
Subject: Re: Widgets and research

Posted by [Jonathan Rogness](#) on Fri, 13 Jun 1997 07:00:00 GMT

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Stein Vidar Hagfors Haugan wrote:

>
> But if you're one of those who actually *know* what you want
> to do with your data with 100% certainty before writing your
> programs, you should stop paying IDL license fees and go for
> fortran ;-)

No thanks! When speed is the biggest concern -- mainly when I'm writing the final product code -- I use C. But it's a lot easier to write image manipulation procedures in IDL than C. In any case, I tend to avoid Fortran like the plague, which probably will give you a rough indication of how old I am. (Undergrad student, if you want to know.)

Unfortunately, some of the models I use and modify are written in Fortran, so I can't get away from it completely. :-)

Jon

Subject: Re: Widgets and research

Posted by [Stein Vidar Hagfors H](#) on Fri, 13 Jun 1997 07:00:00 GMT

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Edward S. Meinel wrote:

>
> Jonathan Rogness <rogness@NO.sg1.SPAM.cr.usgs.gov> sez:
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>> David Fanning wrote:
>>> When they are shown how easy it really is, they often start
>>> taking the view that widget programs are essential to their research
>>> and they don't know how they worked without them.
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> to try a new algorithm, I write a .pro file for the main processing
> and add a couple of lines to the main widget to assign the processing
> to a menu. It has made algorithm development fast and easy.
>

Uh... Me too :-)

But I guess it depends a lot on exactly what you want to do. Using widgets with e.g., sliders etc for various parameters etc is wonderful for exploring various wishy-washy methods of analyzing data without modifying the command line 100 times over.

But if you're one of those who actually **know** what you want to do with your data with 100% certainty before writing your programs, you should stop paying IDL license fees and go for fortran ;-)

Stein Vidar

Subject: Re: Widgets and research
Posted by [davidf](#) on Fri, 13 Jun 1997 07:00:00 GMT
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Edward S. Meinel writes:

> On the other hand, I am reluctant to try IDL 5.beta because of all the
> reports of broken widgets. Do `_any_` widgets developed with IDL 4 work
> under 5.0?

As a matter of fact, **all** of my widgets work under IDL 5.0.
A few of them don't **look** exactly like they did under IDL 4,
but the problems are aesthetic rather than functional. So
far every one of them has worked like I expect it to.

Cheers,

David

David Fanning, Ph.D.
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Coyote's Guide to IDL Programming: <http://www.dfanning.com>
IDL 5 Reports: <http://www.dfanning.com/documents/anomaly5.html>

Subject: Re: Widgets and research
Posted by [meinel](#) on Fri, 13 Jun 1997 07:00:00 GMT
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Ed Meinel
meinel@aero.org

Subject: Re: Widgets and research
Posted by [rivers](#) on Sat, 14 Jun 1997 07:00:00 GMT
[View Forum Message](#) <> [Reply to Message](#)

In article <MPG.e0b229eb4d1d1e79896a6@news.frii.com>, davidf@dfanning.com (David Fanning) writes:

> Edward S. Meinel writes:

>

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I agree with David. I just finished converting a >3,000 line IDL widget application to being "object oriented", using IDL Objects (but not Object Graphics). The widgets worked perfectly under IDL 5.0 (Motif) with exactly the same layout as 4.0 as far as I can see.

The only code which broke under IDL 5.0 was pickfile(). It used to return "path+file" when selecting existing files, and only "file_name" when entering the name of a new file. I think the old behavior was a bug.

IDL Objects really simplify complex widget programs, because so don't have to create a "state" structure and stick in the uvalue of a top level widget. Just put the object reference to "self" there instead. This is not entirely obvious, and the Object manual does not have an example, so here is how I do it.

```
:: File example__define.pro
```

```
function example::init
  base = widget_base(uvalue=self)
  self.widgets.base = base
  self.widgets.exit = widget_button(base, value='Exit')
  widget_control, base, /realize
  xmanager, 'example::init', base, event='example_event', /no_block
  return, 1
end

pro example_event, event
  ; Note: The main event handler CANNOT be an object method, since xmanager
  ; won't know how to call it as such. However, it only needs to be 4 lines
  ; long: retrieve the object reference and call the object method event
  ; handler, which will know about the objects data structure.
  widget_control, event.top, get_uvalue=object
  object->event, event
end

pro example::event, event
  ; This is the event handler which knows about the object
  case event.id of
    self.widgets.exit: begin
      widget_control, event.top, /destroy
    end
    else: print, 'Unknown widget event'
  endcase
end

pro example__define
  widgets={example_widgets, base: 0L, exit: 0L}
  data = fltarr(30)
  t = {example, widgets: widgets, data: data}
end
```

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Argonne, IL 60439 (630) 252-0443 (FAX)

Subject: Re: Widgets and research
Posted by [davidf](#) on Sun, 15 Jun 1997 07:00:00 GMT
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Mike Schienle writes:

> I wonder if David will have a class on using IDL's objects and the new
> drawing model in the near future. Perhaps a two-day class for those that
> are pretty familiar with the other aspects of IDL programming.

