KDE 4 on openSUSE 11

Dirk Mueller - Will Stephenson

openSUSE.org
What the .. ?

- openSUSE KDE
- KDE 4 on openSUSE 11.0
- Write your scripts as GUI
- one KDE CD
openSUSE KDE
KDE Team at openSUSE

What do we do?

- build service
- packaging
- maintenance
- kdebluetooth
- kepas
- knetworkmanager
- applications
- kpowersave
- kerry
- system settings

- dashboard
- kde.org
- release team
- KDE 4 live CD
- products
- openSUSE
- SLED
openSUSE KDE 4 Live

- KDE 4 Live CD
  - regularly updated
  - providing KDE 4.0.x and KDE 4.1 snapshots
  - built using openSUSE KIWI
  - trivial to extend into a SDK version

http://home.kde.org/~binner/kde-four-live/
openSUSE Build Service

**KDE:KDE4:STABLE:**
- Desktop: KDE Platform, workspace and core applications
- Extra-Apps: KOffice, Amarok, KDE extragear
- Community: even more, maintained by openSUSE community

**KDE:KDE4:UNSTABLE:**
- Desktop: KDE 4.1 development snapshot, weekly update
- Extra-Apps: various experimental applications
- Community: ..
openSUSE Packaging Days

• Friday, April 4<sup>th</sup> – Saturday April 5<sup>th</sup> 2008

• Get in contact with openSUSE.org
• Learn how to use the Build Service to package favourite applications
• Create binary packages for all popular Linux distributions, not just openSUSE
openSUSE KDE Goodies

Kickoff:

• Usability-tested new start menu
• first implemented for KDE 3.5 in openSUSE
• now part of KDE 4 implemented in the new Plasma code base
• 'themed' by openSUSE
openSUSE KDE Goodies

KNetworkManager:
• control applet for NetworkManager
• developed by openSUSE
• used by everyone
• KDE4 + NM 0.7 versions in preparation
openSUSE KDE Goodies

KPowerSave:
• rich power management application
• KDE 4 port coming
openSUSE KDE Goodies

System Settings:
- KDE 4 control panel
- maintained/matured for KDE 4 by openSUSE
openSUSE KDE Goodies

Kerry:
- Search tool for Beagle
- Developed in-house
- being extended for Strigi support for KDE 4
KDE 4 on openSUSE 11
KDE 4 on openSUSE 11

- openSUSE 11.0 will be released in June and maintained at least until mid 2010
- The KDE that we ship will be maintained
- We need to meet the expectations of users and customers

Motivations
- Prove KDE 4 as an enterprise ready product
- Ship the state of the art in KDE
openSUSE 11.0 alpha

Evaluation currently in alpha phase:
- KDE 4.0.1 as default desktop
  - Plasma improved with feature backports
- Feedback appreciated
- Feature and quality parity with KDE 3 is a concern
  - Blocker list – We need your input!

Alternatively, ship KDE 4.1 beta
- Pro: many more features and apps are ready
- Con: missing stability
Open Topics

- KDE PIM from KDE 4.1?
  - We're discussing with upstream
- Which KDE 4 / KDE 3 applications to ship by default
  - We love Amarok 2, really

- theming and openSUSE customization
- KDE3 backward compatibility
  - not provided by upstream KDE
- Upgrade path provided by openSUSE
writing KDE 4 scripts can be so easy...
A useful tool in 99 lines of code

Example Problem:

• you want the latest build service packages
• or maybe you're a packager
• you need to monitor the build status of many buildservice repositories

Case Study:

• osc prjresults command line
• buildservice webfrontend
osc prjresults

too much console output:

labVNCserver
 | clucene-core
 | crake
 | | gettext
 | | | tintColor-icon-theme
 | | | kde4-filesystem
 | | | | kde4-l10n
 | | | kdeaccessibility
 | | | | kdeaccessibility4-icons
 | | | kdekonfig
 | | | | kdeartists
 | | | kdeartists-noarch
 | kdeserver
 | | kdebase
 | | | kdebase4-openUSE
 | | | | kdebase4-runtime
 | | | | kdebase4-session
 | | | | kdebase4-wallpapers
 | | | | kdebase4-workspace
 | | | | kdebase4-workspace-plugins
 | | | kdebricks2
 | | | kdeconf
 | | kdeconf-noarch
 | | | kdegasse4
 | | | | kdegasse4-cardbacks
 | | | kdegasse4-kde
 | | | | kdegraph
 | | | | kdelink
 | | | | kdemultimedia
 | | | kdenetwork4
 | | | | kdeprompt4
 | | | | kdeutils
 | | | | libicns
 | | | | libkdev2
 | | | | | libqt4
 | | | | | libqt4-devel
 | | | | | libqt4-devel-osc-data
 | | | | | | libqt4-devel-osc-plugins
 | | | | | | openSUSE_10.2_i586
 | | | | | | openSUSE_10.2_x86_64
 | | | | | | openSUSE_10.3_i586
 | | | | | | openSUSE_10.3_x86_64
 | | | | | | F
 | | | | | | E
 | | | | | | openSUSE_Factory_i586
 | | | | | | openSUSE_Factory_x86_64

ccas1-facile
 | openvnc
 | | oxygen-icon-theme
 | | | poppler
 | | | | | | | | | | | |
web frontend (I)

lots of data:

<table>
<thead>
<tr>
<th>Project KDE::KDE4:STABLE:Desktop Status Monitor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Builder</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>LibVNCServer</td>
</tr>
<tr>
<td>clueen-core</td>
</tr>
<tr>
<td>cmake</td>
</tr>
<tr>
<td>gettext</td>
</tr>
<tr>
<td>hicolor-icon-theme</td>
</tr>
<tr>
<td>kde4-filesystem</td>
</tr>
<tr>
<td>kde4-110</td>
</tr>
<tr>
<td>kde-accessibility4</td>
</tr>
</tbody>
</table>
which package failed?
Design

We're lazy. We want something fast

- Development time
  - less than the time to present the slides
- We've no idea about the build service API
- We've used Python a bit..
- We know Qt

lazy, but fast
User interface design

Create the look with Qt Designer:
Okay.. and now?

