

EDE - a light desktop environment

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Outline

- Introduction
- Reasons for another desktop
- Standard support & size comparison
- edelib & theming
- Future

Who am I

- EDE maintainer since 2005
- (was) FLTK developer
- Hacking things here and there
- <http://sanelz.blogspot.com>



Reasons for another desktop

- Hard to install: ever tried to install KDE or GNOME from source?
- Bloated
- Requires hardware acceleration :S
- Hard to hack: do you know why plasmoids are crashing so often
- Memory usage: KDE/GNOME/Unity + Firefox/Chrome + Libre Office = **a lot of RAM**

Reasons for another desktop

- Light alternatives:
 - Xfce
 - LXDE
 - RazorQt
- But...
 - Xfce & LXDE built on Gtk+
 - RazorQt built on Qt

Resource usage

- RAM:
 - gtk-demo ~ 3.1 MB
 - qdbusviewer ~7.9 MB
- Disk size:
 - libgtk-3.so ~ 4 MB
 - libgtk-x11-2.0 ~ 4 MB, and where are Pango, Cairo...
 - libQt* ~ 40 MB

Can we have something lighter?

No Qt, no Gtk+, no X API

FLTK

FLTK features

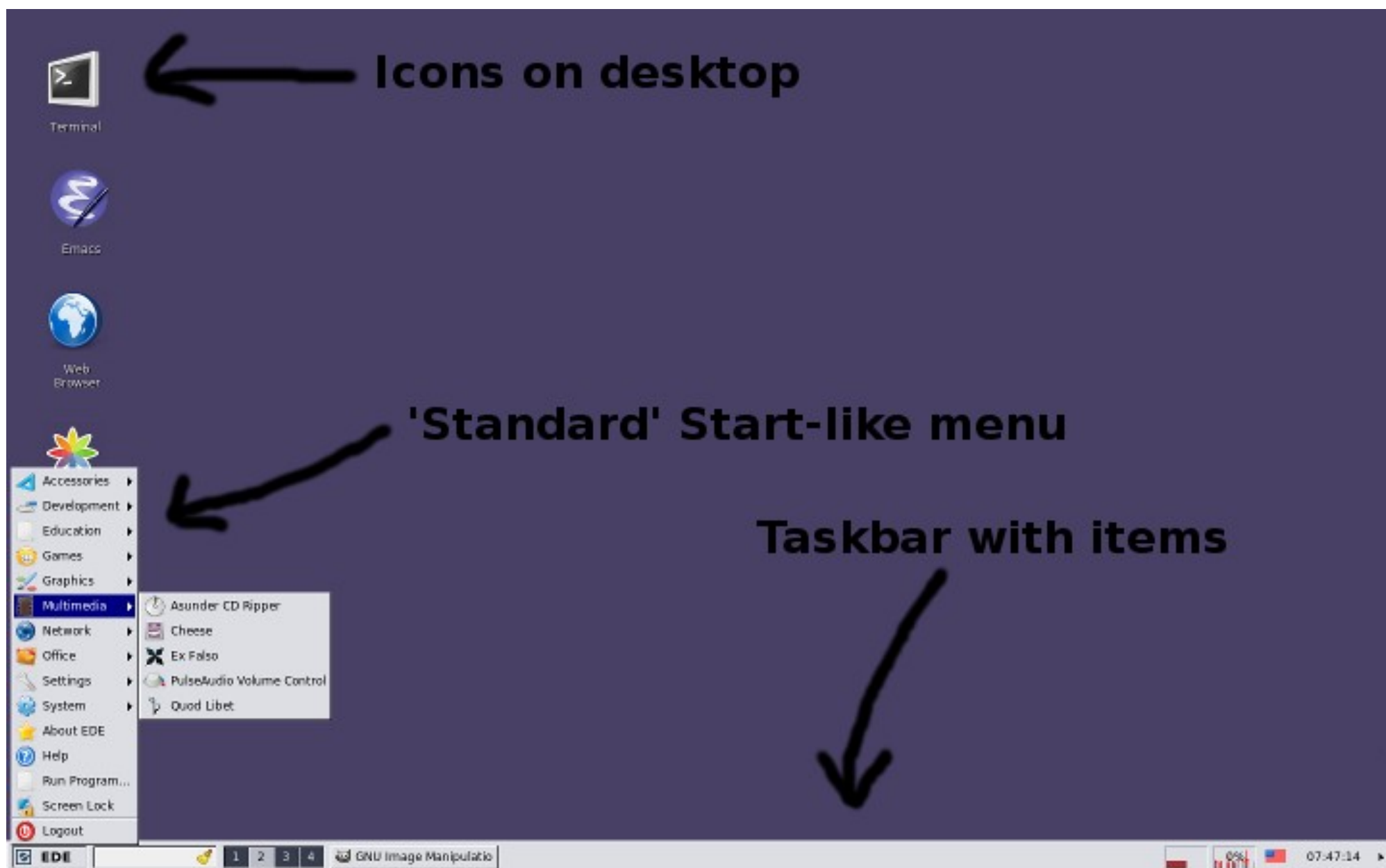
- FLTK (*“fulltick”*) – **F**ast **L**ight **T**ool**K**it
- Light and fast
- Only GUI library; you choose what suites you best
- OpenGL-like stacking API
- Fully asynchronous
- No dependencies, except host API (X, Windows...)
- Portable

