



Bug fixing in LibreOffice

If I can do it, anyone can!

By:
Stephan van den Akker

Properties

– Styles
Default Style

– Character
Liberation Sans 40

– Paragraph
ab

Spacing: Indent:
0,00" 0,00"
0,00" 0,00"
0,00"

+ Page

Not an IT professional

- Consulting: Environment an building physics



Not an IT professional



- Consulting: Environment and building physics
- Meeting clients, writing reports, wind tunnel lab
- Dispersion of polluted air

Not an IT professional

The image shows a screenshot of a C++ IDE with a code editor on the left and a results table on the right. The code editor displays the implementation of a `tunnelmeasurementclass` with methods for input validation, concentration averaging, and statistics setting. The results table lists five components: CO2, NO2, PM10, PM2.5, and C6H6, with columns for Component, Reaction, Averaging, Accuracy, and a detailed description of thresholds and percentiles.

```
60 input >> wd,
61
62 if ( !input ) return false;
63
64 while ( wd < 0 ) wd += 360;
65 while ( wd > 359 ) wd -= 360;
66
67 input >> average;
68
69 if ( !input ) return false;
70
71 double concentration;
72
73 bool concentrationsadded = false;
74
75 while( input >> concentration )
76 {
77     concentrations.push_back( concentration );
78     concentrationsadded = true;
79 };
80
81 if ( !concentrationsadded ) concentrations.push_back(
82
83 setstatistics();
84
85 return true;
86 };
87
88 //-----
89
90
91 bool tunnelmeasurementclass::setstatistics( void )
```

Header:

