

Layout-true Representation of OOXML Documents: Use Case 4 Report

Comment Formatting in .docx and .xlsx

Assignment

Comments made in Microsoft Word and Microsoft Excel and saved in OOXML format have to be imported as a true representation into LibreOffice, and subsequently exported back to OOXML.

Test Documents

See files in the relevant folder on Filespots.

Expectations

From the technical point of view, it is unrealistic to promise that any random document will result in a true representation, ie. accurate positioning of all pixels at a resolution of 70 dpi. We can commit to best-effort handling of the documents that will be provided as test examples, and in cases where it is technically impossible to achieve true representation, we will explain the barriers, and implement a solution that is as close to the true representation as possible.

Work Description

This work has two parts – comments in .docx, and comments in .xlsx.

Comments in .docx

The export of comments has been implemented already in LibreOffice 3.4. The difference between the MS Office handling of them and LibreOffice is that the comments in Word are treated as range, but LibreOffice connects them to an exact location. Consequently, the .docx task focused mostly on implementing comment ranges.

Another difference was that LibreOffice didn't track the initials of the comment author, either.

In order to fix the problems, we had to change the document model and layout algorithms:

<http://cgit.freedesktop.org/libreoffice/core/commit?id=25416b8ad4fa0416bffdb05e231a5249faf7a38e>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=f98fbc38640816aa1f834f0e932991ae0d3202ee>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=fa72acc4bf926b5df3e484d72fcc9880994f7ea2>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=ff3dc1d67002be4fa7a73785843087d0bc5ed123>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=ec92841fd3ea9ddcaa99d5d352f61971ba9ea5ee>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=2c409f5a9871941ee380f200872769c62c665784>

import and export filters:

<http://cgit.freedesktop.org/libreoffice/core/commit?id=d211641cc616d684406efce8de468ffe1ca4253e>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=8c0a8d9db351fc05534d7552036889543f3a89d4>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=9370212be859ab828b67a486657ee399a6ff2dcd>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=2e6f9dff530f16db33c52ab289efe18f96f71bb0>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=423433ee105faea7775a3869dbf4054ab960480c>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=c097f7a3743246360bbae10e85a10eb00760edde>

document model and filter changes related to the support of initials:

<http://cgit.freedesktop.org/libreoffice/core/commit?id=36270776a68c0cd0f472ebd7124c93d7936caf04>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=6b919e03880195000716efdf8ce6a47a04664a25>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=c2a73a4780dbab2abdfb4654ddc2bf1356127eb0>

user interface related changes:

<http://cgit.freedesktop.org/libreoffice/core/commit?id=2f52f37f8363cb696bb3ead7249a87a826409908>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=acaa4d592a0d8cc219f7ec8a65b0c17757a856aa>

testcases and .rtf-related changes:

<http://cgit.freedesktop.org/libreoffice/core/commit?id=b8146f5126e8290b5b287f0a6176ff6619f34f67>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=75bcb45ae2afc04be48871e4978b7d9f15cfbddb>
<http://cgit.freedesktop.org/libreoffice/core/commit?id=5da91ea59329e3993a10c72fa02bc1f1dbf398d8>

ODF format-related changes (office:annotation-end import and export):

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=b11e923a50ca532016fc0802e1d2dfa53efa0679>

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=672ca6077ff9f65f29e0d7521149595f4eaf7a63>

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=8d9991c97a3e9574d7424aa3d295e5b6b2830bda>

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=d4b473dd9ba77427b28d97847067b8877c2033d9>

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=2fe8ce57222e90327cfeed6b7da07a2c57bdbbb>

ODF import and export testcase:

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=c251673851b72c3b516dee6db44f1e7a8854aeb9>

user interface fix related to deleting ranges:

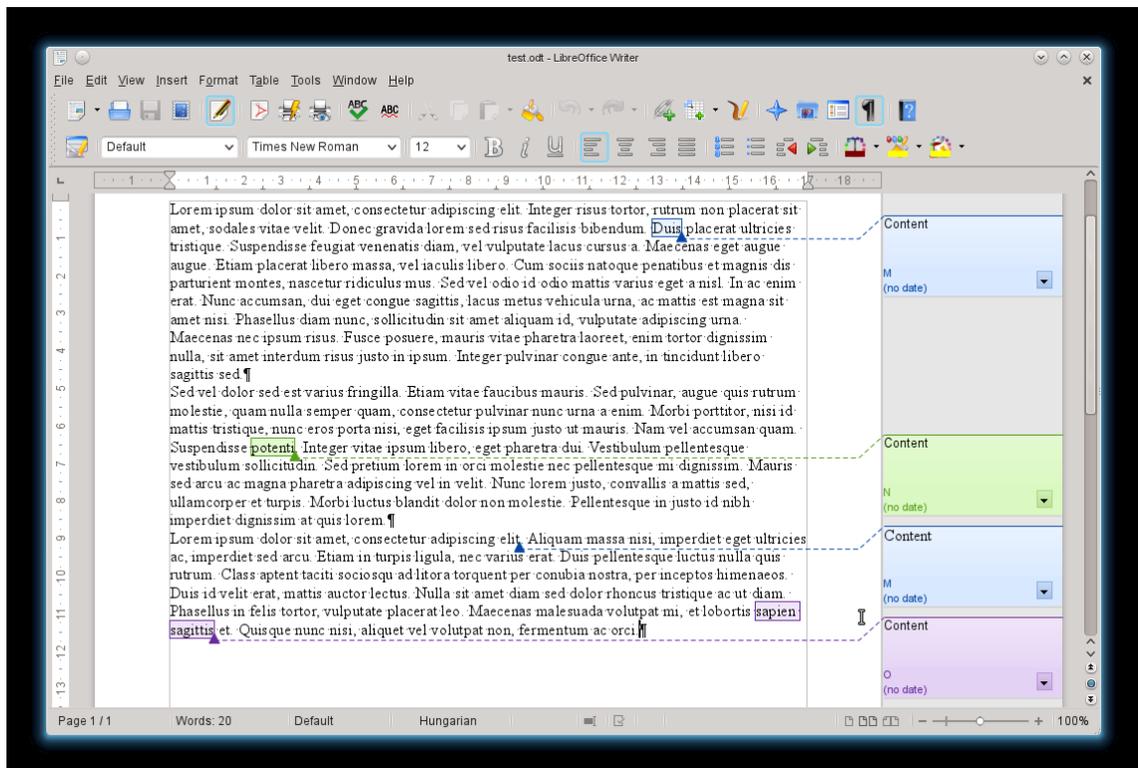
<http://cgit.freedesktop.org/libreoffice/core/commit/?id=9c497e9ed128f341846072b1c85271d9208290a4>

