

Gerald's Column *by Gerald Fitton*

This month I'm going to discuss, in a very general way, RISC OS Spreadsheets. I have noticed that it has become a popular pastime to say that there is no 'Killer Spreadsheet' package available for RISC OS machines. I don't think that is true so I'm going to try to 'Kill' what I regard as a negative attitude towards RISC OS applications.

The Archive Articles on Sheets

During the 1997 – 1998 Archive year, which runs from Autumn to Autumn, I wrote a series of twelve articles about RISC OS spreadsheets. Those articles are a little out of date now but not sufficiently so to warrant a rewrite. I concentrated mainly on the use of Eureka, Schema, PipeDream and Fireworkz and touched on the use of Tablemate and TableCalc.

If you are unsure of the relative merits of different RISC OS spreadsheets then I suggest that you have another look at that series of articles. My summary is that all of these packages are excellent spreadsheets. Of course each has its own strengths and weaknesses. My point here is that I prefer using any of them to using Microsoft's Excel. This is not because Excel bears the Microsoft label (loathed by many but accepted by me) but because the RISC OS packages are better. I shall explain why I believe that is so.

TableMate

In this article I shall concentrate on Schema and Fireworkz. In doing this I mean no disrespect to PipeDream nor to Eureka both of which are excellent in their own way.

Before I leave the general field of RISC OS spreadsheets I must mention TableMate. It is my spreadsheet of choice for simple tables which have to be exported into a desk top publisher such as Impression and Ovation Pro. I recommend it to you for that purpose.

I don't have the latest version (which I believe is Version 5). The one I have contains simple arithmetic functions and excellent table layout facilities. It was supplied with Impression (along with WordWorks and Equasor) for creating and loading tables.

It can be used with David Pilling's Ovation Pro; all you need to do is to create an Ovation Pro frame and drag the TableMate file into that frame. OLE (Object Linking and Embedding) works just as it did with Impression.

Excel

I am familiar with the spreadsheet Excel. It is part of the Microsoft Office Suite and runs in a Windows environment. The version I use is Microsoft Office Professional 97. The reason I am familiar with it is that I used to teach students how to use it to do many different types of sums ranging from Statistics to Electronic Engineering. I had to teach students not only how to analyse statistical data or do intricate engineering calculations but also how to present numerical tables and a variety of charts which most effectively illustrate the points which they wished to make in their reports or presentations.

One of the major deficiencies of the later versions of Excel (those after Excel 4) is that all the sheets are bundled together in one Workbook. Some correspondents suggest that this is an advantage; in particular I must mention John Crane's remarks in Archive 13.9 page 36 in the Comment Column if only because it was the proverbial 'last straw' which has inspired me to write this article.

I disagree most strongly; Workbooks of the Excel type are undesirable.

The Workbook

What are the advantages of using an Excel Workbook over a RISC OS spreadsheet?

One is that all the relevant files are Loaded with one command. Both Fireworkz and Schema can Load a set of linked files with a single command.

If you Load one Fireworkz file of a linked set then all the files are Loaded.

Schema supports a concept called a Workspace. This is not the same as an Excel Workbook but is a means of Loading and Saving a set of related but independent files with one action. In Schema (as with all RISC OS spreadsheets) the individual files remain separate and distinct—they are not amalgamated into one file.

Another claimed benefit is that all the relevant files can be Saved with one command.

If you click on the Close icon of one Fireworkz file (of a linked set) you will be offered the option of Closing and Saving the whole set.

In Schema you Save the Workspace and the whole set of files is Saved.

The operation of a Schema Workspace file is similar in its operation to that of a PipeDream command file written to Save a set of files. In PipeDream you can double click on such a command file and the set of PipeDream files would all be saved.

RISC OS Spreadsheets

Another claimed benefit for Excel is that you can open any one of the series of linked files with a single click on the sheet name (at the bottom of the Workbook). Of course, with Fireworkz and Schema, all the linked files are loaded and you can look at any one of them by bringing it to the top. It does require you to arrange your layout of the set of files so that you can click on either the top bar or bottom right hand corner of any of the files you want but that isn't too difficult to arrange. By the way, once you have such a layout then the exact position of each file in the window is Saved with the file so that the next time you Load it it will appear at exactly the same position on the screen that it did before.

