

My first year as a core contributor

Philipp Riemer

agenda

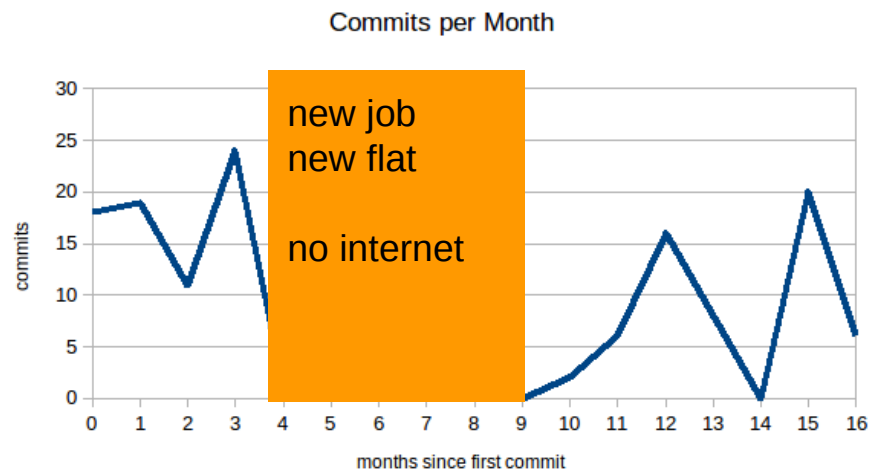
short history

code base

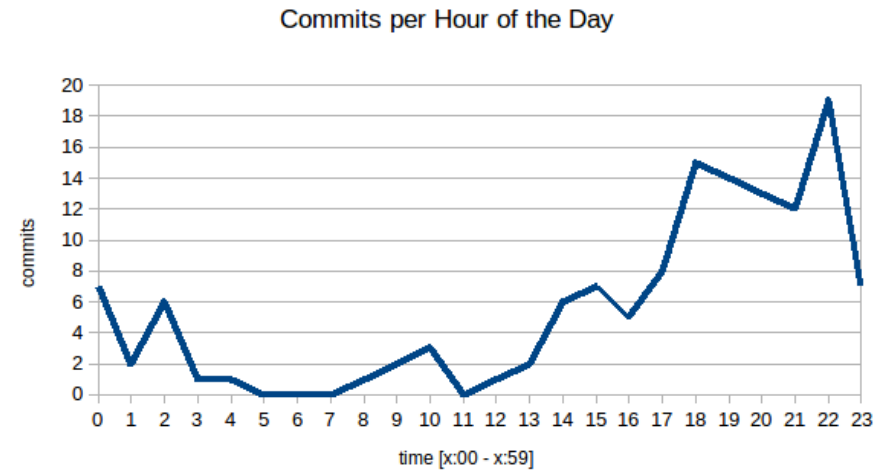
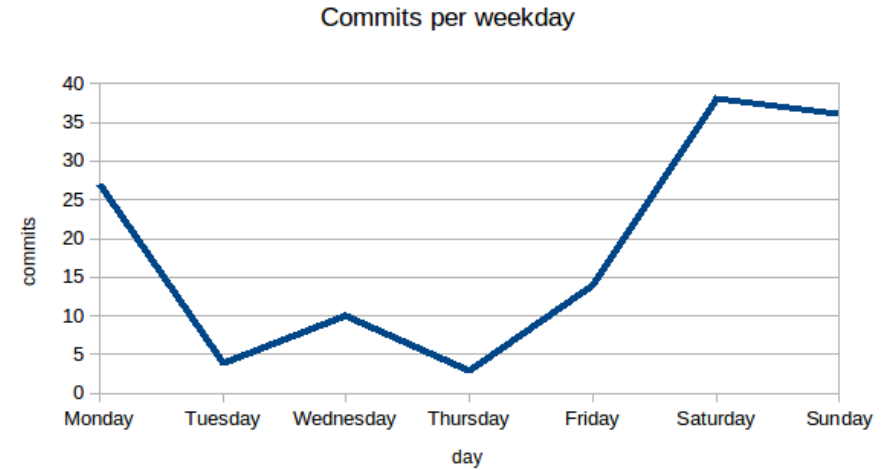
(bad) examples