I'm teaching my first IDL 5.0 class next week. It reminds me of the first Widget Programming class I taught all those many years ago. (Has it really been over 6 years that we have been at this, Mike!) I think Mike was in one of my very earliest classes. In those days I was lucky to be five minutes ahead of the class. The most important thing we learned was how important innovation and humor can be in learning something new. We **all** learned to write widget programs together!

I've spent the weekend writing object graphic programs, and I must say I am starting to become impressed with the power of them. It has been hard to change my thinking about how graphics are displayed in a window. The whole Viewplane Rectangle thing is a complete departure for me in how I've written programs in the past. But once you get the idea, it is amazingly powerful. I added the ability to preserve the image aspect ratio to my XImage program, as well as the ability to zoom in and out of the plot. The whole event handler for the two floating zoom buttons amounted to 12 lines of code! I was **extremely** impressed.

I think I am going to like object-oriented programming as much as I like widget programming. :-)

Cheers,

David

----- --
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Subject: Re: Widgets and research
Posted by [mgs](#) on Sun, 15 Jun 1997 07:00:00 GMT
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In article <5nrmgq\$ilm@news.aero.org>, meinel@altair.aero.org (Edward S. Meinel) wrote:

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> and add a couple of lines to the main widget to assign the processing
> to a menu. It has made algorithm development fast and easy.

I started using IDL's widgets when I was forced into IDL about six years ago (I just realized it has been six years!) at a new job. I was into Motif programming at the time, so it was natural to try doing the equivalent with IDL that I was used to with Motif. I really got into it after taking a

class from David Fanning. David's class had a big impact on my programming. Within a year of taking the class I won an IDL license from RSI when they held an application development contest.

I wonder if David will have a class on using IDL's objects and the new drawing model in the near future. Perhaps a two-day class for those that are pretty familiar with the other aspects of IDL programming.

> On the other hand, I am reluctant to try IDL 5.beta because of all the
> reports of broken widgets. Do `_any_` widgets developed with IDL 4 work
> under 5.0?

Yes, the majority of my widget applications are working fine. I've been having problems with overlapping widget hierarchies, though. Particularly when I let one hierarchy be its natural size, and force another hierarchy to be the same size as the first using scroll keywords. RSI has asked for some code to duplicate this which I will get to real soon now.

--

Mike Schienle
mgs@sd.cybernex.net

Interactive Visuals
<http://ww2.sd.cybernex.net/~mgs/>

Subject: Re: Widgets and research
Posted by [David Foster](#) on Tue, 17 Jun 1997 07:00:00 GMT
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David Fanning wrote:

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> Edward S. Meinel writes:
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In IDL 5.0 the implementation of modal widgets is completely different than it was previously, and this has major implications for how widget applications work together when one or more of them are modal. In our lab we often have a series of apps that are called successively, and I'm finding that all the "rules" are different as far as what combinations are possible.

For example, the following scenario is ok:

```
MODAL_WID --> NON_MODAL_WID --> MODAL_WID
```

(modal widget calls non-modal widget etc.).

But the following is NOT ok:

```
MODAL_WID --> MODAL_WID --> NON_MODAL_WID --> MODAL_WID
```

When you do this the last modal widget does not generate any events.

This use to work in IDL 4.0.1, now it doesn't. I'm finding other similar problems related to modal widgets. If you're lucky, you don't use modal widgets often, and so won't notice these problems.

(Check out XMANAGER.PRO to see the comments about how the implementation of modal widgets has changed.)

Dave

--

~~~~~  
David S. Foster      Univ. of California, San Diego  
Programmer/Analyst   Brain Image Analysis Laboratory  
foster@bial1.ucsd.edu   Department of Psychiatry  
(619) 622-5892      8950 Via La Jolla Drive, Suite 2200  
                         La Jolla, CA 92037  
~~~~~

"I have this theory that if we're told we're bad,
then that's the only idea we'll ever have.
But maybe if we are surrounded in beauty,
someday we will become what we see." - Jewel Kilcher

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>
> I don't suppose you'd like to put a syllabus online somewhere.
```

I am in the process of completely revamping my IDL Training Courses page, so you should see it soon. Plus, courses have the bad habit of revamping themselves rather dramatically until I have taught them several times. :-)

I *am* planning on teaching IDL advanced courses in Europe in October. If anyone on that side of the Atlantic would like IDL 5 training around that time, please let me know. I might have a pretty good idea of what I'm talking about by then. At least I *hope* so! :-)

Cheers,

David

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> the first Widget Programming class I taught all those many years
> ago. (Has it really been over 6 years that we have been at this,
> Mike!)

Yup. For IDL, at least. I was talking to someone about a job I had a couple

years ago, when I realized "couple" was equivalent to six.

- > I think Mike was in one of my very earliest classes. ... We *all* learned
- > to write widget programs together!

March of '94. The widget programming book was only half the size it is now.
UValues were just being exploited, Handles were on the horizon.

- > I've spent the weekend writing object graphic programs, and I
- > must say I am starting to become impressed with the power of
- > them. ...
- >
- > I think I am going to like object-oriented programming as
- > much as I like widget programming. :-)

I'm looking forward to getting up to speed in the objects and new graphics areas.

--

Mike Schienle mgs@sd.cybernex.net Interactive Visuals
Data Visualization for Science and Engineering using IDL and PV-WAVE
