

A Brief History of GNOME

GNOME 3.28 Release Party @Xidian University

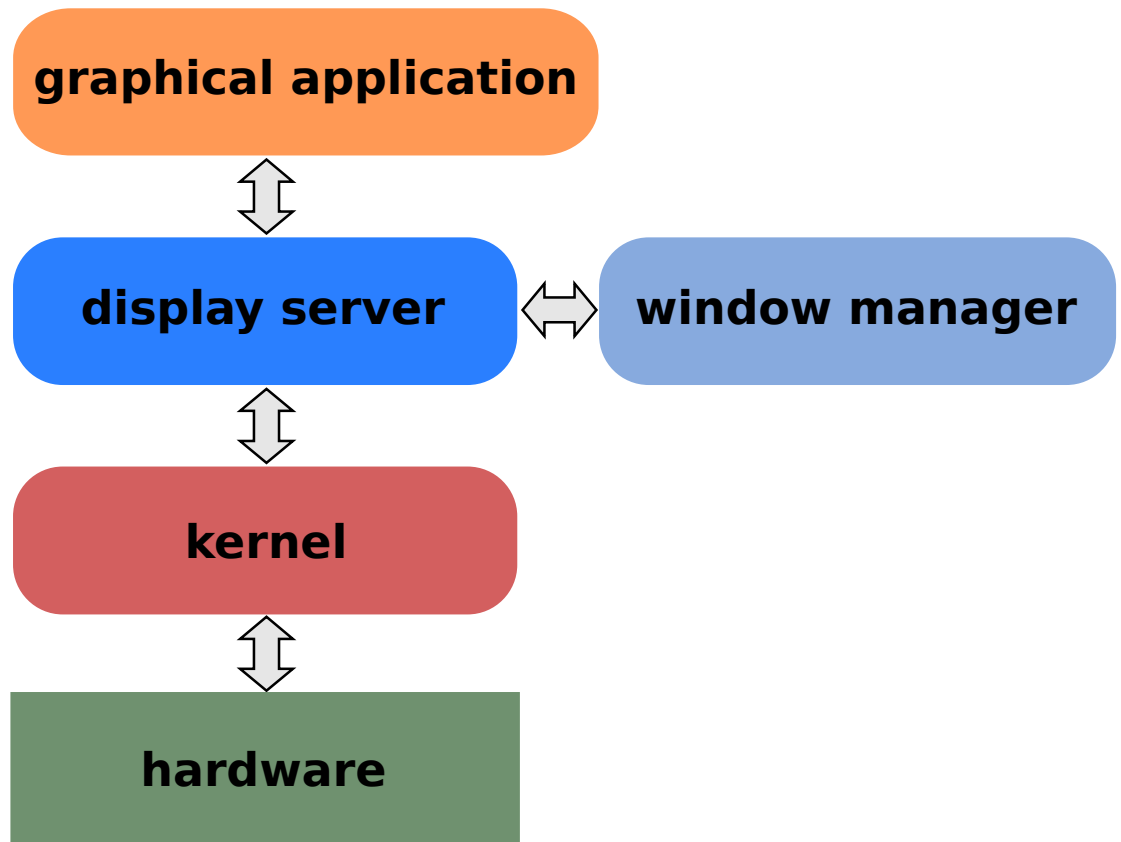
X Window System - 1984

Early graphics system
for Unix systems

MIT Athena Project

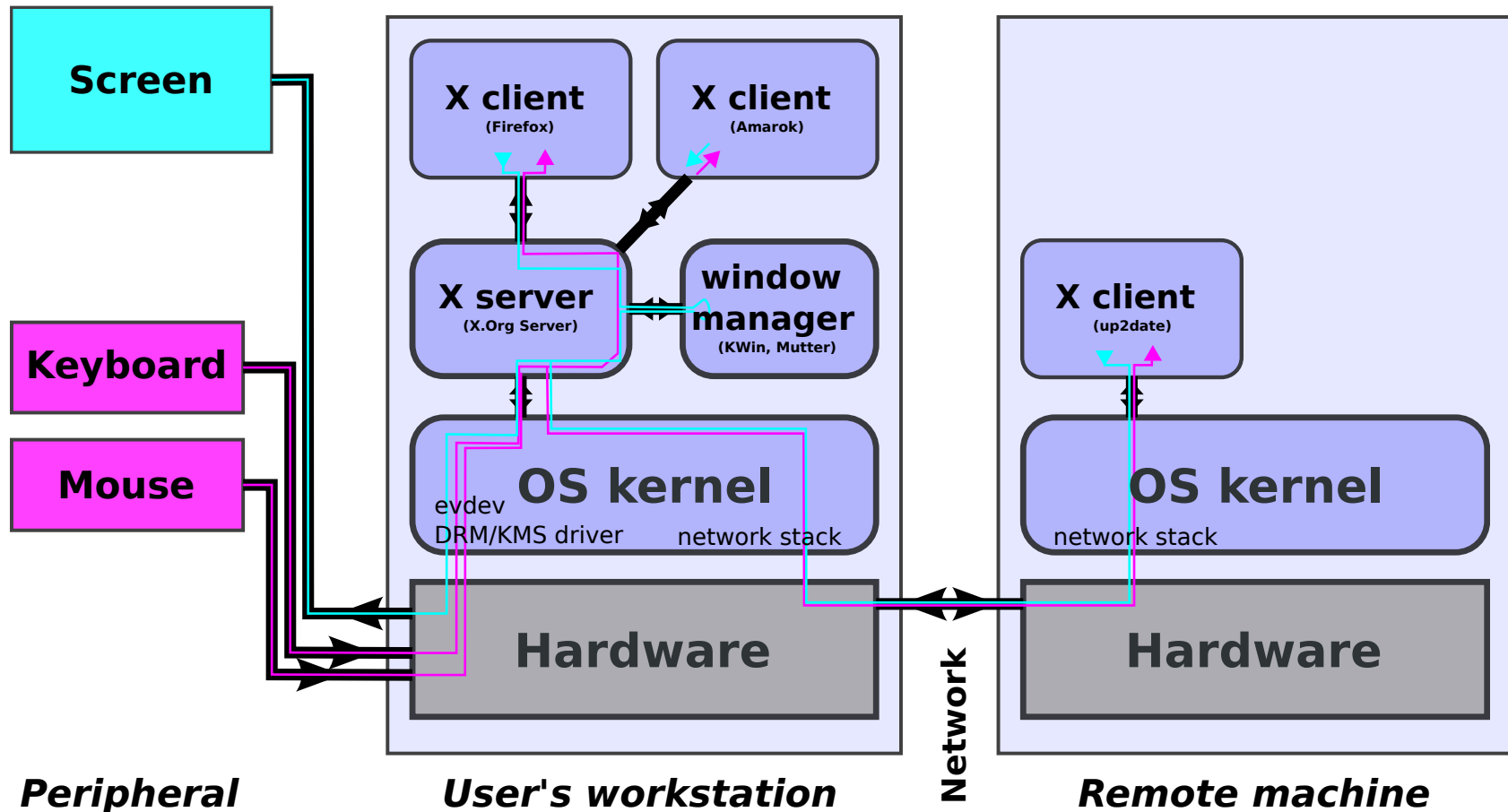
Provide mechanism
rather than policy

Almost 35 years old!



