
Subject: How to return Values from an options dialog widget to the main program (Pointers)

Posted by [Patrique](#) on Sun, 13 May 2007 10:18:25 GMT

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Hi all,

Since about 1 year IDL is the main language I'm programming my data-analysis tools with. Now, that my *main tool* becomes more and more sophisticated, I've come to the point where a modal options dialog widget might be helpful. This widget can be called from the menu bar. As I figured out at David Fannings web site, pointers should be the most convenient way to get the variables that can be set in the options dialog back to my main program. Well...that's the point that leads to my question:

Below I attached the short widget-program 'testgui' with the event-handler routine 'testgui_event' to illustrate my problem. The main widget includes 3 buttons. The first button 'button_press' calls the child widget 'OptionsDialog' that has an event-handler routine 'OptionsDialog_event'. In that modal widget I can type in a text string. After pressing the 'Accept' Button, the string is stored in pointer 'ptr' (according to a tutorial of David Fanning) and the child widget 'Options Dialog/B_10' is destroyed.

When I now press the button 'Show Ptr Value' (uvalue: Button_doit) in the main window I would like to see the string value stored in ptr appearing in the IDL log (respective source code framed by '='signs). But, even though a pointer exists in memory, I don't know how to access my pointer ptr.

What am I doing wrong? What else do I have to take care of? How can I reference to this HeapVariable that exists in the memory? It seems to me as I did not understand right how to access a pointer outside of the routine where it was created.

I appreciate any help!
Cheers and Thank you,
Patrique.

```
pro OptionsDialog_event, event
  Widget_Control, event.top, Get_UValue=info
  CASE event.ID OF
    info.cancelID: Widget_Control, event.top, /Destroy
  ELSE: BEGIN
    Widget_Control, info.Wstartyear, Get_Value=startyear
    (*info.ptr).syear = startyear[0]
```

```

        Widget_Control, event.top, /Destroy
    ENDCASE
ENDCASE
end

pro OptionsDialog, event
    B_10 = Widget_Base( GROUP_LEADER=event.top, UNAME='B_10' $
        ,Column=1, /Modal)

    Wstartyear = Widget_Text(B_10, /Editable, value="A Number")

    buttonBase = Widget_Base(B_10, Row=1, /Align_Center)
    cancelID = Widget_Button(buttonBase, Value='Cancel')
    acceptID = Widget_Button(buttonBase, Value='Accept')

    ptr = Ptr_New({syear:"",cancel:1})
    info = {ptr:ptr,cancelID:cancelID,Wstartyear:Wstartyear}

    Widget_Control, B_10, Set_UValue=info, /No_Copy
    Widget_Control, B_10, /Realize
    XManager, 'OptionsDialog', B_10
end

pro testgui_event, Event
    case Event.id of
        Widget_Info(Event.top, FIND_BY_UNAME='button_press'): begin
            if (Tag_Names(Event, /STRUCTURE_NAME) eq 'WIDGET_BUTTON') then
begin
                ;Call OptionsDialog where *ptr is defined
                OptionsDialog, Event
            endif
        end

        ;=====
        Widget_Info(Event.top, FIND_BY_UNAME='button_doit'): begin
            if (Tag_Names(Event, /Structure_name) eq 'WIDGET_BUTTON') then
begin
                ;Just look whether there is a pointer somewhere in memory
                print, ptr_valid()
                ;Tell me, if pointer ptr is still valid and, if it is,
                ;print me the value *ptr.syear
                if (PTR_VALID(PTR)) eq 1 then print, (*ptr).syear
            endif
        end

        ;=====
    endcase

```

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```
Widget_Info(Event.top, FIND_BY_UNAME='button_exit'): begin
  if (Tag_Names(Event,/Structure_name) eq 'WIDGET_BUTTON') then
begin
  PTR_FREE, PTR_VALID()
  widget_control, Event.top, /destroy
  endif
  end
  else:
  endcase
end

pro testgui, Group_Leader=wGroup, _Extra=_VWBExtra_
  B_00 = Widget_Base( GROUP_LEADER=wGroup, UNAME='B_00' $
    ,xsize=100, column=1 )

  Button_00 = Widget_Button(B_00, UNAME='button_press', VALUE='Make
Ptr Value')
  Button_01 = Widget_Button(B_00, UNAME='button_doit' ,
VALUE='Show Ptr Value')
  Button_02 = Widget_Button(B_00, UNAME='button_exit' ,
VALUE='EXIT')

  Widget_Control, /REALIZE, B_00
  XManager, 'testgui', B_00
end
```
