

KDE 3.0

SMALL CAUSE, LARGE EFFECT

When the digit before the decimal point of a version number changes, this usually suggests drastic modifications to the software. KDE 3.0 however proves that this doesn't have to mean that users will hardly recognise their programs any more. The current version change is more like a leisurely step in comparison to the leap from KDE 1.x to 2.x. The change in optics will only immediately catch the eye of the most observant users and apart from this nothing particularly incisive has changed to the technology under the hood. So why the new **major version number**?

From right to left and back again

The intention is that KDE's versioning remains in synch with that of the underlying **GUI Library**. With KDE 3.0, this essentially concerns the porting of KDE 2.2.x to Qt 3.0.x. Now this in itself does not sound particularly mind-blowing, however it has quite interesting consequences: since the support for non-Latin alphabets, as well as **bi-directional representation** has improved in Qt 3, KDE also profits from this.

A KDE 2 application like the KDE control centre on a SuSE 7.2 installation (not intended for the Israeli market) with an imported Hebrew KDE Internationalising Package only outputs question



KDE 3.0, in its release candidate state, was one the stars of the Linux World Expo in New York. Patricia Young takes a closer look at the pre-release versions

marks (Figure 1), whereas the language conversion works perfectly with KDE 3. Not only can Hebrew program labels be surveyed (see Figure 2) without the additional installation of fonts, but also the arrangement of the menus and buttons automatically adapt to the right-to-left reading direction giving a mirror image of what European eyes are used to.

The KDE control panel (bar) however was not obliging (at least in the latest CVS version before

Major version number This is generally defined as the number before the first decimal point of a version specification – in contrast to the “minor version numbers”, which follow thereafter. This main version number normally only changes with large re-organisations and improvements in functionality. If another decimal point follows the minor version number, the number following this usually defines a “maintenance release”, which in theory is only concerned with bug fixes. However, not all projects adhere to this unwritten rule.

GUI Library A collection of source code for elements and graphic user surfaces (buttons, windows, menu bars, dialogs etc.), which programmers have prefabricated and made available as classes. The most common under Linux are GTK+ and Qt.

Bi-directional representation (or “Bidi” for short). There are times within texts written from right to left (such as Hebrew and Arabic), that terms may arise in languages written from left to right (e.g. English or Russian). The writing/representation direction must therefore change for a short while. This is a very demanding and sophisticated function of GUI programming.

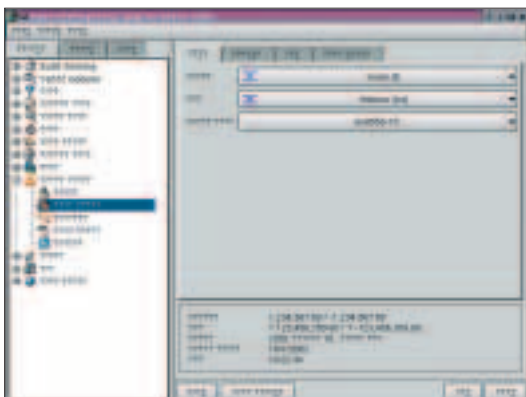
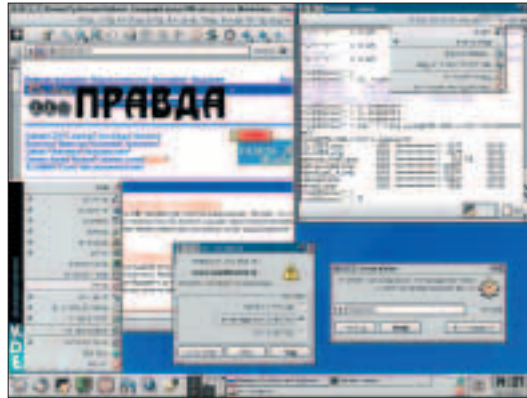


Figure 1: The transfer to Arab or Hebrew is not as simple with KDE 2.x

Figure 2: With KDE 3 however it's a matter of course



going to press), so that the arrows in the mirrored start menu were pointing in the wrong direction.

The fact that KDE 3 so miraculously gets the correct font is due to the reworked QFont **class** in Qt 3. The consequence of this is that the program no longer stubbornly outputs the same old backup symbols (which cover all characters) when it can't find the correct font. Instead of this, it picks the suitable **glyphs** from the available system fonts and even mixes these together if necessary. Letting the old KDE code use the new QFont **API** was thereby one of the most difficult functions of the porting.

New features thanks to Qt

The revised and completely new additions to Qt 3 account for the new features in KDE 3. The desktop environment thus receives, for example, **Xinerama** support without any extra hassle. As well as this, the new Qt 3 class QTextEdit (which already provides a simple Richtext editor) shortens



Class Contains "object-oriented programming" code, with which objects (for example a button, a font or a whole application) can be produced. In order that these very general objects can be individually created (so that they behave differently), they contain class implementation functions, with which the characteristics (properties) of an object (for example its colour) can be modified. Objects can also "do things" (an application can close itself, a button can execute an action), which can also be implemented by the functions (methods) of this class.

Glyph A character from a font.

API Application Programmer's Interface. The answer to the question: "How can a class be used without having to know about the implementation details?" – expressed in a programming language. With C or C++, the API is concealed in a class, normally in the header files with the ending ".h". An API is actually only complete with the appropriate API documentation, which describes what the class and its functions do as well as which function arguments have which meaning etc?