how to get involved

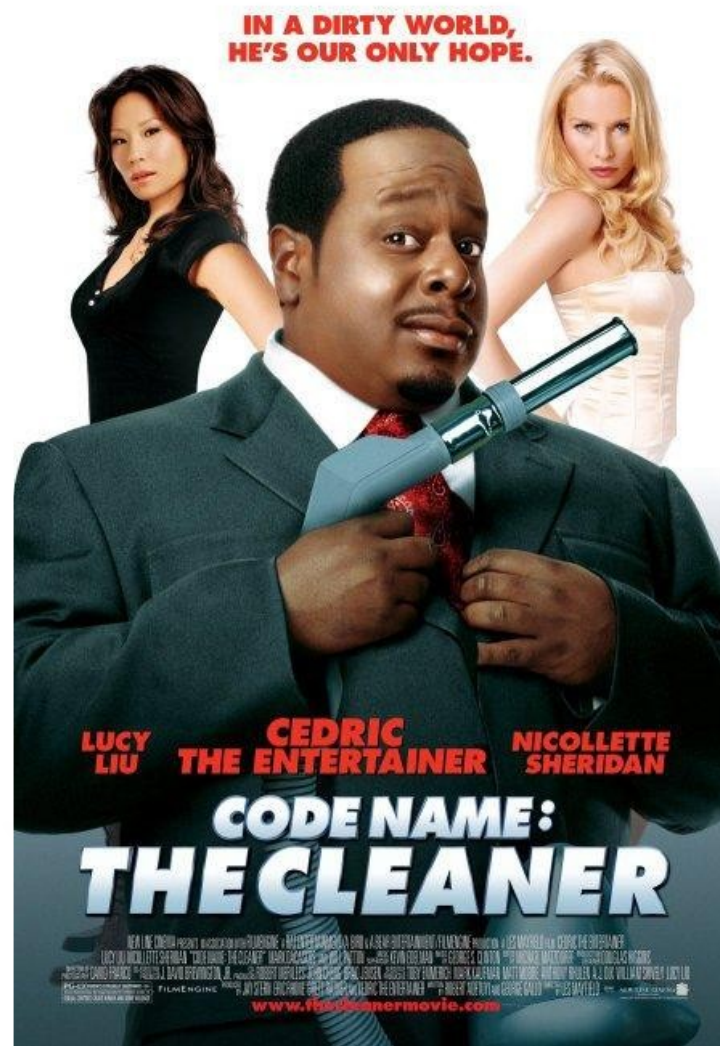
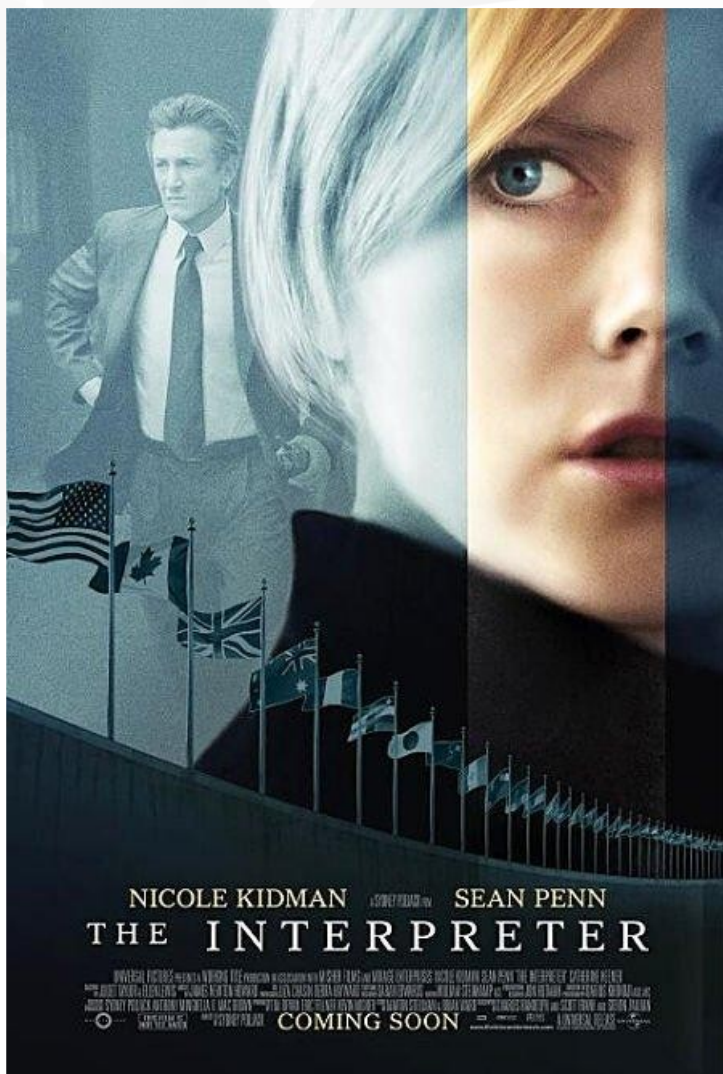
some statistics about me



files changed 952
insertions 9.110
deletions 17.172



what I do at libreoffice



agenda

short history

code base

(bad) examples

how to get involved

clean code

(keep this in mind, when adding new code)

