

#### Kalyxo

# Linking the worlds of KDE and Debian

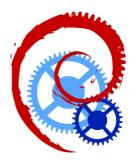
Kévin Ottens & Peter Ročkai

KDE Community World Summit 2004, aKademy

- UserLinux
  - Bruce Perens effort
  - Creating an enterprise desktop based on Debian



- UserLinux
  - Bruce Perens effort
  - Creating an enterprise desktop based on Debian
- Strategy paper
  - Navindra Umanee proposed to join
  - Some KDE developers and sponsors on board



- UserLinux
  - Bruce Perens effort
  - Creating an enterprise desktop based on Debian
- Strategy paper
  - Navindra Umanee proposed to join
  - Some KDE developers and sponsors on board
  - UserLinux supports only GNOME



- UserLinux
  - Bruce Perens effort
  - Creating an enterprise desktop based on Debian
- Strategy paper
  - Navindra Umanee proposed to join
  - Some KDE developers and sponsors on board
  - UserLinux supports only GNOME
- Deathly Frozenness
  - After UserLinux excitement
  - Lot of ideas...
  - … few working hands



- UserLinux
  - Bruce Perens effort
  - Creating an enterprise desktop based on Debian
- Strategy paper
  - Navindra Umanee proposed to join
  - Some KDE developers and sponsors on board
  - UserLinux supports only GNOME
- Deathly Frozenness
  - After UserLinux excitement
  - Lot of ideas...
  - … few working hands
- Resurrection
  - Renamed the project, KDE-Debian → Kalyxo
  - Work in progress
  - Contributors are coming



- Debian integration
  - Develop missing GUI administration tools

- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies
    - kde.openoffice.org technologies (Jan Holesovsky)



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies
    - kde.openoffice.org technologies (Jan Holesovsky)
    - Fuse-KIO (Alexander Neundorf & Kévin Ottens)



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies
    - kde.openoffice.org technologies (Jan Holesovsky)
    - Fuse-KIO (Alexander Neundorf & Kévin Ottens)
    - Qt-GTK-Engine (David Sansome)



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies
    - kde.openoffice.org technologies (Jan Holesovsky)
    - Fuse-KIO (Alexander Neundorf & Kévin Ottens)
    - Qt-GTK-Engine (David Sansome)
- Smooth desktop user experience



- Debian integration
  - Develop missing GUI administration tools
  - Improve the communication with the Desktop Environnement
- KDE integration
  - Take care of foreign applications
  - Provide missing integrative technologies
    - kde.openoffice.org technologies (Jan Holesovsky)
    - Fuse-KIO (Alexander Neundorf & Kévin Ottens)
    - Qt-GTK-Engine (David Sansome)
- Smooth desktop user experience
- Promotion
  - Finding potential partner projects
  - FreeNX packaging for Debian



# Goals and Achievements What is done?

- Management policy
  - Ensure KDE based applications are well supported in Debian

- Management policy
  - Ensure KDE based applications are well supported in Debian
  - Integrate as many packages as possible in Debian

- Management policy
  - Ensure KDE based applications are well supported in Debian
  - Integrate as many packages as possible in Debian
- Two branches used

- Management policy
  - Ensure KDE based applications are well supported in Debian
  - Integrate as many packages as possible in Debian
- Two branches used
  - Unstable
    - Qt-GTK-Engine
    - amaroK
    - aKregator
    - some admin tools...

- Management policy
  - Ensure KDE based applications are well supported in Debian
  - Integrate as many packages as possible in Debian
- Two branches used
  - Unstable
    - Qt-GTK-Engine
    - amaroK
    - aKregator
    - some admin tools...

- Experimental
  - Kapture
  - NoMachine NX libraries
  - FreeNX (soon)

- Management policy
  - Ensure KDE based applications are well supported in Debian
  - Integrate as many packages as possible in Debian
- Two branches used
  - Unstable
    - Qt-GTK-Engine
    - amaroK
    - aKregator
    - some admin tools...

