
EXERCISE 5

The Select Files Form



Objectives:

- Write a PCL function which creates a form which contains the Miracle Results File Selection Widget.



Problem Description:

In this Exercise we write a PCL function which creates the **Select File** form. This form will be used later in the course to specify the result file to read into Miracle.

Suggested Exercise Steps:

- Write a PCL function using the online editor.
- Run the C pre-processor
- Compile the function
- Verify the PCL function

Exercise Procedure:

Fill in the blanks

1. Either use vi or jot as the text editing tool. Open the file named *miracle_select_file.template*. It should already exist in your directory. Fill in the missing sections marked by:

```
***** # *****
```

2. After replacing the “.template” suffix with “.pcl”, compile the function.

First, since the file contains define strings to locate the widgets, we need to run the c-preprocessor (cpp) against the file. To run the c-preprocessor type:

```
>/usr/lib/cpp -P -I/patran/patran3/customization \
miracle_select_file.pcl miracle_select_file.cpp
```

The file *miracle_select_file.cpp* should appear as result.

Type **p3** at the prompt and <return>.

After the main menu and command window appear, type **!!input miracle_select_file.cpp** in the command line

1. Resolve any compile errors by editing *miracle_select_file.pcl*, running the c-preprocessor and re-compiling in *p3*.
2. Test the function.

Note that on page 5-8, if the analysis code is not miracle, the form will be hidden. Thus, to display the form you may take one of the following actions:

1. Remove the following lines:

```
IF( current_analysis_code != "miracle" ) THEN
  miracle_code = FALSE
  ui_form_hide("miracle_select_file")
RETURN
END IF
```

2. Ask your instructor to provide you with a database containing miracle.

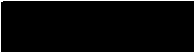
Now open a database, and in the P3 command window enter the following commands:

```
!!input miracle_select_file.cpp
ui_exec_function("miracle_select_file","display")
```


3. Verify the result:

The following form should appear:





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Sample Solution

```

/*$$h  ANALYSIS -  Select an Output File Name  */
/*
 *  Purpose:
 *      Create the Analysis Select File Form for use by the Analysis
 *      Import Model and the Analysis Import Results Forms for the
 *      Miracle analysis code.
 *
 *  Input:
 *      <none>
 *
 *  Output:
 *      <none>
 *
 */

#include "appforms.p"
#include "uiforms.p"

CLASS miracle_select_file

    CLASSWIDE WIDGET selffile_form, res_frame_id, res_file_id

    CLASSWIDE INTEGER db_status

    CLASSWIDE LOGICAL miracle_code

    CLASSWIDE REAL file_height, form_height

    CLASSWIDE STRING res_file_suffix[10],          @
                    res_file_name[200], res_code_suffix[6], @
                    current_analysis_code[32],    @
                    selected_code[32]

    FUNCTION init

        REAL file_width

/*
 *  Define the heights for the file selection form
 */

    file_height = FILE_7L_HGT
    form_height = FORM_2H_MARGIN + FRAME_2EDGE + file_height

    file_width = FORM_WID_MED - FORM_2H_MARGIN - FRAME_2EDGE

/*

```

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```
* Create the Selected Analysis File Form
*/

selffile_form = ui_form_create(
    /*callback */      "",
    /* x */           ***** 1 *****@
    /* y */           ***** 1 *****@
    /* position */    "UL",
    /* width */       FORM_WID_MED,
    /* height */      ***** 1 *****@
    /* label */       "Select File",
    /* iconname */    ***** 1 *****)

/*
 * Create the file widget
 */

res_frame_id = ui_frame_create(
    /* Parent */      ***** 2 ***** @
    /* callback */    ***** 2 ***** @
    /* x */           FORM_L_MARGIN,
    /* y */           FORM_T_MARGIN,
    /* width */       file_width,
    /* height */      ***** 2 ***** @
    /* title */       "")

res_file_id = ui_file_create(
    /* parent */      ***** 3 ***** @
    /* callback */    "select_file",
    /* x */           ***** 3 ***** @
    /* y */           ***** 3 ***** @
    /* width */       file_width,
    /* num_rows */    7,
    /* filter_label */ ***** 3 ***** @
    /* filter_mask */ ***** 3 ***** @
    /* dirs_label */ ***** 3 ***** @
    /* files_label */ ***** 3 ***** @
    /* selection_label */ "Selected Results File",@
    /* selection */    "",
    /* ok_label */     ***** 3 ***** @
    /* filter_label */ "Filter",
    /* cancel_label */ ***** 3 ***** )

