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VFP Data on Your Palm Pilot

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Just about everyone of you has a PDA anymore. And the most popular machine is definitely the Palm Pilot. But unless you're a closet C guru, you're stuck with the programs that come with your PDA, or those that you can download and install on it. But frankly, that can be a lot of work. Having grown tired of Visual Basic for a while, I'm starting a new column, provided as an Extended Article with our subscriber downloads, that discusses a variety of different ways that you can move data back and forth between your Palm Pilot and your PC – specifically, your VFP apps.

I'm a pretty impatient type of individual. One of my favorite lines comes from one of the Addams Family movies, where Wednesday asks for the salt. Morticia reprimands her, asking, "What's the magic word?" And Wednesday, in a dead monotone, replies, "NOW!!!!"

Similarly, I want access to my data all the time. At least the data that I use frequently. And that would be my calendar, my address book, and my To Do list. Unfortunately, the apps that come with PDAs that are supposed to synchronize with your PC are usually dumbed-down versions of the PC tool. For example, the "To Do" list manager for the Palm Pilot that syncs with Outlook's To Do list manager has about a third of the functionality. Considering that Outlook's To Do list manager is fairly lame to begin with, the Palm version is useless for anyone who has more than three things to do on a specific day.

Thus began the quest to "roll my own."

Why a Palm Pilot?

Before I get started, I suppose I should explain why I'm using a Palm Pilot instead of a WinCE machine. Well, originally, I had a WinCE machine. It was a Phillips Nino, and at first glance, looked to be quite the killer PDA. But one of the reasons I bought it was because WinCE supported VB, and I figured that I could write a little VB app for my Nino that would transfer data back and forth with my desktop.

Well, it turns out that there are different versions of WinCE, an important fact that is pointed out in the small print on page 47 of the manual. The hand-held version of WinCE, that runs on PDAs that have a full keyboard, like the Jornada, will use a subset of VB. But the palm-sized version of WinCE that runs on machines like the Phillips Nino and the Casseipia, must be programmed using C.

Yeah, right.

Combine that with the fact that WinCE just wasn't that stable – the Nino would lock up on me about once every two weeks, and the sync mechanism was a bear to install and keep running – and that WinCE machines chew up batteries faster than VB developers press Ctrl-C, well, the Nino is now resting peacefully alongside my Kodak DC-50 digital camera and my AT&T wireless headset in the box of "PC Toys That Didn't Work Too Well."

The Palm Pilot (I have a V) is a wonderful tool. Plenty of memory, half the size of a deck of playing cards; the V needs to be recharged about once a month. And the sync mechanism with Outlook and Day-Timer has worked flawless for half a year now.

Databases for the Palm

I've been investigating various tools for creating Palm PDA databases that purport the capability of syncing with files on a PC. This month, I'll mention three and provide a brief overview; in following months, I'll describe, step by step, how to move data from a Fox application to your Palm PDA, and back.

First, I should explain that these tools use the term "database" in a rather "loose" fashion. They are flat file managers – allowing you to define a few columns in a single table, and perhaps a couple of indexes. In each case, they use the term "database" when you and I would use the term "table", and for consistencies sake, I'll repeat that error for the rest of this article. The sophisticated ones allow you to define a type of "lookup", either with hard-coded values, or a reference to a separate lookup file. But E.F. Codd and C.J.

Date aren't going to be awed by any display of relational technology in these tools yet. So don't get your hopes up yet, OK?

All three of these tools reside on your Palm PDA. They each allow you to define and use one or more databases on your PDA in a proprietary file format. Two of these tools also have a related tool that you run on your PC (Windows, Mac, Linux, and yes, even DOS) that converts the proprietary file – after you've sync'd it from your PDA to your PC - to a CSV (comma-separated values) formatted file.

I've included demo versions of each of these programs in this month's subscriber downloads in case you can't wait until next month to start playing with one of them.

SimpleDB

In some advertising agencies, it's common practice to develop a "throw-away" campaign that is the first to be presented to a picky client. The theory is that the client will automatically not like the first presentation, and so the agency presents work that is purposefully less than their best.

Same thing here. Unless your database needs are really simple, you'd be well-advised to skip by this one right away. I just presented it so that you'd appreciate the others more. On the other hand, if you're looking for a simple database application for a "friend" of yours – a less-than computer literate spouse, parent, child, or business associate, SimpleDB may be just right.