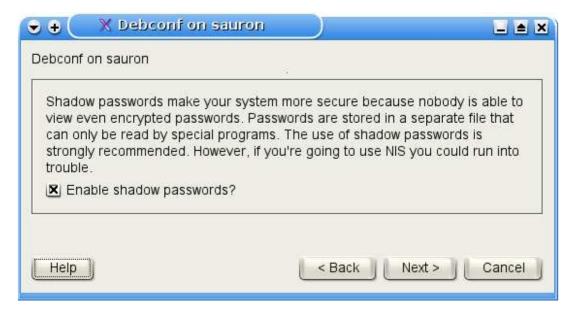
- Experimental
  - Kapture
  - NoMachine NX libraries
  - FreeNX (soon)

Central point for not-yet-in-Debian KDE related packages

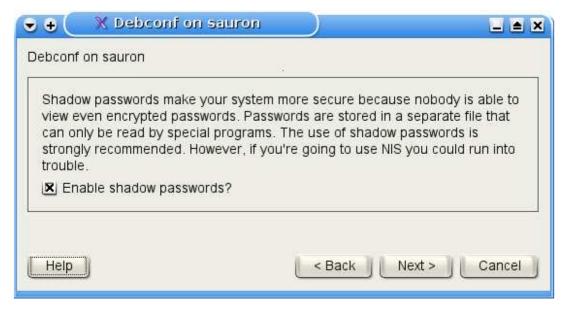


Quick hack in the early KDE-Debian days

- Quick hack in the early KDE-Debian days
- Fully integrated into Debconf in Debian

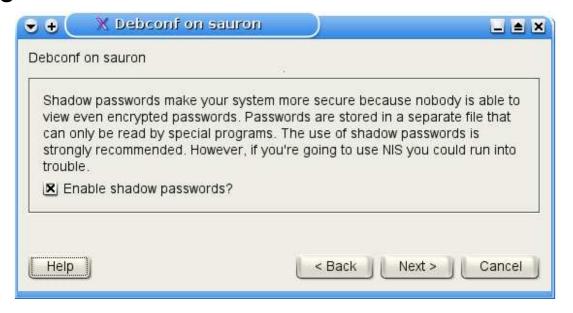


- Quick hack in the early KDE-Debian days
- Fully integrated into Debconf in Debian



- Some more work needed
  - Facelifting
  - Code cleaning

- Quick hack in the early KDE-Debian days
- Fully integrated into Debconf in Debian



- Some more work needed
  - Facelifting
  - Code cleaning
- No impact for the user he can start using it out of the box

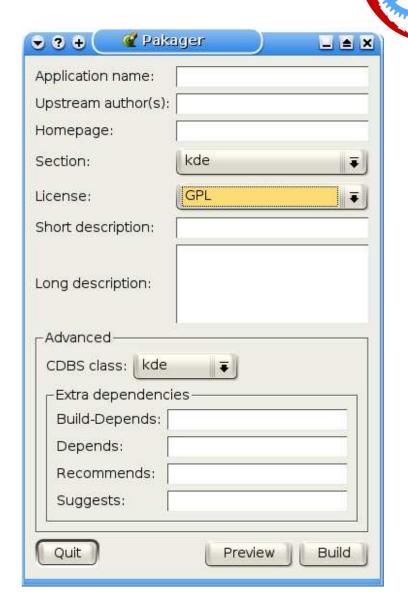


# Goals and Achievements What is being worked on?

GUI frontend / CLI tool

👻 ? 🕂 🥒 📽 Paki	iger ∟ ≜ 🗴
Application name:	
Upstream author(s):	
Homepage:	
Section:	kde ₹
License:	<b>GPL</b> ₹
Short description:	
Long description:	
- Advanced	
CDBS class: kde	
Extra dependencies	
Build-Depends:	
Depends:	
Recommends:	
Suggests:	
Quit Preview Build	

- GUI frontend / CLI tool
- Make the package process easy
- Packagers can win time for the first packaging