END FUNCTION /* init */

FUNCTION display

miracle_select_file.refresh()
```

```

        IF( miracle_code ) THEN ui_form_display( "miracle_select_file" )

        ui_wid_save( ***** 4 ***** )

END FUNCTION    /* display */

FUNCTION refresh

    /*
    * Initialize the classwide variables
    */

    miracle_code = TRUE
    res_file_name = ""

    db_status = db_get_default_anal_code( selected_code )
    IF( db_status != 0 ) THEN
        msg_to_form( db_status, 4, app_code(db_status), 1, 1., "" )
        RETURN db_status
    END IF

    current_analysis_code = STR_STRIP_TRAIL( selected_code )

    IF( current_analysis_code != "miracle" ) THEN
        miracle_code = FALSE
        ui_form_hide("miracle_select_file")
        RETURN
    END IF

    /******
    /*      ANALYSIS - IMPORT RESULTS SELECT FILE      */
    /* Access the database for the results file suffix */
    /******

    db_status = db_get_results_file_suffix( current_analysis_code, @
                                           res_code_suffix )

    IF( db_status != 0 ) THEN
        msg_to_form( db_status, 4, app_code(db_status), 1, 1., "" )
        RETURN db_status
    END IF

    res_file_suffix = "*"//res_code_suffix

    ui_wid_set( res_file_id, "FILTER", res_file_suffix )

END FUNCTION /* refresh */

/*$$ FUNCTION select_file(name, mode)
*
* Purpose:
*   To save the file name and close the form
*

```

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```
* Input:
*
*   name  The name of the file selected in the file widget
*   mode  The mode of the file widget.  Either "OPEN" or "CANCEL"
*
* Output:
*   <none>
*
*/

FUNCTION select_file( ***** 5 ***** )

  STRING ***** 5 *****

  /*
  *   Need to get the name of the current analysis code here to
  *   ensure that the proper routine gets called.
  */

  IF (mode == "OPEN" ) THEN

    ***** 6 *****
    ***** 6 *****

  ELSE

    ui_wid_restore("miracle_select_file")
    ui_form_hide("miracle_select_file")

  END IF

END FUNCTION /* select_file */

FUNCTION get_res_file_name( res_file_name_text )

  STRING res_file_name_text[]

  res_file_name_text = res_file_name

END FUNCTION /* get_res_file_name */

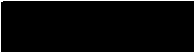
END CLASS /* miracle_select_file */
```

Solutions


```

1) * / FORM_X_LOC_LRG_NX2_SML,@
   * / FORM_Y_LOC, @
   * position * / "UL", @
   * width * / FORM_WID_MED, @
   * height * / form_height, @
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   * / iconname * / "" )
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   * / callback * / "" , @
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   * / width * / file_width, @
   * / height * / file_height, @
3) * / parent * / res_frame_id, @
   * / callback * / "select-file", @
   * / x * / 0.0, @
   * / y * / 0.0, @
   * / width * / file_width, @
   * / num_rows * / 7, @
   * / filter_label * / "filter", @
   * / filter_mask * / res_file_suffix, @
   * / dirs_label * / "directories", @
   * / files_label * / "available files", @
   * / selection_label * / "Selected Results file", @
   * / selection * / "" , @
   * / ok_label * / "Okay", @
   * / filter_label * / "filter", @
   * / cancel_label * / "Cancel" )
4) ui_wid_save ("miracle_select_file" )
5) FUNCTION select_file (file_name, mode)
   STRING file_name[], mode[]
6) res_file_name = file_name
   ui_form_hide("miracle_select_file")

