

Scaling Calc sheets to width/height or number of pages

Keywords LibreOffice, 3.3, Calc, format, "Fit print range(s) to width/height", manual breaks

Abstract

Beginning with LibreOffice 3.3 manual breaks in spreadsheets are ignored if the "Fit print range(s) to width/height" scaling method is used for printing. Earlier versions (since Open/StarOffice 2.7/8.?) did not ignore the manual breaks in this case but seem to run into scaling problems if the number of manual breaks plus one exceeds the corresponding number of pages to scale to. This change in handling of manual breaks was made to solve bugs reported by users, but it simultaneously affects a common way to use Calc for spreadsheet based form documents designed for a particular page layout. So in the authors opinion manual breaks should be maintained again under any circumstances, wrongly chosen printing parameters should be discovered and warning messages be issued or other measures taken in such cases.

This document will analyze the situation of scaling spreadsheets to number/width/height of pages beginning with the StarOffice design document. Several past bug reports of users will be reviewed together with the uploaded documents. Finally a proposal is made how to proceed developing the scaling to x/y pages feature in the future.

Where to find in Calc

Scaling a spreadsheet for printing (Format->Page->Sheet->Scale->Scaling mode) chooses from a drop down list which has three entries

- "Reduce/enlarge printout" by a scaling factor
- "Fit print range(s) to width/height" by number of pages width/height
- "Fit print range(s) to number of pages" by number of pages

The second mode - lets call it "Fit-to-x/y-pages" - was newly introduced into Open/StarOffice for ease-of-use and to achieve MS Excel interoperability.

History

2002-10-31 a report openoffice.org/bugzilla#8868 is filed which is finally taken as RFE.

2003-08-12 Daniel Rentz (dr@openoffice.org) takes bug 8868 and starts writing a design spec which is still available on the web at specs.openoffice.org (last changed in 2005). Beside a Motivation and Goals section there is a Detailed Specification giving an exact description how the new scaling should work and how user values should be interpreted and treated if out of range etc..

2004-05-06 Comment #19 from fst@openoffice.org mentions the implementation of the new Fit-to-x/y-pages is now finished. Probably it was first shipped with release 2 of OpenOffice (8 of StarOffice).

Nowhere in the design it is mentioned how manual breaks are handled in Excel and how they should be handled by the new OO implementation. In fact the OO implementation maintains manual breaks while Excel ignores them when the Fit-to-x/y-pages scaling is chosen.

2005-09-23 issues.apache.org/ooo#54993 reports Calc to it prints the spreadsheet at about 5% to 10% of the expected size. This file prints correctly in MS Excell.

Unfortunately the link given for the example file does not point to a valid location anymore, but comment 2 of this bug report comes to the point:

DR->NN: The first sheet contains 2 row breaks, which leads to 3 pages to print. The page setting is "Fit to 1 x 2 pages" which leads to the confusion. Excel ignores row and column breaks if page mode is "Fit to pages".

Here Daniel Rentz already points out a mistake of the document itself: too many manual page breaks would lead to more pages than asked for in the scaling settings. This of course disturbs the OO-scaling algorithm, because it's contradictory.

Meanwhile two other duplicate bugs were filed. Each of them contained an attachment document with mistakenly set manual page breaks. (Too many breaks set for the number of pages to be scaled to.) However, both experience a wrongly scaled output and say this is an import error of OpenOffice. In fact both are users faults which are not recognized by OpenOffice.