X Window System

The X server manages input and output for even remote clients:



Window Manager

Size

Position

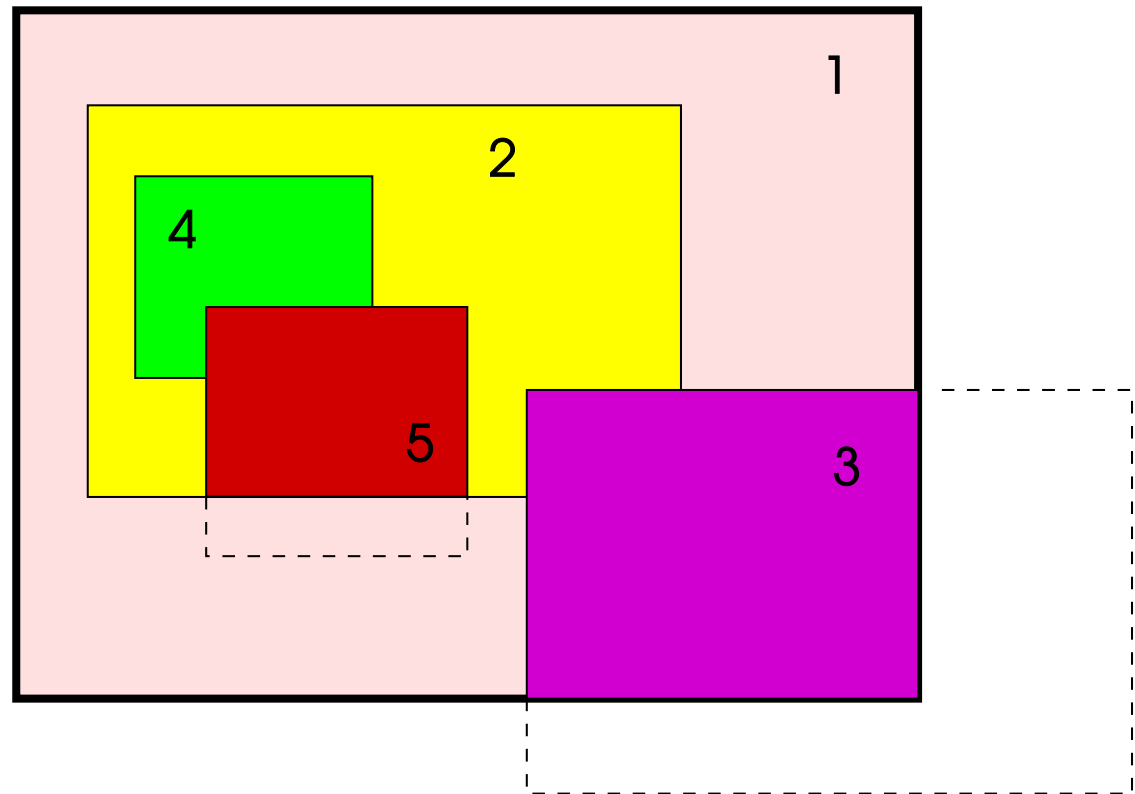
Overlay

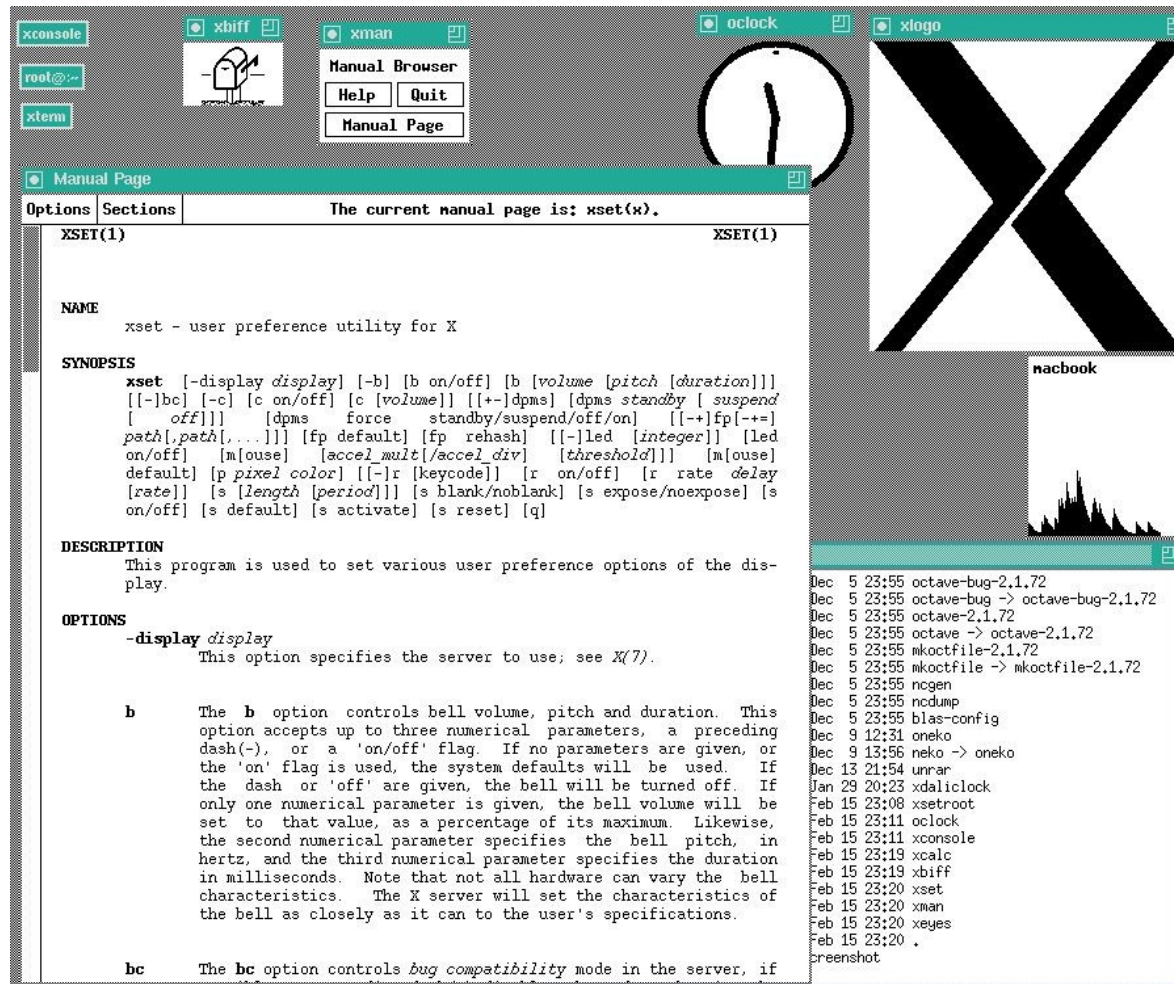
Decoration

Shadow

...