- use the Python Qt4 bindings for the user interface
- use osc, the openSUSE buildservice client **python module** for authentication and fetching result XML, then:

```python
from PyQt4 import QtGui,QtCore
from overview import Ui_MainWindow

# osc
from osc import core as osc
from osc import conf
conf.get_config()

if __name__ == "__main__":
    app = QtGui.QApplication(sys.argv)
    mw = MonitorMain()
    app.exec_()
```
def onRepositoryChange(self, reponame):
    obs = BuildServiceInterface()
    content = obs.getResult(str(reponame))
    if content:
        dom = xml.dom.minidom.parseString(content)
        resultList = obs.handleResults(dom)
        headers = []
        rows = []
        for result in resultList:
            headers.append(str(result.repository.split('_')[1] + '/' + result.arch))

        if len(resultList):
            if len(resultList[0].packages):
                for package in resultList[0].packages:
                    rows.append(str(package.name))

        self._mRepoStatus.setRowCount(len(rows))
        self._mRepoStatus.setColumnCount(len(headers))
        self._mRepoStatus.setHorizontalHeaderLabels(QtCore.QStringList(headers))
        self._mRepoStatus.setVerticalHeaderLabels(QtCore.QStringList(rows))

        column = 0
        for result in resultList:
            row = 0
            for package in result.packages:
                twi = QtGui.QTableWidgetItem(str(package.status))
                if str(package.status) in ("failed", "expansion error"):
                    twi.setBackgroundColor(QtCore.Qt.red)
                if str(package.status) in ("succeeded",):
                    twi.setTextColor(QtCore.Qt.green)

                self._mRepoStatus.setItem( row, column, twi )
                row = row + 1
                column += 1
Better?

Also possible in Ruby, Java, C#...
openSUSE+KDE, just one CD
All you need to install..
openSUSE 10.3: 1CD Install

installable KDE desktop on a single CD:
  • targeted size: 700MB
'roughly' complete
  • compare to default install of the DVD media
  • only one language supported
  • extensible by adding Online repositories during Installation
How to fit 1GB on a 700MB CD

- Remove optional parts
  - of distribution
  - of applications
- Reduce number of fonts
- Split out languages
- Use weak instead of strong dependencies
- Reduce boot system size
- Reduce static lib copies
- Reduce library set
Language bundles

- Package set contains 86MB of localization for 20 languages
- Average user is only interested in less than 3 languages

Idea:

- generate language bundle that contains for all packages on the CD the localization for one language
- let YaST/the user choose which languages to download
- only put one language on CD (KIWI allows more)
Watch distribution size

openSUSE 10.3:
  • 106MB boot
  • 7MB doc
  • 582MB suse

837 packages, 695MB

openSUSE 11.0a2:
  • 83 MB boot
  • 7 MB doc
  • 562 MB suse

793 packages, 652MB
Distribution Size – 11.0alpha2+

- Console
- KDE
- X11
- OpenOffice.org
- YaST
- Printing support
- Kernel
- Miscellaneous
Better compression?

Using a different compression algorithm:

- 611MB as gzip
- 565MB as bzip2
- 448MB as lzma
- 610MB SquashFS
Q&A

en.opensuse.org/KDE

dashboard
kde.org
release team
KDE 4 live CD
products
openSUSE
SLED

build service
packaging
maintenance
kdebluetooth
kepas
knetworkmanager
applications
kpowersave
kerry
system settings
General Disclaimer
This document is not to be construed as a promise by any participating company to develop, deliver, or market a product. Novell, Inc., makes no representations or warranties with respect to the contents of this document, and specifically disclaims any express or implied warranties of merchantability or fitness for any particular purpose. Further, Novell, Inc., reserves the right to revise this document and to make changes to its content, at any time, without obligation to notify any person or entity of such revisions or changes. All Novell marks referenced in this presentation are trademarks or registered trademarks of Novell, Inc. in the United States and other countries. All third-party trademarks are the property of their respective owners.

This work is licensed under the Creative Commons Attribution-Noncommercial-Share Alike 2.5 License. To view a copy of this license, visit http://creativecommons.org/licenses/by-nc-sa/2.5/.

For other licenses contact author.
Corporate color palette and margins

These gray lines show the margins that need to be adhered too. If your slide content extends beyond the margins you may need to move to a full screen slide layout.

Most importantly keep the area under the logo clear.

<table>
<thead>
<tr>
<th>Palette</th>
<th>Red (R)</th>
<th>Green (G)</th>
<th>Blue (B)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SUSE</td>
<td>0</td>
<td>98</td>
<td>0</td>
</tr>
<tr>
<td>Yellow</td>
<td>201</td>
<td>115</td>
<td>46</td>
</tr>
<tr>
<td>Green</td>
<td>252</td>
<td>225</td>
<td>182</td>
</tr>
<tr>
<td>Blue</td>
<td>225</td>
<td>213</td>
<td>201</td>
</tr>
<tr>
<td>Gray</td>
<td>182</td>
<td>201</td>
<td>186</td>
</tr>
<tr>
<td>Misc</td>
<td>237</td>
<td>238</td>
<td>204</td>
</tr>
</tbody>
</table>

- SUSE Palette
- Yellow Palette
- Green Palette
- Blue Palette
- Gray Palette
- Misc