- GUI frontend / CLI tool
- Make the package process easy
- Packagers can win time for the first packaging
  - Mostly for packaging applications...
  - ... but provides a good foundation for more complex packaging



- GUI frontend / CLI tool
- Make the package process easy
- Packagers can win time for the first packaging
  - Mostly for packaging applications...
  - ... but provides a good foundation for more complex packaging
- Interaction with KDevelop is planned



- GUI frontend / CLI tool
- Make the package process easy
- Packagers can win time for the first packaging
  - Mostly for packaging applications...
  - but provides a good foundation for more complex packaging
- Interaction with KDevelop is planned
- Easy for regular users too, tailored packages made easy



The package management system with assorted libraries

- The package management system with assorted libraries
- libcapture: frontend-building toolkit

- The package management system with assorted libraries
- libcapture: frontend-building toolkit
- libkapture: set of KDE widgets based on libcapture

- The package management system with assorted libraries
- libcapture: frontend-building toolkit
- libkapture: set of KDE widgets based on libcapture
- The KDE frontends:
  - Kapture
  - Kurrent

- The package management system with assorted libraries
- libcapture: frontend-building toolkit
- libkapture: set of KDE widgets based on libcapture
- The KDE frontends:
  - Kapture
  - Kurrent
- More frontends planned:
  - CLI for command-line freaks and cron magic

# **Kapture overview**

- The package management system with assorted libraries
- libcapture: frontend-building toolkit
- libkapture: set of KDE widgets based on libcapture
- The KDE frontends:
  - Kapture
  - Kurrent
- More frontends planned:
  - CLI for command-line freaks and cron magic
  - More specialized single-task KDE frontends:
    - Single package installer part
    - Minimalistic group-based manager



Builds on top of libapt-pkg

- Builds on top of libapt-pkg
- Toolkit-neutral frontend extensions

- Builds on top of libapt-pkg
- Toolkit-neutral frontend extensions
- Powerful package sorting and filtering



- Builds on top of libapt-pkg
- Toolkit-neutral frontend extensions
- Powerful package sorting and filtering
- Debtags support
  - Multi-faceted package categorization
  - Rich searching semantics
  - Intuitive package searching



- Builds on top of libapt-pkg
- Toolkit-neutral frontend extensions
- Powerful package sorting and filtering
- Debtags support
  - Multi-faceted package categorization
  - Rich searching semantics
  - Intuitive package searching
- Preference tracking system under construction
  - Highly-reliable and robust
  - Multi-agent algorithm employed



- Builds on top of libapt-pkg
- Toolkit-neutral frontend extensions
- Powerful package sorting and filtering
- Debtags support
  - Multi-faceted package categorization
  - Rich searching semantics
  - Intuitive package searching
- Preference tracking system under construction
  - Highly-reliable and robust
  - Multi-agent algorithm employed
- Utility classes for easy UI frontend building:
  - libkapture has less than 2000 LOC



■ Builds on top of libcapture



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture
  - Ready-made, easily pluggable components



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture
  - Ready-made, easily pluggable components
- Complete suite of widgets
  - Package tree views



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture
  - Ready-made, easily pluggable components
- Complete suite of widgets
  - Package tree views
  - Various detailed widgets for single package
  - An aggregate package widget



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture
  - Ready-made, easily pluggable components
- Complete suite of widgets
  - Package tree views
  - Various detailed widgets for single package
  - An aggregate package widget
  - A cache summary/statistic view



- Builds on top of libcapture
- Qt/KDE-specific adaptors for libcapture classes
  - Convenience signal/slot-based interfaces over libcapture
  - Ready-made, easily pluggable components
- Complete suite of widgets
  - Package tree views
  - Various detailed widgets for single package
  - An aggregate package widget
  - A cache summary/statistic view
  - Download and operation progress widgets



- Kapture
  - The tool of power with a comprehensive interface



- Kapture
  - The tool of power with a comprehensive interface
  - Large feature set, designed for power users



- Kapture
  - The tool of power with a comprehensive interface
  - Large feature set, designed for power users
- Kurrent
  - A simple, robust system upgrader