Iconised Files

RISC OS supports what I shall call 'Iconised files'.

Individual Excel sheets taken from a set in a Workbook can not be iconised. You can Minimise an Excel spreadsheet but then the whole workbook is Minimised to the task bar (similar to the RISC OS icon bar).

With a RISC OS spreadsheet you can Iconise any of the set of sheets (by holding down the <Shift> key whilst clicking on the Close button). The result is that an icon appears on the pinboard. The position of the icon can be moved to wherever is most convenient. You can reopen the full window by clicking on the icon.

A point that many people who use linked spreadsheets do not realise is that the Iconised sheet is still in memory and is still 'alive'. By alive I mean that you can still 'push' data into it or 'pull' data from it and any calculations which that Iconised sheet has to do will be done. The best way of pushing data into and pulling data out of a linked file is with the function `set_value(destination,source)`.

A Three Sheet Example

I usually recommend a minimum of three sheets for all but the simplest of applications. These three are an Input sheet (for entering data into the set of files), a Processing sheet (for doing sums) and an Output sheet (which is used for the printout). The Processing spreadsheet can be iconised and both the Input and the Printout sheets displayed on the RISC OS screen at the same time. Such a screen display is difficult to achieve with Excel.

Generally I find it convenient to iconise and so 'hide' custom functions.

RISC OS Flexibility

Fireworkz and Schema are more flexible than Excel in that you can have a set of linked files with the files located anywhere! The Schema Workspace facility does not require all the files to be located in the same directory. Load the Workspace and all the files will be loaded wherever they are in your hard disc directory structure. A Library of useful files can be used without losing the 'Load one – Load all' feature of Schema and Fireworkz.

One advantage of this is that you can use a single data file in many applications. You store it once on your hard disc (plus a backup of course) and you can recall data from it into any of a number of different applications. You do not have to keep multiple copies of that common pool of data in every Workbook that uses it. You can add to and modify the single data file and it will be available in its upgraded form to all applications.

If you use Excel then you will have to make sure that you upgrade every Workbook which uses that common pool of data. Even though you might find a Copy and Paste operation which does this trick such a procedure is still prone to an error of omission.

If your common file is a file used for processing data from many different files (not all at the same time) then RISC OS has the advantage. You might wish to process each month's financial data in the same way using a common processing file into which you 'push' the month's data and then 'pull' from it your monthly statistics. If you make improvements to your processing file then you need do it just once (and back it up). Your upgraded processing file will be available to every application which uses it.

Each month's data can be kept separate with a 'brought forward' 'pushed' into it from the previous month. Only when you make a change to an earlier month's data (to correct a mistake or make an adjustment) will that earlier month's data need to be loaded. If the 'push' is set up correctly then the files for all subsequent months will be loaded and the correction will ripple through the series—then you can close all the earlier files.

In last month's Comment Column John refers to a "running total". Generally it is better to Load this file only when it is needed rather than having it present all the time. This will save memory and it will speed up the calculations in the subsidiary sheets.

Names

I have received notification that Schema has been upgraded but I don't have the latest version. I don't know if it supports Names.

In Fireworkz you can allocate a Name to a single cell or to a block of cells. I recommend Naming key parameters rather than using cell references. The Names should be created within the sheet which contains the Named cell or block. These Named areas are always available to any dependent sheet which needs them.

If you do not use Names (but only cell references) then you must have all dependent sheets loaded when you make drastic changes to a sheet's layout.

In case you've missed the significance of this let me put it another way. Consider a situation in which Sheet B contains a cell reference to a cell in Sheet A. Load Sheet A and then, without Sheet B loaded, modify the layout of Sheet A so that the cell 'moves' to a new location. Unless Sheet B is loaded (or iconised) when you make this change in Sheet A the cell reference in Sheet B will remain as it was and, when Sheet B is Loaded it will pick up the wrong cell from Sheet A. By the way, the cell reference does change if Sheet B is Loaded at the time the modifications are made to Sheet A.

If you Name the cell in Sheet A and use that Name in Sheet B then you will not need to have Sheet B Loaded when you make changes to the layout of Sheet A. The Name will be redefined in Sheet A and the new definition will be picked up by the reference in Sheet B. Let me emphasize that Sheet B does not have to be Loaded because it will search Sheet A for the data it wants by Name rather than by cell location.

