Command line on steroids

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Summary

1. Tips and shortcuts
2. Terminator: a better terminal emulator
3. zsh: a better shell

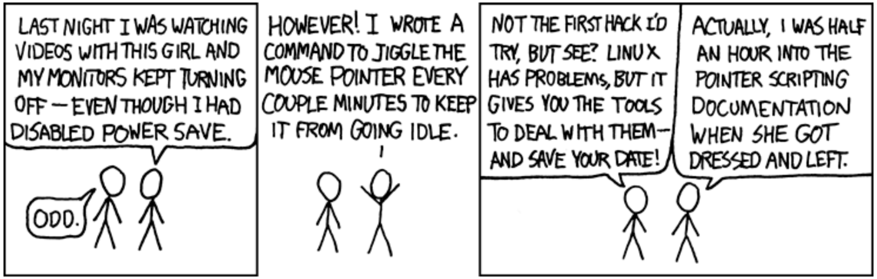

LAST NIGHT I WAS WATCHING VIDEOS WITH THIS GIRL AND MY MONITORS KEPT TURNING OFF — EVEN THOUGH I HAD DISABLED POWER SAVE.
ODD.
HOWEVER! I WROTE A COMMAND TO JIGGLE THE MOUSE POINTER EVERY COUPLE MINUTES TO KEEP IT FROM GOING IDLE.
NOT THE FIRST HACK I'D TRY, BUT SEE? LINUX HAS PROBLEMS, BUT IT GIVES YOU THE TOOLS TO DEAL WITH THEM— AND SAVE YOUR DATE!
ACTUALLY, I WAS HALF AN HOUR INTO THE POINTER SCRIPTING DOCUMENTATION WHEN SHE GOT DRESSED AND LEFT.

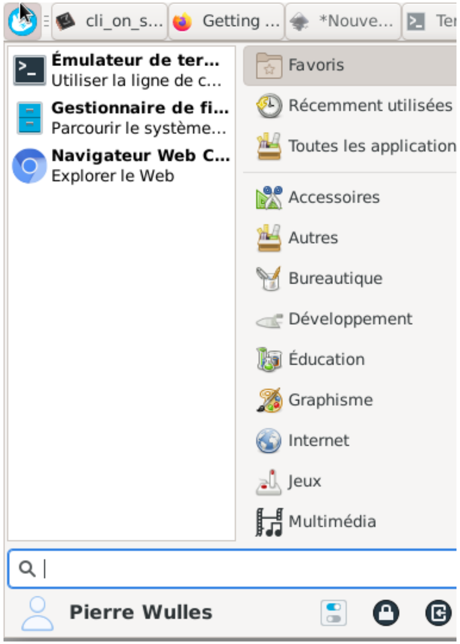
Figure 1.

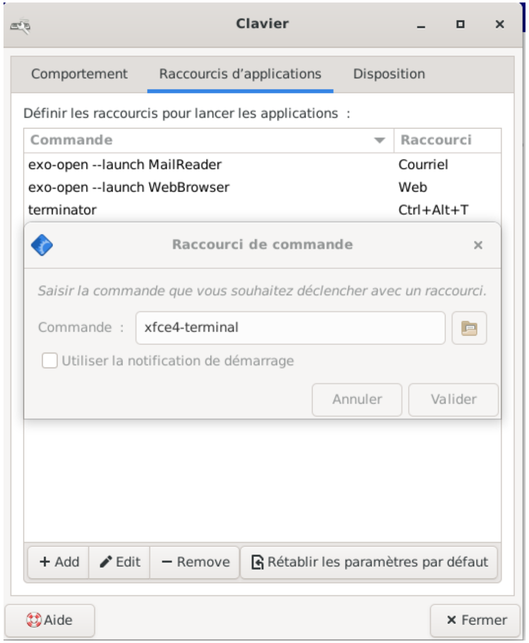
Opening a terminal

You can configure a shortcut very easily to open a terminal:

Applications → Paramètres → Clavier → Raccourci d'applications

Enter the command and the shortcut as below:





Définir les raccourcis pour lancer les applications :

Commande	Raccourci
exo-open --launch MailReader	Courriel
exo-open --launch WebBrowser	Web
terminator	Ctrl+Alt+T

Raccourci de commande

Saisir la commande que vous souhaitez déclencher avec un raccourci.

Commande : xfce4-terminal

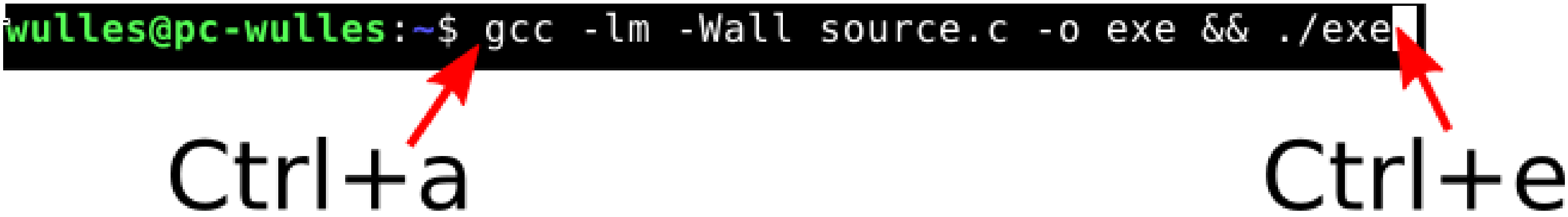
□ Utiliser la notification de démarrage

Figure 2.