Stacking / Tiling



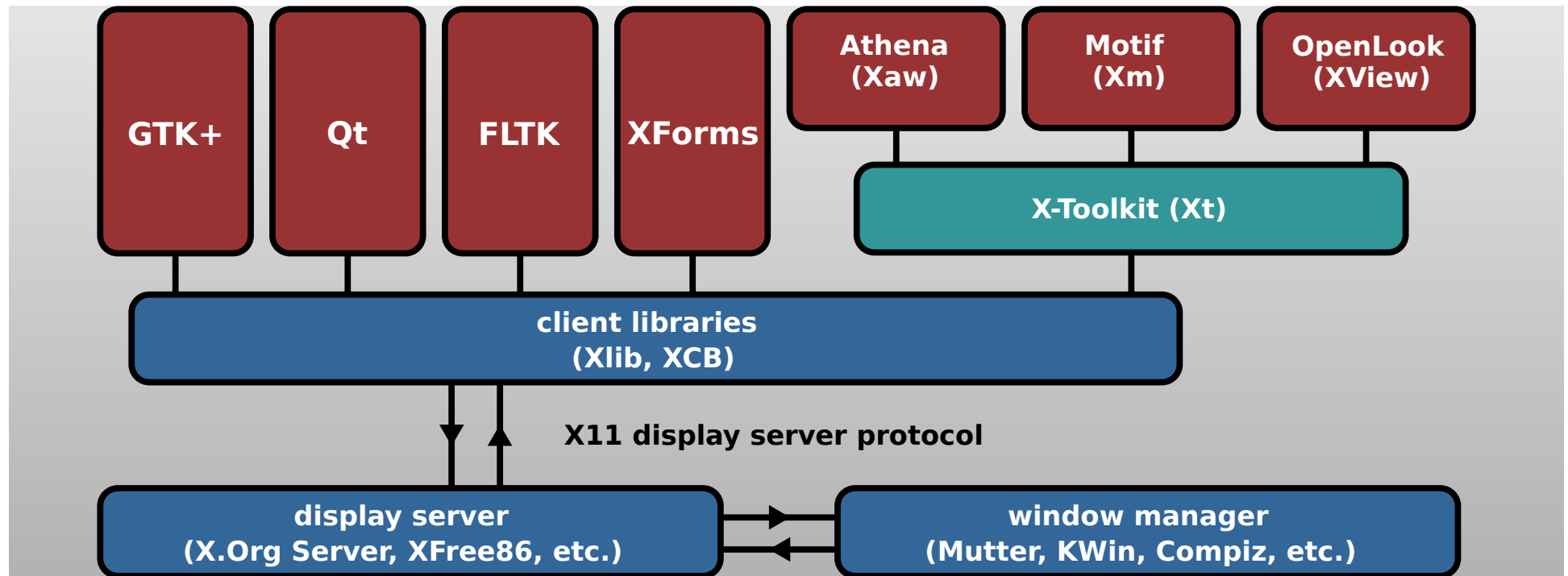


i3wm

```
x.c ("/i3/src) - VIM x200: "
state = state_for_frame(con->frame);
if (state->name != NULL) {
    DLOG("pushing name %s for con %p\n", state->name, con);
    xcb_change_property(conn, XCB_PROP_MODE_REPLACE, con->frame,
        XCB_ATOM_WM_NAME, XCB_ATOM_STRING, 8, strlen(state->name), sta
te->name);
    FREE(state->name);
}
if (con->window == NULL) {
    /* Calculate the height of all window decorations which will be drawn on to
    * this frame. */
    uint32_t max_y = 0, max_height = 0;
    TAILQ_FOREACH(current, &(con->nodes_head), nodes) {
        Rect *dr = &(current->deco_rect);
        if (dr->y >= max_y && dr->height >= max_height) {
            max_y = dr->y;
            max_height = dr->height;
        }
    }
    rect.height = max_y + max_height;
    if (rect.height == 0)
        con->mapped = false;
}
/* reparent the child window (when the window was moved due to a sticky
* container) */
if (state->need_reparent && con->window != NULL) {
    DLOG("Reparenting child window\n");
    /* Temporarily set the event masks to XCB_NONE so that we won't get
    * UnmapNotify events (otherwise the handler would close the container).
    * These events are generated automatically when reparenting. */
    uint32_t values[] = { XCB_NONE };
    xcb_change_window_attributes(conn, state->old_frame, XCB_CW_EVENT_MASK, values);
    xcb_change_window_attributes(conn, con->window->id, XCB_CW_EVENT_MASK, values);
    xcb_reparent_window(conn, con->window->id, con->frame, 0, 0);
    values[0] = FRAME_EVENT_MASK;
    xcb_change_window_attributes(conn, state->old_frame, XCB_CW_EVENT_MASK, values);
    values[0] = CHILD_EVENT_MASK;
    xcb_change_window_attributes(conn, con->window->id, XCB_CW_EVENT_MASK, values);
    state->old_frame = XCB_NONE;
    state->need_reparent = false;
    con->ignore_unmap++;
    DLOG("ignore_unmap for reparenting of con %p (win 0x%08x) is now %d\n",
        con, con->window->id, con->ignore_unmap);
}
bool fake_notify = false;
/* Set new position if rect changed (and if height > 0) */
src/x.c 540,57 542
9 2001:2388:100e:23:1af:16ff:fe1a:f5b8 | 5.1 GB | W: down | E: 192.168.1.42 (1000 Mbit/s) | FULL 77.49% [ @ ] | 2012-01-02 14:46:00
x200: "
michael 22806 20 0 0.0 0.8 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 22811 20 0 0.0 0.9 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 22816 20 0 0.0 0.5 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 22821 20 0 0.0 0.4 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 9086 20 0 0.0 0.8 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 30817 20 0 0.7 0.6 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 30862 20 0 1.1 0.6 \_ /home/michael/chrome-linux/chrome --type=renderer
michael 23869 20 0 0.0 0.0 /usr/lib/gvfs/gvfs-gdu-volume-monitor
root 23871 20 0 0.0 0.0 /usr/lib/udisks/udisks-daemon
root 23872 20 0 0.0 0.0 \_ udisks-daemon: not polling any devices
michael 29145 20 0 0.0 0.0 i3bar --bar_id=bar-greyhc --socket=/run/user/michael/i3/i
michael 29146 20 0 0.0 0.0 \_ i3status
michael 30654 20 0 0.0 0.0 kdeinit4: kdeinit4 Running...
michael 30656 20 0 0.0 0.1 \_ kdeinit4: klauncher [kdeinit] --fd=8
michael 30667 20 0 0.0 0.1 \_ /usr/lib/kde4/libexec/kio_http_cache_cleaner
michael 30658 20 0 0.0 0.2 kdeinit4: kded4 [kdeinit]
root 788 20 0 0.0 0.0 /usr/lib/postfix/master
postfix 26197 20 0 0.0 0.0 \_ qmgr -l -t fifo -u
postfix 28505 20 0 0.0 0.0 \_ tlsmgr -l -t unix -u
postfix 29500 20 0 0.0 0.0 \_ pickup -l -t fifo -u
michael 2177 20 0 0.0 0.0 /usr/lib/gvfs/gvfsd-metadata
michael 8777 20 0 0.0 0.1 /usr/lib/notification-daemon/notification-daemon
michael 11242 20 0 0.0 0.1 urxvt -name cmus
michael 11248 20 0 0.0 0.0 \_ zsh
michael 11282 20 0 0.0 0.1 \_ cmus
root 27661 20 0 0.0 0.0 /usr/sbin/acpid -f
root 28264 20 0 27.8 0.0 /usr/sbin/bacula-fd -c /etc/bacula/bacula-fd.conf -f
michael ~ #
x200: scrot ohai_wikipedia.png
michael /tmp $ scrot ohai_wikipedia.png
```

Widget Library (Toolkits)

menus, buttons, scrollbars, ...



GIMP - 1995

GNU Image Manipulation Program.

Inspired by Photoshop, started at Berkeley.

Fully **free software** except for Motif as the underlying widget toolkit

Led to GTK+ being created
GTK (GIMP Toolkit) → GTK+



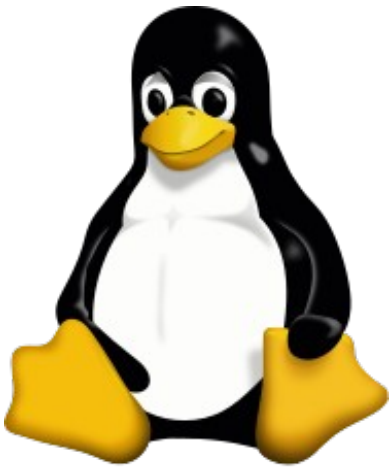
Free Software Movement - 1983

GNU – a free Unix-like operating system

Founded by *Richard Stallman* in 1983

Software Freedom

GPL (General Public License)