#tests >=

cyclomatic complexity

testing

no cowboy
testing!

refactoring

boy scout rule

one class per file

Clean Code

conventions

domain language

naming

explain intention
(not implementation!)

no abbreviations

level of indirection

KISS min. LOC
per method

be precise

structure

Remove
duplication

delete unused/
commented out code

single responsibility
(!= feature envy)

OOD

avoid static

few arguments
per methods

encapsulation

no references
as arguments

boy scout rule

Always check a module in cleaner than when you checked it out.

- No matter who the original author was,
- no matter how small the change,
- improve the module/file/class/method/variable!

http://programmer.97things.oreilly.com/wiki/index.php/The_Boy_Scout_Rule

git

read the ProGit book¹ or GitHub's tutorial²

```
git log -u --follow <file>
```

```
git add -p
```

```
tig
```

```
./g wrapper script
```

```
./logerrit
```

Please state the bugzilla ID in the commit message!

1: free, at <http://git-scm.com/book>

2: <https://help.github.com/> and <http://try.github.io>

don't panic

"Works on my machine"?!

This is Phyllis and she doesn't care if the build works on your machine. As you can see, she's a busy woman with a jam-packed social calendar. She doesn't have time for brittle builds from the likes of you; she needs a build that just plain works. You hear?!



If you start using continuous integration, Phyllis can get back to gettin' her groove-thing on.

www.BuildsOnMyMachine.com

YOU BROKE THE BUILD!

This is Agnes and she's none too pleased with you, Bub. You broke the build. You should have known that you were making breaking changes, but you checked them in anyway.



If you start using continuous integration, Agnes won't have to come back.

www.YouBrokeTheBuild.com

Search for status:open

| ID | Subject | Owner | Project | Branch | Updated | CR | V |
|---------------------------|---|-------------------------------------|---------|-------------------|---------|----|---|
| I60d34906 | fdo#37606 SwWrtShell::SelAll(): fix for doc starting with table | Miklos Vajna | core | libreoffice-4-1 | 4:42 PM | | |
| I6174f3b7 | Add "New Database" button to DB setup dialog. | Andrzej J.R. Hunt | core | master | 4:04 PM | | |
| I9c6f2058 | startcenter: Hide template toggle button if no templates | Krisztian Pinter | core | master | 2:40 PM | | |
| Ibcf7f5a5 | fdo#69536 - Moved Averageif(s) | Joel Madero | core | master | 7:40 AM | | |
| I0177b323 | Ctrl + K now opens the HyperlinkDialog | Danny Brown | core | master | 5:11 AM | | |
| Ibfc95bff | Improves fdo#41407: Make gs a higher priority than convert for EPS rendering. | Björgvin Ragnarsson | core | master | 4:47 AM | | |
| I32ac35d3 | Fix iterator management | Julien Nabet | core | master | Sep 19 | | |
| Ib904af4f | Resolves: fdo#68431 style:font-name unknown in non autostyles in impress/draw | Caolán McNamara | core | libreoffice-4-1-2 | Sep 19 | +1 | |
| I567a791b | Resolves: fdo#34987 skip autoheight reset if it will be set to the same value | Caolán McNamara | core | libreoffice-4-1-2 | Sep 19 | +1 | |
| I7e0d99f5 | valgrind: init. member variables | Caolán McNamara | core | libreoffice-4-1-2 | Sep 19 | +1 | |
| I6001f892 | Resolves: fdo#69440 only ask for tabcontrol in builder dialogs | Caolán McNamara | core | libreoffice-4-1-2 | Sep 19 | +1 | |
| I5a09d121 | Resolves: fdo#69220 crash in doc (ww6) | Caolán McNamara | core | libreoffice-4-1-2 | Sep 19 | +1 | |
| I5be917b9 | Prefer OUString primitives to handwritten code | Matteo Casalin | core | master | Sep 19 | | |
| I5b46d7d3 | fdo#69407 Putting "no fill" frame color instead of transparent by default ... | matthieu gay | core | master | Sep 19 | ✘ | ✓ |
| I927d78ae | Sign .msi/.msp files when build signing is enabled on Windows | Andras Timar | core | libreoffice-4-1 | Sep 18 | | |
| I1f56e5f0 | Fixing the problem with Sidebar-alignment | Prashant Pandey | core | master | Sep 17 | | |
| Iede60637 | Resolves: fdo#67697 source formatting option list in autocorrect | Caolán McNamara | core | libreoffice-4-1-2 | Sep 17 | +1 | |
| Ia3757b61 | Use LO_JAVA_DIR for HSQLDB classpath. | Andrzej J.R. Hunt | core | master | Sep 16 | | |
| If0e5cbb5 | DOCX:fdo#43093 fix wrong directionality for RTL files | Faisal al-otaibi | core | master | Sep 16 | | |
| I7dc6390b | Implement hsqldb loading test. | Andrzej J.R. Hunt | core | master | Sep 16 | | |
| I943591e6 | Add LO_JAVA_DIR to solver's unorc. | Andrzej J.R. Hunt | core | master | Sep 16 | | |
| Ie8875bcb | Code clean-up/consolidation task. | Vishv Brahmhatt | core | master | Sep 15 | | |
| Id1f68b5e | list types added to Expert Config page | Efe Gürkan Yalaman | core | master | Sep 15 | | |
| I1dc108a9 | Introduce ASCII case conversion and use more/rtl/character.hxx. | Arnaud Versini | core | master | Sep 15 | | |
| Ia74c0fa3 | Remove more unusedcode | Marcos Souza | core | master | Sep 14 | | ✘ |