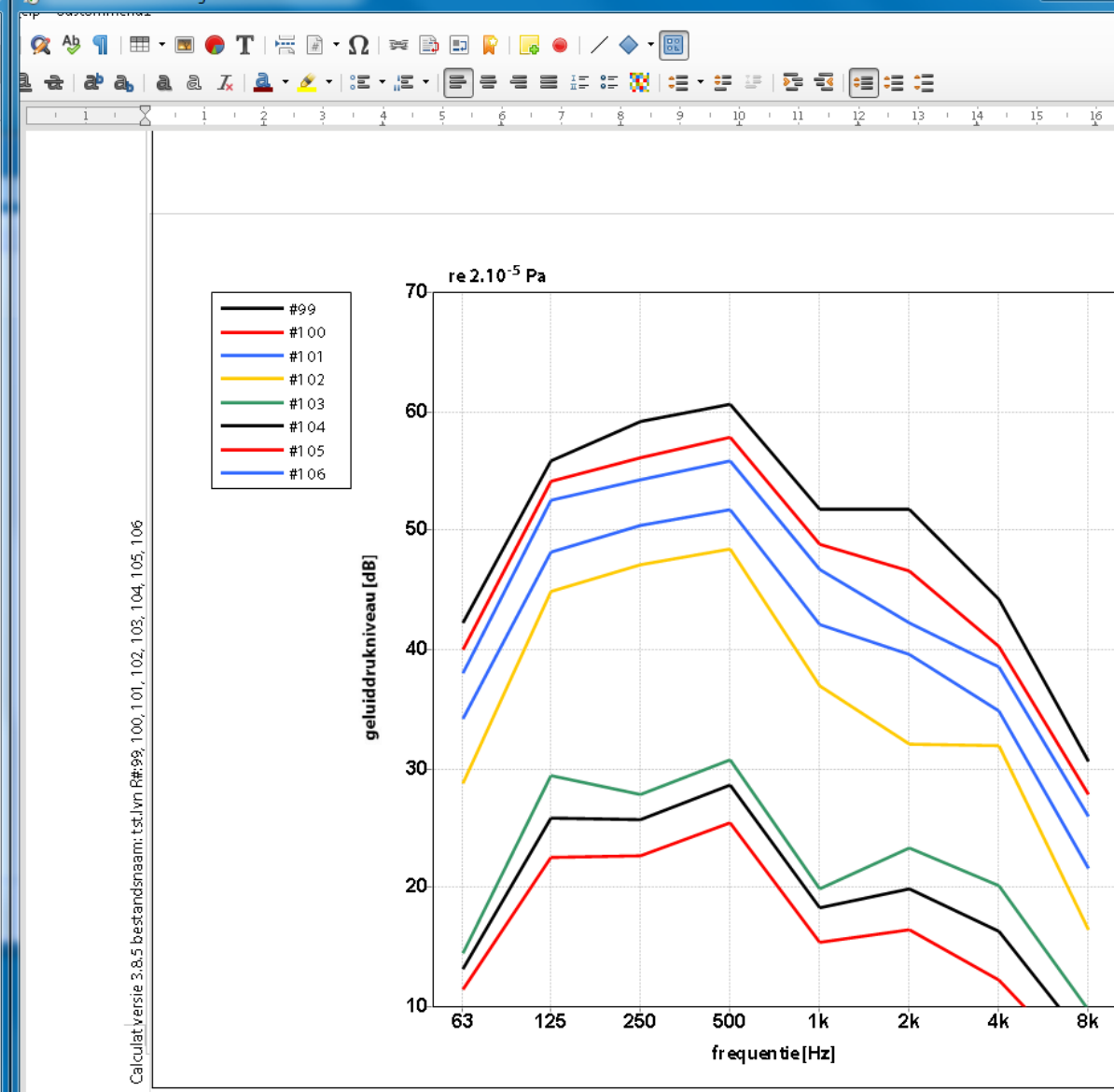
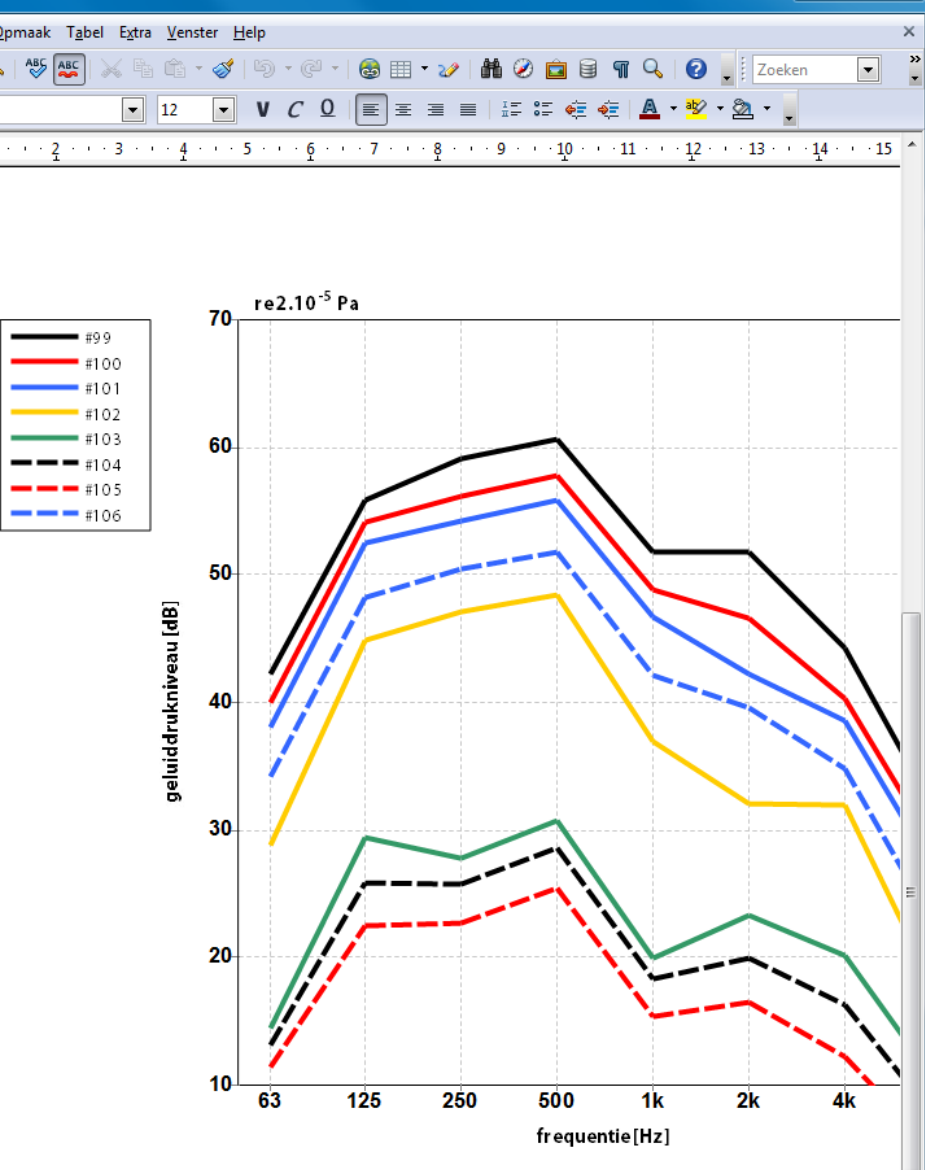
	Component	Reaction	Averaging	Accuracy	
1	CO2	-	1 hour	0 decimals	No percentiles; Thresholds 100, 150;
2	NO2	NNM	1 hour	0 decimals	No percentiles; Thresholds 200;
3	PM10	-	24 hours	0 decimals	No percentiles; Thresholds 50;
4	PM2,5	-	1 hour	0 decimals	No percentiles; No maxima; No thresholds;
5	C6H6	-	1 hour	0 decimals	No percentiles; No maxima; No thresholds;

