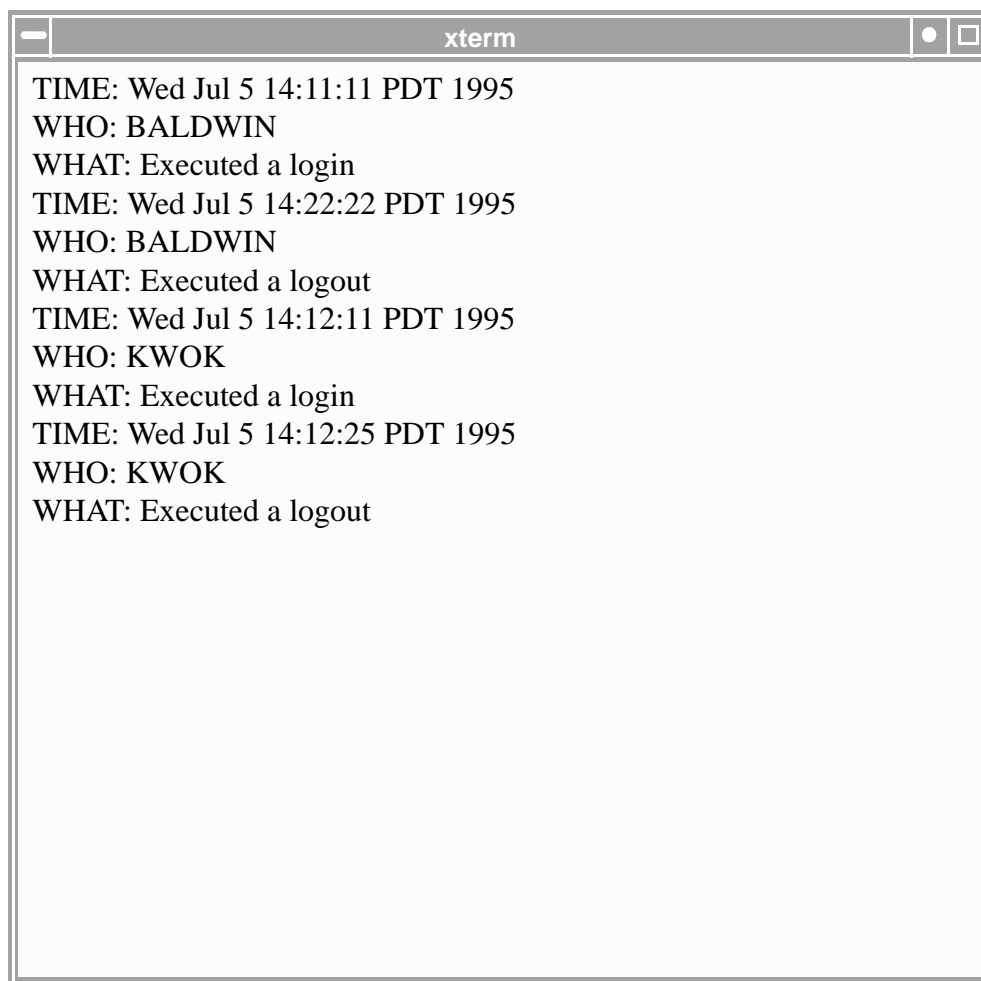

LESSON 9

Using PCL Functions to Synchronize with P3 Events



```
xterm
TIME: Wed Jul 5 14:11:11 PDT 1995
WHO: BALDWIN
WHAT: Executed a login
TIME: Wed Jul 5 14:22:22 PDT 1995
WHO: BALDWIN
WHAT: Executed a logout
TIME: Wed Jul 5 14:12:11 PDT 1995
WHO: KWOK
WHAT: Executed a login
TIME: Wed Jul 5 14:12:25 PDT 1995
WHO: KWOK
WHAT: Executed a logout
```

Objectives:

- In this exercise, you will learn how the Synchronize PCL Functions work in MSC/PATRAN.
- Write a PCL function to enable a menu when a database is opened.

