRING(),??)
SETWINDOW -> WSET

Regards,

Stein Vidar

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