Buttons: Add result, Properties, Move up, Move down, Delete

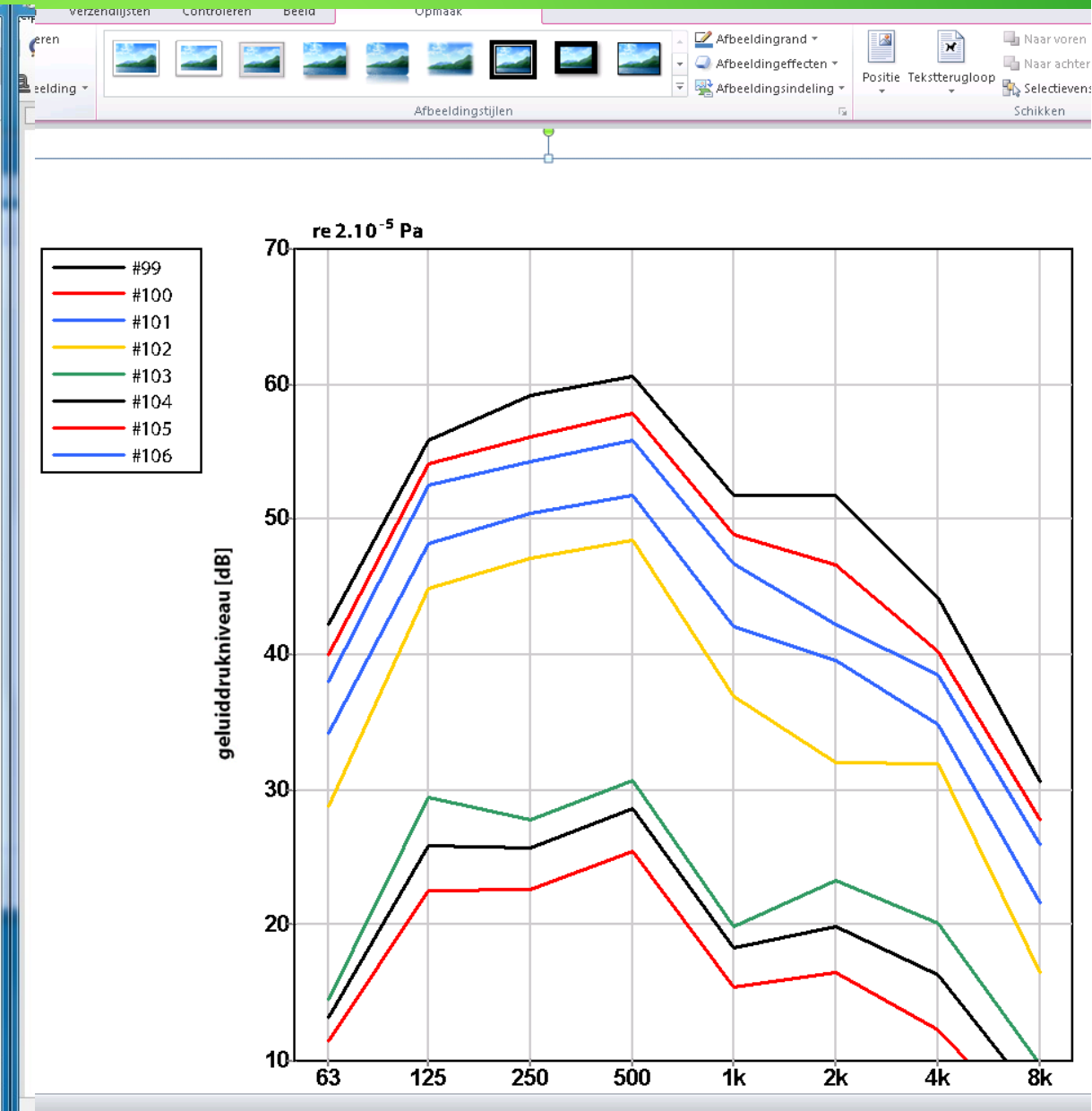
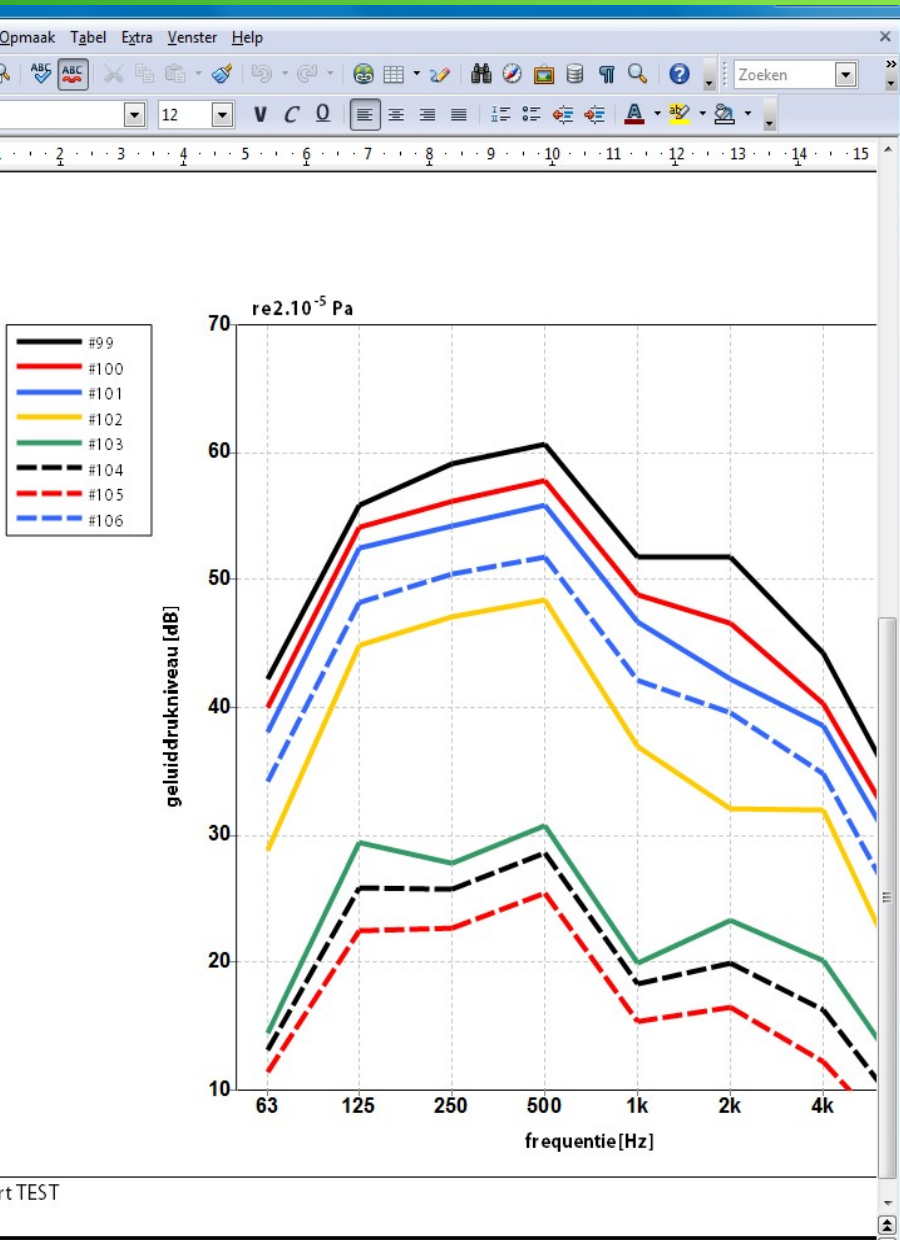
Results to file...

