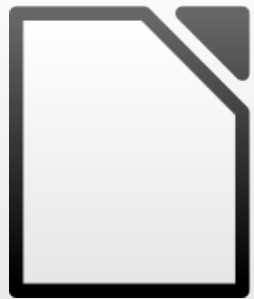


Easy Hacks to get you into:



LibreOffice

The Document Foundation

How beginners (as well as experts) can help ...

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*“Stand at the crossroads and look; ask for the ancient paths, ask where the good way is, and walk in it, and you will find rest for your souls...” -
Jeremiah 6:16*



The message in a nutshell ...

- Easy
(to create & to hack on)
- Significant
They make a real impact in the project
- You can do them
There is nothing to stop you hacking today
- Lets look at some from easy → hard.

Easy: Translating German Comments ...

- ▀ Admittedly much easier if you are a German

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

- ▀ Beautiful tool tool help out with this:

```
cd clone
```

```
bin/find-german-comments cppuhelper # random directory
```

```
cppuhelper/source/propshlp.cxx:706:
```

```
Ueber alle Listener iterieren und Events senden
```

```
cppuhelper/source/propshlp.cxx:763:
```

```
Ueber alle Listener iterieren und Events senden
```

```
cppuhelper/source/unour1.cxx:264:
```

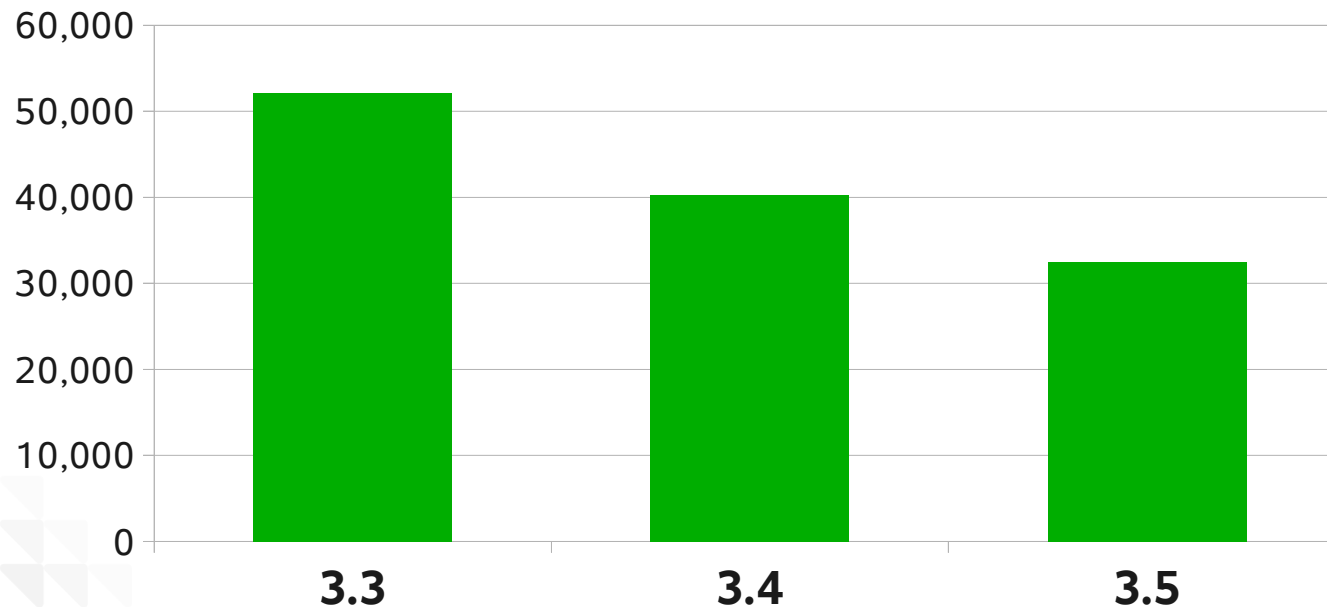
```
c != 0x2F && c != 0x3A && c != 0x3D
```

Only two (identical) strings detected – to clean an entire module

Significant: Translating Comments ...

- ▀ It makes things **significantly** easier for non-Germans ...
- ▀ We removed or translated ~20k lines of these so far
- ▀ We still have 32k to go: done mostly by new guys ...
 - ▀ Thanks to all who helped !

Detected lines of German comment



Thanks to (recent translators):
Philipp Weissenbacher
Luc Castermans
Mike Whiteley
Christina Rossmanith
Winfried Donkers
Michael Stahl
Tim Hardeck
Noel Grandin
Matteo Casalin
Cor Nouws
and many more !

