
Subject: Re: GUI strategy advice needed

Posted by [David Fanning](#) on Mon, 23 May 2005 12:34:20 GMT

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Soren writes:

- > I am building a GUI for image display with the following specifications.
- > 1) Choice of colormap
- > 2) Colorbar
- > 3) Window/level setting by mouse drag
- > 4) Scalable display
- > 5) Print function
- > 6) ROI functionality (segmented polygon only, multiple ROIs)
- >
- > I had the first 5 done using direct graphics. (2) and (4) using David
- > Fannings colorbar and print routines.
- >
- > I figured that the ROI function was best implemented using Object graphics
- > (OG) as i saw XROI and figured that i then didn't have to worry about a lot
- > of the drawing myself.
- >
- > I was happy with the OG approach until implementing the colorbar using OG.
- > It seems the documentaton is erroneus, or at least i cannot seem to control
- > the colorbar layout.
- >
- > 1) The questions in now - should i stick to OG and is there some way to get
- > Davids colorbar into an OG window.
- > I would like to keep things simple and have all graphics in one window - it
- > makes printing easier.

Direct graphics and object graphics are two completely incompatible graphics sub-systems. You cannot mix and match in the same graphics window. You could, of course, use OG colorbars. I've never understood RSI's OG colorbar either, but I have a couple of my web page that may work more like what you are expecting. If you go the OG approach, you will have to modify all the other things you have done, too.

- > 2) Am i right that multiple ROIs are best managed using OG?

No, I doubt it. You may be right that ROIs are best managed by objects, but I've never had any trouble at all using direct graphics objects to implement all the functionality you talk about. I do often find the IDLanROI object useful for computing geometry, etc. But I usually draw the objects in direct graphics.

I do see the RSI train a'comin', however, and realize that

anyone committed to direct graphics is going to be run over or left in the dust. What you see is what you are going to get forever with direct graphics. All the innovations (i.e., what you are paying your maintenance dollars for) are going to be in the object graphics realm. Maybe you would be further ahead to take this as an opportunity to learn object graphics.

Cheers,

David

--

David Fanning, Ph.D.

Fanning Software Consulting, Inc.

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

Subject: Re: GUI strategy advice needed
Posted by [n](#) on Mon, 23 May 2005 15:46:53 GMT

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Hello David,

Thanks for your advice. Yes, lernig OG was also a part of the reason why I chose that solution.

I downloaded your vcolorbar and it is easily controllable, but i have problem using it in a indexed color mode window. I tried to set grey to 1:

```
thisImage = Obj_New('IDLgrImage', bar, greyscale=1)
```

as the image is created, but it seems to always just render in one color, maybe you have a quick fix?

Thanks for your help!

Bought your book by the way, it's been well worth the investment many times.

Soren

"David Fanning" <davidf@dfanning.com> wrote in message
news:MPG.1cfb7bab16f3879d989a17@news.frii.com...

> Soren writes:

>

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>> 1) Choice of colormap

>> 2) Colorbar

>> 3) Window/level setting by mouse drag

>> 4) Scalable display

>> 5) Print function

>> 6) ROI functionality (segmeneted polygon only, multiple ROIs)

