xmonad

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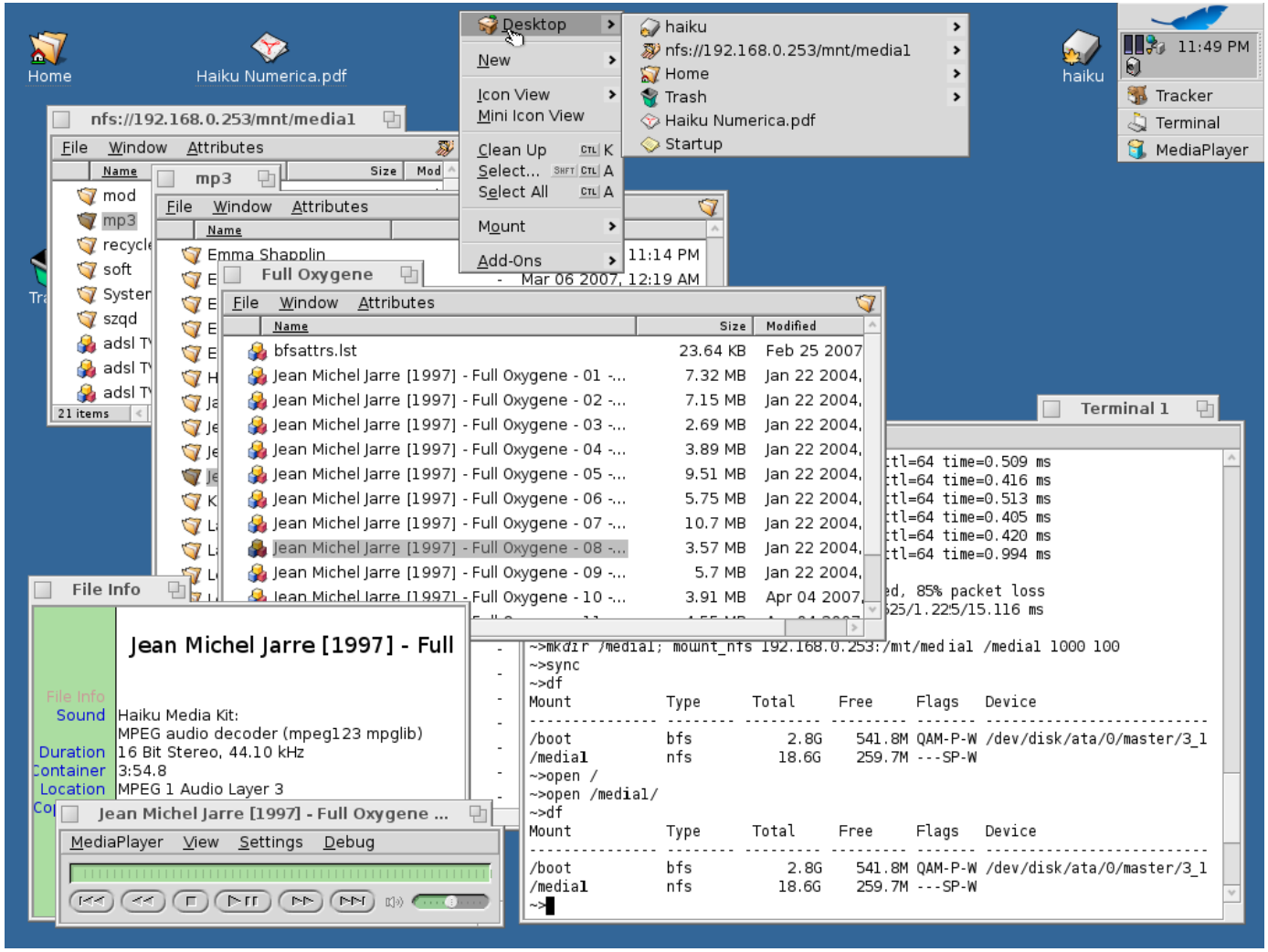
Window management

- The problem: overlapping windows



Window management (2)

- Possible solutions
  - Multiple workspaces
  - Exposé functionality
  - Tile on drag

Window management (3)

- Tiling
  - All windows in the foreground
- Idea: take this to the extreme
  - **All** windows in the foreground

Tiling window managers

- Different from desktop environments
- Minimalistic approach
  - Do only window management
  - Leave extra functionality to other software

Tiling window managers

- Most of them run over the X11 server
- Examples
  - dwm
  - i3
  - awesome
  - xmonad

xmonad

- Thin layer over X11 (~1000 LOC)
- Domain-specific language (DSL) for configuration
- Community modules: `xmonad-contrib`

xmonad: installing

- Distribution-specific package

```
$ pacman -S xmonad-contrib # Arch
$ apt-get install xmonad # Debian
$ yum install xmonad # Fedora
```

- Cabal

```
$ cabal install xmonad
```

xmonad: configuring

- Example: xmonad + MATE
- `https://github.com/fcostin/xmonad_and_mate`

1. Configure MATE session

```
$ cp xmonad.desktop \
> /usr/share/applications/xmonad.desktop
$ cp xmonad-mate.desktop \
> /usr/share/xsessions/xmonad-bare.desktop
```

- Edit `xmonad-bare.desktop` to start `xmonad`

2. Create `~/.xmonad/xmonad.hs`

A minimal xmonad.hs

```
import XMonad

main = do
  xmonad $ defaultConfig
    { terminal    = "mate-terminal"
    , modMask     = mod4Mask
    , borderWidth = 3
    }
```

- **Mod-key** is central
  - configured as Super/Win
- `xmonad --recompile`

Using xmonad

- **Open terminal**: mod-shift-enter
- **Navigate**: mod-tab, mod-shift-tab
  - Or mod-j, mod-k
- **Resize**: mod-h, mod-l
- **Workspaces**: mod-1, mod-2, ...
- **Change tiling algorithm**: mod-space

Updating configuration

1. Load `xmonad.hs`
2. Edit stuff...
3. mod-q

Adding workspaces

```
import XMonad

main = do
  xmonad $ defaultConfig
    { terminal    = "mate-terminal"
    , modMask     = mod4Mask
    , borderWidth = 3
    , workspaces  = ["Web", "Work", "Fun"]
    }
```

xmobar

- Minimal panel

```
$ cabal install xmobar --global
```

xmonad + xmobar

```
import XMonad
import XMonad.Hooks.DynamicLog

myConfig = defaultConfig
    { terminal    = "mate-terminal"
    , modMask     = mod4Mask
    , borderWidth = 3
    , workspaces  = ["Web", "Work", "Fun"]
    }

main = xmonad =<< xmobar myConfig
```

Custom keybindings

```
import XMonad.Util.EZConfig (additionalKeys)

myKeys = [
    ((mod4Mask, xK_p), spawn "echo bla")
    ]

myConfig = defaultConfig
    {
    ...
    } `additionalKeys` myKeys
```

- Check .xsession-errors

dmenu

- X11 application launcher
- Initially created for dwm

```
$ apt-get install dmenu
```

- Make mod-p spawn dmenu

```
spawn "dmenu_run -nb black -nf white"
```

Conclusion?

- Previous `xmonad.hs` covers the basics
- Only scratches the surface
- Other config fields
  - `layoutHook`
    - e.g. per-workspace tiling algorithms
  - `manageHook`
    - e.g. start Skype on workspace “Work”
- Integration with DEs (Gnome, KDE etc.)

Resources

- http://xmonad.org/
- http://www.haskell.org/haskellwiki/Xmonad/Config_archive
- https://wiki.archlinux.org/index.php/Xmonad
- http://hackage.haskell.org/package/xmonad