Linux – a kernel created by *Linus Torvalds*

v0.12 released under GPL in 1992

X + GNU + Linux

Desktop Environment

Problem: *None of the applications looked, felt, or worked alike.*

Solution: *Create a desktop environment.*

Window Manager

File Manager

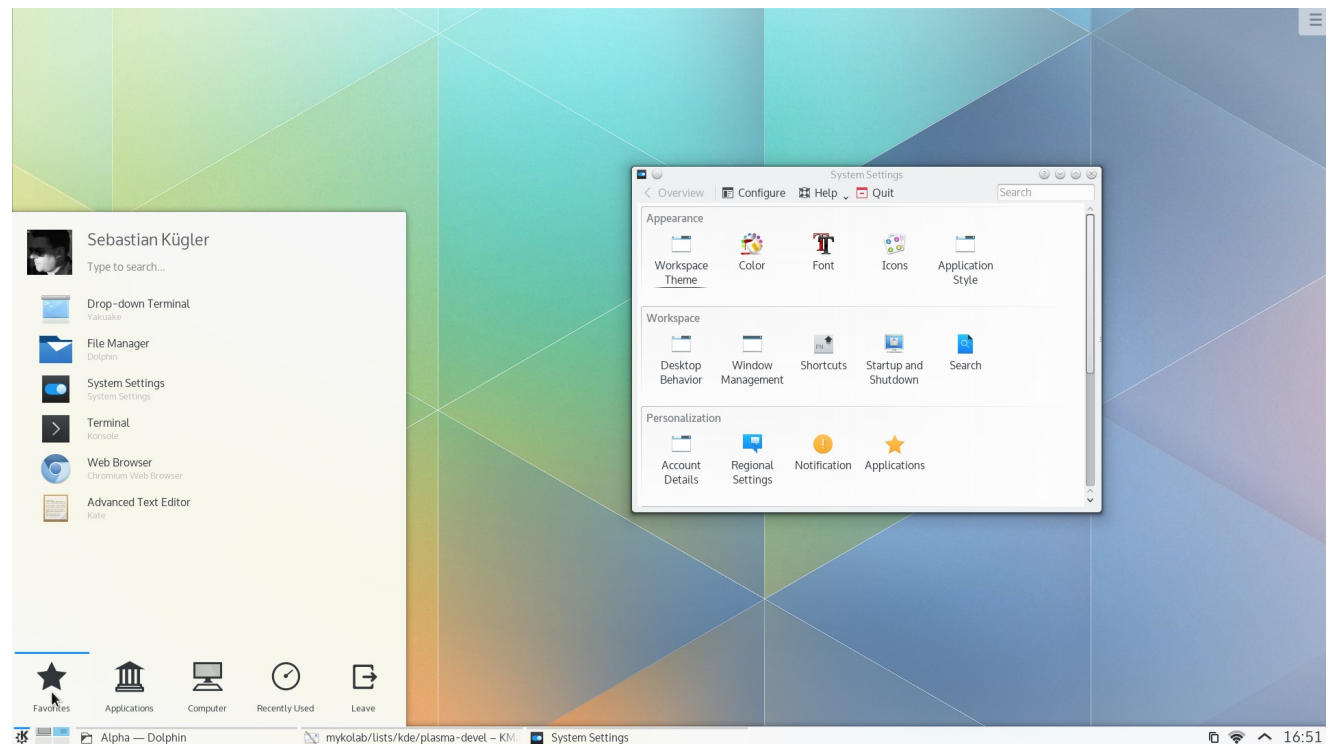
Panel

Utilities

Applications

...

Toolkit



KDE - 1996

Founded by *Matthias Ettrich*

Goal: make this desktop easy to use.

Free Software code as the core desktop.
Based on Qt as the underlying widget toolkit.



It is amazing, but ...

Qt was not Free Software

GNOME - 1997

The GNOME Desktop project
(GNU Network Object Model
Environment)

<http://bananoid.nuclecu.unam.mx/gnome>

Goals:

We want to develop a free and complete set of user friendly applications and desktop tools, similar to CDE and KDE but based entirely on free software....



GNOME vs KDE

Massive fight breaks out across the Linux scene:

C vs. C++

GTK+ vs. Qt

Hackers vs. Corporate

America vs. Germany

Cats vs. Dogs

...

People thought only one could survive.

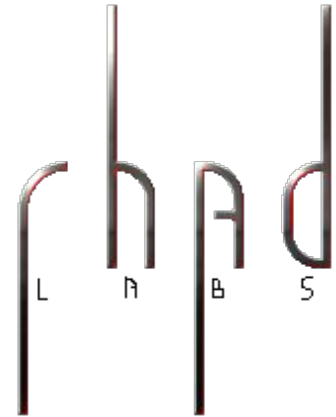
1998

RHAD Labs formed at Red Hat

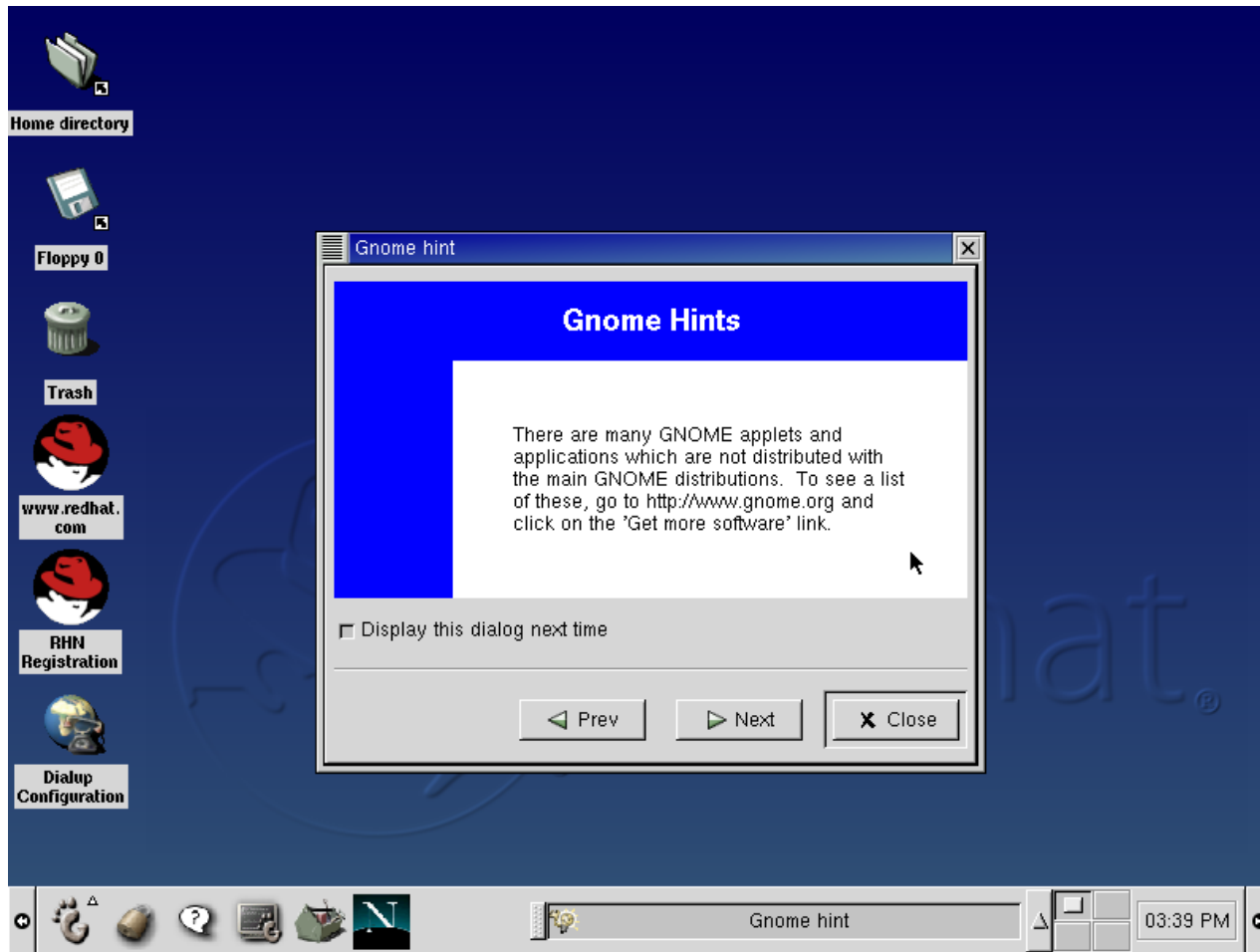
Red Hat Advanced Development Labs

Qt relicenses to the QPL

“In theory it changed everything.
In practice it changed nothing...”



