User Mode Component

By Thomas Maul, 4D Germany.

Technical Note 09-21

Table of Contents

Abstract

A "user mode", as 4D developers may be familiar with, is often useful to correct or modify records without the being held to the same application or business restrictions that an end-user faces. This tech note describes a component which allows adding such a user mode to databases.
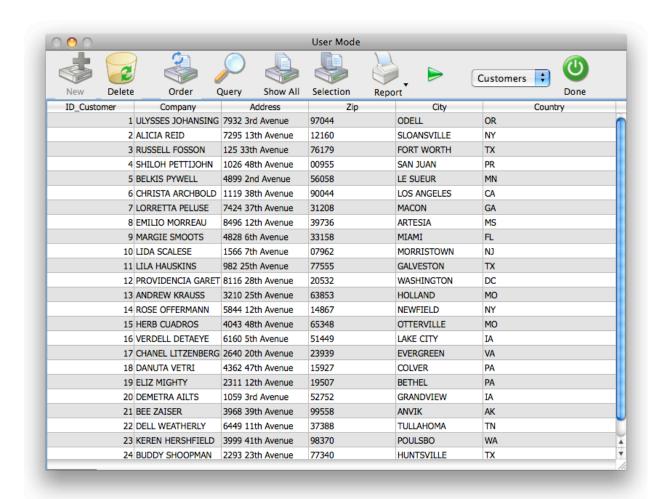
Introduction

Similar to the User Mode of older versions' of 4D, the component allows creating, modifying or deleting records for all tables with functions to sort, order, import, export or use the report editor. This functionality can be provided even in built applications. Furthermore, it is possible to limit access; for example, allow the admin so see everything, but only able to modify some tables, while the designer has full access.

Component in action

With default settings, the component displays a list box for the first table with the first 50 fields. A popup in the toolbar allows changing the displayed table. A long click in a field switches to edit mode. The Delete, Order, Query, Show All/Show Selection and Report buttons are fully functional. The arrow beside the Report button allows opening the Export and Import dialog. Execute opens the formula editor, even allowing the use of methods specified by **SET ALLOWED METHODS**.

While most features are enabled by default, the New button is disabled as the component does not know which form to use (except if a form named "UserMode" exists, which is used by default as an input form).

Using the component

Install the component simply by dragging the component into the component folder of your structure. For details see the 4D Design Manual.

Do a quick test and execute the method "UserMode_Show". You should see a form similar to the one printed above displaying records from a table in your database.

To allow using the component in a compiled application, add a button or a menu, available only for the administrator or designer, which calls the method UserMode_Show and adjust settings if needed.

Component methods

The component publishes 3 methods that may be called with optional parameters.

UserMode_Show

This is the main call. It opens a window and provides the functionality described above.

Parameter	Description
Table	Longint Table ID - Optional

If the method is called without a parameter, the first non-deleted table is displayed. The optional parameter allows starting with a different table.

UserMode_Access

The method allows control over access to the features.

Parameter	Description
Feature	Text: Show, Modify, New, Delete, Report, Import, Export, Execute
Enable	Ptr to Boolean Array, 1 element per Table, Yes/No

Depending on the user access rights, you may want to limit which features are available. Calling UserMode_Access before opening the window with UserMode_Show allows the disabling of buttons or functions.

The parameter, Feature, is a text constant defining which feature to control:

- **Show** Show or hide tables
- **Modify** Allows modifying records by long click in the list or per double click in a form if one was specified
- **New** Allows use of the New button; also requires specifying a form
- **Delete** Allows deletion of the selected records
- **Report** Allows opening the report editor, for printing and exporting records
- **Import** Allows opening the import editor
- **Export** Allows opening the export editor
- **Execute** Allows executing a formula on the current selection

The parameter, Enable, is a pointer to a boolean array, with a size fitting to the number of existing tables (as returned by **Get last table number**). Pass true for an element to enable the feature for this table ID, or false to disable it.

By default all features for all tables are enabled.

UserMode_Forms

The method defines input forms, to be used by double clicking or by using the New button. As this mode is designed to be a maintenance/test mode, it does not make much sense to use the normal forms which also handle business logic, as they may disallow the modification of some fields or automatically calculate their values.

For maintenance purposes, it is usually best to create a special form without any automatic action, except perhaps requiring some mandatory fields such as sequence numbers or time stamps. But even they should be modifiable. If a form named "UserMode" exists for the currently displayed table, it is automatically used for this purpose. This command allows you to specify other forms.

Parameter	Description
Form names	Ptr to Text Array, 1 element per Table, Form name

Pass a pointer to a text array, with a size fitting to the number of existing tables (as returned by Get last table number). Empty elements block the double click/new mode. Pass a form name to enable it.

Conclusion

This technical note described a simple to use component to include a "user mode" for maintenance and testing into your application. This user mode allows you to have access to your data without facing the business restrictions that users may be held to.