Exercise Description:

Certain events with MSC/PATRAN will cause a call to a PCL function which the user can supply. These events and the corresponding functions are:

Table 9-1:

Events	PCL functions	Our Example
Begin P3 session	user_start	record login
End P3 session	user_quit	record logout
New database is created	user_db_new	enable Form Builder
Database is opened	user_db_open	enable Form Builder
Database is closed	user_db_close	record database closed

In this exercise, you will learn how each of the functions work. In addition, you are going to create your own `user_db_open` function (the original `user_db_open` function have been disabled for this exercise).

Exercise Procedure:

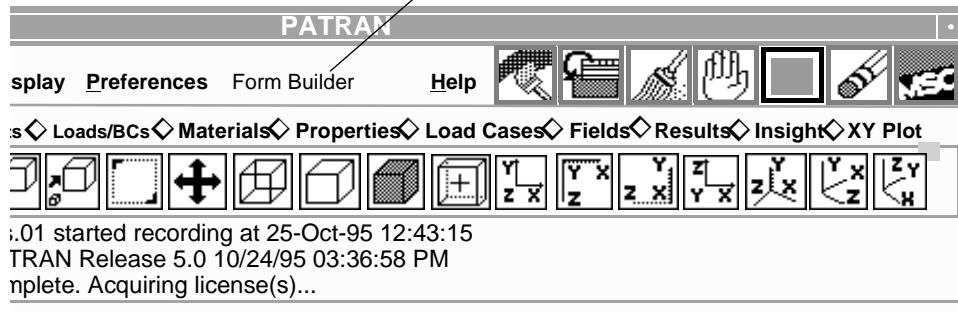
1. Change directory to directory `ex9` and in there you should find the following files:

```
fb_menu.pcl, user_defines.pcl, p3midilog.pcl,  
and patran.
```

2. Start MSC/PATRAN by typing `p3` at the your xterm window.

Notice that there is an extra **Form Builder** in the *Main Window*. This is done by the `fb_menu.pcl` function which creates the menu on the menubar that starts the **Form Builder**.

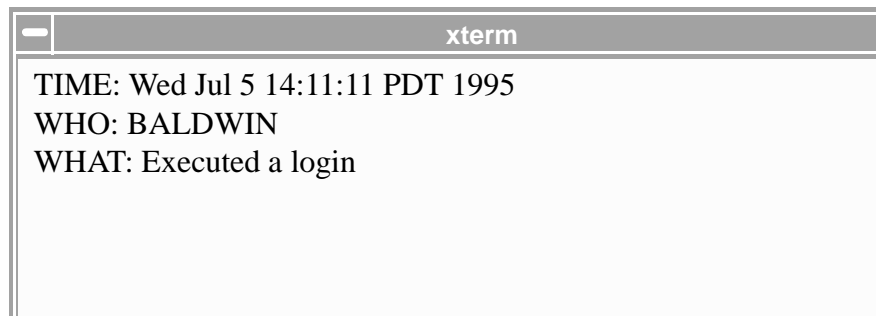
New item



user_start function

- Using the `user_start` function.

After you opened access to MSC/PATRAN, open another xterm window. Look in `ex3` directory and you will find that there is a new file called `PatranLog`. Open this file using the `vi` editor (command: `vi PatranLog`) and you will see something similar to the one shown below appear in your window. This is what the `user_start` function does. It shows the time that you login to MSC/PATRAN.



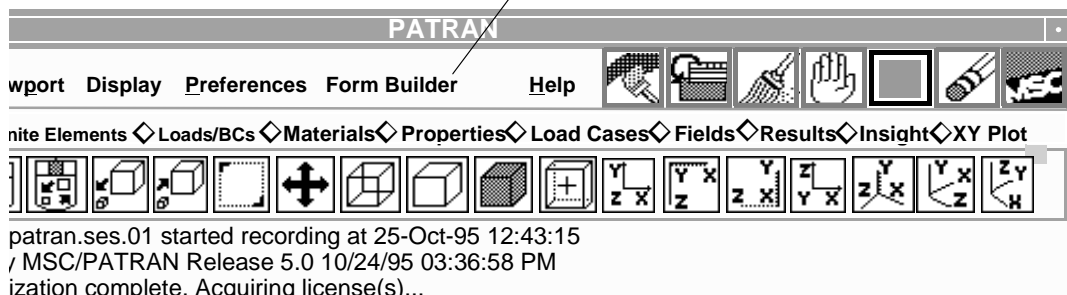
Now close the `PatranLog` file by type `[Ctrl]-z`.

