LESSON 3

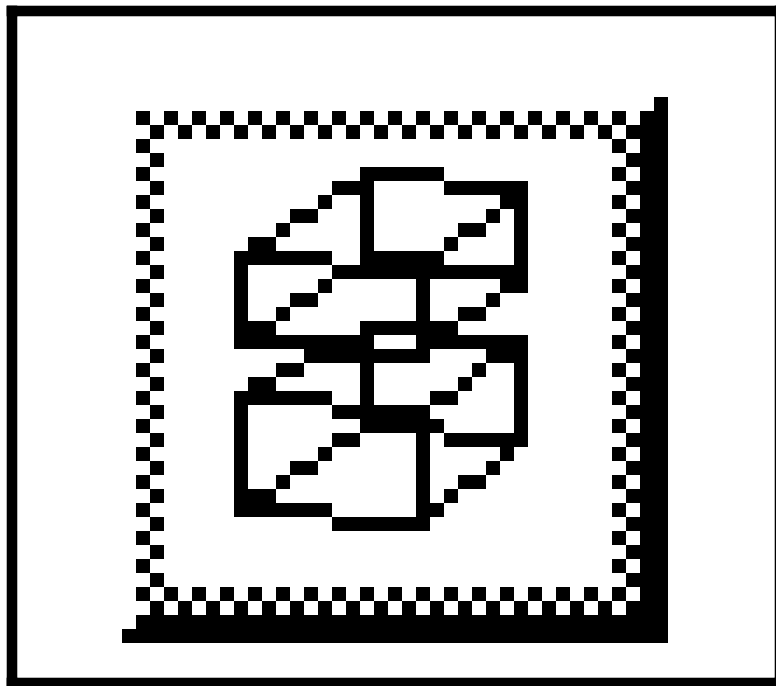# *Adding an Icon to QuickPick*


Objectives:

■ Write a PCL Class to shrink Finite Elements.

■ Create a shrink icon.

■ Add the icon to the QuickPick menu.

Exercise Description:

In this exercise you will first create a PCL Class which contains a PCL Built-in function to shrink finite elements. You will then create a icon to invoke the PCL function. By modifying the p3quickpick.def file, you will add the icon to the quickpick menu.

Shown below is the resulting quickpick menu with the new icon.
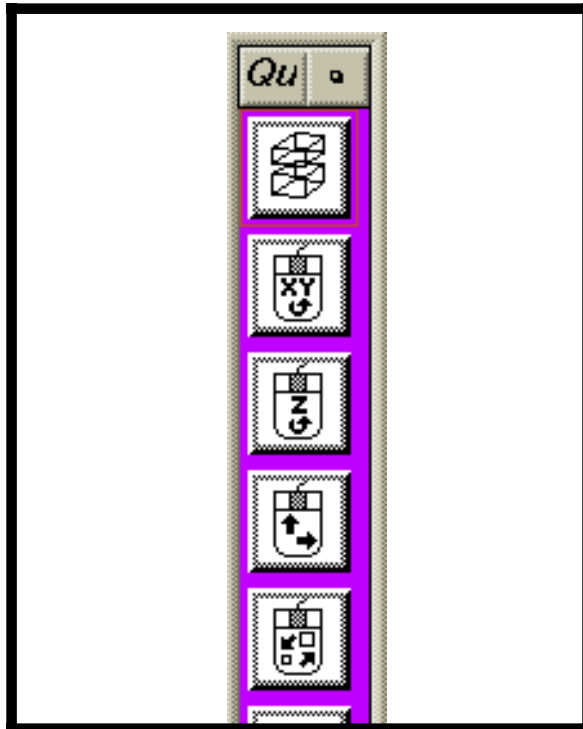
Suggested Exercise Steps:

■ Using Jot (SGI), xedit(SUN), vuepad(HP) or vi, write a PCL class named **p302** which contains a shrink function.The function contains one line:

   ga_display_shrfem_set("general", 0.2)

■ Copy the file **$P3_HOME/icons/qptemplate.icon** to your working directory and rename it **p302_shrink.icon**.

■ Using a bitmap editor, edit the icon to make it appear like a shrunk element.

■ Copy the file **P3_HOME/p3quickpick.def** into your

working directory.

■ Change the first line to:

*MAXROWS = 17

■ Add the following lines to the file after ***MAXROWS = 17.**

*ICON   = p302_shrink.icon
*CLASS   = p302
*FUNCTION = shrink
*LOAD ITEM

■ Start up PATRAN and type the following at the command line:

!!compile p302.pcl into p302.plb

■ Exit from PATRAN and create a new file called **p3epilog.pcl**.