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> draw the objects in direct graphics.
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> I do see the RSI train a'comin', however, and realize that
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> run over or left in the dust. What you see is what you
> are going to get forever with direct graphics. All the
> innovations (i.e., what you are paying your maintenance dollars
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> you would be further ahead to take this as an opportunity
> to learn object graphics.

```

>
> Cheers,
>
> David
>
> --
> David Fanning, Ph.D.
> Fanning Software Consulting, Inc.
> Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: GUI strategy advice needed
Posted by [David Fanning](#) on Mon, 23 May 2005 16:03:53 GMT
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Soren writes:

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> chose that solution.
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> problem using it in a indexed color mode window. I tried to set grey to 1:
> thisImage = Obj_New('IDLgrImage', bar, greyscale=1)
> as the image is created, but it seems to always just render in one color,
> maybe you have a quick fix?

Well, I wouldn't be using an indexed color mode window!
Why are you doing that!? Doesn't that sort of defeat
the whole point of using object graphics? :-)

Anyway, leaving for Germany in a matter of hours
and still lots to be done. But I'm not sure there
is a quick fix.

> Thanks for your help!
> Bought your book by the way, it's been well worth the investment many times.

My wife told me I should have charged double for it. :-(

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: GUI strategy advice needed

Posted by [Michael Wallace](#) on Mon, 23 May 2005 16:20:46 GMT

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- > incompatible graphics sub-systems. You cannot mix and
- > match in the same graphics window. You could, of course,
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- > either, but I have a couple of my web page that may work
- > more like what you are expecting. If you go the OG approach,
- > you will have to modify all the other things you have done, too.

I don't mean to take this thread off subject, but what is the problem with IDLgrColorbar? I've used OG colorbars in a lot of my plots and never had any issue with them. So, what's not to understand? Just curious.

-Mike

Subject: Re: GUI strategy advice needed

Posted by [David Fanning](#) on Mon, 23 May 2005 16:34:54 GMT

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Michael Wallace writes:

- > I don't mean to take this thread off subject, but what is the problem
- > with IDLgrColorbar? I've used OG colorbars in a lot of my plots and
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I don't know. It just doesn't seem to work in the "Coyote Way". :-(

I haven't used it in awhile, but I remember I had a devil of a time positioning it in my view.

Cheers,

David

--

David Fanning, Ph.D.

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

Subject: Re: GUI strategy advice needed

Posted by [Michael Wallace](#) on Mon, 23 May 2005 19:40:22 GMT

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> I don't know. It just doesn't seem to work in the "Coyote Way". :-(
>
> I haven't used it in awhile, but I remember I had a devil of a time
> positioning it in my view.

I don't know how it was back in the days before I started using IDL, but these days IDLgrColorbar is a subclass of IDLgrModel and you position it just like any other model.

-Mike

Subject: Re: GUI strategy advice needed
Posted by [David Fanning](#) on Mon, 23 May 2005 19:53:34 GMT
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Michael Wallace writes:

> I don't know how it was back in the days before I started using IDL, but
> these days IDLgrColorbar is a subclass of IDLgrModel and you position it
> just like any other model.

Maybe that was the problem. If it doesn't have a POSITION keyword, I struggle. :-(

Cheers,

David

--

David Fanning, Ph.D.
Fanning Software Consulting, Inc.
Coyote's Guide to IDL Programming: <http://www.dfanning.com/>

Subject: Re: GUI strategy advice needed
Posted by [Leslie Welser](#) on Tue, 24 May 2005 18:34:34 GMT
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> Michael Wallace writes:
> I don't mean to take this thread off subject, but what is the problem

> with IDLgrColorbar? I've used OG colorbars in a lot of my plots and
> never had any issue with them. So, what's not to understand? Just
> curious.

Michael, since you seem to understand the IDLgrColorbar, can you give

me a pointer? My colorbar looks great and is positioned correctly, but no matter what I try I can't get the tickmarks to be anything but the values from 0-255. In other words, I can't get the colors themselves to "link up" with the data values in my plot. Thanks for any help you can give me!

Leslie Welser

Subject: Re: GUI strategy advice needed
Posted by [btt](#) on Tue, 24 May 2005 19:04:38 GMT
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Leslie Welser wrote:

>> Michael Wallace writes:

>> I don't mean to take this thread off subject, but what is the problem

>

>

>> with IDLgrColorbar? I've used OG colorbars in a lot of my plots and

>> never had any issue with them. So, what's not to understand? Just

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> curious.

>

> Michael, since you seem to understand the IDLgrColorbar, can you give

> me a pointer? My colorbar looks great and is positioned correctly, but

> no matter what I try I can't get the tickmarks to be anything but the

> values from 0-255. In other words, I can't get the colors themselves

> to "link up" with the data values in my plot. Thanks for any help you

> can give me!

>

I'm sure Michael has something better up his sleeve, but I have been manipulating the tick values by explicitly providing the tick text, ala...