- Using the `user_db_new` functions.

Create a database and name it `exercise_9.db`. Notice in the *Control Panel* that **Form Builder** is unghosted after the database is created.

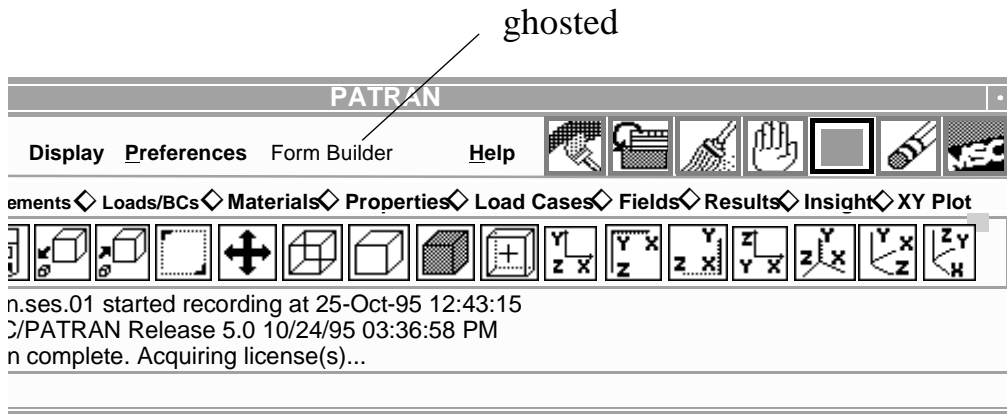
user_db_new functions

unghosted



This is actually done by the `user_db_new` function that opens access to the **Form Builder** function for the new database.

Close the database and open it again. Notice that the **Form Builder** in the *Main Window* is ghosted this time. It is because the `user_db_new` functions only opens access to the **Form Builder** function for new database.



5. Create the `user_db_open` function.

Close the database. Now create a PCL function that will open access to the **Form Builder** function when an existing database is opened. Save your function in a file named `user_db_open.pcl`.

6. Test the PCL file.

After you created the PCL function, type the following command at the shell prompt:

```
usr/lib/cpp -l/patran/patran3/customization user_db_open.pcl user_db_open.cpp
```

In the command window, type

```
!!input user_db_open.cpp
```

Now open database `exercise_9.db` again. **Form Builder** in the *Main Window* should be unghosted at this point if the PCL function you created is correct.

7. Using the `user_close` function.

Close the database. Notice that **Form Builder** is now ghosted. This is done by the `user_db_close` function which closes the access to the **Form Builder** function whenever a database is closed.

**Create a PCL
Function**

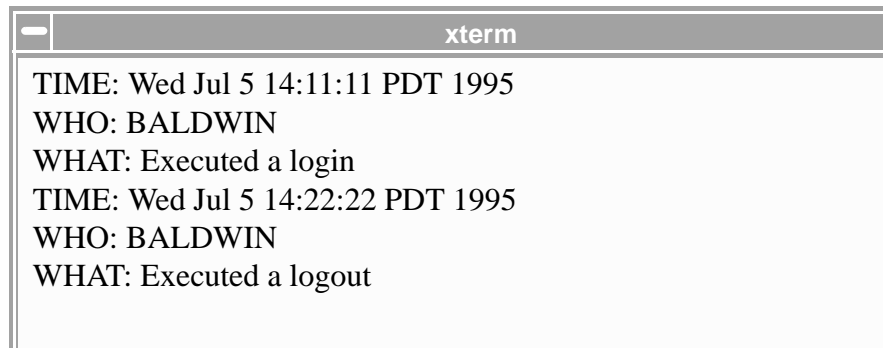
**Test the PCL
File**

**user_db_
close
function**

**user_quit
function**

8. Using the `user_quit` function.

Quit MSC/PATRAN. Open up the `PatranLog` file again and you will see something similar to the one shown below appear in your window.



```
xterm
TIME: Wed Jul 5 14:11:11 PDT 1995
WHO: BALDWIN
WHAT: Executed a login
TIME: Wed Jul 5 14:22:22 PDT 1995
WHO: BALDWIN
WHAT: Executed a logout
```

The `user_quit` function records the time that you logout from MSC/PATRAN.

Close the file.