Results | Meteo | Background | Sources | Measurements

The Show Stopper (LO)



The Show Stopper (MSO)



Setting yourself up

- Install git

- Git clone

```
git://anongit.freedesktop.org/libreoffice/core
```

- Install build dependencies

```
zypper source-install -d libreoffice
```

- More info

```
www.libreoffice.org/about-us/source-code/
```

Setting yourself up

- Compile and run:

```
./autogen.sh
```

```
make
```

```
install/program/soffice
```

- Make also downloads stuff and runs tests

- Settings for compiling:

```
autogen.input
```


Go find The Bug!

accessibility	util	hyphen	qa	toolkit	qa	textenc	gdb	ucbhelper	InstallModule
inc	cpphelper	icu	source	settings	settings	inc	inc	source	InstallModule
source	inc	jfreereport	uiconfig	source	source	workben	lldb	udkapi	InstallScript
android	qa	jpeg	util	touch	util	salhelper	maven	com	InternalUnoApi
Bootstrap	source	jpeg-turbo	helpcompiler	typelib	offapi	qa	qa	type_reference	Jar
default-document	test	languagetool	inc	ucbhelper	com	source	sanitizers	uitest	JavaClassSet
source	unotypes	lcms2	source	uno	org	test	soltools	calc_tests	LexTarget
animations	source	libabw	helpcontent2	unoidl	type_reference	sax	cpp	demo_ui	LinkTarget
source	source	libatomic_ops	hwpsfilter	unotest	util	inc	mkdepend	impress_tests	Misc
apple_remote	cui	libcdr	inc	unotools	officecfg	source	source	libreoffice	Module
source	inc	libcmis	qa	vshelper	qa	source	inc	math_tests	Package
autom4t.cache	qa	libebook	source	vcl	registry	test	qa	uitest	PackageSet
awmedia	source	libeot	i18nlangtag	wntgcc	util	sc	source	writer_tests	Pagein
inc	uiconfig	libetonyek	qa	wntgccx	onlineupdate	inc	util	UnoControls	PostProcess
source	util	libexttextcat	source	xmloff	source	qa	starmath	inc	PythonTest
util	dbaccess	libfreehand	i18npool	xmlreader	oovbaapi	res	inc	source	Pyuno
basctl	inc	libgltf	inc	xmlscript	genconstidl	sdi	qa	sdi	Rdb
inc	qa	liblangtag	qa	instdir	ooo	source	source	uiconfig	RestTarget
qa	source	libmariadb	source	cache	oox	inc	source	uiconfig	ScpMergeTarget
sdi	uiconfig	libmispub	util	help	inc	qa	workben	util	ScpPreProcess
source	util	libmwaw	i18nutil	presets	qa	source	scaddins	source	ScpTarget
uiconfig	win32	libodfgen	source	program	registry	test	idl	source	ScpTemplateTarget
util	desktop	liborcus	icon-themes	readmes	util	test	source	source	SdiTarget
basegfx	inc	libpage-maker	breeze	sdk	opencl	util	source	util	SrsPartMergeTarget
inc	qa	libpng	breeze_dark	share	inc	inc	source	source	SrsPartTarget
qa	scripts	librevenge	breeze_svg	user	source	source	store	qa	SrsTarget
source	source	libstaroffice	crystal	instsetoo_native	osx	schema	source	source	UIConfig
test	test	libtommath	elementary	inc_common	office.xcodeproj	libreoffice	inc	inc	UIImageListTarget
basic	uiconfig	libvisio	galaxy	inc_ooohelppack	package	odf1.0	qa	source	UILocalizeTarget
inc	util	libwpd	hicontrast	inc_openoffice	dtd	odf1.1	source	util	UIMenuBarTarget
qa	win32	libwpg	industrial	util	inc	odf1.2	source	util	unittest
source	dictionaries	libxhtml2	oxygen	io	qa	odf1.3	inc	inc	UnoApiHeaders
util	distro-configs	libxslt	sifr	qa	source	scp2	qa	qa	UnoApiTarget
bean	Jenkins	libxslt	tango	source	test	inc	source	source	UnpackedTarball
com	drawinglayer	libzmf	tango_testing	test	experimental	macros	unx	unx	UnpackedTarget
native	inc	lpsolve	idl	ios	inc	source	util	source	XcdTarget
qa	qa	mdds	source	experimental	source	source	util	source	XcsTarget
test	source	mddsresponder	idlc	javaunohelper	pyuno	signing	scripting	uui	XcuDataTarget
bin	dt_rans	mingw-externals	inc	com	demo	examples	examples	inc	XcuFilterFilters
text_cat	source	misc_extensions	source	source	source	java	java	qa	qa
binaryurp	test	more_fonts	test	test	inc	doc	source	source	source