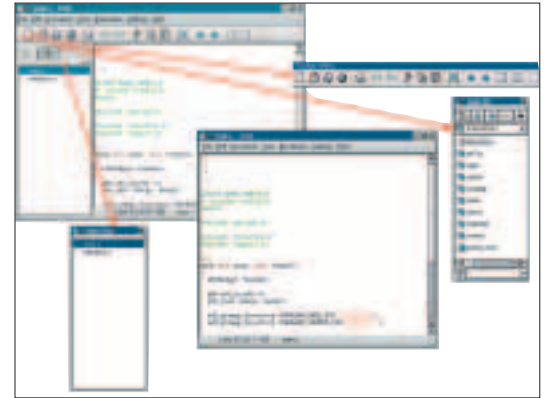


Figure 3: Overloaded main windows can be broken up

the code of several KDE programs. By the way, it is pretty self-evident that the KDE editor Kate is not based on QTextEdit. The new Qt classes that facilitate the access to **SQL databases** don't leave any tracks on the KDE 3 core packages. This is more of an advantage for the KDE programs of other users.

With its new releasable/movable windows, KDE 3 has added a feature, which Qt has had since its version 2.2. If a program window consists of several fragments, then those that have a small bar (as in Figure 3) can be dragged onto the desktop. These independent windows can even be shifted to separate virtual desktops. In particular where several monitors are used, with each one displaying another virtual desktop, you can improve the clarity of control of programs that need as much space as possible for the main window.

Those of you who take the separation of windows too far should take a deep breath – the re-integration of window segments back into the main window requires a steady hand. Shifting the window fragments with the left mouse button, the tip of the cursor must be exactly aligned with an edge of the main window or one of the sub-windows integrated therein.

New applications

The many small and larger bug fixes and detail improvements, which essentially constitute KDE 3,



Figure 4: Edutainment in KDE: Kgeo, Kvoctrain and Ktouch



Figure 5: Pre school with Klettres

do not however hide the fact that the number of applications has not (naturally enough) remained constant. The new core package Kdeedu contains nine learning-software programs – one for every different level. The sensible and very applicable vowel trainer Kvoctrain is extremely useful for users of all levels – pupils and teachers alike – as are the geometry drawing program Kgeo (Figure 4) and the home planetarium Kstars. Pre-school children can learn the letters of the French alphabet with the Klettres–bear (Figure 5), and then practice touch-typing with Ktouch. Using these programs is not always child’s play – the mode of operation of some applications is not self evident without studying the documentation (which is not always available).

Easier operation

At the top of the list of applications that have undergone the most improvement are (next to the mandatory Konqueror) two very different applications: Konsole and Kmail.

The first now also responds to the following command line options: `-tn terminal Typ`, `-- noframe`, `-- noscrollbar` and `nomenubar`. While changing the terminal type (for example on `vt100`), it is possible to do without the shadow around the command line field on a Konsole with a missing frame in order to keep things as simple as possible. This is particularly interesting for people who operate remotely, potentially from machines with other operating systems. This can be switched on again (the same for a missing scroll bar) through the Settings menu item. There is even a quick variation that doesn’t need the menu bar: the key combination of `Ctrl+Alt+M` will do the trick. On the strange side for a program of such a modest range of functions is Konsole’s new “Tip of the day” feature.

Kmail for its part can now read mailboxes in the Maildir format (one email per file, whereby a higher ranking directory represents the mail folder). In particular, this will make fans of the Qmail mail server happy. On the other hand, the **IMAP** problem child

Xinerama: Representation of a virtual desktop on several monitors, whereby windows can be dragged from one to the other. Individual windows can also be situated “on the edge”, i.e. partly on one screen and partly on another (or several others).

SQL database: A collection of data that is stored in the form of tables and can be accessed with the assistance of a Structured Query Language. Examples of Database Management Systems(DBMS) on the SQL basis are `mysql`, `PostgreSQL` and `Oracle`.

IMAP: Internet Message Access Protocol. This is one possible way of accessing emails stored on another computer with an appropriate utility program. From the user’s point of view, it looks as if the mail boxes have been processed locally.

remains just that: we unfortunately could not test the announced improvements in the pre-version as the program constantly crashed when trying to establish a connection with the IMAP server.

Good things come in small packages

The planning list for KDE 3 was long and not everything on that list was implemented. There was originally the idea of an icon server, which was to cache icons during a KDE session, i.e. make icons available that had already been used in an application. The target of this was to accelerate the loading time at the start of an application. However in the course of the discussions, it turned out that the problem could be solved without the use of an additional help program. If icons are only loaded when they are really needed by the application (instead of all at the beginning), this not only speeds up the starting time, but also saves yet another server.

Whether all the new innovations and improvements are interesting enough to warrant a transfer to KDE 3.0 is for each individual user to decide. Several KDE and Qt versions can also peacefully co-exist next to each other if disk space is not a limiting factor. The decision not to put its users through any major changes (apart from transferring to a new library version) is testimony to the fact that the KDE team has become more mature and responsible.

Info

Announcements on the new KDE releases:

<http://www.kde.org/announcements/>

Planned features for KDE 3.0: <http://developer.kde.org/development-versions/kde-3.0-features.html>

Co-existence assistance for KDE 2 and 3: <http://www.pupeno.com.ar/runningkdes/>

<http://www.rons.net.cn/english/FSM/2kde3>

<http://www.kde.org/kde2-and-kde3.html>

KDE 3.0

Supplier	KDE.org
Web	http://www.kde.org
For	Grows community spirit
Against	The benefits aren’t obvious

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