GNOME 1.0 - 1999



Released at Linux Expo

“Barely worked.
Everything crashed.”

2000

GNOME Foundation

Initial members:

Compaq, Eazel, Helix Code, IBM, Red Hat,
Sun Microsystems, VA Linux

GUADEC

(GNOME Users And Developers European Conference)
Where the project gets together to recharge and renew.

GNOME 1.2 - 2000



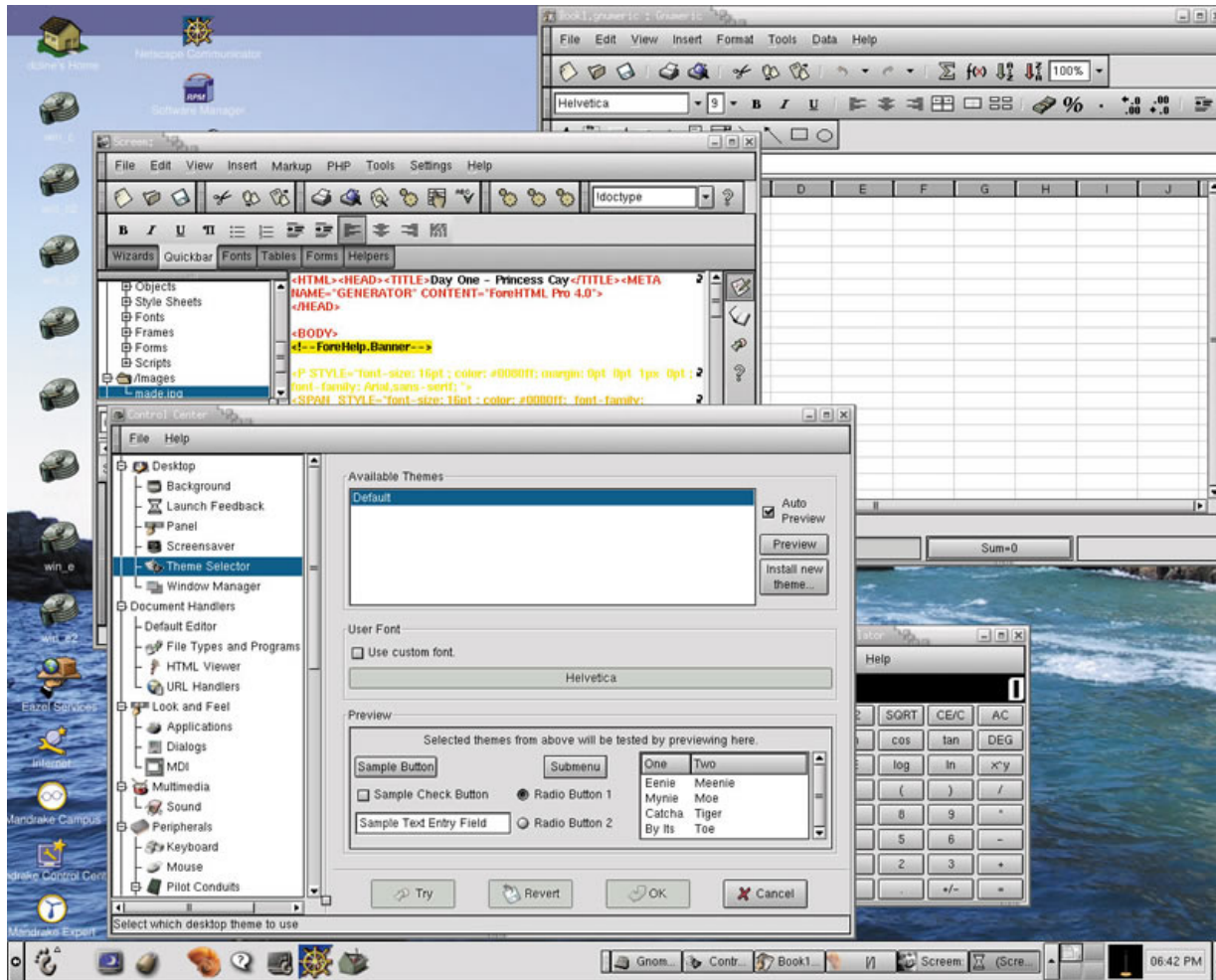
Default panel layout

Text editor (gedit)

Sound daemon
(esound)

“It mostly worked”

GNOME 1.4 - 2001



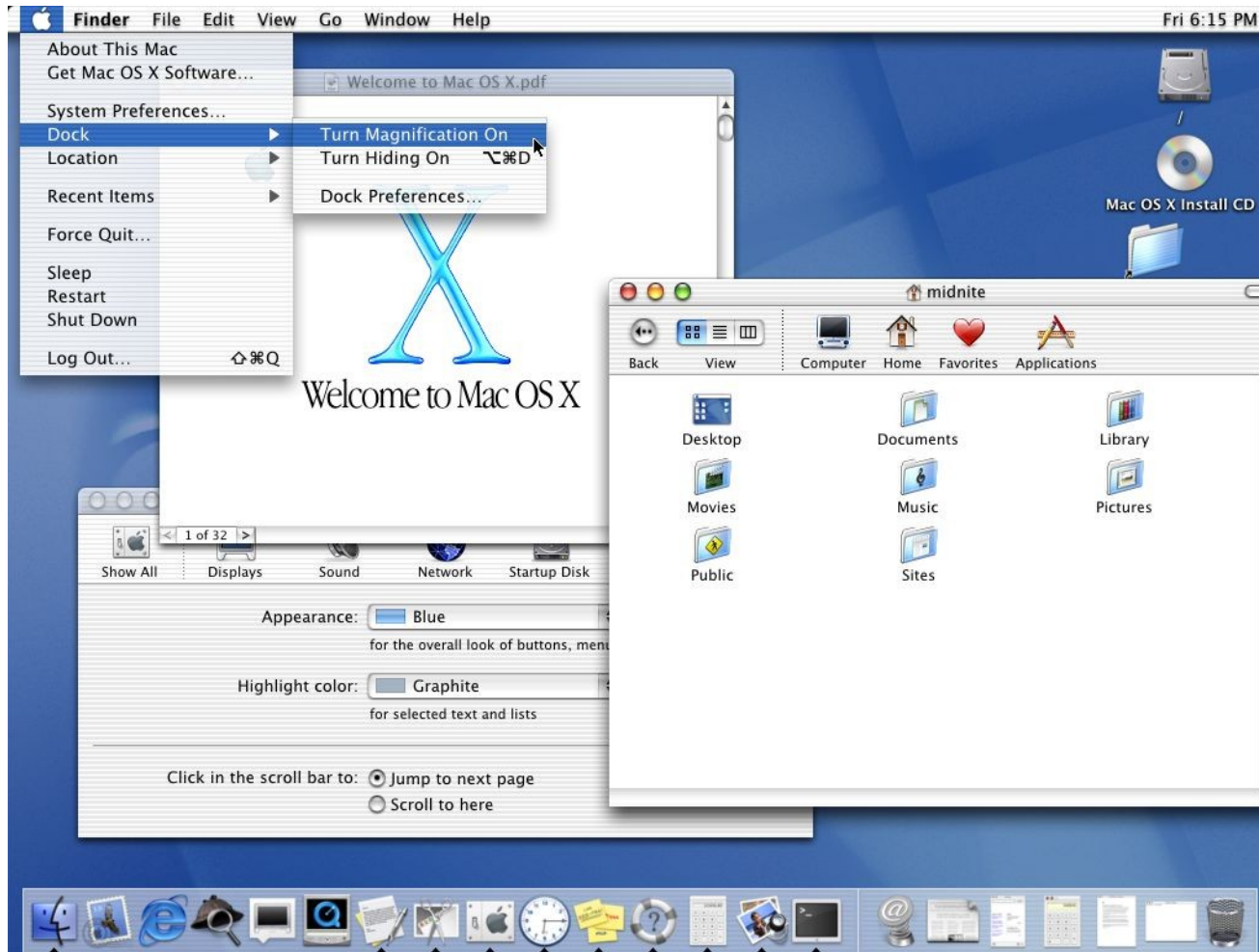
File Manager
(nautilus)