source	util	msc-externals	include	util	qa	inc	workben	uiconfig	uiconfig
bridges	inc	mysqlcppconn	animations	animations	qa	workben	sd	util	util
inc	qa	mythes	apple_remote	apple_remote	zicore	sd	inc	inc	vbahelper
source	source	neon	avmedia	avmedia	qadev00o	inc	qa	source	inc
canvas	source	nss	basegfx	basegfx	objdsc	res	res	inc	vcl
opengl	embeddedobj	opencollada	basic	basic	qa	qa	sdi	source	android
source	qa	openldap	canvas	canvas	runner	source	source	source	backendtest
workben	source	openssl	codemaker	com	testdocs	uiconfig	uiconfig	uiconfig	writerfilter
chart2	test	owncloud-android	com	com	tests	util	workben	workben	documentation
inc	util	poppler	comhelper	comhelper	readlicense_oo	xml	xml	inc	inc
opengl	embedserv	postgresql	connectivity	connectivity	docs	xsl	workben	source	qa
qa	source	python3	cppcanvas	cppcanvas	license	sdext	sdext	inc	inc
source	python3	cpu	cpu	cpu	registry	inc	inc	qa	osx
uiconfig	eventattacher	redland	cpu	cpu	inc	source	source	source	qa
workbench	source	rhino	cppuhelper	cppuhelper	source	test	tools	uiconfig	source
cli_ure	extensions	serf	cppunittester	cppunittester	test	workben	workben	util	uiconfig
qa	inc	tarballs	dbaccess	dbaccess	remotebuilds	examples	sfx2	classification	xmerge
source	qa	twain	desktop	desktop	examples	source	classification	doc	source
unotypes	source	ucpp	drawinglayer	drawinglayer	reportbuilder	reportbuilder	emojiconfig	desktop	workben
version	test	unixODBC	editeng	editeng	inc	inc	inc	test	inc
codemaker	uiconfig	formula	filter	filter	registry	template	user-template	source	windows
source	workben	framework	formula	formula	inc	uiconfig	uiconfig	com	wizards
test	extensions	helpcompiler	zlib	zlib	test	util	util	qa	com
compelper	source	helpcompiler	zlib	zlib	tools	workben	workben	source	source
inc	source	i18nlangtag	extras	extras	workben	examples	mediawiki	unx	util
qa	apr	i18nutil	source	source	reportdesign	reportdesign	source	workben	source
source	beanshell	libreofficekit	uiconfig	uiconfig	images	images	source	source	windows
util	bluez_bluetooth	linguistic	uiconfig	uiconfig	inc	inc	source	source	wizards
compilerplugins	boost	linguistic	uiconfig	uiconfig	qa	qa	source	source	com
clang	breakpad	o3tl	uiconfig	uiconfig	source	source	source	source	source
config_host	bzip2	onlineupdate	uiconfig	uiconfig	uiconfig	uiconfig	uiconfig	uiconfig	source
configmgr	cairo	oox	uiconfig	uiconfig	util	util	util	util	source
inc	clew	opengl	uiconfig	uiconfig	ridljar	ridljar	slideshow	toolkit	workdir
qa	clucene	opengl	uiconfig	uiconfig	inc	inc	inc	inc	AllLangPackage
source	collada2gltf	opengl	uiconfig	uiconfig	inc	inc	test	inc	AllLangRes
connectivity	cppunit	opengl	uiconfig	uiconfig	inc	inc	test	inc	AsmObject
com	ct2n	opengl	uiconfig	uiconfig	inc	inc	test	inc	AutoInstall
inc	curl	opengl	uiconfig	uiconfig	inc	inc	test	inc	ComponentTarget
org	expat	opengl	uiconfig	uiconfig	inc	inc	test	inc	Configuration
qa	firebird	opengl	uiconfig	uiconfig	inc	inc	test	inc	CppunitTest
registry	fontconfig	opengl	uiconfig	uiconfig	inc	inc	test	inc	CustomTarget
workben	freetype	opengl	uiconfig	uiconfig	inc	inc	test	inc	CxxObject
cppcanvas	glew	opengl	uiconfig	uiconfig	inc	inc	test	inc	Dep
inc	glw	opengl	uiconfig	uiconfig	inc	inc	test	inc	Executable
qa	glyphy	opengl	uiconfig	uiconfig	inc	inc	test	inc	Extension
source	graphite	opengl	uiconfig	uiconfig	inc	inc	test	inc	ExternalPackage
cpu	harfbuzz	opengl	uiconfig	uiconfig	inc	inc	test	inc	ExternalProject
qa	hsqldb	opengl	uiconfig	uiconfig	inc	inc	test	inc	Gallery
source	hunspell	opengl	uiconfig	uiconfig	inc	inc	test	inc	GenCxxObject
		opengl	uiconfig	uiconfig	inc	inc	test	inc	GenCxxObject
		opengl	uiconfig	uiconfig	inc	inc	test	inc	GeneratedPackage
		opengl	uiconfig	uiconfig	inc	inc	test	inc	Headers