It allows the user to create databases with a customizable heading and up to five fields per database. You can also add free-form notes to each record. It doesn't, yet, allow sorting or searching, or cut and paste between items, and it doesn't have a facility for transferring data between your PDA and your PC.

Simple DB is also currently in beta, but has been for quite a while, so it's reasonably stable, and the README file – the only documentation that comes with the program - has a list of known limitations and bugs.

ThinkDB

ThinkDB has considerably more functionality than SimpleDB, and even has a couple of features that my third selection, JFilePro, does not.

It allows you to create up to 100 simultaneous databases (remember, that means "tables" to you and me) on a device (your PDA), and a database can contain up to 65,000 records. Each database can have up to 36 user-defined fields, and you can identify a database as belonging to a category. This last feature allows you to view a list of only select databases – such as business, personal, athletic training, or however else you might want to group them.

ThinkDB has a large number of data types, including text, integer, long, float, list (a lookup field), date, time, checkbox, expression (similar to a calculated field in a Visual FoxPro report), primary key and external join (similar to a foreign key, in that it points to a primary key in another ThinkDB database.)

ThinkDB has a mini-Form Designer where you define your record entry form. Since it's very possible that you won't be able to display all 36 fields in a ThinkDB database on one "screen" on your PDA, you can define "tabs" in the Form Designer, and display each fields on a specific tab. You can create a dozen different "lists" (ThinkDB's name for what we think of as a Visual FoxPro local view). These lists each have their own set of columns, sort orders, and default filter.

You also have the ability to enter multi-line data, find on either one or multiple fields, and work with a "home page" that lists all of the ThinkDB databases on your PDA. The ThinkDB preferences page allows you choose eight different settings, including how the main screen displays data, whether to confirm before delete, whether to keep the current database sorted while in use, and whether to open the last database used the next time ThinkDB is started.

ThinkDB comes with a Desktop Companion that opens existing databases for viewing and editing, import and export with Access, and do a number of functions along the lines of VFP's MODIFY STRUCTURE facility.

ThinkDB comes with a good-sized on-line help file that has clear descriptions of how to operate the program. The only thing I didn't really like is the wording regarding their registration key setup: "An incorrect Palm username will create an invalid registration key. A new registration key may be issued only if the correct name is similar to the one provided previously, and the process can take several weeks/months."

JFilePro

Probably the granddaddy of Palm database tools, JFilePro has a predecessor, JFile, that is in widespread use. JFilePro was released late in 1999, and its files aren't directly compatible with its ancestor (they can be converted with a utility that is provided with JFilePro.)

JFilePro allows up to 60 databases on a single PDA, 20 character field names, 50 fields per database, and 4000 characters per field. Naturally, these are maximums - the capacity of your Palm PDA may impose stricter limits.

You get four functions, or what they call "views." These include the Main view – a list of all databases currently installed, New/Modify Structure view, the Database view – essentially a Browse, and the Record view, which allows display and editing of a single record.

JFilePro provides most of the same capabilities as ThinkDB, including multiple field types, a robust preferences selection, and standard add/edit/delete functionality. It does not have the same type of "lookup" feature, nor does it allow you to relate multiple databases using keys like ThinkDB does. However, what it lacks in "relationality" it more than makes up in sorting, searching, and filtering.

You can view column totals, control column widths, filter on one or multiple field, via a filter string using a "contains in", "starts with", "not in" or "in range" operator.

The converter application that comes with JFilePro runs on Windows 9x and NT, and allows you to convert a PDB (Palm database) file to CSV format and back. This feature is pretty powerful, using an IFO definition file that allows you to define and alter how data is moved between PDB and CSV formats.

JFilePro comes with two versions of its help file – in both HTML (not .CHM) format and an RTF document that makes good use of Word's outline formatting so you can navigate through it quickly.

Conclusion

As with many Internet technologies, PDA databases are a story of "two steps forward, five steps back" when it comes to functionality. The price you pay for additional deployment capabilities – being able to take your data with you in your shirt pocket and have it be available instantly (as opposed to a four minute boot up sequence) – is limited functionality – primitive relational ability and small capacities. Next month, I'll walk you through the step-by-step instructions to install and implement a Palm PDA database, and hook it up with a corresponding Fox database.