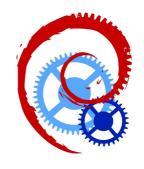
- Kapture
  - The tool of power with a comprehensive interface
  - Large feature set, designed for power users
- Kurrent
  - A simple, robust system upgrader
  - Easy to use and quick to handle





- Kapture
  - The tool of power with a comprehensive interface
  - Large feature set, designed for power users
- Kurrent
  - A simple, robust system upgrader
  - Easy to use and quick to handle
  - Written in under 200 LOC





# Goals and Achievements What is being planned?



■ Requirements and expectations:

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator
  - Be cross-desktop, but avoid some of the trade-offs

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator
  - Be cross-desktop, but avoid some of the trade-offs
- Debconf as a communication and answer-caching layer

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator
  - Be cross-desktop, but avoid some of the trade-offs
- Debconf as a communication and answer-caching layer
- Two frontends
  - Debconf familiar debconf wizards

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator
  - Be cross-desktop, but avoid some of the trade-offs
- Debconf as a communication and answer-caching layer
- Two frontends
  - Debconf familiar debconf wizards
  - Kastconf configlet-like custom UIs

- Requirements and expectations:
  - Reduce work for both Debian and Kalyxo/KaST developers
  - Do not annoy power-administrator
  - Be cross-desktop, but avoid some of the trade-offs
- Debconf as a communication and answer-caching layer
- Two frontends
  - Debconf familiar debconf wizards
  - Kastconf configlet-like custom UIs
- Backend system
  - Bridge config files to frontends
  - Semi-bidirectional



- Debconf
  - The familiar wizard



- Debconf
  - The familiar wizard
  - Invoked at package install time



- Debconf
  - The familiar wizard
  - Invoked at package install time
  - Runs in terminal, KDE or Gnome



- Debconf
  - The familiar wizard
  - Invoked at package install time
  - Runs in terminal, KDE or Gnome
- Kastconf
  - Resembles configlets



- Debconf
  - The familiar wizard
  - Invoked at package install time
  - Runs in terminal, KDE or Gnome
- Kastconf
  - Resembles configlets
  - KDE frontend uses Qt-Designer .ui files



- Debconf
  - The familiar wizard
  - Invoked at package install time
  - Runs in terminal, KDE or Gnome
- Kastconf
  - Resembles configlets
  - KDE frontend uses Qt-Designer .ui files
  - Gnome or curses frontends possible



- Debconf
  - The familiar wizard
  - Invoked at package install time
  - Runs in terminal, KDE or Gnome
- Kastconf
  - Resembles configlets
  - KDE frontend uses Qt-Designer .ui files
  - Gnome or curses frontends possible
  - Driven by extended debconf-like protocol

# **KaST: Frontend logic**



- Requirements:
  - Make writing the logic easy



- Requirements:
  - Make writing the logic easy
  - Shared among different frontends



- Requirements:
  - Make writing the logic easy
  - Shared among different frontends
- Solution: Simple declarative language



- Requirements:
  - Make writing the logic easy
  - Shared among different frontends
- Solution: Simple declarative language
  - High-level UI abstractions



- Requirements:
  - Make writing the logic easy
  - Shared among different frontends
- Solution: Simple declarative language
  - High-level UI abstractions
  - Handles both Debconf and Kastconf transparently
    - Speaks standard debconf protocol to Debconf
    - Extended debconf-like protocol for Kastconf



- Requirements:
  - Make writing the logic easy
  - Shared among different frontends
- Solution: Simple declarative language
  - High-level UI abstractions
  - Handles both Debconf and Kastconf transparently
    - Speaks standard debconf protocol to Debconf
    - Extended debconf-like protocol for Kastconf
  - Compiled into perl or a shell script
  - Result resides in the package .config file



Generic backend library provided

- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms

- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy



- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy
- Parses conffile as good as it can



- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy
- Parses conffile as good as it can
- Rewrites (parts of) the conffile
  - Using the data from user



- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy
- Parses conffile as good as it can
- Rewrites (parts of) the conffile
  - Using the data from user
- Part of respective package



- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy
- Parses conffile as good as it can
- Rewrites (parts of) the conffile
  - Using the data from user
- Part of respective package
- Will be able to reconfigure package safely



- Generic backend library provided
  - Help with parsing conffiles
  - Collection of rewrite and matching algorithms
  - Convenient utilities for backend writers
  - Make backend writing reasonably easy
- Parses conffile as good as it can
- Rewrites (parts of) the conffile
  - Using the data from user
- Part of respective package
- Will be able to reconfigure package safely
  - Guard against stomping over user changes
  - Possibly by comparing checksum with a stored one



■ Finding more sponsors for packages

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers
- Working with others ...
  - Debian Developers

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers
- Working with others ...
  - Debian Developers
    - Qt/KDE Maintainers
    - X strike force

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers
- Working with others ...
  - Debian Developers
    - Qt/KDE Maintainers
    - X strike force
  - Knoppix well-known Live-CD
  - Skolelinux custom distribution for schools

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers
- Working with others ...
  - Debian Developers
    - Qt/KDE Maintainers
    - X strike force
  - Knoppix well-known Live-CD
  - Skolelinux custom distribution for schools
  - Other projects using KDE and Debian

- Finding more sponsors for packages
- More of Kalyxo developers becoming Debian Developers
- Working with others ...
  - Debian Developers
    - Qt/KDE Maintainers
    - X strike force
  - Knoppix well-known Live-CD
  - Skolelinux custom distribution for schools
  - Other projects using KDE and Debian
- ... towards a common KDE/Debian desktop platform

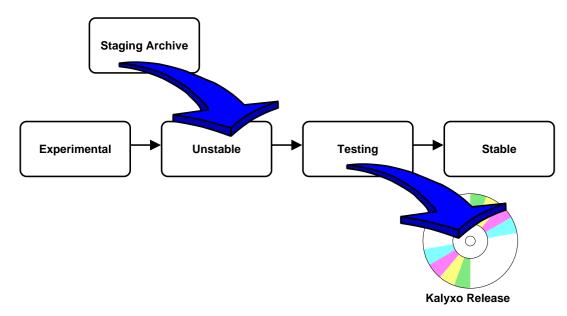


Could be a base for the desktop platform

- Could be a base for the desktop platform
- Based on testing snapshots
  - Time based releases

- Could be a base for the desktop platform
- Based on testing snapshots
  - Time based releases
  - Maintained between two snapshots
    - Bugfixing
    - Security fixes

- Could be a base for the desktop platform
- Based on testing snapshots
  - Time based releases
  - Maintained between two snapshots
    - Bugfixing
    - Security fixes
- Naturally improved by the staging archive work





# **Advantages**

Kalyxo : Linking the worlds - p.20/22

### **Users and Administrators**



- Better destkop experience
  - Handle Hotplug and system events
  - Improve KIO-Slaves accessibility

#### **Users and Administrators**



- Better destkop experience
  - Handle Hotplug and system events
  - Improve KIO-Slaves accessibility
- Easy administration
  - Central third-party archive for KDE applications
  - Graphical tools for common tasks

#### **Users and Administrators**



- Better destkop experience
  - Handle Hotplug and system events
  - Improve KIO-Slaves accessibility
- Easy administration
  - Central third-party archive for KDE applications
  - Graphical tools for common tasks
- Power of Debian beneath the surface
  - Rock solid upgrades
  - High quality packages

# **Developers and Packagers**



Common KDE/Debian platform to develop for

### **Developers and Packagers**



- Common KDE/Debian platform to develop for
- Comprehensive set of tools
  - Easier Debian packaging
  - Full power of KDE development tool chain

### **Developers and Packagers**



- Common KDE/Debian platform to develop for
- Comprehensive set of tools
  - Easier Debian packaging
  - Full power of KDE development tool chain
- First-class sytem integration
  - Transparent when possible (KDebconf)
  - Easier third-party developments