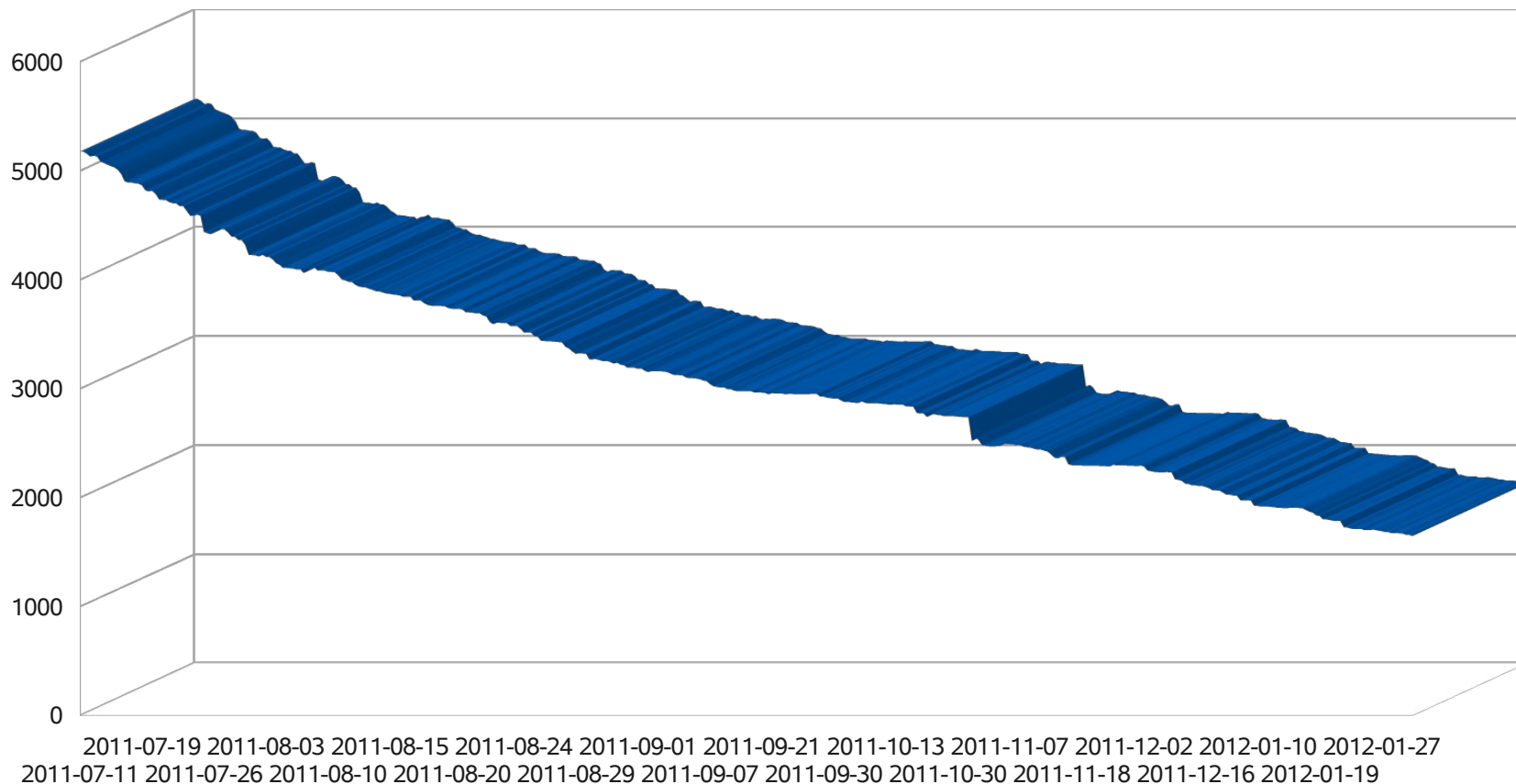
Easy: Removing totally unused code ...

- ▀ Inherited code, has a **big** technical debt: needs paying ...
 - ▀ `git clone git://anongit.freedesktop.org/libreoffice/core`
 - ▀ `cd core`
- ▀ Load up `unusedcode.easy` ...
 - ▀ `EditView::GetSelectionMode() const`
 - ▀ `EditView::SetCursor(Cursor const&)`
 - ▀ `EditView::SetPointer(Pointer const&)`
 - ▀ ...
- ▀ Find these methods:
 - ▀ `git grep EditView::GetSelectionMode`
 - ▀ `editeng/source/editeng/editview.cxx:EESelectionMode
EditView::GetSelectionMode() const`
- ▀ Remove the method (don't forget the header)
 - ▀ If it looks -really- useful: `#ifdef TOMORROW / #endif` ...