Go find The Bug!



Total Lines :	11,051,751	Code Lines :	8,280,467
Languages :	73% C++ 17% XML	Total Comment Lines :	1,486,234
		Total Blank Lines :	1,285,050

Getting help

- IRC channel

Freenode: `#libreoffice-dev`

- Around 30 core devs, 70-150 people online
- Lurk around, get a feel for the conversation

- Mailing list

`libreoffice-dev libreoffice@lists.freedesktop.org`

- Online source code search

`opengrok.libreoffice.org`

- Don't want to search? Do an EasyHack!

`wiki.documentfoundation.org/Development/EasyHacks`

The Bug

- Got a sample .emf file
 - Simple and small
 - Just not human readable....



```
#####\#####tD##.A##  
EMF#####6#####8##  
#####}#####U  
#H#####R###p#####  
#####T#a#h#o#m#a###>  
#(#####0f<####(#####P#W#####  
#####(#####w1##n#####vr  
##v#W##!#####(#####  
#(#####u##=#\#>#####=#  
#(##Y#u\#>#####(###=#j#>\#>#
```

The Bug

- Human readable text dump of emf file
- Sequence of Windows GDI commands
 - In definition of “Pen Style”

```
UINT elpPenStyle: PS_GEOMETRIC |  
PS_DASHDOT | PS_ENDCAP_SQUARE |  
PS_JOIN_BEVEL
```

The Bug

- Searching with opengrok:

Home Sort by: **relevance** | last modified time | path

Full Search in project(s): select all | all code

Definition

Symbol

File Path

History

| | [Help](#)

Searched full:ps_dashdot (Results 1 - 5 of 5) sorted by relevancy

/core/vcl/source/filter/wmf/

winmtf.hxx	149 #define PS_DASHDOT 3
enhwmf.cxx	925 case PS_DASHDOT : 1014 case PS_DASHDOT :
winwmf.cxx	823 case PS_DASHDOT :

/core/include/svx/

msdffdef.hxx	702 mso_lineDashDotSys, // PS_DASHDOT system dash style
------------------------------	---

/core/include/filter/msfilter/

escherex.hxx	243 ESCHER_LineDashDotSys, // PS_DASHDOT system dash style
------------------------------	--

Completed in 248 milliseconds

The Bug

- Pen handling in enhwmf.cxx:
 - case EMR_CREATEPEN :
 - Contained code to handle pen styles
 - case EMR_EXTCREATEPEN :
 - Did not contain code to handle pen styles
- Simple copy/paste solved The Bug!
- But did I break anything?

Quality Assurance

- Make: Unit tests
- Upload patch to review site
`https://gerrit.libreoffice.org`
- Test builds for Linux/Windows/Mac
- Unit tests on Linux/Windows/Mac
`http://ci.libreoffice.org/`
- Review by 1-3 core devs
- Patch gets accepted in master (LOdev 5.3.0)

Change **22638 - Merged**

Improve the import of pen styles from EMF files

Change-Id: I643c29befeb29b7b1cdd66375f661f4adb0e6cfa
 Reviewed-on: <https://gerrit.libreoffice.org/22638>
 Tested-by: Jenkins <ci@libreoffice.org>
 Reviewed-by: David Tardon

Reply... Included in ▾ Patch Sets (3/3) ▾ Download ▾ ☆

Owner **Stephan van den Akker**

Reviewers **David Tardon**
 Jenkins
 Armin Le Grand
 Miklos Vajna

Project **core**

Branch **master**

Topic

Updated 8 months ago

Cherry-Picks (2)

- [libreoffice-5-0: Improve the import of pen styles from EMF...](#)
- [libreoffice-5-1: Improve the import of pen styles from EMF...](#)

Author **Stephan van den Akker** <[redacted]> Feb 23, 2016 11:13 AM
 Committer **David Tardon** <[redacted]> Feb 26, 2016 9:56 AM
 Commit 9db34a7712e277389b2041cfbd77a60476d7f7f1 (gitweb)
 Parent(s) a6c26ef0c77c716d222bacb4f402af4638ba62c2 (gitweb)
 Change-Id I643c29befeb29b7b1cdd66375f661f4adb0e6cfa

Code-Review +2 **David Tardon**
 Verified +1 **Jenkins**

Files Diff against:

Comments Size

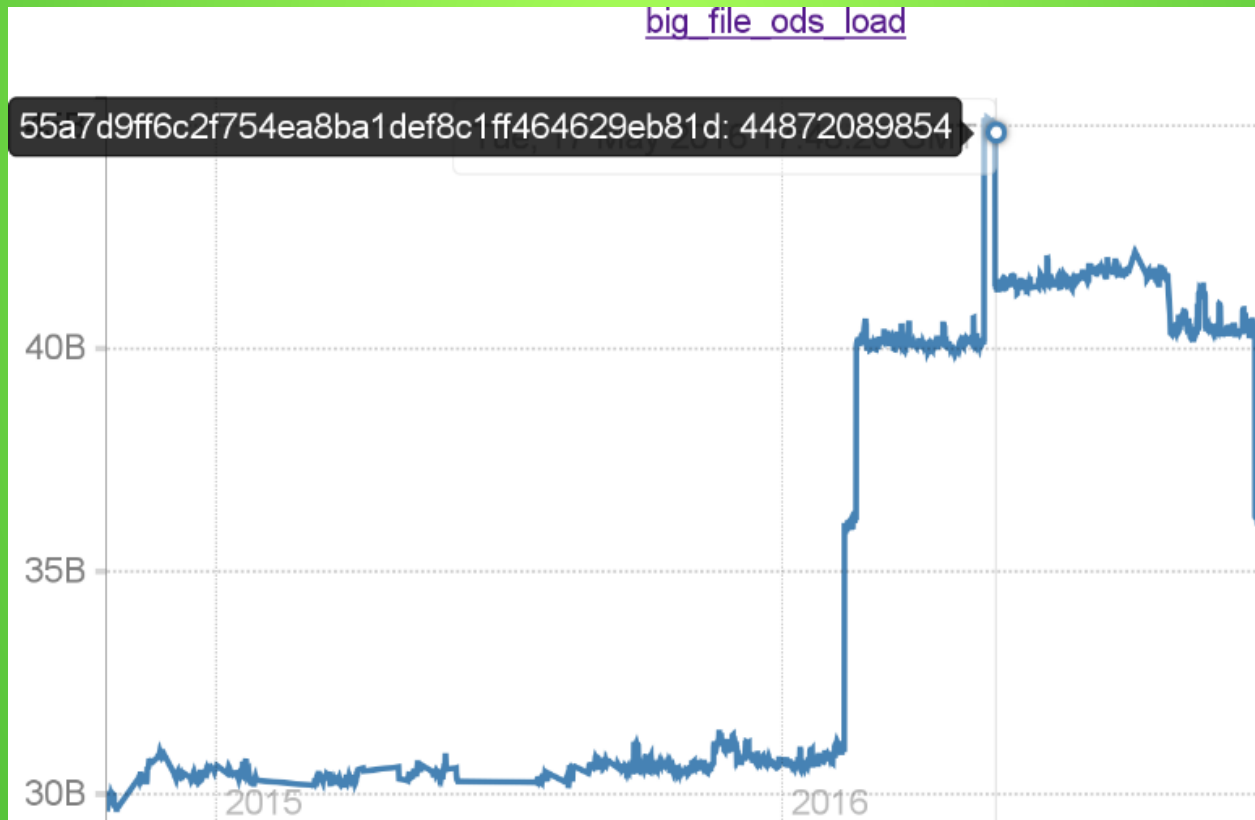
File Path	Comments Size
<input type="checkbox"/> Commit Message	
<input type="checkbox"/> A vcl/qa/cppunit/wmf/data/line_styles.emf	
<input type="checkbox"/> vcl/qa/cppunit/wmf/wmfimporttest.cxx	46
<input type="checkbox"/> vcl/source/filter/wmf/enhwmf.cxx	36
	+70, -12

History

Stephan ...en Akker	Uploaded patch set 1.	Feb 23, 2016
Miklos Vajna	Patch Set 1: Can you consider adding a matching testcase in vcl/qa/cppunit/wmf/wmfimporttest.cxx? Reading the file it seems to me it's a test suite...	Feb 23, 2016
Jenkins	Patch Set 1: Build Started http://ci.libreoffice.org/job/lo_gerrit_master/12254/	Feb 23, 2016
Jenkins	Patch Set 1: Verified+1 Build Successful http://ci.libreoffice.org/job/lo_gerrit_master/12254/ : SUCCESS	Feb 23, 2016
Armin Le Grand	Patch Set 1: Hi Stephan, looks like a good improvement. One comment: Could you call 'SetStyle(LINE_DASH)' after having created the LineInfo? ...	Feb 24, 2016
Stephan ...en Akker	Patch Set 1: AFAICS SetStyle is a rather straightforward "setter" member function of the LineInfo class: void LineInfo::SetStyle(LineStyle eStyle) {...	Feb 24, 2016
Armin Le Grand	Patch Set 1: Code-Review+1 Hi Stephan, thanks for checking! Good for me ;-)	Feb 24, 2016
Stephan ...en Akker	Uploaded patch set 2.	Feb 25, 2016
Jenkins	Patch Set 2: Build Started http://ci.libreoffice.org/job/lo_gerrit_master/12368/	Feb 25, 2016
Jenkins	Patch Set 2: Verified+1 Build Successful http://ci.libreoffice.org/job/lo_gerrit_master/12368/ : SUCCESS	Feb 25, 2016
David Tardon	Patch Set 2: Code-Review+2	Feb 26, 2016
Gerrit Code Review	Change has been successfully cherry-picked as 9db34a7712e277389b2041cfbd77a60476d7f7f1 by David Tardon	Feb 26, 2016
Stephan ...en Akker	Patch Set 3: Cherry Picked This patchset was cherry picked to branch libreoffice-5-1 as commit e87641e19339e10a94ea76ea4f232ac73e0fb66f	Feb 26, 2016