[Next=>](#)

If you need help with your patch or want to discuss it, do not hesitate to join [#libreoffice-dev](#) on freenode IRC

tinderboxes

[Add to Notice Board](#)

[Regenerate HTML Pages](#)

[Administrate this tree \(MASTER\)](#)

[Tinderbox Index](#)

<http://tinderbox.libreoffice.org/MASTER/status.html>

| Build Time | Time (UTC) | Guilty | Android-ARM 24-Bytemark-Hosting | Android-X86 25-Bytemark-Hosting | Linux-Fedora-x86_64 22-incremental | Linux-Gentoo-x86_64 2-no-conf | Linux-Santitas-x86_64 33-System lib | Linux-OpenSUSE-x86_64 14-hydrusboot | Linux-openSUSE-x86_64 18-Clang | Linux-openSUSE-x86_64 31-shack | Linux-x86_64 8-SLED11 | Linux-x86_64 32-callgrind | MacOSX-10.8 21-10.7SDK | MacOSX-10.8 36 | MacOSX-10.8 43 | MacOSX-10.8 64 43 | MacOSX-10.8 64 43 | MacOSX 37-tdf-buildbot | Raspbian-ARM 35 | W2008R2 16-Minimal-build | Win-x86 42 | Win-x86 38 | Win-x86 39 | Win-x86 6-debug | Win-x86 7-MinGW | iOS-ARM 29 | iOS-Simulator 28 | |
|-------------|-------------|--------|---------------------------------|---------------------------------|------------------------------------|-------------------------------|-------------------------------------|-------------------------------------|--------------------------------|--------------------------------|-----------------------|---------------------------|------------------------|----------------|----------------|-------------------|-------------------|------------------------|-----------------|--------------------------|------------|------------|------------|-----------------|-----------------|------------|------------------|--|
| 09/09 19:50 | 09/09 17:50 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09/09 18:55 | 09/09 16:55 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18:41 | 16:41 | | | details errs: 2 core | | | | | | | | | | | | | | | | | | | | | | | | |
| 18:23 | 16:23 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18:21 | 16:21 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18:20 | 16:20 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09/09 17:59 | 09/09 15:59 | | details core | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:58 | 15:58 | | | | | | | | | | | details core | | | | | | | | | | | | | | | | |
| 17:57 | 15:57 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:56 | 15:56 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:44 | 15:44 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:42 | 15:42 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:33 | 15:33 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:18 | 15:18 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:16 | 15:16 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:14 | 15:14 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:12 | 15:12 | | | details errs: 2 core | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:11 | 15:11 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:08 | 15:08 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17:00 | 15:00 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09/09 16:57 | 09/09 14:57 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:56 | 14:56 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:55 | 14:55 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:54 | 14:54 | | details core | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:53 | 14:53 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:38 | 14:38 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:33 | 14:33 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:32 | 14:32 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:30 | 14:30 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:29 | 14:29 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:27 | 14:27 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:26 | 14:26 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:25 | 14:25 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:23 | 14:23 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:22 | 14:22 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:20 | 14:20 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16:18 | 14:18 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 09/09 15:51 | 09/09 13:51 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15:48 | 13:48 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15:47 | 13:47 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

numbers („core“ only)