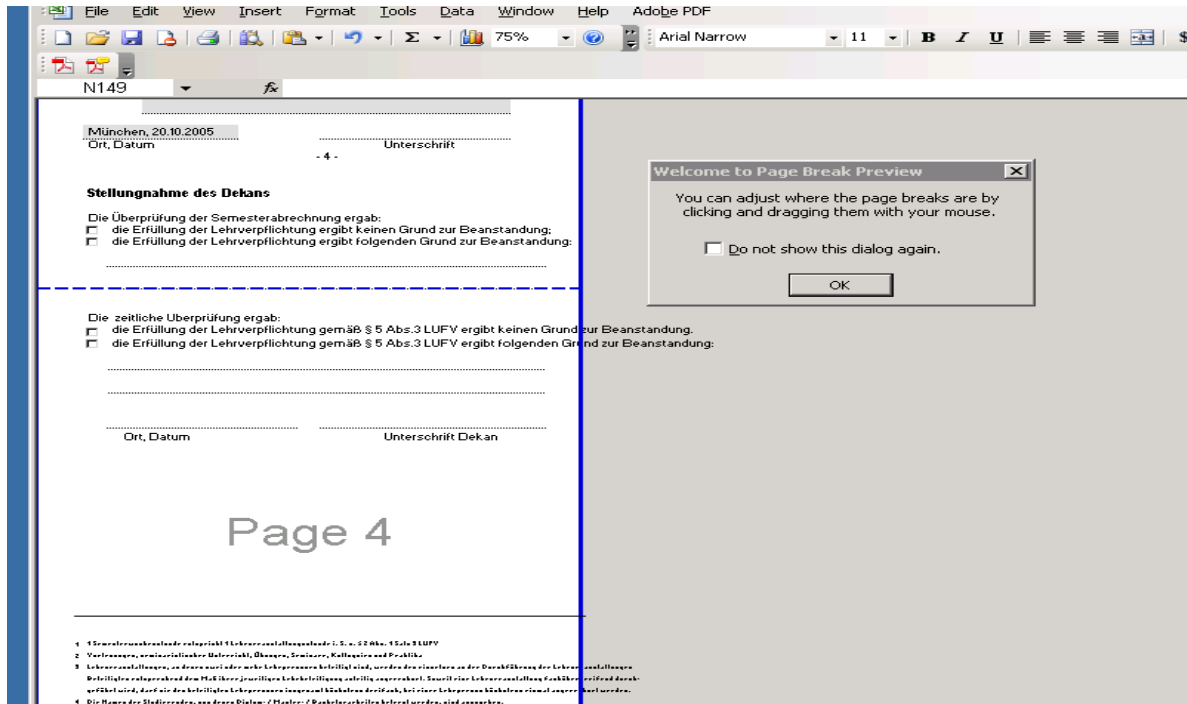
The first one is issues.apache.org/ooo#62117

It seems that immediately this bug was categorized as a double of 54993. Looking carefully it contains a four

pages form being clearly divided into logical pages including page counts, etc.. The problem of this spreadsheet is an extra, (probably unwanted) page break in the upper part of page 3. If this is removed manually the document prints well and looks as it was probably intended. (I did this with StarOffice 9.2 and with only three manual page breaks and four pages the scaling was perfect.

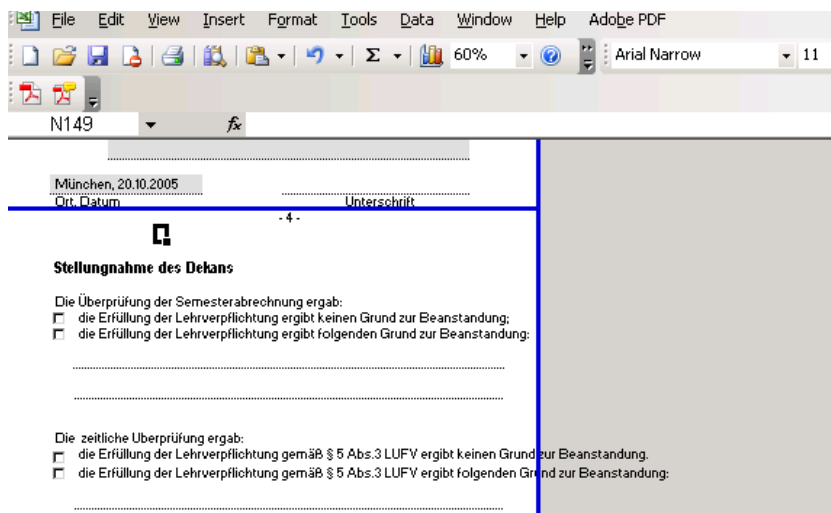
User Scenario from this example document:

With it's clear page structure this document is a good example for the importance of manual page breaks together with formatting to x/y pages. The pages are not evenly filled with rows, there are logical sections making up a logical structure so that page breaks should not cut sections into parts but should occur exactly where intended.



