Hacking OpenOffice.org

Michael Meeks
<michael@ximian.com>

“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
Overview

To try and demonstrate I planned this talk, and it has some vague structure

• OO.o – it rocks
  ■ power, depth, features
• Sun / the background
• Getting started hacking
  ■ ooo- build
  ■ going around a development iteration
  ■ making a real difference
• Desktop integration work
• Interesting development avenues
• Conclusions
OpenOffice.org rocks!

Gnome/OpenOffice 1.1

A small table with an embedded image

This is a picture of our wedding with some nice text flow going on around it, of course you can edit a custom contour as well as having a crude ellipse, which makes for a very nice look. Below it is an alpha blended free-hand, filled spline with drop shadow and gradient.

And chart of the week:

Persistant Sins

Jealousy  Pride  Lust  Idleness
OpenOffice.org rocks!

**Latest breaking research:**

<table>
<thead>
<tr>
<th></th>
<th>first</th>
<th>second</th>
<th>third</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jealousy</td>
<td>0.89</td>
<td>0.25</td>
<td>0.44</td>
</tr>
<tr>
<td>Pride</td>
<td>0.79</td>
<td>0.31</td>
<td>0.95</td>
</tr>
<tr>
<td>Lust</td>
<td>0.08</td>
<td>0.37</td>
<td>0.63</td>
</tr>
<tr>
<td>Idleness</td>
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<td>0.43</td>
</tr>
<tr>
<td>Banger</td>
<td>0.35</td>
<td>0.76</td>
<td>0.43</td>
</tr>
</tbody>
</table>

**Persistant Sins**

**Breakfast**

\[ W = - \int_a^b E(x) \, dx \]
OpenOffice.org rocks!

Some of the chart effects:

- Transparency
- Bitmap
- Shape
- Flavour

food: Egg, Ham, Waffle, Hash, Banger

session:
- first
- second
- third
OpenOffice.org rocks!

Full help in:
French,
Spanish,
Italian,
Swedish,
Japanese,
Korean,
2x Chinese
English
(and German)
An example ... [ Demo ]

Why I think OO.o kicks the backside of any other free Office component out

interface Sell, Buy;

// Define an equivalent,
component Stock_Exchange
  provides Stock_Quote;

  consumes Buy_Offers;
  consumes Sell_Offers;

  publishes Price_Change
  uses SEC;

};

Figure 2: An example CCM Component With IDL Specifi

A CORBA object reference is an abstract handle referring to an instance of a COI
implementation. An oObject references hides the location where the actual object
resides and contains protocol information as defined in the C
Other Free suites …

• Gnome Office
  ■ libole2/ libgsf – basis of KDE & Gnome interop
  ■ libwv – basis of AbiWord/ KWriter word import
  ■ gnumeric - a lovely spreadsheet

• KOffice
  ■ no export -> no interoperability

• But XYZ feature is better in ABC !?!!?
  ■ doubtless, any 1 feature may be better a < - > b
  ■ not a reasonable comparison

• Where is Freedom better served ?
  ■ Still interesting research test-beds though.

• Do real work, for real users, now: really.
StarOffice/ OpenOffice.org

How the two relate to each other a small and shrinking difference

Sun is doing it right

- OO.o CVS is the authoritative base source
- A few other packages plugged in externally for SO.
  - fonts / icons / clipart / Adabas etc.

- Sun is now offering support for OO.o

- Legal bits
  - JCA – shared copyright, minimal asymmetry
  - Source under LGPL / SISSL
  - SISSL: X11 + ~LGPL for ABI / file-format changes
Community? / problems

The things that are wrong under the sun...

- Scheduling problems 18 month releases ...
- Get your teeth pulled to experience up-streaming
  - vacillation, re-writing, 'in our plan'
- ooo-build
  - patch holding ground for up-streaming
  - collaborative effort between Linux distros:
    - Ximian, Debian, Red Hat, SuSE, Ark, PLD, [ Win32 ]
  - Easy to commit to / get involved with
    - Ask for JCA in the post
    - Hack here ...
  - ~300 patches, sub-setted several ways.
ooo- build -
http://ooo.ximian.com/

- Building made easy
- Wraps the existing OO.o build system
  - configure
  - download
  - make
  - make install

  Prerequisites:
  - ~4Gb+ spare space
  - ~512Mb RAM
  - ~1Ghz processor

- Used for the 1st build, & packaging
- Development iteration more cunning
- Hackers guide:
Final result: after 'linkoo'

- Simply run 'build debug=true', run OO.o.
- Demo: 'My first hack'.
Where to hack

How to grapple with the beast, and find what you're looking for

- http://ooo.ximian.com/lxr
  - UI string -> freetext search -> SID
  - SID -> identifier search -> case SID...

