

Spreadsheet applications BETWEEN THE SHEETS

John Southern shows us that when it comes to Linux, there's a whole array of spreadsheet applications to choose from

Spreadsheets come in many forms from the all encompassing StarOffice to the tiny and modular **Teapot**. Their use is diverse, from sheets that simply select lottery numbers at random, to the large multisheet business plans that can create job prospects at random.

Spreadsheets were the killer application that drove much of the personal computer industry. Original business sales of personal computers were driven by VisiCalc and then later Lotus 123. Microsoft initially brought us Multiplan with its R1C1 notation for cell referencing. Whereas others, especially VisiCalc, favoured the A1 system because it managed to address cells in a much condensed form.

A spreadsheet is a network of cells with an underlying column and row structure. But the real power comes from the ability to reference constants, formulae or and other cells. Because of this, very complex modelling can soon be built up.

Running any sort of business will most probably require some use of a spreadsheet. This may range from producing the Financial statements of a Plc to recording the petty cash. From adding up the bank statement to consolidating many sites of an enterprise. It is hard to imagin any sort of business that can manage without the power and flexibility that speadsheets have to offer.

Many Plc's use spreadsheets not because they are reliable or easy to control, it only takes one bad formulae hidden from view to reduce a spreadsheet to a mess. The real beauty is that it is very easy to gain some basic skills in using and manipulating spreadsheet. Line managers in organisations can usually work out what is trying to be done with each sheet without having to have a full understanding of how the sheet was put together.. A little degree of proficiency goes a long way.

Recent developments

Not much has really changed over the last few years. Yes we can now highlight in dozens of colours and add wonderful fonts, so it is clear to see that most of

the effort in development is with displaying your data, not manipulating it. The last main change was the introduction of multiple sheets, with the facility to Interlink the data from one sheet to another. Many is the time when a decent database would be more useful, but databases require some thought and preparation before you can start to use them. Spreadsheets can be setup in a matter of moments and you work and develop on them on the fly.

Our first consideration when about to start create all but the most basic of spreadsheets is to decide if the spreadsheet is the right application to use at all. Would something be better suited to our task?

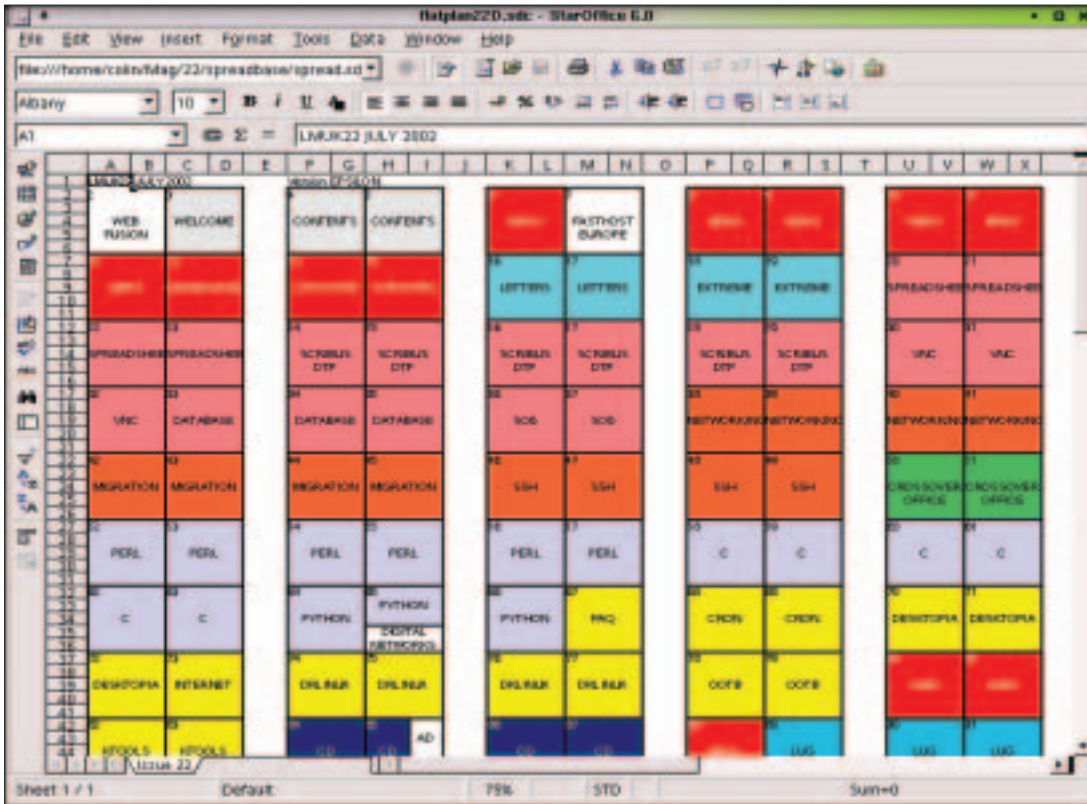
The petty cash and tea money maybe fine on the back of an envelope but as the task grows we move first to a notepad then spreadsheets and finally a purpose built application.