However, I investigated this document further with Excel 2003:

Immediately after opening I switched from Normal to Page Break Preview mode. This pops up a window saying „Welcome to Page Break Preview ... (look at the screen shot below)...“. A dashed line indicates the proposed page break (which is not where the original manual page break was).



The dotted line indeed can be moved by the mouse (the mouse cursor becomes an up-down arrow above the line) and the break becomes a solid line after having it placed manually at the right position (which in this case is obviously above the page number „- 4 -“) (see next screen shot).

So I readjusted all page breaks and got a fine page-wise printout from Excel. Saving the document this way and reopening with Excel preserves the manually placed breaks when printing next time.

Opening this changed document with StarOffice 9.2 gives the same correct result.

Obviously Excel recognizes the first time that the page breaks are set pathologically so it discards them and offers an interactive possibility to adjust the breaks in Preview mode manually. It seems not to be true that Excel ignores

„all“ manual page breaks in „fit to x/y“ mode.

The second bug report is issues.apache.org/ooo/#83609.

The example document is a strange table which tries to print several hundred rows on to two pages.

When I opened this document under Excel 2003 I found it has two manual page breaks (making three pages), the active (ticked) scaling mode is „fit to 1 x 2 pages“. (The inactive (not ticked) scaling mode still shows a percentage factor of 20%. A heavily down-scaled printout seems intended.)

Doing same procedure as described above the document prints OK. And also imports fine into OpenOffice. So it's again a user's mistake which is not managed by OpenOffice.

2008-10-06 Kohei filed a proposal issues.apache.org/ooo/#94698 containing a [proposed patch](#) for Calc. Kohei's thesis was:

When printing a sheet that has both manual breaks and the "fit to x pages wide and x pages tall" option, it generates an unexpected result. Calc usually scales down the printable area so small that it's impossible to make out the content. Instead, Calc should disregard manual breaks when the "fit to x pages wide and x pages tall" option is used.

While his analysis is right his conclusion is wrong. The solution can't be to ignore the manual breaks, but to improve the scaling algorithm. For instance the manual breaks within all print range(s) could be counted horizontally and vertically and the minimum of width and height could be set to the respective count+1 accordingly.

Comment #2 by kpalagin on the proposal of Kohei is hesitating:

Kohei, why should we disregard manual breaks if "fit to x by y"? User may genuinely want to start new page at certain point, yet fit the printout to x*y pages. Regards, Kirill.

After some arguing back and forth the issue is closed and declared as a duplicate of 54993 (see above). However, after all it looks like this proposal is installed as the final fix (see below).

2010-05-21 comment 6 (by nn@openoffice.org) on the first bug report 54993 mentions a change in Calc. Fixed in CWS "calc54". If a number is given for "Width in pages", manual column breaks are ignored. If a number is given for "Height in pages", manual row breaks are ignored.

So it came that OpenOffice/LibreOffice was changed to ignore manual breaks in „fit to x/y“ scaling mode.

Lately two bugs have been filed complaining that manual breaks are not recognized any more. (The second of them is mine.)

https://bugs.freedesktop.org/show_bug.cgi?id=40613

https://bugs.freedesktop.org/show_bug.cgi?id=40788

Proposal (*I'm not an expert in user interfaces!!!*)

LibreOffice should return to the situation before the fix from kohei (94698). To prevent users from using contradictory breaks and scaling settings, the Preview and/or Print Formatter should count the breaks within the printing ranges and calculate the resulting number of pages. The result in each direction should be compared to the number of pages given in the scaling mode in each direction. If less pages are requested than possible, a window should pop up requesting a correction by the user. As a further choice this pop-up could warn the user that manual breaks will be switched off if he says OK. Text in the pop-up box: „Warning: The number of manual page breaks in the actual printing range(s) exceeds the number of pages requested in Format-Page-Sheet-Scale-Scaling mode-fit to height/width of pages. Please click „Return“ to reduce the number of manual page breaks, click „Print Automatic“ to ignore manual page breaks and print the document with an automatic page structure.“

Conclusion

The current fix is not in accordance with what users need and want.

The current fix is not in accordance with what Excel offers.

A solution seems possible without much effort. However, more sophisticated solutions could be found.

I apologize, it has become a lengthy document. Nevertheless it's an important topic for me and I hope I could show, that it's important for LibreOffice.

Karl