System Monitor
(gtop)

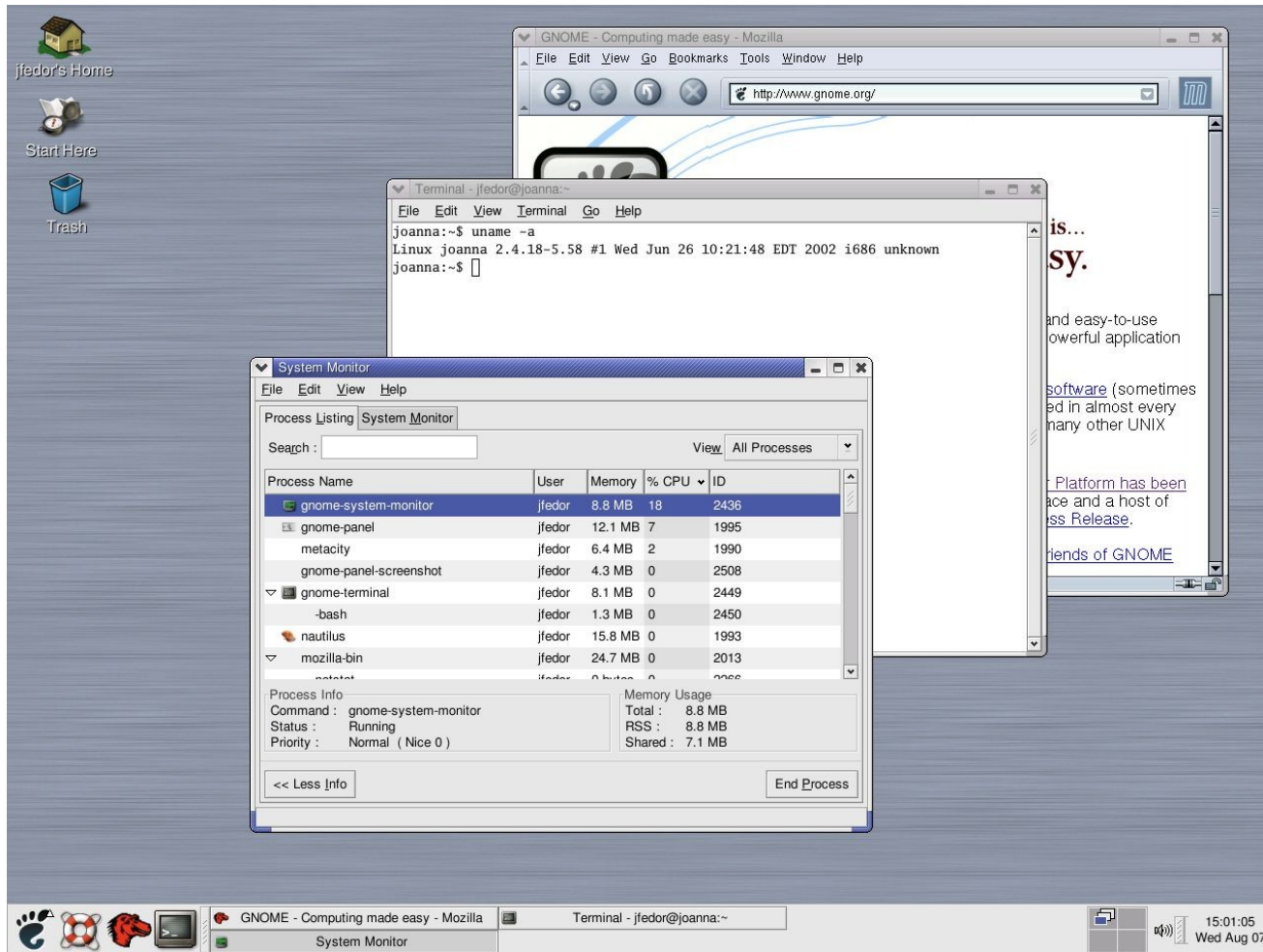
System updater

system-wide
settings (gconf)

OS X 10.0 - 2001



GNOME 2.0 - 2002



GTK+ 2

Human Interface Guidelines

Consistency over Configurability.

Rejected by many existing users.