FLTK resource usage

- RAM:
 - Fluid, a GUI designer ~ 1.9 MB
- Disk size:
 - libfltk* with debug information ~ 6 MB

Hello EDE

- A desktop environment
- Known concept & look – easy to use
- Small & fast – good for old hardware and devices
- Portable – Minix, Zaurus, Xbox...



“Those who do not want to imitate anything, produce nothing.”

– Salvador Dali

- Features:
 - FLTK powered
 - Dependency diet: X, edelib, FLTK, basic C++ compiler
 - But also can have: DBus, UPower/HAL, Inotify/Gamin...
- Support for
 - Standard window manager hints
 - Icon themes
 - Autostart locations
 - Shared MIME types
 - XDG standard folders & more...

Size comparison

Program	Size in RAM
Desktop with icons	2.1 MB (like systemd)
Panel with plugins	7 MB (like dhclient)
Notification daemon	1.1 MB (like upowerd or rsyslogd)

* all programs compiled with debug information

- How?
 - Done in carefully crafted C++ code
 - No STL and STL based code (except pekwm)
 - No template abuse
 - Prefer C API and C preprocessor
- Result:
 - Works on older compilers
 - Compiles fast
 - Small binaries
 - Can be compiled without RTTI and exceptions

edelib

- FLTK is only GUI library; desktop requires more
- FLTK-like design; asynchronous everywhere!
- FLTK-like widgets:
`Fl_Menu => edelib::Menu` and you get icons from icon theme!
- Themable widgets
- full OO DBus binding
- icon theme API, FLTK widgets, EWMH WM API,... (even own C++ String implementation :D)
- Configurable: you can disable DBus, Gamin/Inotify...
- And full R5RS Scheme implementation

Themes

- No MVC bloat: you write theme and how it will behave
- Themes are also meta-themes: themes for FLTK and EDE on the same place
- Plans to support foreign themes: PekWM themes, icon themes, sound themes
- One language to rule them all: Scheme – code is data and data is code

:: Check if user have installed Tango icon theme and use it.
:: If not, fallback to default 'edeneu'.

```
(theme.name      "demo theme")  
(theme.sample    "preview.jpg")  
(theme.author    "John Doe")
```

:: this is actually a function

```
(defun guess-icon-theme ()  
  "Check if user has Tango icon theme."  
  (if (find-icon-theme "tango")  
      "tango"  
      "edeneu"))
```

```
(theme.style "ede" [  
  foreground_color  "dark slate gray"  
  background_color  "#cccccc"  
  font              "sans 10"  
  icon_theme        (guess-icon-theme) ;; a function call  
])
```

Future

- Light and fast file and web browsers
- Platform independent package manager
- More exposure of internals
- Plan 9-like IPC (9P)
- More Scheme code and more Smalltalk-like features

Thank you!

- <http://edeproject.org>
- <http://edeproject.org/wiki>
- sanelz@gmail.com