additional unit test fixes:

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=f573b16e7b4909d5cae129cc00f50be4b06b468d>

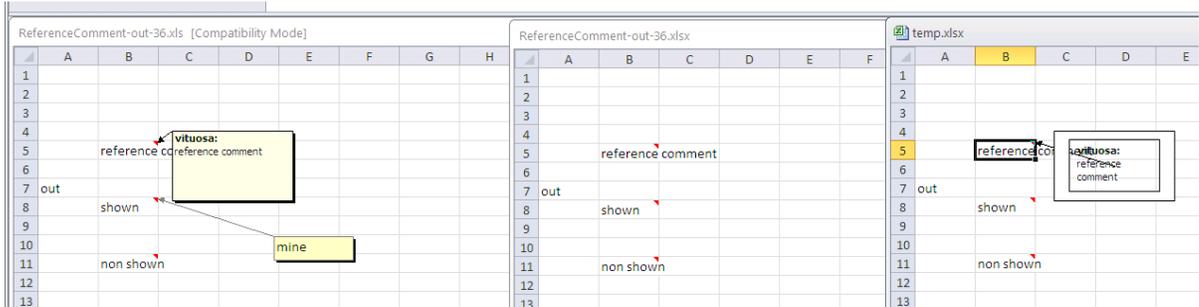
<http://cgit.freedesktop.org/libreoffice/core/commit/?id=c69bd0ead5852967492046caa311732ebe549a7c>

We succeeded – we implemented all, and it took us about 8 days to finish. The work will be part of the next LibreOffice release. Please see screenshot showing the comment ranges:

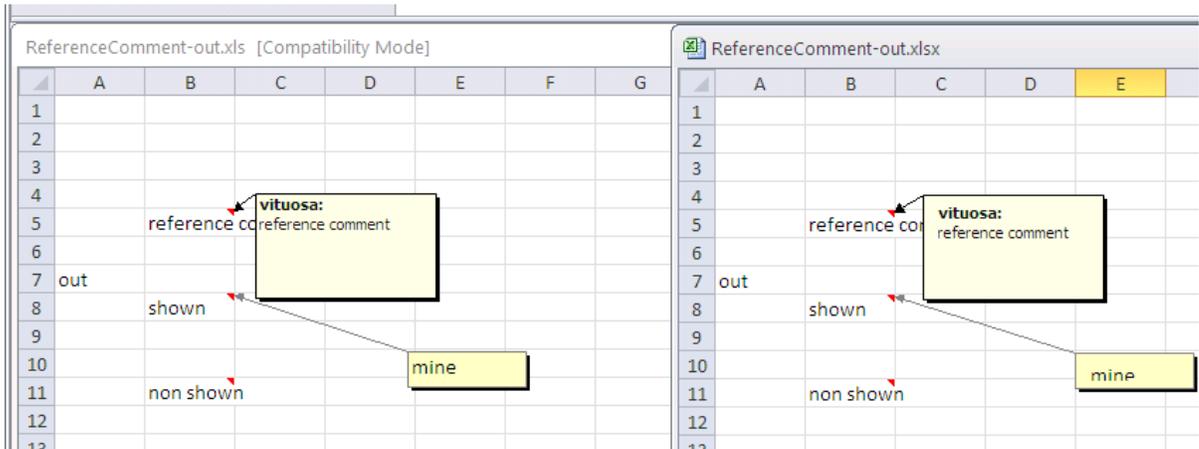


Comments in .xlsx

In the .xlsx case, we focused on fixing the example documents that were provided as part of the tender in the <https://freiburg.filespots.com> file repository. The problems were visible most when LibreOffice was round-tripping the comments; this is how it looked before the changes (in MS Office, after having loaded and saved the document in LibreOffice):



After the fixes, the comments are round-tripped as they should be:



There is a small outstanding issue with the placement of the text in the comment box (see above), but we have run out of time (finished the 10 days, after the time spent on .docx). We do hope this is not a big issue for you.

The code changes are available here:

<http://cgit.freedesktop.org/libreoffice/core/commit/?id=56b0b2cbc0dc6538617e3f3b1005e4723ca227b0>

Conclusion

We have implemented the OOXML import and export of comment ranges in Writer, which was a completely missing feature. There was no support for ODF either, and we implemented that too, so that the documents using this feature can be shared not only via the OOXML format, but also using ODF. We also fixed reading and writing comments in .xlsx, so that now the round-tripping via LibreOffice works nicely.

All the code we delivered is committed to the LibreOffice repository.