

Donald's Databases

by Professor Donald Trefusis.



Hello chums, to start, a few words. Fabian, hobgoblin, senile, abdominal admit, magnet, dugan caveman, hydrogen, doughnut, chuckwalla and turd.

What does it all mean you ask? I really don't know, they are words extracted from an email from a Gentleman addressing himself as 'John'. John seems to be very worried about be my physical well being as he sent me several emails on a range of medically related subjects.

Other, I suspect fictional addresses include Electra, Yasmin, Brad, Thomasina, and surprisingly Oscar Wilde.

I have to admit a man of my years could probably benefit from the bottled vitality offered, but why the list of seemingly random proper and singular nouns (mostly) are added as a postscript is a mystery. I would be very grateful if any reader could

'bring light to the subject, where all before was dark'.

I have no need of such Monkey Gland treatment in my dusty rooms, so I will call a finish to the matter.

DataSelector.

To start this Issue's 'Donald's Databases' (a title I point out I am not responsible for) I have had an electronic communiqué from Mark Stevenson, the author of the excellent software DataSelector.

Mark has launched a new web site 'www.mkstevo.co.uk' that has the latest releases of his software, the address given in last issue of the Journal is now redundant.

Mark also gives a few details regarding the development of his software DataSelector that is available for Psion Series 3, 3a/c/mx, Siena, 5/mx and 7/mBook and Netbook.

'DataSelector is probably similar to many other self-written programs in that it was written for a specific need. I was, when I wrote it, compiling a database of T.V. & V.C.R. faults and their associated repair. This grew to have 4000+ entries. I wanted something that would enable me to filter results progressively, I wanted to first find all the faults for one particular make (say Philips for example) and to then search within that group for the particular fault symptom and so on until I had drilled down to the correct combination of fault and repair.'

Mark says he particularly pleased with the Boolean query facilities that DataSelector offers via the Insta-Search feature.

Filter, Query, and SQL.

If we can, let us explore a couple of ways of massaging (I fear John's saucy emails are having a subconscious effect on me) data contained within a base with a few definitions.

Imagine we have a database of contacts, the user can search the database for a contact "Long John Silver" let us say, the computer then displays the results of the search.

However if we have two Long John Silvers (unlikely) in our database, one a business contact, the other a social contact, both of these records will be displayed.

If we wish to only search within

business contacts, we apply a Filter that puts all non-business contacts to one side. Once this Filter is in place, it remains in place until we ask the database to remove it, thus all database activity from this point on, for instance mail merge, applies only to our business contacts.

A Filter is generally or can be the result of a Query. A Query is a command that tells the database what information we're interested in and defines the Filter. A Query can be a text command (often referred to as a SQL statement, SQL stands for Sequential Query Language) or executed via a user-friendly graphical interface.

The Boolean Query Mark refers to (named after the British mathematician George Boole) is a Yes or No command. If the contents of the field labelled 'Business Contact?' in our record equals 'No' the query will exclude that record from the filter. The format of command can use such 'operators' as NOT, or OR, and AND! Other operators include EXCEPT, IF, THEN, TRUE and FALSE.

Of course this Yes or No can also be True or False, White or Black, Alive or Dead, or more accurately in this computer context a 16-bit 2 byte value of -1 or 0, or in Powerbase as we shall see 0 or 1.

DataSelector and SQL commands will be covered in more detail in The Psion Computer Journal Issue Four.

Managing Contacts within Powerbase.

Powerbase is the only existing full relational database system available for the Psion EPOC 5 Operating System, although I understand an exciting new relational database called Xeda is being developed.

Purple Software, the author of Powerbase, unfortunately is no more and the software is no longer available to buy. However it is available for free download from various locations, please email donald@psion-computer.com if you have trouble finding it.

Your address book or contact book is probably the one database you have frequent need for and although Contacts is a fine built in application you could never describe it as a Contact Manager in the sense of ACT!, Goldmine or similar products.

So let us create such a Contact Manager within Powerbase.

Step One. Extracting your existing contact file from the Contacts application.

The 5mx machine was the first Psion

Computer to have a dedicated Contacts program included in the ROM, before this the user had to create their contact database within Data. If you still use Data for your contacts you may skip this section.

The easiest way to extract your contacts from Contacts is to use the excellent C2F (Contacts to File) by Malcolm Bryant available from FreEpoc.