Aug 30 2013

| | | | |
|---------|-----------|----------|-----------------|
| cpp: | 3,989,190 | (83.63%) | [vs. 6,476,431] |
| java: | 376,141 | (7.89%) | |
| xml: | 226,885 | (4.76%) | |
| ansic: | 77,079 | (1.62%) | |
| perl: | 34,710 | (0.73%) | |
| python: | 26,480 | (0.56%) | |

Total Physical Source Lines of Code (SLOC) = 4,769,925
(without comments and blank lines!)

SLOCcount (<http://www.dwheeler.com/sloccount/>)

agenda

short history

code base

(bad) examples

how to get involved

coding style

```
345 if (languageNode)
346 {
347     aLanguage = languageNode->getChildAt(0)->getValue();
348     if (!(aLanguage.getLength() == 2 || aLanguage.getLength() == 3))
349         incErrorStr( "langID not 2-3 characters", aLanguage);
350     of.writeParameter("langID", aLanguage);
351     of.writeParameter("langDefaultName", languageNode->getChildAt(1)->getValue());
352 }
353 else
354     incError( "No Language node ");
355 if (countryNode)
356 {
357     OUString aCountry( countr
358     if (!(aCountry.isEmpty())
359         incErrorStr( "country
360     of.writeParameter("countr
361     of.writeParameter("countr
362 }
363 else
364     incError( "No Country nod

1358 if (!useLocale.isEmpty()) {
1359     useLocale = useLocale.replace( '-', '_' );
1360     of.writeRefFunction("getSearchOptions_", useLocale);
1361     return;
1362 }
1363
1364 if( getNumberOfChildren() != 1 )
1365 {
1366     ++nError;
1367     fprintf(
1368         stderr, "Error: LC_SEARCH: more than 1 child: %ld\n",
1369         sal::static_int_cast< long >(getNumberOfChildren()));
1370 }
```

```
40
41 LocaleNode::LocaleNode (const OUString& n
42     : aName(name)
43     , aAttribs(attr)
44     , parent(0)
45     , children(0)
46     , nChildren(0)
47     , childArrSize(0)
48     , nError(0)
49 {
50 }
51
```

```
598
599 boost::shared_ptr<vcl::PrinterController> pController( new SfxPrinterController(
600     aPrt,
601     aComplete,
602     aSelection,
603     aViewProp,
604     GetRenderable(),
605     bIsAPI,
606     bIsDirect,
607     this,
608     rProps
609 ) );
610
611 pImp->m_pPrinterController = pController;
```

comments

```
386 sal_uInt16 XFillBitmapItem::GetVersion(sal_uInt16 /*nFileFormatVersion*/) const
387 {
388     // version three
389     return(2);
390 }
```

```
20 #include "sqlparserclient.hxx"
21 #include "svx/ParseContext.hxx"
22
23 //.....
24 namespace svxform
25 {
26 //.....
27
28     using namespace ::com::sun::star::uno;
29     using namespace ::com::sun::star::lang;
30
31     //=====
32     // OSQLParserClient
33     //=====
34     //-----
35 OSQLParserClient::OSQLParserClient(const Reference< XComponentContext > &r
36 {
37     m_xContext = rxContext;
38 }
39 //-----
40 bool OSQLParserClient::ensureLoaded() const
41 {
42     if ( !ODbtoolsClient::ensureLoaded() )
43         return false;
44     m_xParser = getFactory()->createSQLParser(m_xContext,getParseContext(
45     return m_xParser.is();
46 }
47
48 //.....
49 } // namespace svxform
50 //.....
51
52
53 /* vim:set shiftwidth=4 softtabstop=4 expandtab: */
```

```
139 /* InsertPage
140 */
141 \*****/
142 void FmFormModel::InsertPage(SdrPage* pPage, sal_uInt16 nPos)
143 {
144     // hack solange Methode intern
145     if (m_pObjShell && !m_pImpl->pUndoEnv->IsListening( *m_pObjShell ))
146         SetObjectShell(m_pObjShell);
147
148     SdrModel::InsertPage( pPage, nPos );
149 }
150
151 \*****/
152 /*
153 * MovePage
154 */
155 \*****/
156 void FmFormModel::MovePage( sal_uInt16 nPgNum, sal_uInt16 nNewPos )
157 {
158     m_pImpl->bMovingPage = sal_True;
159     // see InsertPage for this
160
161     SdrModel::MovePage( nPgNum, nNewPos );
162
163     m_pImpl->bMovingPage = sal_False;
164 }
165
166 \*****/
167 /*
168 * RemovePage
169 */
170 \*****/
171 SdrPage* FmFormModel::RemovePage(sal_uInt16 nPgNum)
172 {
173     FmFormPage* pToBeRemovedPage = dynamic_cast< FmFormPage* >( GetPage( nPgNum ) );
174     OSL_ENSURE( pToBeRemovedPage, "FmFormModel::RemovePage: *which page*" );
175
176     if ( pToBeRemovedPage )
177     {
178         Reference< XNameContainer > xForms( pToBeRemovedPage->GetForms( false ), css::u
179         if ( xForms.is() )
180             m_pImpl->pUndoEnv->RemoveForms( xForms );
181     }
182
183     FmFormPage* pRemovedPage = (FmFormPage*)SdrModel::RemovePage(nPgNum);
184     OSL_ENSURE( pRemovedPage == pToBeRemovedPage, "FmFormModel::RemovePage: inconsisten
185     return pRemovedPage;
186 }
187
188 \*****/
189 /*
190 * InsertMasterPage
191 */
192 \*****/
193 void FmFormModel::InsertMasterPage(SdrPage* pPage, sal_uInt16 nPos)
```


