
Subject: Re: General widget programming questions
Posted by [davidf](#) on Fri, 12 Jan 2001 15:01:28 GMT
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Jason P. Meyers (jpm7934@cis.rit.edu) writes:

- > We have recently started writing some widget based programs in our
- > IDL programming class and it has gotten me to thinking about a few
- > issues I would like to better understand before I get too far into our
- > "final" project. For starters, I have read the relevant chapters in
- > Dave Fanning's second edition. So far, that has been the best help in
- > understanding widget based programming. (I have even used some of
- > Dave's info to correct misinformation presented in class!)

Be careful with that book. It has been known
to turn around and bite you when you least
expect it. :-(

- > I like the ability to create user defined event structures. In my
- > current homework project, I have started using these to pass information
- > from one widget to another. I basically pack the information I want to
- > send to another widget in an event structure and give it a descriptive
- > name and then send it along to the appropriate widget. So far, this
- > seems like a reasonable thing to do. However, I got to thinking about
- > potential problems. First, what happens if other events (i.e. user
- > generated) are waiting in the queue? I assume they will get acted on
- > first and this may or may not cause a problem for the original event
- > handler which sent an event to a fellow widget. If this is the case, is
- > there any way to give a particular event a higher priority over other
- > events?

There is no way to give events priority. *All* events generated
normally, or sent via `SEND_EVENT`, are placed on the queue and
are handled in the order received. This is ordinarily a good
thing, and is especially advantageous to people just getting
started in widget programming, because it prevents an awful
lot of problems. For example, there is never any problem
with the info structure not being where it is suppose to be.
If each event handler checks it out, then checks it in before
exiting, then each event can find it and be assured the information
in it is current.

But as you get more advanced in widget programming it sooner
or later occurs to you that with the big bucks you are being
paid you ought to be a little more clever than to be a slave
to `SEND_EVENT`. And you think to yourself, "My God, I'm just
going to call that event handler directly. After all, it is
nothing more than another IDL procedure or function."

And you can do that. I've done it. Lot's of times. But it's kind of like putting the short side of the board against the fence on the table saw. You better be damn careful you know what you are doing. And for goodness sake, don't stand directly behind the saw!

By calling the event handler directly, you obviously short-circuit the event queue. Sometimes this means you have to check the info structure in before you make the call. Sometimes you have to do other things. (When things get really complicated, you might want to put the info structure in a pointer and pass that around, since then you don't have to worry about checking out/checking in.)

But I will say that it is quite easy to get too cute with all this. I think the simpler you can make event handling, the better off you are. Good ol' XManager, one-at-a-time event handling is good enough for 99% of your applications, I think.

> I haven't seen a good example or even an explanation of how and/or why
> it would be useful to use the Event.Handler value which is stored in all
> event structures. I thought that I read somewhere in Dave's book that
> he was going to address this but, I didn't see any references to using
> it in the various chapters on widget programming. (Dave, am I blind or
> did I get confused with something I may have scanned in the IDL online
> references?)

The handler field is used quite a lot in building compound widgets. I intended to add a chapter on compound widgets in the book, but I got so sick and tired of reading the darn thing that my will collapsed before I could get it written. It's still on my list for the "next" book. :-)

> As always, I appreciate any and all insight people might have. Thanks
> in advance for advice/answers that come flowing. Finally, if Dave (or
> anyone else) has recommendations for additional high quality
> educational/tutorial information that picks up where Dave leaves off in
> his book, please let us all know.

Ronn Kling has a nice book out that explains quite a number of useful widget and programming techniques. You might have a look at his web page:

<http://www.rkling.com/>

Cheers,

David

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