Significant: Removing totally unused code ...

- ▀ Shrinking the LibreOffice's memory footprint
- ▀ We're making real progress ... 5k- to less than 2k

Remaining unused method count



Easy: Using git ...

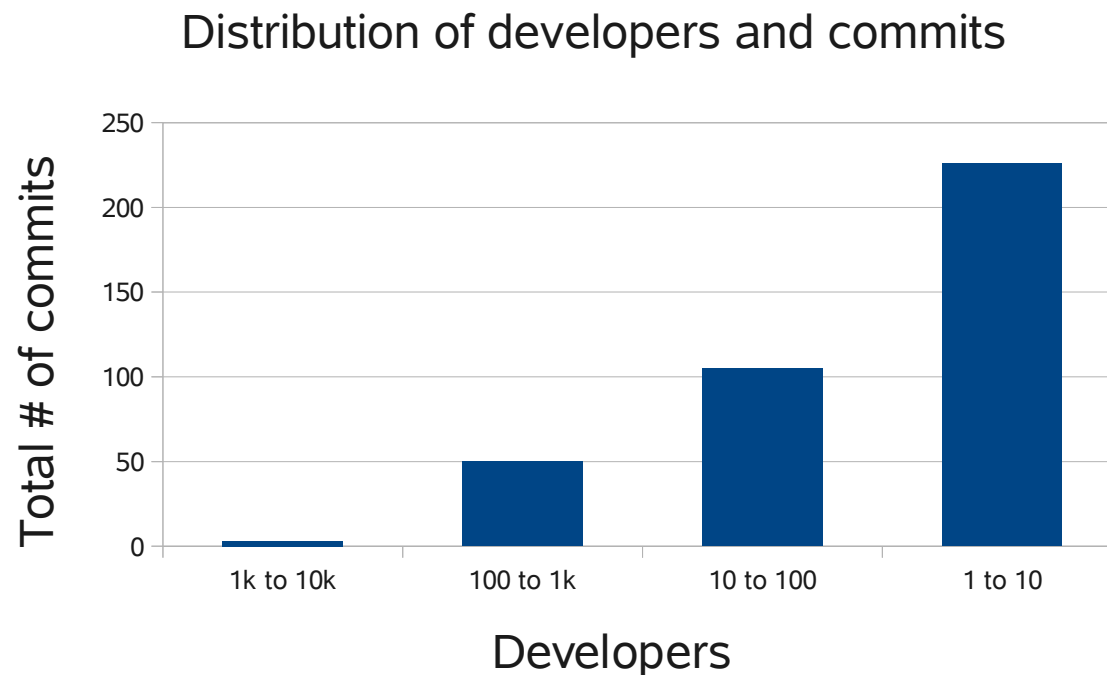
- ▀ Git can **sound** scary – but it's not -so- bad ...
- ▀ One off setup your of name / E-mail (we like real ones)
 - ▀ `git config user.name "Jim Bob"`
 - ▀ `git config user.email "jim.bob@easy.com"`
- ▀ Checkout the code:
 - ▀ `git clone git://anongit.freedesktop.org/libreoffice/core`
- ▀ Edit a file you like
 - ▀ `git diff #` will show you your diff
- ▀ `git commit -a #` commit all changes
- ▀ `git format-patch -1 HEAD #` create a patch to E-mail us ...
- ▀ `git pull -r #` get the latest changes from others
- ▀ `git stash #` squirrel away your changes, giving a clean tree.
- ▀ `git stash pop #` get them back again ...

Easy: Removing old, crufty conditionals ...

- ▶ We used to compile with some *horribly* broken compilers
 - ▶ We still have conditionals around the place for them
 - ▶ We should remove all checks for `__GNUC__ < 3`
- ▶ So checkout:
 - ▶ `git clone git://anongit.freedesktop.org/libreoffice/core`
- ▶ Then:
 - ▶ `git grep __GNUC__`
 - ...
 - `cppu/inc/cppu/macros.hxx:`
 - `#if defined(__GNUC__) && (__GNUC__ >= 3)`
 - `sal/osl/unx/file_stat.cxx:`
 - `#if defined(__GNUC__) && (__GNUC__ < 3)`
 - ...
 - ▶ Remove conditionals and associated code

Significant: cleaner code, easier to grep/read

- ▀ Makes it easier to hack on LibreOffice
- ▀ Continue reducing our (bogus) LOC count
- ▀ Socially rewarding turning pig ugliness into beauty



Plenty of scope for shining in the project – with only 10+ commits.