agenda

short history

code base

(bad) examples

how to get involved

join us (easy hacks)

try beta versions

- [EH 53559](#) - Confirm a bug
- [EH 50100](#) - [Task] Verify a Bugfix
- [EH 46892](#) - Provide stacktraces for crashes
- [EH 47652](#) - Provide stacktraces for crashes in existing bug reports
- [EH 53675](#) - Run, test and torture Daily Builds
- [EH 47667](#) - Create chart test documents

try new features

- report feedback and improvement requests
- make a small promo video clip/ blog post about it

check if everything works as expected in your language something that is not (correctly) translated?
errors in GUI?

[EH 53676](#) - Link bugs from different bug trackers
help answering user questions at <http://ask.libreoffice.org/>

open a random file and take a look

- [EH 63020](#) - Replace `::comphelper::stl_begin()` with `boost::begin()`
- [EH 43157](#) - Clean up `OSL_ASSERT`, `DBG_ASSERT`, etc.

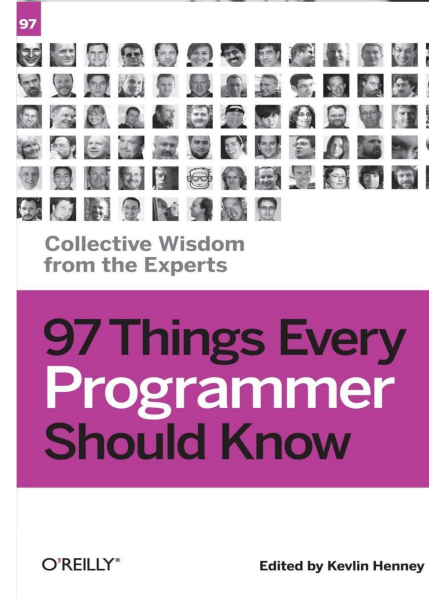
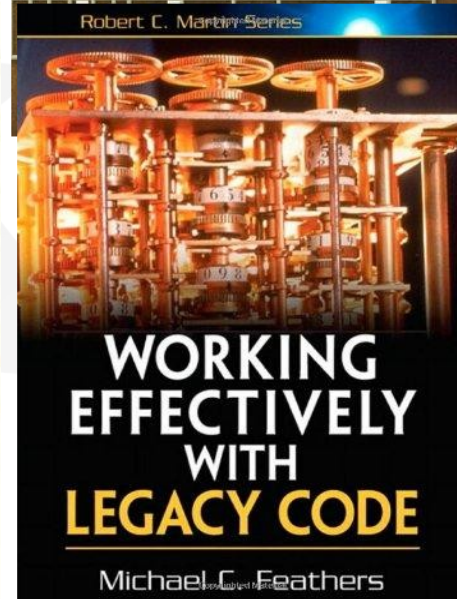
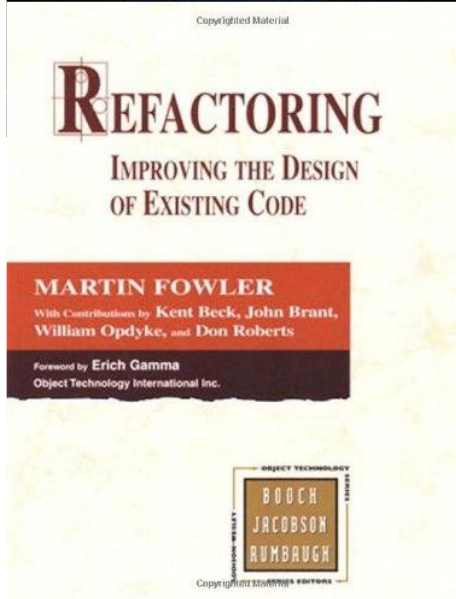