```
datarange = [15,35.]
colorbar = obj_new('idlgrcolorbar', /show_outline, /show_axis)
colorbar->GetProperty, tickvalues = ticks
nticks = n_elements(ticks)
myTicks = FINDGEN(nticks)/(nticks-1) * (dataRange[1]-dataRange[0]) +
dataRange[0]
myTickString = STRTRIM(myTicks,2)
ticktext = OBJ_NEW('idlgrtext', mytickString)
colorbar->SetProperty, ticktext = ticktext
xobjview, colorbar
```

If you do it this way you'll want to cleanup the ticktext on your own. I have a simple object that inherits from IDLgrContainer that cleans up the ticktext, fonts and titles when the colorbar is destroyed. That

prevents memory leakage.

Cheers,
Ben

Subject: Re: GUI strategy advice needed

Posted by [Michael Wallace](#) on Tue, 24 May 2005 19:23:45 GMT

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> Michael, since you seem to understand the IDLgrColorbar, can you give
> me a pointer? My colorbar looks great and is positioned correctly, but
> no matter what I try I can't get the tickmarks to be anything but the
> values from 0-255. In other words, I can't get the colors themselves
> to "link up" with the data values in my plot. Thanks for any help you
> can give me!
>
> Leslie Welser

Wow, looks like I'm the colorbar expert all of a sudden. I typically don't bother with the axis within IDLgrColorbar. Instead I have an IDLgrColorbar object with no axis displayed and an independent IDLgrAxis aligned along one of the sides of the colorbar. I find this a lot easier to work with because I have complete control over the presentation of the axis.

Maybe one of these days, I'll finally get around to writing my own colorbar class that combines IDLgrAxis and IDLgrColorbar. I've been meaning to do that for a while now...

-Mike

Subject: Re: GUI strategy advice needed

Posted by [Michael Wallace](#) on Tue, 24 May 2005 19:32:05 GMT

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> colorbar class that combines IDLgrAxis and IDLgrColorbar. I've been

> meaning to do that for a while now...
>
> -Mike

Let me add one little addendum to this. You should be able to set the values you want by using the TICKVALUES and TICKTEXT as keywords as Ben explained. These properties along with the other TICK* keywords should be enough for most people. However, there have been times when I've needed to do additional things with the axis that couldn't be done through the interface in IDLgrColorbar. Since then I've always been in the habit of having both an IDLgrColorbar and and IDLgrAxis.

-Mike

Subject: Re: GUI strategy advice needed
Posted by [btt](#) on Tue, 24 May 2005 20:04:28 GMT
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Michael Wallace wrote:

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>> don't bother with the axis within IDLgrColorbar. Instead I have an
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> needed to do additional things with the axis that couldn't be done
> through the interface in IDLgrColorbar. Since then I've always been in
> the habit of having both an IDLgrColorbar and and IDLgrAxis.
>

Hi Mike,

You probably know this already, but IDLgrColorbar has these properties

(in addition to a bunch of others...) taken from an example instance.

They are not publicly exposed in IDL, but you could take advantage of them the way you describe.

```
OAXIS      OBJREF  <ObjHeapVar47091(IDLGRAXIS)>
OPOLY      OBJREF  <ObjHeapVar47086(IDLGRPOLYLINE)>
OSURF      OBJREF  <NullObject>
OIMAGE     OBJREF  <ObjHeapVar47088(IDLGRIMAGE)>
OPALETTE   OBJREF  <ObjHeapVar47081(IDLGRPALETTE)>
```

One other thing - I mispoke a little - I actually have a colorbar that inherits from IDLgrColorbar not IDLgrContainer which I think doesn't exist.

Cheers,
Ben

Subject: Re: GUI strategy advice needed

Posted by [Michael Wallace](#) on Tue, 24 May 2005 20:24:36 GMT

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> You probably know this already, but IDLgrColorbar has these properties
> (in addition to a bunch of others...) taken from an example instance.
> They are not publicly exposed in IDL, but you could take advantage of
> them the way you describe.

I shy away from using things that are not in the public API. While what you say is true, it has a greater potential to lead to code that is hard to understand and maintain, especially if someone else is doing the understanding and maintaining. I'm a purist when it comes to coding style and I'll always try to fit into the public API, no matter the language being used. Going beyond the API is an absolute last resort.

-Mike

Subject: Re: GUI strategy advice needed

Posted by [Leslie Welser](#) on Tue, 24 May 2005 21:29:28 GMT

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Mike and Ben,
Thanks so much for the help, it worked beautifully!
-Leslie

Subject: Re: GUI strategy advice needed

Posted by [btt](#) on Wed, 25 May 2005 11:25:20 GMT

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Michael Wallace wrote:

>> You probably know this already, but IDLgrColorbar has these properties
>> (in addition to a bunch of others...) taken from an example
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> understanding and maintaining. I'm a purist when it comes to coding
> style and I'll always try to fit into the public API, no matter the
> language being used. Going beyond the API is an absolute last resort.
>

Hi Mike,

Yes, I agree with you.

Cheers,
Ben