We must also consider what we want to do with the data. Is the spreadsheet going to be a one off, with the data printed and never amended again used again or will we need to refer to and reuse at a later date? A much more important consideration, especially for the Linux user, is, will we need to pass the data on to a third party? If so, we then have to consider the what format of data can they handle.

Because computers are good a saving data, we can reuse large amounts of it. This makes many tasks more productive, saving us time and money. Occasionally we might even get off work early because of it.

The concerns about having to pass on your spreadsheet data to a third party is a much bigger problem. Much as we wish, the majority of the world does not use your Linux, and so they will be expecting your data to be in a spreadsheet format that they can understand. Admittedly simple formats are preferable. Data presented in CSV format can be imported into so many applications that you rely on any spreadsheet worth the name can read it, the data will never be lost.

The most compatible spreadsheet package we have running under Linux is StarOffice 6.0 from Sun

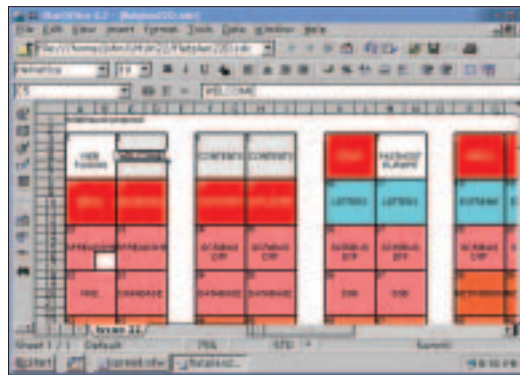


In StarOffice the merged cells appear fine.

Microsystems. This has a wide variety of file types supported, from text to Excel formats. And remember, some of these formats are not fixed, so data from an Excel 97 spreadsheet might not give you the required information if viewed in Excel XP.

If we make a simple spreadsheet with just a few functions we can save in .xls format. Care must be taken as this some vendors may not have invested enough time in developing their product to meet its compatibility standards. This may result in the loss of some formatting, especially if very complex. The important point though, is that the data will still be secure, so only the formatting would have to be reworked on a new platform if needs be.

What you do have with the spreadsheet solutions in Linux is choice. You get to decide on size, speed and cost. Knowing in advance the type of features



Converted to Excel the merged cells do not appear the same.

you will need for you project will help you decide which package best fits your needs. We have listed here some of the more popular packages, even though some are quite old.

Spreadsheets...

Abs

Abs is from <http://www.ping.belbertin/abs.shtml> and is released under GPL. It copes with everything we tested it with and comes with its own form of MS Visual Basic called ABVisual. Started with the command `.abs`

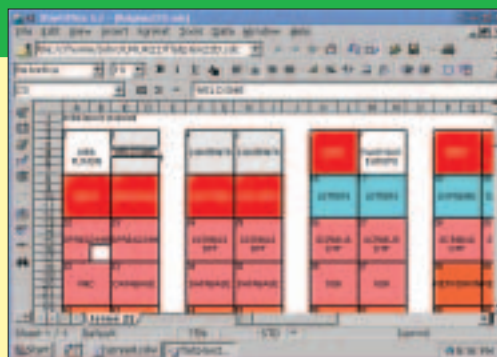


Figure 3: Abs spreadsheet showing it's Xaw widgwt kit.

...Spreadsheets

Calc (StarOffice 6.0)

Almost identical to OpenOffice.org this commercial offering gives added fonts and an improved initialisation time.

<http://www.sun.com/software/star/staroffice/6.0/>

£56 including the rest of the StarOffice package. Supports Excel 2000 and XP file formats. Will also import from a wide range of formats as well.