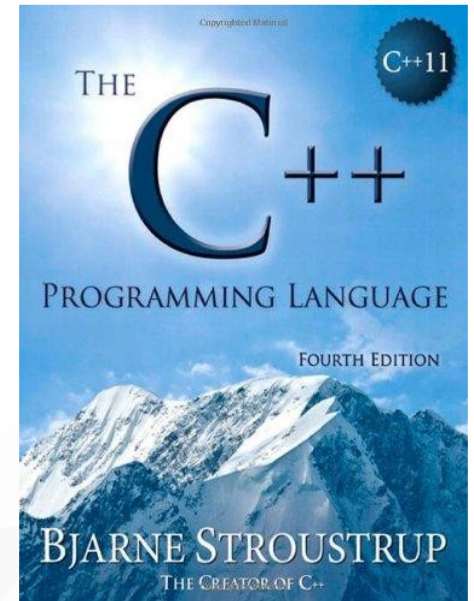
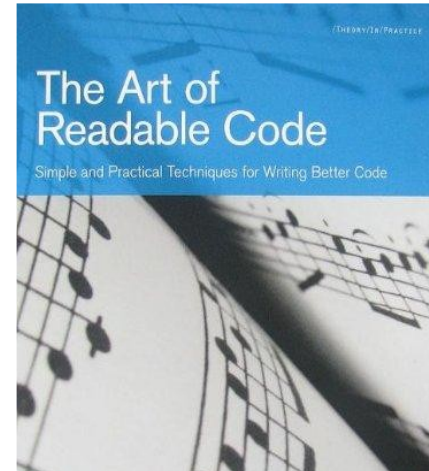
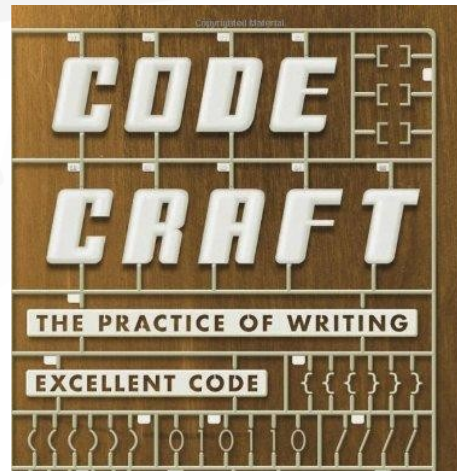
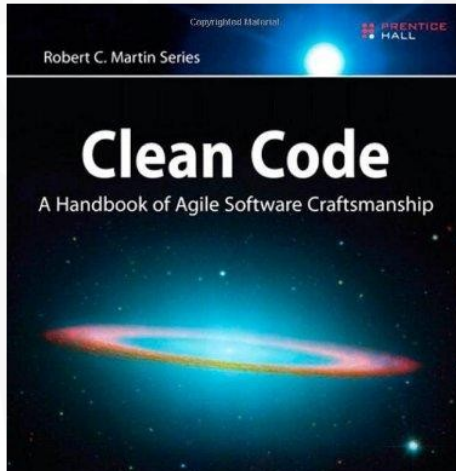
Improve Unit tests

- [EH 48024](#) - Convert C++ unit test from JUnit to CppUnit
- [EH 39596](#) - use the CLang++ static analyser to find bugs
- [EH 39625](#) - Make existing cppunittests work
- [EH 39749](#) - calc unit test writing

Work on comments

- [EH 62475](#) - Remove pointless comments and ASCII art
- [EH 39468](#) - translate German comments, removing redundant ones
- [EH 39674](#) - find / fix all German spellings in internal APIs
- [EH 65108](#) - Clean-up header includes (global/local)
- [EH 44502](#) - Improve Doxygen-generated SDK C++ documentation

book recommendations





Thank you!



numbers („core“ only)

Aug 30 2013

```
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java: 376,141 ( 7.89%)
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python: 26,480 ( 0.56%)
```

Total Physical Source Lines of Code (SLOC) = 4,769,925
(without comments and blank lines!)