To quote the Readme.txt file 'C2F is a small freeware application by Malcolm Bryant which reads your Contacts database and writes user-selected fields to a standard comma or tab-delimited ASCII file. You can then import them into Data or any other program that imports standard ASCII files'.

A Data template file is included within the program to help with the process. Please refer to the following plates on the opposite page.

Note for Plate 1.1

I use the template provided which includes all fields, in this the first, middle and last names are separated- so I select 'No' in the 'Combine last & first names?' option. I also prefer single quote as my text qualifier and tab as my field separator.

Plate 1.0.
Original contacts in
Contacts Program.



Plate 1.0

Plate 1.1.
Setting up C2F to
extract our contacts
to a ASCII file.

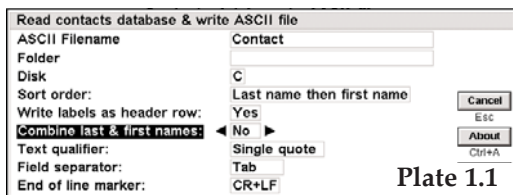


Plate 1.1

Tip! It's a good idea to write field labels as the first record in order to verify correct mapping.

Plate 1.2

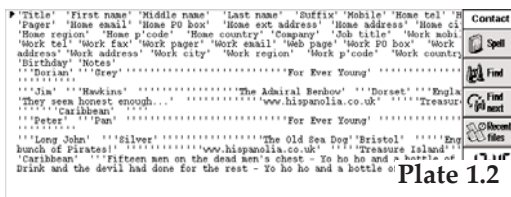


Plate 1.2

Plate 1.3.
Remember to mir-
ror your export set-
tings with your
import settings!

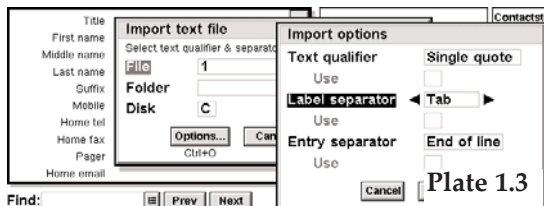


Plate 1.3

Plate 1.4. You're
Done!

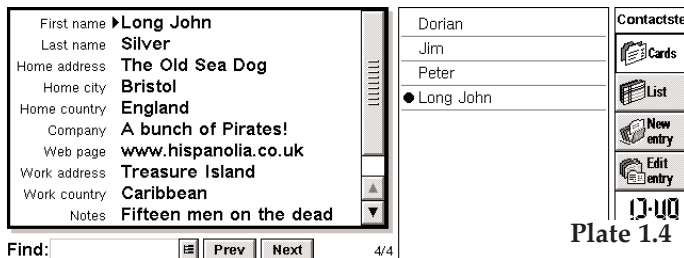


Plate 1.4

Step Two. Import your new Database in to Powerbase.

Thanks to Purple Software this is really easy...

- o Install Powerbase.
- o From the System Screen select 'New File', file type Powerbase and name of your choice (Contact Manager in my case).
- o Select File - More - Import New Table. See Plate 2.0.
- o Review your new Powerbase file with pride! See Plate 2.1.

Powerbase Oddities.

If you are new to Powerbase it does have some rather odd, I'm tempted to say terms of reference, rather, methodology would be more accurate I think.

If you were to close the floating Windows you would be left with a blank screen with no way to browse your records, although you are still 'in' your database file.

The answer is to select File - New - Schema View. From this view you can select what you will from the more conventional hierarchical tree structure.

Schema is normally used in reference to an Outline, for example in Word to add a structured overview to large essays or documents (unavailable in EPOC Word, only SIBO Word), its use here is rather unusual.

Please note this use of File - New does not create a new object such as a Table or Field, purely a new view.

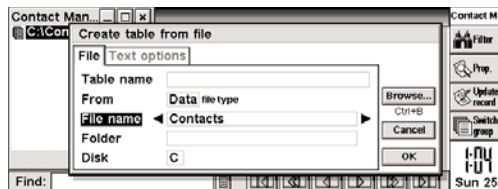


Plate 2.0



Plate 2.1

The second quirk is that if you create, edit or format your database on a large screen EPOC device such as a Series 7 or NetBook and then reopen it on a 5mx, some of the views may fit off the screen and there is no way to close or resize them. This mainly causes a problem when creating a new Page View.

