

## Multi select drop down list box type entries for datawindows

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### The Need:

A multi select list allows one the luxury of multiple options in one object. However the same is not available in Datawindows. Storing a multitude of options as a single columns data has always been a challenge. The previous method followed was by creating a number which used exponential values for each option i.e. The maximum number was  $2^n - 1$  for N options. However there was a need to create 2 -3 functions for each such column. Thus, if one data window has to offer such choices for many columns, there was huge overhead of maintaining the code. One had to remember the exact value ( $2^x$ ) assigned to each option. The exact calculations had an additional overhead for the CPU.

### What we did:

This need was felt in many places while making an EMR (Electronic Medical Record) application for Rheumatology We decided to make the choices simpler by making the column of the type Char and assigning a separate Character to each choice which caused less overheads but the need for additional coding remains.

The purpose for this code is twofold:-

- To emphasize a need for a multi-select drop down list
- To demonstrate how it can be done.

We have done reams of coding, much of it would decrease once such a choice is available. Only two specific such user objects. We are currently using the same in more than 15 objects – mostly inherited from the two samples provided.

### Basics

- PB version 9.02 Build 7454
- Database ASA
- Connection through *dbconfig.ini*
- Database file *research.db*

### Our basic workflow

The main window (*w\_research*) which is provided has a tab\_main object in which the first tabpage (*uo\_pt\_search*) is used to select the patient for which the data is required either by a scroll or a search (Menu not provided in current sample). The other tabpages will retrieve or display the data of that patient (whose row is highlighted) on opening. A small display datawindow (*d\_pt\_identity*) will show essential details of the selected patient as the footer of the window

Comments are provided with each object.

### The Objects:

In Brief – the need was first felt when we tried to give a choice of Clinic days of doctors so that appropriate appointments could be given for a choice of number of days of the week he was present (*d\_doc\_timings*)

Later when the choice had to be extended to many more columns, we felt a drop down list box could offer graphical choices if required. Once adept or by choice the user could type in the choices manually (DAS 28 – or object *uo\_mal\_history*) – this uses a common list box (*uo\_jt\_findings*)

Over a period of time this type of choice was extended to many objects – a representative base sample of the same is also provided (*uo\_missed\_diag\_study*) for a study of patients with Ankylosing Spondylitis using a list box (*uo\_missed\_diag*) wherein the different columns specification was coded at four places -

- 1 In the Itemfocuschanged event of the datawindow – wherein the specified column using the list box invokes the display of the list box and calls the functions below
- 2 A function called *uf\_create\_list* – creates the list of items to be made for this column
- 3 A function called *uf\_show* displays the selected items based on the data
- 4 The *selection\_changed* event of the listbox puts the data back into the column based on the selection

The length of the column has to be more than the total number of options and can be of the type Char or Varchar. In each case the datawindow has a computed column next to it to display the exact choices as selected. In some columns which have a choice of <Others> will allow entry of data to describe the others as a separate data column

A separate type of list box (*uo\_alter\_diag*) which enters the entire text of the choice to allow some later minor editing is also displayed in *uo\_missed\_diag\_study*

A command button (*cb\_done*) needs to be clicked to close the list box this is required only if one is providing a choice between manual and Graphical list box entry

All the above coding will decrease remarkably if a multiselect list box is offered as a datawindow control. The options the user will have to fill will be :-

Display value of each item, Data value of each item, Separator of items ( In case the data value is not of type Char. The other scripts (the four examples mentioned above) can be generated internally by Power builder. If the option of permanently displayed option is used, the need for a computed column alongside may be obviated

All the items have relevant comments and while some have further documentation within the object itself.