```

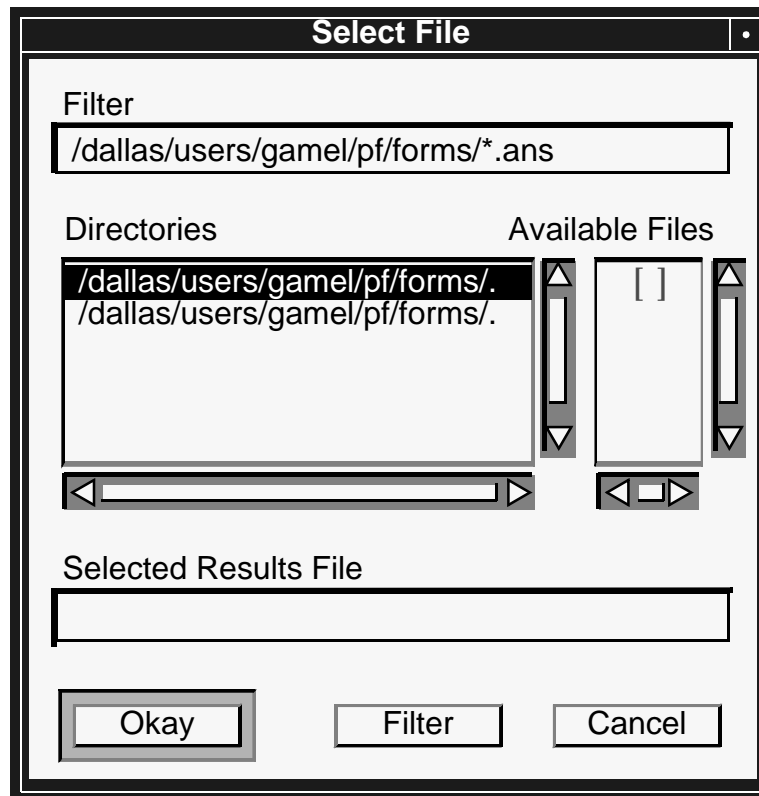


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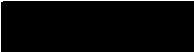
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ui_exec_function("miracle_select_file","display")
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3. Verify the result:

The following form should appear:





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Sample Solution

```

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/*
 *  Purpose:
 *      Create the Analysis Select File Form for use by the Analysis
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 *
 *  Input:
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                    res_file_name[200], res_code_suffix[6], @
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    FUNCTION init

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/*
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/*

```

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    /*callback */        " ",                                     @
    /* x */              ***** 1 *****@
    /* y */              ***** 1 *****@
    /* position */      "UL",                                     @
    /* width */         FORM_WID_MED,                             @
    /* height */       ***** 1 *****@
    /* label */        "Select File",                             @
    /* iconname */     ***** 1 *****)

/*
 * Create the file widget
 */

res_frame_id = ui_frame_create(                                   @
    /* Parent */       ***** 2 ***** @
    /* callback */     ***** 2 ***** @
    /* x */            FORM_L_MARGIN,                             @
    /* y */            FORM_T_MARGIN,                             @
    /* width */        file_width,                               @
    /* height */       ***** 2 ***** @
    /* title */        " ")

res_file_id = ui_file_create(                                    @
    /* parent */       ***** 3 ***** @
    /* callback */     "select_file",                             @
    /* x */            ***** 3 ***** @
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    /* width */        file_width,                               @
    /* num_rows */     7,                                       @
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    /* dirs_label */   ***** 3 ***** @
    /* files_label */  ***** 3 ***** @
    /* selection_label */ "Selected Results File",@
    /* selection */    " ",                                       @
    /* ok_label */     ***** 3 ***** @
    /* filter_label */ "Filter",                                   @
    /* cancel_label */ ***** 3 ***** )

END FUNCTION /* init */

FUNCTION display

miracle_select_file.refresh()
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    END IF

    res_file_suffix = "*"//res_code_suffix

    ui_wid_set( res_file_id, "FILTER", res_file_suffix )

END FUNCTION /* refresh */

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```
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FUNCTION select_file( ***** 5 ***** )

  STRING ***** 5 *****

  /*
  *   Need to get the name of the current analysis code here to
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  IF (mode == "OPEN" ) THEN

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END FUNCTION /* select_file */

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  STRING res_file_name_text[]

  res_file_name_text = res_file_name

END FUNCTION /* get_res_file_name */

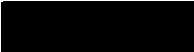
END CLASS /* miracle_select_file */
```

Solutions

```

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   * width * / file_width, @
   * num_rows * / 7, @
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```



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