Expression is responsible for both. This all sounds a little complex with my tables and references to Group Criteria Expressions, but actually it's not! Computer types like to keep things unnecessarily elaborate to encourage our failing resistance to their winning smiles and heavy-handed bills!

TRADITIONAL DATABASE	=	POWERBASE
Design View		Schema View
Form		Page
Query - Saved Filter		Groups
Filter - On the fly		Filter
SQL command		Group Criteria
Expression Relationship View		N/A

Table 1.0

Table 1.0 may help to make the differences a little clearer.

Creating a Simple Filter or Group.

The many brands of Databases have many different ways of doing things. The relationship between SQL, Query & Filter is often blurred, so let us bring Power base's interpretation in to focus.

A Filter can be applied on the fly, that is to say implemented immediately and then discarded. A Query, or Group as Powerbase prefers to call it, is a saved Filter. However a SQL command or Group Criteria

Let us apply a simple filter to our example database. I have dealings with a company called 'For Ever Young' and would like to find details their company employees. Create your Schema view, expand the database and select a view.





Plate 3

Next select Filter from the right hand tool bar and enter the following text;
[Company] = "For Ever Young"

See Plate 3.0

Purple Software have included both a list of the fields and built in formulae available to us for easy insertion in to our command line, plus a test button to ensure our command makes sense.

Pressing OK applies our filter and now lists records of For Ever Young employees, namely Peter Pan and Dorian Grey.

Another example might be;
[Company] = "For Ever Young" AND
[First name] = "Dorian"

Note this should be typed as one line.

These few basic examples I hope give you an idea of how filters are made. Groups are just saved filters.

Creating a relational To-Do list.
So far we've manipulated and filtered our existing data, which is great, far more than the Data application could ever do, but now we'll apply some added functionality.

Added Functionality.

Our example contacts database so far is the only table we've got, so lets add another...

With the Schema view open select File - New - Table - Call it To Do. The screen that opens allows you to design your new table, in this example I wish to have the following;

1. Today's Date (Date - Short Format)
2. Completion Date (Date - Short Format)

Tip! When entering a date in a new or edited record pressing TAB once insert today's date, pressing twice open up the calendar for easy date entry, further TAB presses extend date view.

3. Contact
(Relational to our main table.
Relational meaning that our To Do list is linked to our contact data base and in this example the contacts details are filled in to the To Do list automatically once the contact has been selected from a pull down list.)

*Tip! It is often good practise to have a Unique Identifier or I.D. in your records, for instance a number such as customer number.

I haven't in my database so I choose Last Name as my Unique Identifier (trouble is there could be easily two people with the same Last Name).*

Details	Attributes	Display
Name	Contact	
Type	Relational	
Related to	"Contacts" table	
Related to	"Last name" field	

*Tip! I wish to display both Last and First names in my To Do list view, so in display I type:
[Last name] + ", " + [First name]

Text between quotation marks is displayed as text, we could display more information, for example...

[Last name] + ", " + [First name] + ". Email is " + [Email]

...and so on! If this where a

Invoicing System for example the customers address would be inserted and order traced.*

Details	Attributes	Display
	[Last name] + ", " + [First name]	

4. Priority (Small Integer - between 0 and 255)
5. To Do Title (Text)
6. To Do Details (Memo)
7. Completed (Boolean)

Once saved new a To Do can be entered by pressing CTRL+N, our To Do should look like Plate 4.0.

To Do/All records	
Today	26/04/04
Complete By	29/04/04
Contact	Grey, Dorian
Priority	3
To Do Title	Send Theatre Tickets
To Do Details	Send Dorian tickets to The Magic Flute.
Completed	No
1 of 2	
Find:	

Plate 4.0

It is now possible to create Groups or Filters to manage our To Do's, for instance;

[Priority] <2

would give us To Do's with top (1) priority.

[Completed] = 0

would return all uncompleted To Do's (remember Boolean in

Powerbase is 0 or 1, but can displayed as any positive or negative value such as Yes or No).

Further customisation is possible with new views displaying only the fields you desire, really, the flexibility of Powerbase is endless, you could run your whole life with it!

That completes our whistle stop guide to Powerbase, I hope you have enjoyed learning it's ways and may possibly wish to dig a little deeper into the many features Powerbase contains.

As for me, the time is late and I smell burning from the crumpets I placed under the grill a little while ago.

Sic Transit Gloria Mundi...

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Editor.

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