■ Add the following lines to the file:

!!library p302.plb

■ Restart PATRAN.

■ Open a database (icon.db). Create a patch and mesh it with 4 elements.

■ Select Display from the top menu bar

■ Select Quickpick

■ Select the first icon, the elements should shrink by 20%.

Files:

All the files used in this exercise are listed below. Each listing includes the file, where it originated, its format (text/binary) and summary information as to how it relates to this exercise.

File	Supplied/Created	Format	Description
p302.pcl	Created	text	This text file contains the PCL Class and PCL Built-in function to shrink finite elements. This file is created using a text editor.
p302.plb	Created	binary	This is the compiled version of the p302.pcl file. This file contains the class and function which is executed by MSC/ PATRAN when the Icon is depressed.

qptemplate.icon	Supplied	text	This is a PATRAN default quickpick template. This file can be copied and edited by any bitmap editor.
p302_shrink.icon	Created	text	This file is the modified qptemplate.icon file. This icon is created for this exercise. This icon is called by the quickpick.def file which associates the icon to an action.
p3quickpick.def	Supplied	text	This is a PATRAN definition file for the QuickPick. This file can be copied by the user to their home or local directory. This is a text file which relates icons, pcl classes and functions. This file is read when p3 is executed.
p3epilog.pcl	Created	text	This is a text file which contains start-up information when MSC/PATRAN is executed. For this exercise, this file will let PATRAN load the p302.plb.
icon.db	Created	binary	This is a sample database which is used to verify the quickpick was successfully built.

Exercise Procedure:

1. Write a new PCL class called **p302** by creating a file, **p302.pcl** using an on-line editor, either vi, jot, vuepad or xedit and add the following lines to it:

    Write the PCL class

    ```
    CLASS p302
    /*
     * Quickpick icon to shrink elements
     * Exercise for the PAT302 class
    */
        FUNCTION shrink
        ga_display_shrfem_set( "general", 0.2 )
        END FUNCTION
    END CLASS /* p302 */
    ```

    Save and exit the file.

2. Copy the file from **$P3_HOME/icons/ qptemplate.icon** to your working directory and rename it to **p302_shrink.icon**. There are many icon editors and the specific icon editor you will use for this

exercise and they are depend on which system you are working on (see Appendix C for a list of icon editors). To invoke an icon editor, simply type the icon editor command for your system. For example, if you are using a machine that operates under the Motif Window Manager (mwm), you could invoke the mwm icon editor, bitmap, by typing:

bitmap p302_shrink.icon

at the command line. The following should appear:
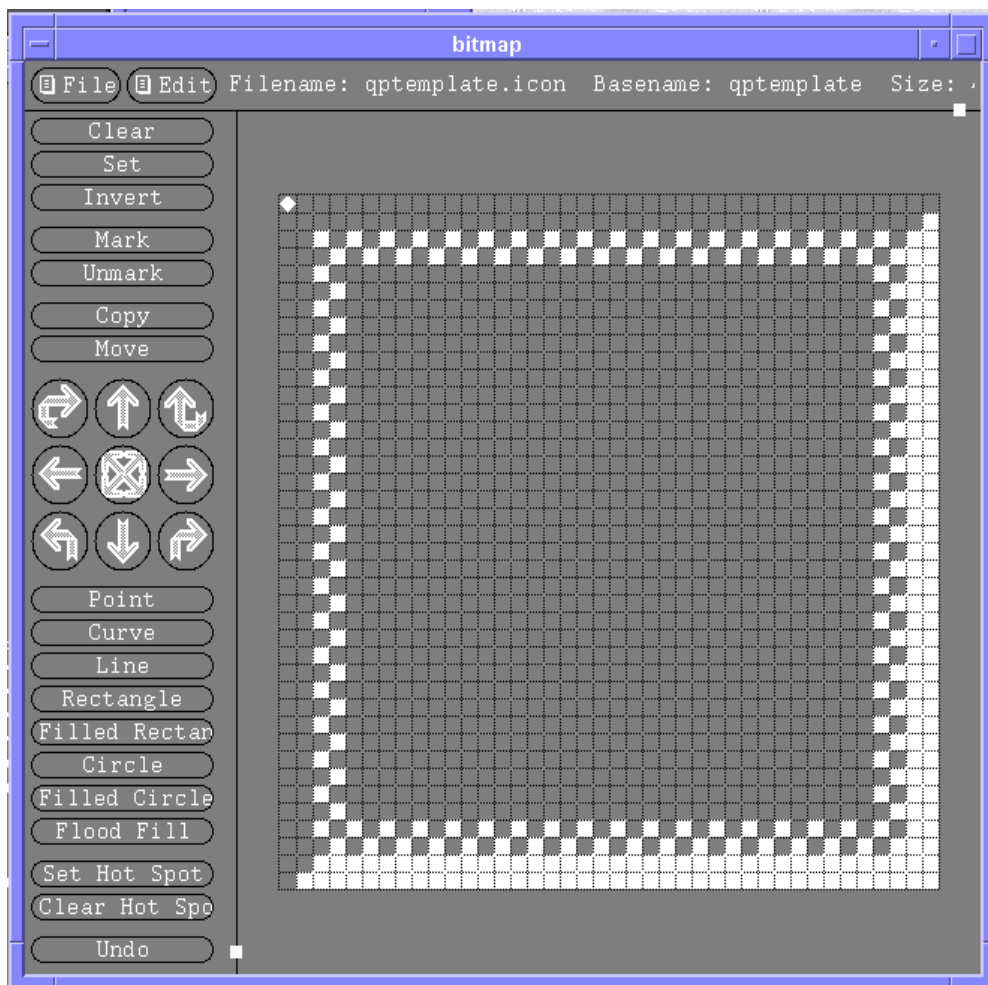
Edit the bitmap by using the editing tools on the right bar to produce something like:
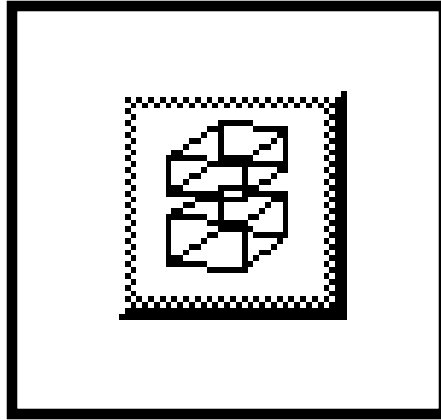
Save the file and quit the bitmap editor.

3. Copy the file **$P3_HOME/p3quickpick.def** into the working directory. Change the permission mode of the file from *read_only* to *write-able* using the following command:

Edit p3quickpick .def

chmod 777 p3quickpick.def

Using the editor, change the first line of the file to:

*MAXROWS = 17

and then insert the following after the above line:

*ICON   = p302_shrink.icon
*CLASS   = p302
*FUNCTION = shrink
*LOAD ITEM

4. Type the following command in the prompt window to start the P3/PCL Compiler:

Using the PCL Compiler

p3pclcomp
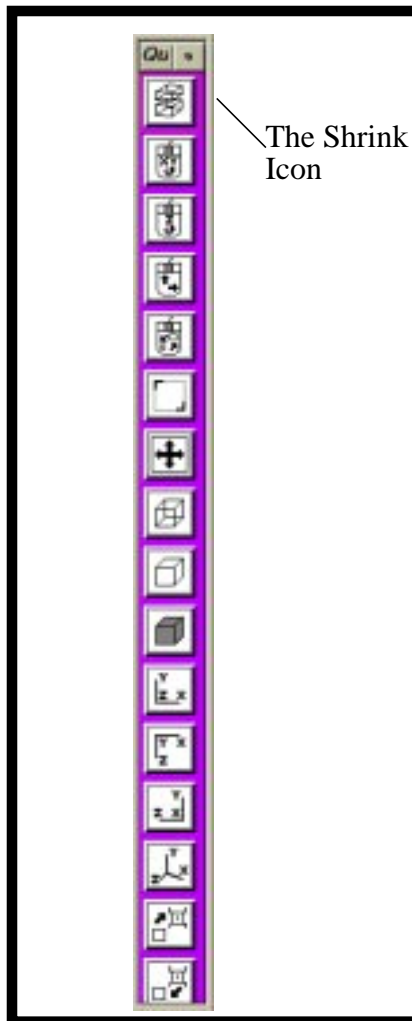
After that, type in the command shown below:

-> !!compile p302.pcl into p302.plb

Exit the P3/PCL compiler.