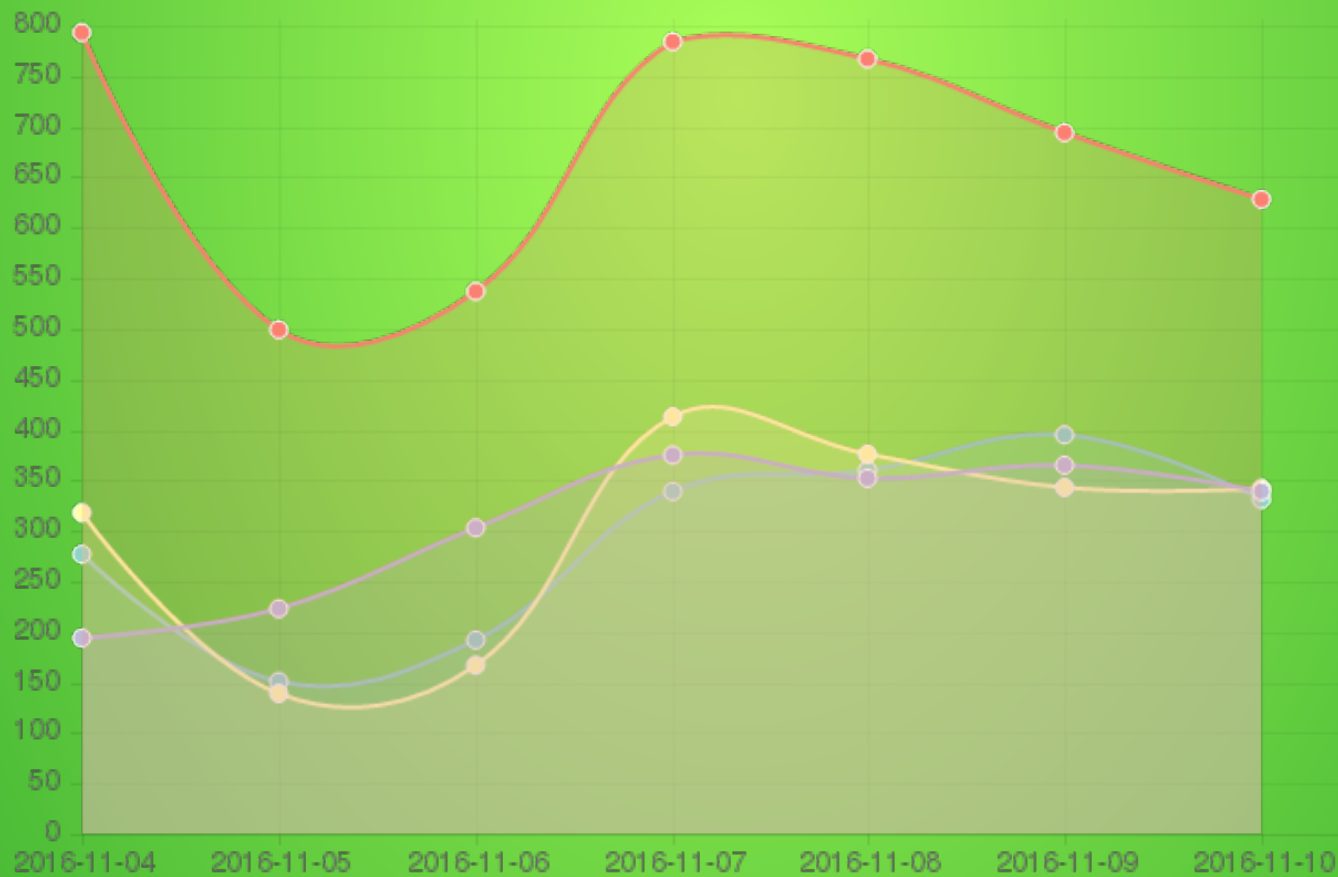
Quality Assurance

- Performance tests of master
`perf.libreoffice.org`



Quality Assurance

- Crash tests
- Import 91,000 documents



Quality Assurance

- Check master for security holes

```
/xmlsecurity/inc/sigstruct.hxx: 112 in SignatureInformation::SignatureInformation(int) ()
106     css::uno::Sequence<sal_Int8> aSignatureBytes;
107
108     SignatureInformation( sal_Int32 nId )
109     {
110         nSecurityId = nId;
111         nStatus = css::xml::crypto::SecurityOperationStatus_UNKNOWN;
>>>     CID 1394298:  Uninitialized members  (UNINIT_CTOR)
>>>     Non-static class member "nDigestID" is not initialized in this constructor nor in any functions that
112     }
113 };
114
115 typedef ::std::vector< SignatureInformation > SignatureInformations;
116
117 #endif
```

Tadaaaa!