- **Ignore the build** – *but don't despair*
  - Do *NOT* try to 'fix' the build, don't even try
  - Lost too many good hackers down that hole

- **Fix the things Sun does not**: ergonomics?
  - *The customer is [almost] always right*
  - eg. Word count.

- **Bite sized tasks** – don't re-write everything
  - Zoom combo box, X session slaved quick-starter
  - Emacs key-bindings ?, just sniff around
Making a difference

The grass is greener on the other side of the fence...

• OO.o is a comprehensible code-base
  ■ Different != Wrong
• User base affects impact
  ■ Substantially larger for OO.o than anything else
  ■ Windows users need to hear about Free software
• You count:
  ■ Gnome: 2000+ CVS accounts
  ■ OO.o: 15+ (external) CVS accounts
  ■ Get in now – I'm hoping for 3 new hackers.
• Sensible not to have got involved yet
  • No better time to start than now; sign the JCA today
Developing with plugins …

• Uno Developers Kit (UDK)
  ■ allows 3rd party components
  ■ eg. libwpd – Will Lachance
    • http://libwpd.sf.net
    • Imports WordPerfect files into OO.o ( & AbiWord)

• Pretty unusably bad
  • portability, exposed API

• Scripting – lots of API exposed by UNO
  ■ an exciting scripting framework
  ■ Python, StarBasic, [ Java: non-free ], Mono ?
  ■ more language bindings appreciated; Perl etc.

• Templates / artwork for non-hackers.
You too could be famous:

There was time to shoe-horn several other easter eggs into OO.o too ...

- Source code also shows signs of a StarWars game:
  - LXR: ScGame
- The OO.o hackers are a bright, and fun bunch

Don't start something new, join the team ...
OO.o the future: 2.0 and beyond

The world out there from an OO.o perspective

- Google for OpenOffice:
- Lots of new features in 2.0
  - Startup speed ...
  - Improved Calc
    - row-limit, forms, interop.
  - Improved Writer
    - tables, interop etc.
- NWF
- Evolution / addressbook bits
Aesthetic beauty - Icons
Many hundreds of hours of high quality artistic output

- Tigert / Jmmac – they rock.

- Hundreds of new industrial strength icons.

(a calculator apparently)

[ 24bit + alpha gives some major advantages ]
Ximian OpenOffice.org 1.1.x

The amazing way a little rendering can hide those cracks:

- pretty AA UI font
- 32 bit 24x, alpha blended, high-color art
- Once seen – not forgotten cf. Typography.
- more sensible menu layout
Samba / NFS integration

The real world is (sadly) not a homogeneous Unix environment – Interoperability is key

Full gnome-vfs integration
- authentication
- seekability
Integrated printing ...

CUPS – the unpleasant truth of the Unix printing standard

Integration with system / network printer discovery and properties
Native Widgets ...

Making everything look that much more friendly ....

gtk+ - Dan Williams / Philipp / Stephan
Qt – Jan Holesovsky: Keramic:
Interesting things ...

• VBA / macro interoperability
  ■ Translation – not an interoperable solution
  ■ Have the nasty file format problems cracked
    • Some re-factoring required there
  ■ Work needed expanding / mapping the OO.o API & improving StarBasic
    • Can't wait for Mono / .Net - ~2006
    • Excel API more intuitive / understood anyway
  ■ Lots of useful, bite-sized work here.

• File format / filters – plenty of work here

• Ergonomic cleanups all over the shop
Improving the beauty: layout

We need a GUI design tool too – an area I want to work on.

Positional layout can look no better than auto layout
Conclusions / Thanks

What I spent the last minutes saying – nudge your neighbour it's nearly over

- OpenOffice.org substantially the best
- Work on OO.o:
  - Lots of polish required
  - Lots of small, easy, big-hitting changes left
  - Amazing the documents you'll get sent
- Make a difference for Freedom
- Sign the JCA today ...

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