5. Edit or create a new file, **p3epilog.pcl** in your working directory. Add this line:

!!library p302.plb

6. Start P3/PATRAN and open a new database **icon.db.** Select **Tools/quickpick/vertical** from the top menu bar. The following should appear:
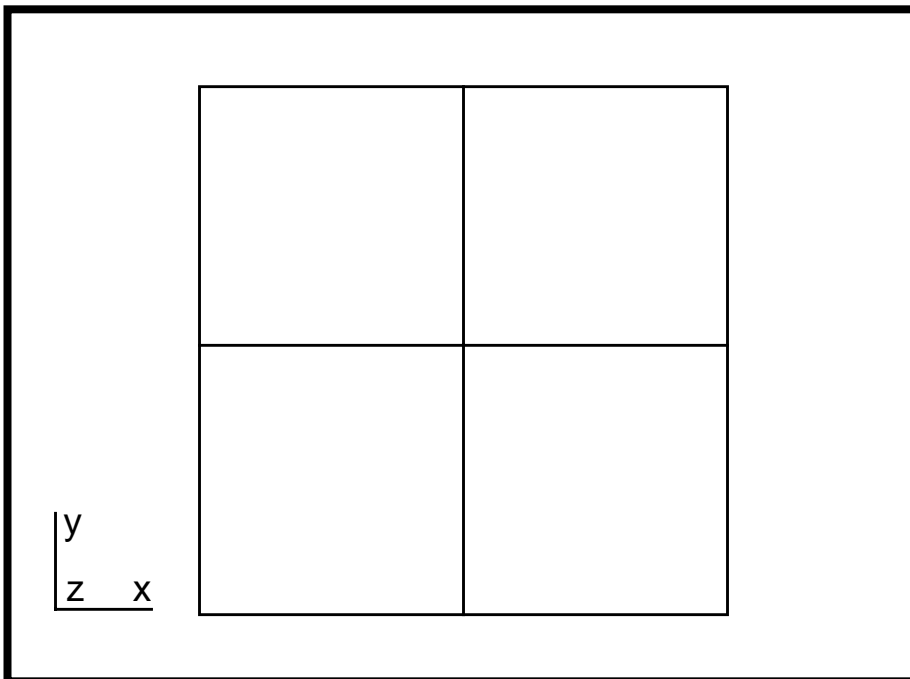

The Shrink Icon

7. Create a square surface by typing **PA** at the command
    line. Mesh the surface with 4 quad elements.

◆ **Finite Elements**

Action:	**Create**
Object:	**Mesh**
Method:	**Surface**

Global Edge Length	**0.5**
Element Topology	**Quad4**
Mesher	**Isomesh**
Surface List	**Surface 1**

Press **Apply** and the following should appear:

Now press the new icon on the QuickPick bar and the finite elements will shrink by 20% as shown belo
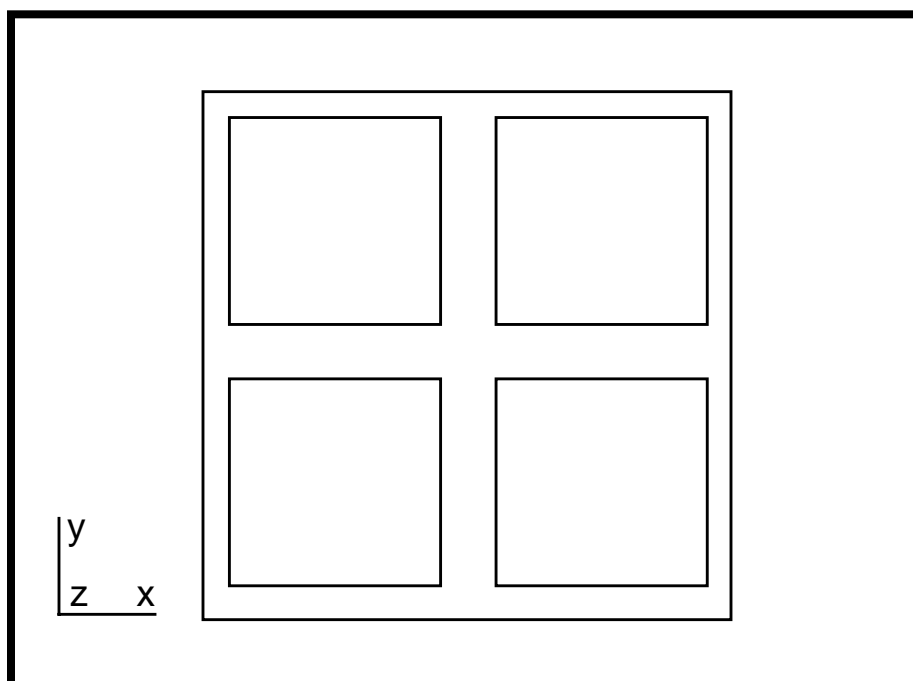
Close the database to complete this exercise.