SLOCcount (<http://www.dwheeler.com/sloccount/>)



This is only „core“. The auxiliary repositories have approximately another 5-6 million LOC...

So, there is enough for everyone who wants to help and many languages. Don't wait, join us and start hacking on a interesting code base!

If you do not know where to start or if you do not want to code → see slide 18

comments

```
386 sal_uInt16 XFillBitmapItem::GetVersion(sal_uInt16 /*nFileFormatVersion*/) const
387 {
388     // version three
389     return(2);
390 }

20 #include "sqlparserclient.hxx"
21 #include "svx/ParseContext.hxx"
22
23 //.....
24 namespace svxform
25 {
26 //.....
27
28     using namespace ::com::sun::star::uno;
29     using namespace ::com::sun::star::lang;
30
31     //=====
32     //== OSQLParserClient
33     //=====
34 //.....
35 OSQLParserClient::OSQLParserClient(const Reference< XComponentContext >& r
36 {
37     m_xContext = rxContext;
38 }
39 //.....
40 bool OSQLParserClient::ensureLoaded() const
41 {
42     if ( !OdbtoolsClient::ensureLoaded() )
43         return false;
44     m_xParser = getFactory()->createSQLParser(m_xContext, getParseContext()
45     return m_xParser.is();
46 }
47
48 //.....
49 } // namespace svxform
50 //.....
51
52 /* vim:set shiftwidth=4 softtabstop=4 expandtab: */

439 /* InsertPage
440 */
441 //=====
442 void FmFormModel::InsertPage(SdrPage* pPage, sal_uInt16 nPos)
443 {
444     // hack soLange Methode intern
445     if ( m_pObjShell && m_pImpl->pUndoEnv->IsListening( *m_pObjShell ) )
446         SetObjectShell(m_pObjShell);
447     SdrModel::InsertPage( pPage, nPos );
448 }
449 //=====
450
451 //=====
452 /* MovePage
453 */
454 //=====
455 void FmFormModel::MovePage( sal_uInt16 nPgNum, sal_uInt16 nNewPos )
456 {
457     m_pImpl->mMovingPage = sal_True;
458     // see InsertPage for this
459     SdrModel::MovePage( nPgNum, nNewPos );
460     m_pImpl->mMovingPage = sal_False;
461 }
462 //=====
463
464 //=====
465 /* RemovePage
466 */
467 //=====
468 void FmFormModel::RemovePage(sal_uInt16 nPgNum)
469 {
470     SdrPage* pToBeRemovedPage = dynamic_cast< FmFormPage* >( GetPage( nPgNum ) );
471     OSL_ENSURE( pToBeRemovedPage, "FmFormModel::RemovePage: *which page?*" );
472     if ( pToBeRemovedPage )
473     {
474         Reference< XNameContainer > xForms( pToBeRemovedPage->GetForms( false ), css::u
475         if ( !xForms.is() )
476             m_pImpl->pUndoEnv->RemoveForms( xForms );
477     }
478     FmFormPage* pRemovedPage = (FmFormPage*)SdrModel::RemovePage(nPgNum);
479     OSL_ENSURE( pRemovedPage == pToBeRemovedPage, "FmFormModel::RemovePage: inconsisten
480     return pRemovedPage;
481 }
482 //=====
483
484 //=====
485 /* InsertMasterPage
486 */
487 //=====
488 void FmFormModel::InsertMasterPage(SdrPage* pPage, sal_uInt16 nPos)
489 }
```



- (1) comments can be misleading → fix or delete it
- (2) separator style was common when screens were green on black → nowadays we have syntax coloring → delete these
- (3) method names duplicated in comments only to avoid warnings from „uncommented method“ script (bin/find-undocumented-classes)

book recommendations



 LibreOffice

Books about clean code

Clean Code → <http://amzn.com/0132350882>

Code Craft → <http://amzn.com/1593271190>

The Art of Readable Code → <http://amzn.com/0596802293>

Books about handling with a large code base

Refactoring → <http://amzn.com/0201485672>

Working effectively with legacy code → <http://amzn.com/0131177052>

97 Things Every Programmer Should Know → <http://amzn.com/0596809484>

and online at

http://commons.oreilly.com/wiki/index.php/97_Things_Every_Programmer_Should_Know

Standard literature

The C++ programming language → <http://amzn.com/0321563840>

and many more...