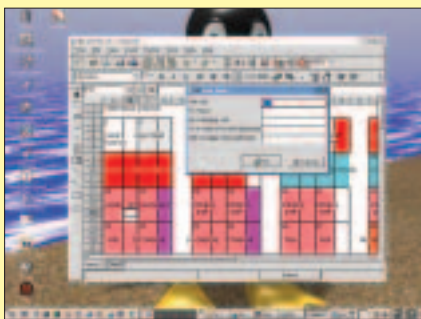


Figure 4: Calc from Sun – the best you can get for Linux at the moment

Gnumeric

Released under the GPL, Gnumeric is part of the Gnome desktop environment. As such it works well featuring multiple sheets. The only drawback we found in practise was the limited number of file format filters available. Tools available include Goal seeking which is used to calculate break-even or budget points.

<http://www.gnome.org/projects/gnumeric/>

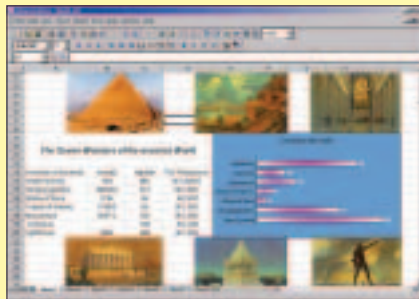


Gnumeric showing off its goal seeking function.

HancomSheet

The new release from Hancom costs \$50 including the rest of the Hancom Office suite. <http://en.hancom.com/>. A tough

market to enter, Hancom has managed to make a mark very quickly by releasing a highly polished product based on QT architecture. Pivot tables and macro function work quickly and the definable redo and undo functions should be taken up by all other spreadsheet makers. The number of columns has been increased to 512 but the number of rows has been dramatically reduced to 16Kb. File format filters consisted of MS Excel and nothing else.

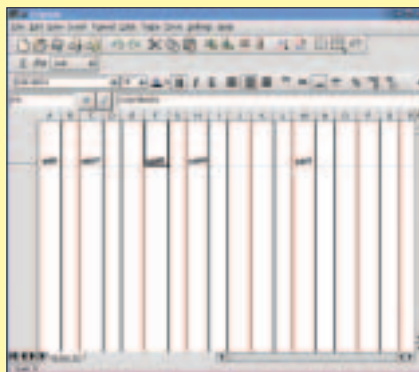


Hancom Sheet showing it's embedded image abilities

Kspread

Not to be out done by Gnumeric the KDE environment has released Kspread under the GPL. Not the fastest of spreadsheets and importing excel sheets caused display errors due to the limited number of functions supported. You can not save in excel format although you can to Gnumeric format. As a stand alone it fails due to speed and compatibility. With the other Koffice applications it may well be adequate if you do not need to exchange files. Find out more at

<http://www.koffice.org/kspread/>



Kspread failing to display an Excel sheet correctly.

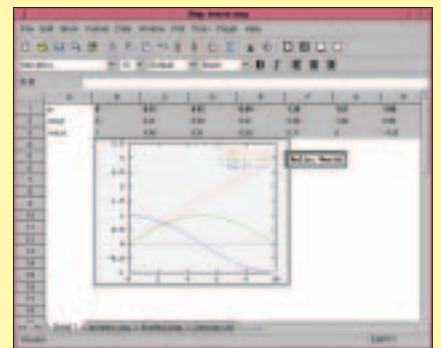
NExS Personal Edition 1.4.6

The Network Extensible Spreadsheet from GreyTrout at <http://www.greytrout.com/> is a proprietary system costing \$50 for the personal edition. Motif based the spreadsheet is based around the client server model with some internet capability built in.

Limited to one sheet it copes well with Lotus123 and Excel formats. Not aimed at the desktop but suitable for a datacenter. Plugins give an indication of its use ranging from Genetic Algorithms to a Perl Interface.

Siag 3.5.0-2

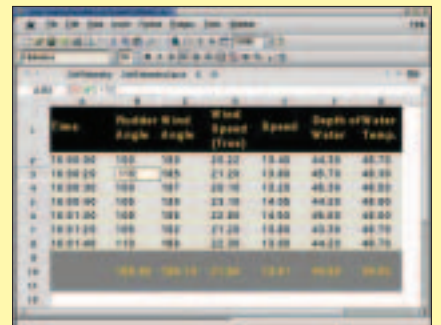
Another GPL product. This time the Scheme In A Grid spreadsheet based on Scheme. Not the usual desktop spreadsheet but something a programmer may like for the added functionality. For more information see <http://siag.nu/>.



SIAG showing its graphing ability.