Time-based release

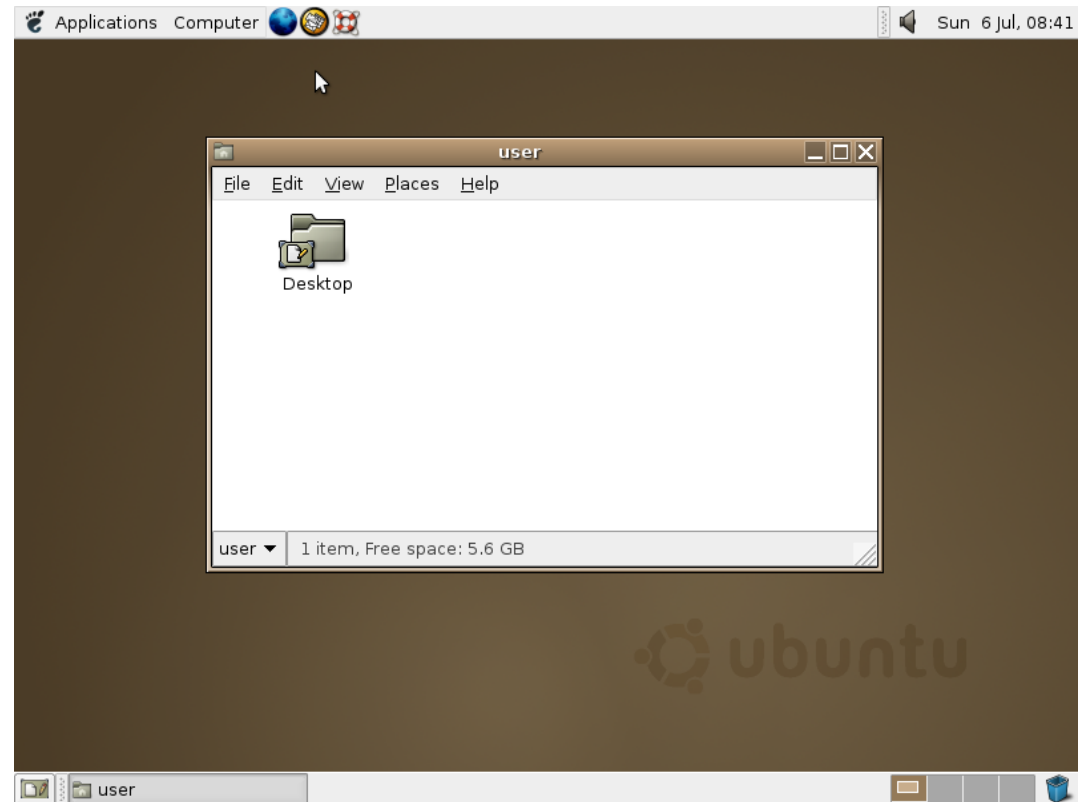
Ubuntu - 2004

Ubuntu 4.10 shipped with
GNOME 2.8

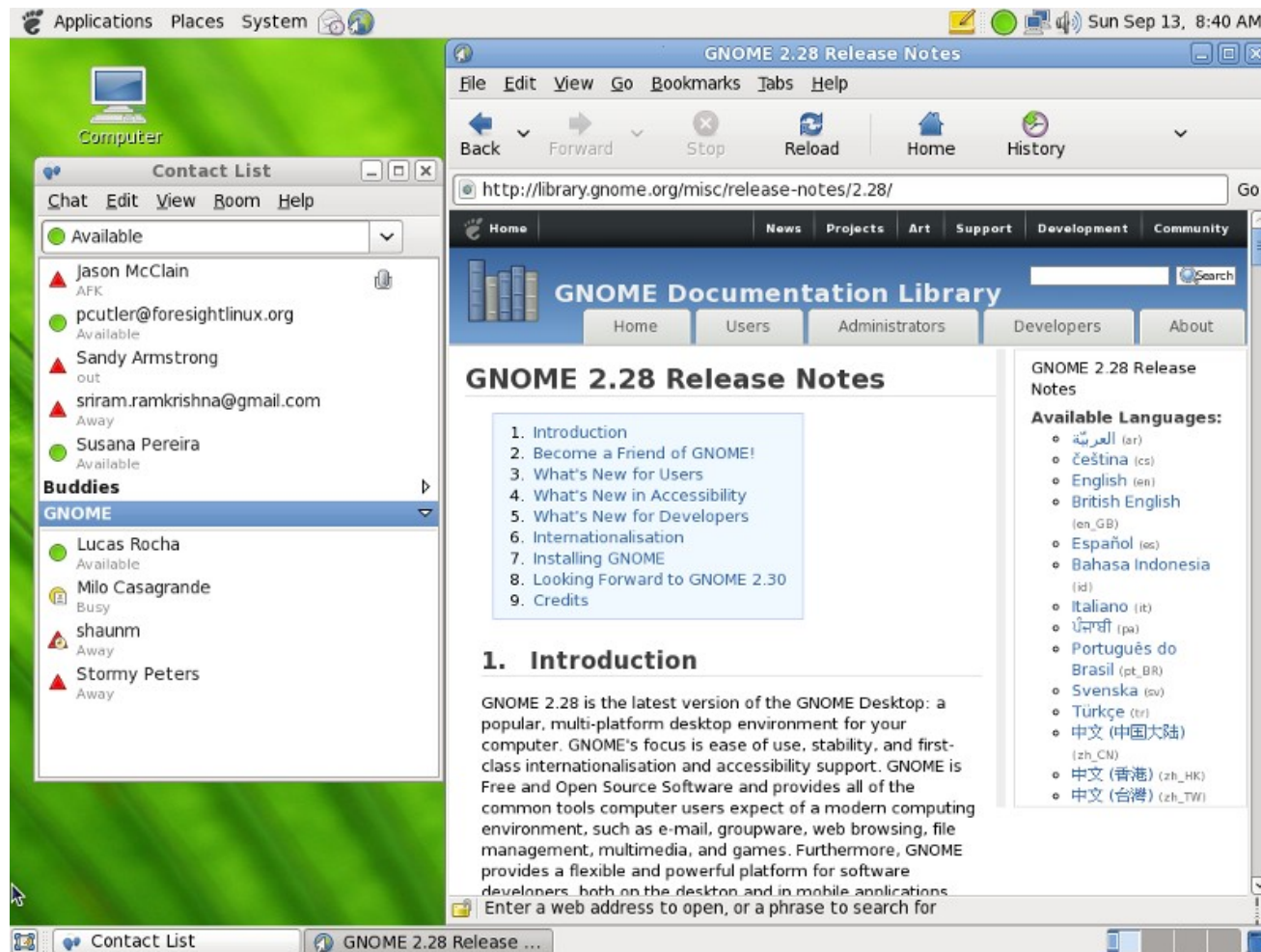
Based on Debian

Focused on desktop
User-friendly

Drove GNOME 2.x to a
dominant position



GNOME 2.28 - 2009



Planning for GNOME 3 - 2009



PC, phone, tablets, 2-in-1 devices, ...
Touch screen

Shell / Unity split - 2010

Disagreement in user experience

Red Hat vs. Canonical

Shell vs. Unity

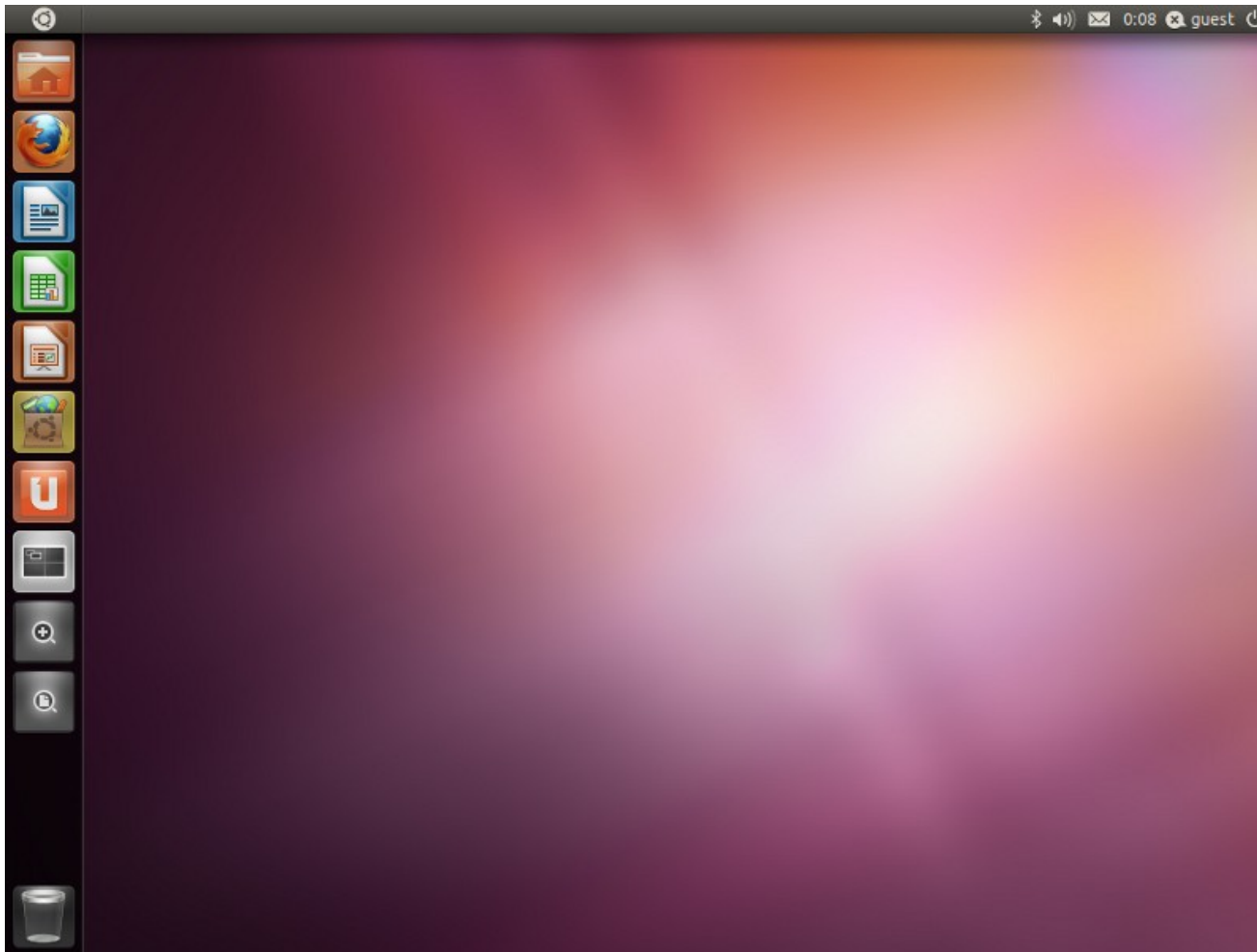
Wayland vs. Mir



Communities split, people
choose sides again



Unity - 2011



Ubuntu 11.04

Unity is not a DE,
but a shell on
GNOME stack

GNOME 3.0 - 2011

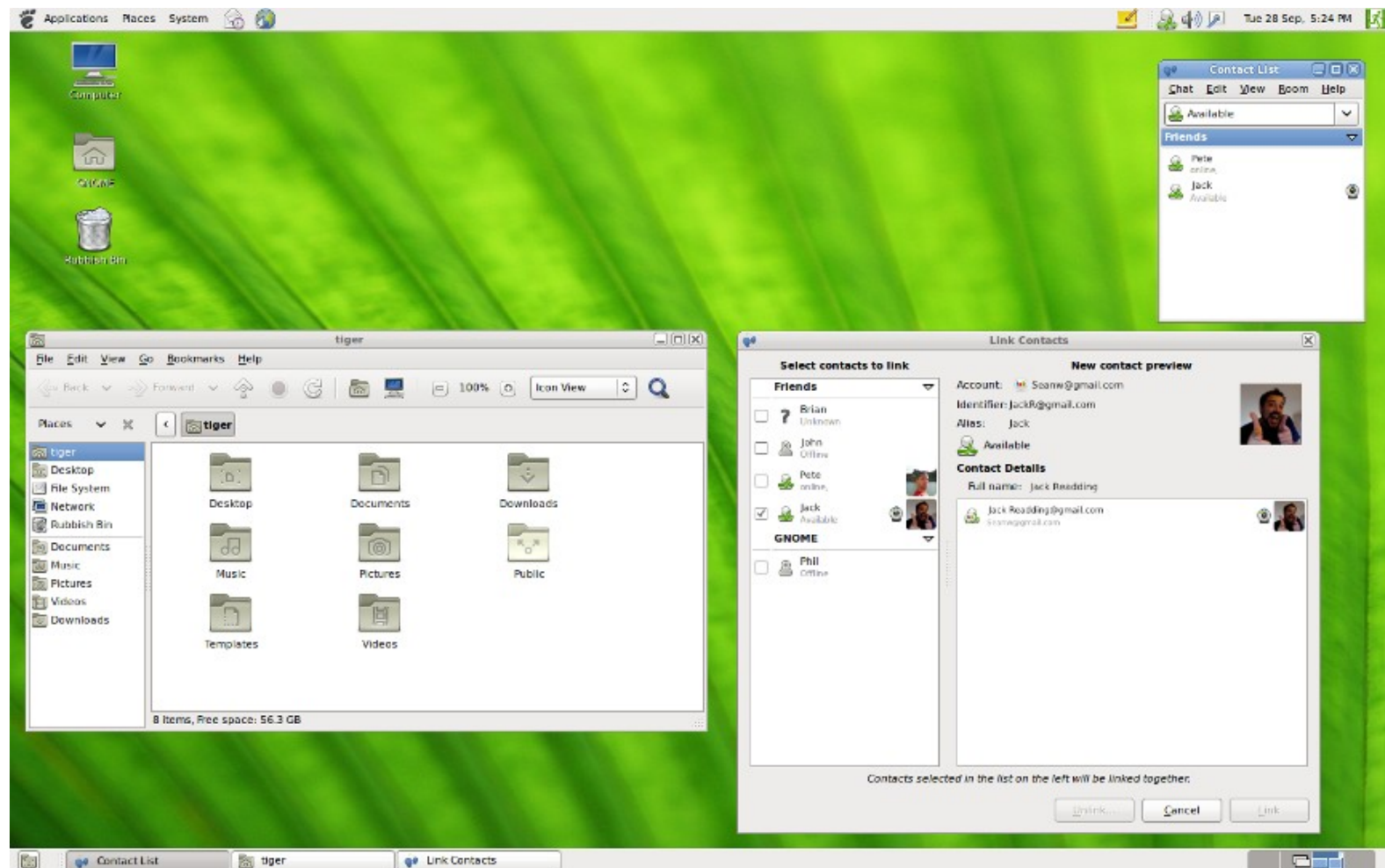


GTK+ 3

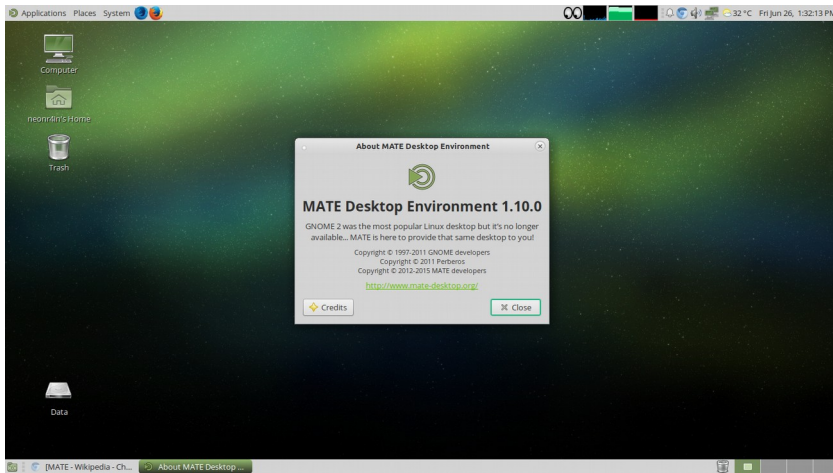
Shell replaced Panel

Rejected by many existing users.

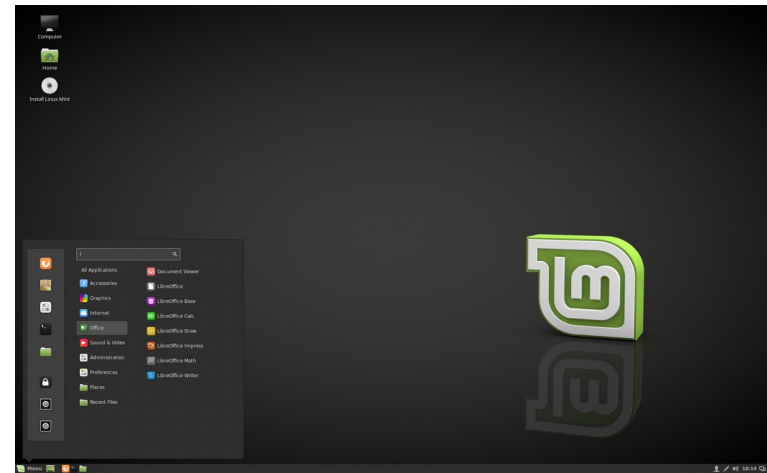
GNOME 2.32 - 2010



MATE / Cinnamon - 2011



Forked from GNOME 2
Supported by Ubuntu MATE
and Linux Mint



Forked from GNOME 3
Developed by Linux Mint

2013 - 2017

Extensions!

Thousands of tweaks,
refinements,
and polish fixes.

GNOME Applications

Flatpak and FlatHub



Reunion - 2017

Growing Ubuntu for cloud and IoT, rather than phone and convergence



Canonical

on 5 April 2017

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This is a post by Mark Shuttleworth, Founder of Ubuntu and Canonical

We are wrapping up an excellent quarter and an excellent year for the company, with performance in many teams and products that we can be proud of. As we head into the new fiscal year, it's appropriate to reassess each of our initiatives. I'm writing to let you know that we will end our investment in Unity8, the phone and convergence shell. We will shift our default Ubuntu desktop back to GNOME for Ubuntu 18.04 LTS.

I'd like to emphasise our ongoing passion for, investment in, and commitment to, the Ubuntu desktop that millions rely on. We will continue to produce the

Talk to us today 

Interested in running Ubuntu Desktop
in your organisation?

GNOME 3.28 “Chongqing” – 2018.3.14



GNOME 3.28 – New Features

Video

<https://www.youtube.com/watch?v=g9SJEdBekI4>

How to get GNOME 3.28

Arch Linux

```
sudo pacman -Sy gnome
```

Debian

Upgrade to unstable or testing, and wait patiently.

Ubuntu

Ubuntu 18.04 LTS will be released in April,
which features GNOME 3.28 as the default desktop.

Fedora

Fedora 28 will be released in May (hopefully).

...

Questions and Answers

Q&A?

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参考了 Jonathan Blandford <jrb@gnome.org> 发布的
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