Easy: fixing all SvStream operators ...

▼ So:

- ▼ `git clone git://anongit.freedesktop.org/libreoffice/core`

▼ Load up: tools/inc/tools/stream.hxx

- ▼ `SvStream& operator<<(sal_Int16 nInt16);`
- ▼ `SvStream& operator<<(sal_Int32 nInt32); ...`

▼ Remove / re-compile with:

- ▼ 'void WriteInt16(sal_Int16 nInt)' style methods
- ▼ Update all calling code & remove operator overload.

```
if( pPiece->IsUnicode() )
-     Strm() << c;
+     Strm().WriteInt32(c);
else
-     Strm() << (sal_uInt8)c;
+     Strm().WriteuInt8(c);
```

Significant: improves security & hackability

- ▶ Operator overloading / Magic type selection & inference
 - ▶ ripple/format problems from ~unrelated code change
- ▶ Nail security bugs from lame impl. of read operators:

```
SvStream& SvStream::operator>>(sal_uInt32& r)
```

```
{
```

```
    sal_uInt32 n = 0;
```

```
    READNUMBER_WITHOUT_SWAP(sal_uInt32, n)
```

```
    if (good())
```

```
    {
```

```
        if (bSwap)
```

```
            SwapULong(n);
```

```
        r = n;
```

```
    }
```

```
    return *this;
```

```
}
```

Ergo 'read' operator changes need some degree of auditing

Easy: using fsync where possible – a harder one

- ▀ The task is this:
 - ▀ `git clone git://anongit.freedesktop.org/libreoffice/core`
- ▀ Lots of detail in the hack:
 - ▀ https://bugs.freedesktop.org/show_bug.cgi?id=40607
- ▀ Checkout:
 - ▀ `sal/osl/unx/file.cxx` (`sal_oslSyncFile`)
 - ▀ Integrate a tweaked patch.
 - ▀ Call `fsync` only when it doesn't cripple the machine
- ▀ Find, and add `sal_oslSyncFile`
 - ▀ at last stage of document write.

Significant: why it's worth doing

- ▀ Only a few dozen lines of code produced
 - ▀ Linux only too of course.
- ▀ We have ~35 million Linux desktop users
- ▀ Somewhere, someone is about to swap their battery
 - ▀ **Knowing** they are safely on mains power ...
 - ▀ Only to discover that they are not as the yank it.
- ▀ Without this patch on ext4/btrfs ...
 - ▀ by-bye data ...
- ▀ With an 'obvious' 'fsync always' patch
 - ▀ Trash innumerable CDR's and judder audio etc.
- ▀ Help a friend in need ! ...

Easy: To create your own easy hacks ...

- ▀ Head to bugzilla:
 - ▀ https://bugs.freedesktop.org/enter_bug.cgi?product=LibreOffice
- ▀ Summary: “EasyHack:
- ▀ Component: “LibreOffice” or ...
- ▀ Description:
 - ▀ a **clear** set of code pointers
 - ▀ Enough detail to jump **immediately** into the code / task
 - ▀ ie. do the leg-work, a good EasyHack takes time to file.
- ▀ [Submit]
- ▀ **One more step:**
 - ▀ Add Whiteboard: see [list of names](#) or just use:
 - ▀ EasyHack,DifficultyBeginner,SkillCpp,TopicCleanup

Conclusions ...

Easy Hacks → Conclusions

- ▶ **Easy ! (or hard if you want)**
- ▶ **Significant**
 - ▶ they make a real difference
 - ▶ they strike a dis-proportionate blow for freedom
- ▶ **You can do them ...**
- ▶ Thanks for all of your help and support !
 - ▶ **we rely on you**, to prove the power of Freedom with us.
 - ▶ get people **excited** about Free Software they use ...
- ▶ **Please do get involved** and help us ...

Oh, that my words were recorded, that they were written on a scroll, that they were inscribed with an iron tool on lead, or engraved in rock for ever! I know that my Redeemer lives, and that in the end he will stand upon the earth. And though this body has been destroyed yet in my flesh I will see God, I myself will see him, with my own eyes - I and not another. How my heart yearns within me. - Job 19: 23-27