Anywhere Desktop (Applixware)

At \$99 for this office suite it is capable of using Java to become a thin client operating spreadsheet. Support for Excel



Applixware spreadsheet

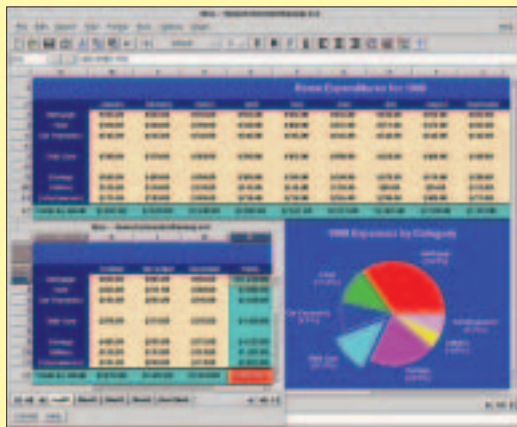
...Spreadsheets

and Lotus sheets worked through the built in wizards although others have had import problems. Where Applixware succeeds is that third party manufactures are producing add-on utilities such as Analyst for extending the analytical capabilities. Many more details from <http://www.vistasource.com/products/axware/spreadsheets/>

XESS

Starting at \$70 this spreadsheet has been around for a long time. Motif based but continued to be developed it coped well with importing Excel 97 sheets.

http://www.ais.com/linux_corner.html



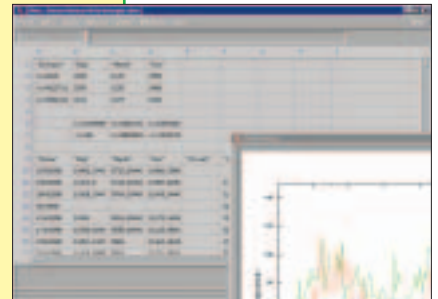
XESS showing graphing

Wingz

<http://www.wingz-us.com/wingz/news/linux.html>
The Wingz site sadly shows us that it has not been updated since the end of 1998. As such we did not test this product.

Oleo

Coming from the GNU Free Software Foundation at <http://www.gnu.org/software/oleo/oleo.html>. Oleo comes with a motif interface. The lack of import filters make this only suitable for hard core Linux only fans. Production again seems to have halted in 2000 and the FSF is now also supporting Gnumetrics.



Oleo in action

Teapot

Teapot is really a table planner but has a very small footprint and comes with the SuSE box sets. It uses functional addresses and has 3D table modelling. <http://www.moria.de/~michael/>

We could go on and on with spreadsheets. Just briefly, here are some others that we came across:

- moodss – <http://jfontain.free.fr/moodss/index.html>
- xxl – <http://www.esinsa.unice.fr/xxl.html>
- Xspread – <http://www.mnis.fr/homelinux/appli/spreadsheet/xspread.html>
- Abacus – <http://www-cad.eecs.berkeley.edu/HomePages/aml/abacus/abacus.html>
- OleoTK – <http://public.ise.canberra.edu.au/~rj/oleotk.html>
- SC – <http://www.ibiblio.org/pub/Linux/apps/financial/spreadsheet/>

Comma Separated Values

Data is stored separated by fixed delimiters such as commas or tabs. Databases and spreadsheets can easily interchange data and being in a text format can always be worked upon with a text editor.

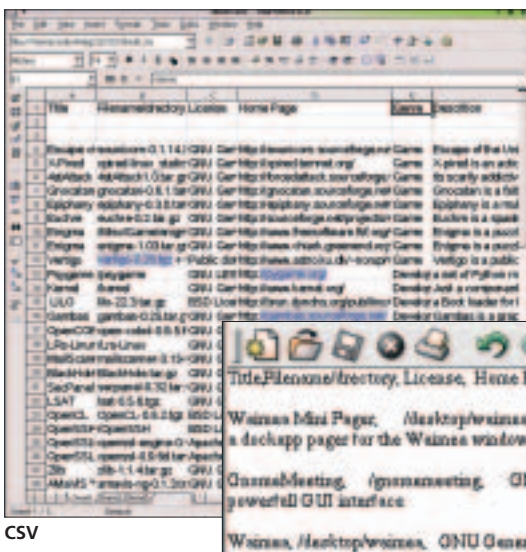
More information

There is a very interesting and informative site on spreadsheets and their history, with special reference to Spreadsheets on Linux from Christopher Brown, which you can find at

<http://www.nlug.org/~cbbrowne/spreadsheets.html>.

Though some of the information is out of date, the real joy comes from the history of spreadsheets

Much discussion and problem solving can also be found on Usenet in *comp.apps.spreadsheets*



CSV