

Presentation to the Linux Supporters Group
Adelaide.

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KDE 4: Forward to the Future. This evening's agenda.

Intro.

Looking back, the History of KDE.

Bit-mapped and Vector graphics.

Looking forward, the future for GUI's.

Demo

Is it ready for Mum? Is it fun?

Questions & Wrap-up.

Looking Back.

1984 RMS began writing GNU for UNIX.

1990 GNU was almost complete.

1991 Linus Torvalds developed a Linux kernel.

1992 GNU + Linux = FOS (but no GUI).

1996 KDE started using Non-free Qt Toolkit.

1997 GNOME started using free S/W.

2000 Qt was rereleased under the GNU GPL
(GNU General Public License)

KDE 1.0 to 3.5

1998 KDE 1.0 was released.

2000-2001 saw the release of KDE 2.0, 2.1, 2.2

Konqueror the Browser & File Manager was included in KDE 2.0

2002-2008 KDE 3.0 to 3.5 released. This series of releases were incremental enhancements of KDE 2.

KDE 4.0 to 4.2.2

2008 saw the release of KDE 4.0, the latest version KDE4.2.2 was released April 2009.

KDE 4 uses the Qt 4 toolkit which supports vector graphics.

Qt 4 will support (alpha) MS Windows and Mac OS X. One of the overall goals of KDE 4 is to be easily portable to the main desktop operating systems.

Dolphin replaces Konqueror as the default file manager in KDE 4.0

Some of the the future challenges for Graphic Interfacing.

High resolution large desktop displays and very large Hi-res projected screens.

Small netbook and very small handheld displays.

Touch Screens.

Ray tracing.

Fast, realistic gaming graphics.

Three dimensional displays.

KDE 4 is being developed to meet **all** these challenges, on all desktops.

The KDE 4 Desktop Environment.

The operating system is currently Linux: (Mac & MS Windows systems are in alpha stage development).

The windowing system is X (aka X11, X server)

X is an application layer on top of the kernel and provides basic I/O interaction (primitives) with video hardware (e.g. frame windows) and accepts input from pointing devices (e.g. mouse), and keyboards..

X was originally designed for Unix/Linux, but can now run on MS Windows using tools such as Cygwin.

Tiling & Stacking Window Managers.

A Windows Manager uses the windowing system to manage the placement and appearance of windows and provides the means by which the user can interact with the windows.

Tiling window managers paint all windows on-screen by placing them side by side or above and below each other, so that no window ever covers another.

Stacking window managers draws each window in a specific order, enabling windows to overlap.

Compositing Window Managers

Compositing window managers allow all windows to be created and drawn separately in memory then composited (fused together) and displayed in various 2D and 3D environments. The heavy lifting is done by the high speed GPU on the graphics card. The most commonly used compositing window managers are

Compiz for Linux,

Quartz Compositor for Mac OS X,

Desktop Window Manager in MS Windows.

Graphics - Rasters and Vectors.

Raster graphics (Bitmaps) is the representation of images as an array of pixels.

Vector graphics is the use of geometrical mathematical equations, to represent images.

Vector & Raster graphics formats are complementary.

Rasters or Vectors?

What is the file size?

Bitmaps large, Vectors small.

What happens when they are resized?

Bitmaps lose quality, Vectors do not.

Summary

Bitmaps for photos,

Vectors for drawings and icons.

What's a Widget?

A widget (or control) is an element of a GUI that displays an information arrangement (e.g. icon, text box, window, toolbar etc.) that is responsive to, or changeable by the user.

A widget toolkit is software kit that provides the desktop programmer with an API (Application Programming Interface) to widget libraries. Each widget facilitates a specific user/computer interaction, and appears as a visible item on the computer's GUI.

The Qt 4 Toolkit.

The Qt 4 toolkit provides the desktop programmer with **vector graphics** based widgets for icons, windows, toolbars, folders, wallpapers, and various desktop decorations.

The Qt 4 toolkit also provides drag and drop functionality and a number of other features.

All this bundled Qt 4 magic is broadly termed Plasma.

What is Plasma?

Plasma is the Qt 4 based **resolution-independent** interface for KDE, making the desktop look identical almost regardless of screen size or resolution.

Plasma's applets are collectively called plasmoids and range from widgets to mini-applications like calculators and dictionaries.

In KDE 4 all panels (taskbars), desktop icons, and widgets etc. are plasmoids.
This aids efficient, fast program development.

Time for a Demo.

The screenshot shows a Windows desktop environment with a scenic waterfall wallpaper. The desktop features several icons, including folders and applications like Firefox and a game. A weather widget is positioned in the upper right, displaying current temperatures and forecasts for Nashville, TN and Indianapolis, IN. The taskbar at the bottom shows several open applications, including a browser and a console.

Desktop Icons:

- BTS.desktop
- BTS.Terrafor ming
- Civ4 Final Frontier
- Civ4 Next War
- Civ 4 Plain des kop
- Firefox
- full_sere en4.png
- knowing- tr2_h10 8op.mov
- monster sysallens -tr2_h1...
- Sid Meier's Civiliza...
- Sid Meier's Civiliza...
- Sid Meier's Civiliza...
- turkey.jp g

Weather Widget:

City	Current Temp	High	Low	Wind	Humidity
Nashville TN	30°	45°	35°	3 mph N	63%
Indianapolis IN	18°	25°	15°	3 mph NNE	67%

Taskbar:

- The Police - Wrapped Around Your
- Konsole
- Australia Day Shortbread - The Tech

System Tray: 09:30

KDE 4: Wrap up - Any Questions?

KDE 4 is a work in progress, it's working towards becoming a Universal Graphics Interface that will work on all of the major desktop OS's using current and future display technologies.

Is KDE 4 ready for Mum? Yes & no. The question should probably be; Is Mum ready for KDE 4?

Is KDE 4 Fun? Yup!! it sure is {:-)

Thank you for your attention, enjoy the rest of the evening.