Subject: File Selection Compound Widget Object
Posted by davidf on Sun, 21 Nov 1999 08:00:00 GMT
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Hi Folks,

Last week I offered, in COYOTE_FIELD, a traditional compound widget. I had a number of requests to turn that program into a compound widget object. Indeed, there are some very good reasons to do so, and I will certainly get around to it sooner or later.

But in the interest of programming enlightenment and to prove (if anyone needs proof) that I don't to *everything* I'm told to do, I decided to write a similar compound widget as an object. This is a file selection compound widget named CW_FILESELECT. It can be found here:

http://www.dfanning.com/programs/cw_fileselect.pro

I decided to program a different example because I wanted an example that *anyone* could see was a hell of a lot better written as an object than it could ever be written as a traditional compound widget.

But, because I don't want to spring a completely new programming paradigm on the ... I was going to say "old fogies", but I think a fairly convincing argument can be made that the author of the program in question falls into this category, so I'll say "traditional programmers" instead.

Because I don't want to spring a completely new programming paradigm on the traditional programmers, this program works like a traditional compound widget program. That is to say, you can call it like this:

```
fileID = CW_FileSelect(tlb, Filename='cyclone.dat')
```

And then you can get and set its "value" in the traditional way:

```
Widget_Control, fileID, Get_Value=theFilename
Print, theFilename
Widget_Control, fileID, Set_Value='C:\Pokemon\davey.dat'
```

But, if that were all it could do, I wouldn't be wasting your time here. :-)

The heart of the program is an object of class FSC_FILESELECT. You can obtain an object reference to this object class and use (or create) all its methods to change various and sundry properties of the compound widget.

For example, if you want to resize the widgets, you can do so with methods. If you want to make sure the file name and directory names are valid, you can do so with methods. You can obtain the object reference by using the OBJECTREF keyword, like this:

```
fileID = CW_FileSelect(tlb, Filename='cyclone.dat', $
   ObjectRef=theObject)
theObject->SetProperty, XSize=100
```

(I would argue that it makes a LOT more sense to return the object reference as the result of the function since you will want to call object methods whenever possible, but--as I say--I don't want to upset anyone, so I've gone with this syntax.)

I've written a number of methods that will give you a foot up on writing your own useful methods. In fact, I've structured the code in the file in a way that should make it easy for you to add your own subclassed objects into the standard compound widget structure. I think it will be obvious how this can be done, but if not, my forthcoming book will probably spell it out in excruciating detail. :-)

I have put rudimentary file and directory "inspection" methods into the program to check the accuracy of file and directory names. At the moment I don't do much more than eliminate any leading or trailing blank characters. I also make sure you can't use any variation of "IDLSUCKS" in the filename. :-)

This is not the be-all and end-all of file selection widgets. It's just an example of the kinds of programs you *could* be writing. Alas, I've resigned myself to being the kind of programmer who can come up with one or two good ideas a year that I can understand well enough to explain to someone else how they can write a MUCH better program later. So have at it.

I've included an Example program at the end of the code so you can exercise the CW_FILESELECT widget a little bit. To run the Example program, download the CW_FILESELECT program from the link above and

type this:

```
IDL> .Compile cw_fileselect.pro
IDL> Example
```

Cheers,

David
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