Porting

Now we come to the 'down side' of RISC OS spreadsheets.

Since Microsoft changed Excel so that it supports Workbooks this has made it more than a little difficult to port Excel files into a RISC OS spreadsheet. I do accept that the current methods of porting Workbooks into RISC OS spreadsheets are less than satisfactory.

Nevertheless I maintain that the creation of the Workbook format for Excel was a retrograde step and that, in RISC OS, we should not go down the same road. Too much flexibility would be lost by forcing a Workbook structure on Fireworkz, Schema or any of the other RISC OS spreadsheets I've mentioned.

The only method of porting Excel Workbooks to a RISC OS spreadsheet at the moment is to Save the components of the Worksheet in Excel 4 format and then reassemble the dependency in the RISC OS spreadsheet.

In Excel Workbooks, the different sheets are referred to as [!Sheet1], [!Sheet2], etc. I think that it should be possible to save all the components of an Excel Workbook within a single RISC OS directory under the file names [!Sheet1], [!Sheet2], etc, so that the cell references (containing a prefix such as !Sheet1) will be picked up by the RISC OS spreadsheet—but I'm the last person to say that it think it will be an easy task to devise a simple way of executing this method of porting. One major difficulty is discovering how an Excel Workbook is constructed. I have been told that it is in the form of a 'Script File'.

The Commercial

As far as Colton Software products are concerned we have decided that we will distance the programs (PipeDream and Fireworkz) from the 'filters' used for porting to and from other formats. By this I mean that we shall adopt the policy we took with PipeDream and which Schema uses. Let me explain.

There is a utility called !PD123 supplied with PipeDream which can be used to convert PipeDream files to Lotus 123 files—and it will do the reverse. A utility called !ConvS2WK1 is supplied with Schema can be used in the same way. These utilities do not form part of the main PipeDream or Schema program.

Fireworkz does have a PipeDream loader built into it. By this I mean that if you drag a PipeDream file to the Fireworkz icon (on the icon bar) then Fireworkz will Load the file and do its best to produce a layout with Styles which looks like the PipeDream layout.

The basic constructs of PipeDream change slowly; as far as I know only two major features of PipeDream have been abandoned during its long life. These are so called MultiFiles (still partly supported but not documented) and disc based data files (needed to assist data transfer from one sheet to another when the Archimedes was single tasking). Because the format of PipeDream is so stable we feel able to retain the PipeDream Loader in Fireworkz.

On the other hand Excel, Microsoft Word and even such 'standards' as HTML and Rich Text Format (RTF) change rather more rapidly. We believe that it would be wrong to keep changing Fireworkz every time a new version of RTF or Excel appears. Furthermore we do not believe that it is desirable to support all possible versions of Excel, etc, with a multi purpose Loader built into Fireworkz.

Our policy is that we shall encourage third parties to construct 'filters' which will convert to and from PipeDream and Fireworkz into all these other 'popular' formats (such as Excel 8). Some of the filters which we have (such as Fireworkz to PipeDream, BASIC to PipeDream and Fireworkz to Impression) are written in single tasking BASIC so we're not suggesting that you need to learn machine code. We will make available the PipeDream and Fireworkz constructs to these third parties. The copyright of the filter will belong to the third party designing it but I have to add that many such authors have made their work freely available in return for a fairly nominal payment.

Summary

A criticism of RISC OS spreadsheets is that they should be more like Excel Workbooks so that Excel Workbooks can be ported easily into them. My comment is that RISC OS spreadsheets such as Schema, Eureka, PipeDream and Fireworkz are better than Excel partly because they are not Workbooks and partly because RISC OS offers more features (for example iconisation) than does Windows.

On a commercial note we would like to encourage third parties to write filters for PipeDream and Fireworkz.

Finally

Thanks again for all the many interesting letters and emails. You can write to me at the address given in Paul's Fact File for Abacus Training. Please note that my Post Code is changing from SN2 6QA to SN2 7QA; of course either post code will reach me during the change over period. If you have a problem then please do send me an example file rather than a lengthy description. Self addressed sticky labels do help more than you might guess and return postage is more than welcome!