

TALUG Meeting Notes

May 19, 2007

Desktop Environments: Presented by David Sunshine

X Window System

The X Window System (often abbreviated X11 or simply X) is a display protocol which allows for a graphical user interface. X11 is the basis on which GUI environments are built in Linux / BSD / Unix systems. X11 is released as free software under the MIT license. X11 is network transparent, in that it allows X sessions via ssh.

Most distributions have switched from Xfree86 to X.org

Setting Up X11

In this section, the following topics were covered:

- X11 will not auto-detect your video card memory.
- X11 is not a window manager. Launching X without specifying a window manager will not allow you to do anything. Use Ctrl-Alt-Del to exit.
- Configuration of X11 happens in the `xorg.conf` file.
- Modes (screen resolutions) need to be entered in descending order.
- VideoRam (Don't edit video card name, as it appears in multiple places) Need to enter size in kb.
- Refresh rates for horizontal and vertical. Most newer monitors have a safety feature that will not allow damage to occur if resolution is too high.

Running X11

In order to start X, run the following command: `startx` however, first the window manager needs to be specified in the `.xinitrc` file.

Topics Covered:

- X11 comes with XDM, GDM, KDM as graphical launchers.
- Graphical login can be enabled or disabled.
- If you get in trouble, Ctrl-Alt-F1 will switch back to terminal.
- The system resource footprint of various window managers are *very* different. See compile times chart in the presentation.

Focusing on Lightweight Window Mangers

In this section, there was a demo of several window managers, as well as an explanation on how to set them up. Lightweight window managers have the benefit of using simple, understandable plain text configuration files, rather than the complicated configuration files of Gnome and KDE.

XFCE

- XFCE is the heaviest of the lightweight desktops reviewed.
- Features a graphical configuration program.
- Features desktop icons.
- Features a nice right click menu.

Fluxbox

- Fluxbox is lighter-weight than XFCE.
- Fluxbox features an alt-tab window switcher.
- Fluxbox needs to be configured via plain text config files.
- Right click menu can be edited using the format `[exec] (name) {program}`
- `.xinitrc` (Can be used with any window manager) Calls out commands that will be run when starting. For example `xset b off` to disable the annoying terminal beep.
- Window manager has to be the last line of `.xinitrc`

Blackbox

- Blackbox is lighter-weight than Fluxbox.
- Navigation is accomplished via right click menu.
- `Ctrl Alt +/-` will cycle through screen resolutions. (Works in *any* X session)

Rat Poison

- Extremely small / lightweight. Super hardcore.
- No mouse support.
- `Ctrl t ?` is help menu.
- `Ctrl Alt Backspace` is exit.
- Very minimalistic.

Configuring X11

- Run `X -configure` to automatically configure X.
- This command launches X and probes, then quits. Creates `/root/xorg.conf`
- Sets most things up. However, some things still need to be set up by hand.
- Need to add screen resolutions.
- Need to add horizontal and vertical refresh rates
- Need to set depth (defaults to 1)
- This configuration can be tested by running `x -config`

- `Ctrl alt backspace` exits the test.
- Assuming all goes well, copy and paste the newly configured Xorg file to `/etc/X11/xorg.conf`
- Fluxbox and Blackbox can use a graphical configuration add-on to set themes.

Favorite Programs Within X11

- `xkill` – Mouse cursor is replaced by skull and crossbones, next thing you click is killed. Instantly. Permanently.
- `xman` – Graphical manual browser, single click manual viewing.
- `xclock` – Simple graphical clock.
- `xcalc` – Simple graphical calculator.
- `xeyes` – Probably the best program ever. Works best when backgrounded and run 20x times, or with `-geometry 800x600` option.
- `xmag` – Magnifies any area of screen.

Options

- `display` – Uses local display by default.
- `geometry` – Tell X what size window to open.
- `fg` – Frontground color.
- `bg` – Background color.

These programs and options can be called out in the `.xinitrc` file and will be run every time the window manager starts.

Joke Provided By Adam Shea

Q: How many computer programmers does it take to change a light bulb?

A: None. It's a hardware problem.

Meeting Adjourned