Useful Shortcuts

Moving on a big command:

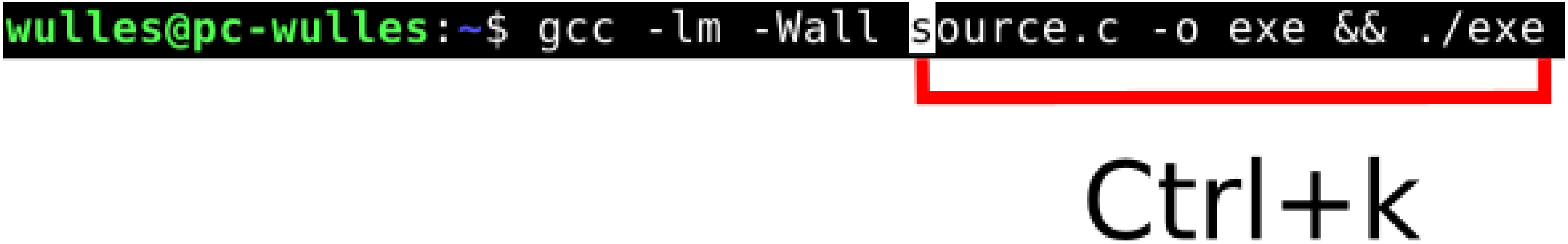
`Ctrl+a` , `Ctrl+e` , `Ctrl →` and `Ctrl ←`



```
wulles@pc-wulles:~$ gcc -lm -Wall source.c -o exe && ./exe
```

Removing part of a command:

`Ctrl+u` and `Ctrl+k`



```
wulles@pc-wulles:~$ gcc -lm -Wall source.c -o exe && ./exe
```

To reput what have been « killed »: `Ctrl+y`

Copy and paste into a terminal: **NOT** `Ctrl+c` !!! but:

`Ctrl+Maj+c` and `Ctrl+Maj+v`

Tips

- To recall a command with sudo on the front:

```
$ install blabla
$ sudo !!
```

- The following commands are equivalent:

```
$ cd /home/pierre/
$ cd ~
$ cd
```

- To search in the history of command, use `Ctrl+r`, use it several time to cycle through different suggestions.
- Multiple command can be done several ways, what are the diferences ?

```
$ ls | grep truc
$ ls ; pwd
$ ls && pwd
```

Tips

- Going back to a directory

```
$ cd -
```

- Differ the execution of a command:

```
$ sleep 100 && ls
```

- Apply a command to a list or argument

```
$ mkdir {test0,test1,test2}
```

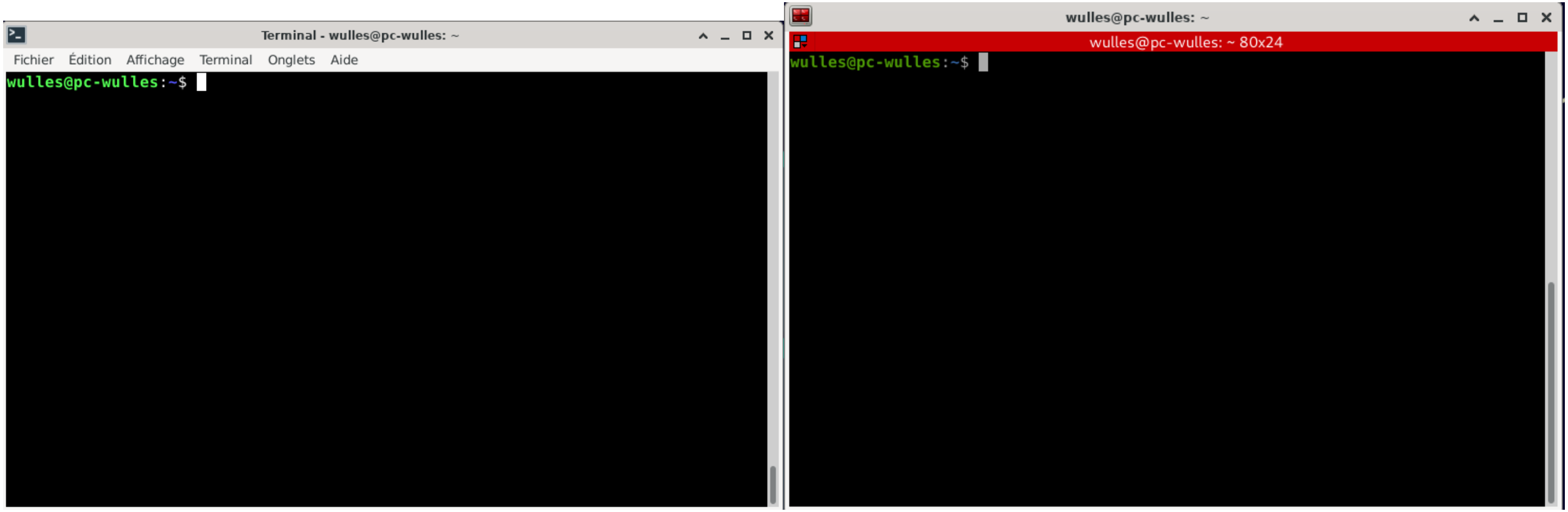
Warning: bash does not like extra space!

- Apply a command on a list of file (Python style):

```
$ for i in *.dat; do echo $i; done
```

Terminator

- lightweight
- grid structure
- lots of keyboards shortcuts
- installed at the lab, thanks to Jean-Daniel



```
wulles@pc-wulles:~$
```

```
wulles@pc-wulles:~$
```

Figure 3. Comparison between xfce4-terminal and terminator

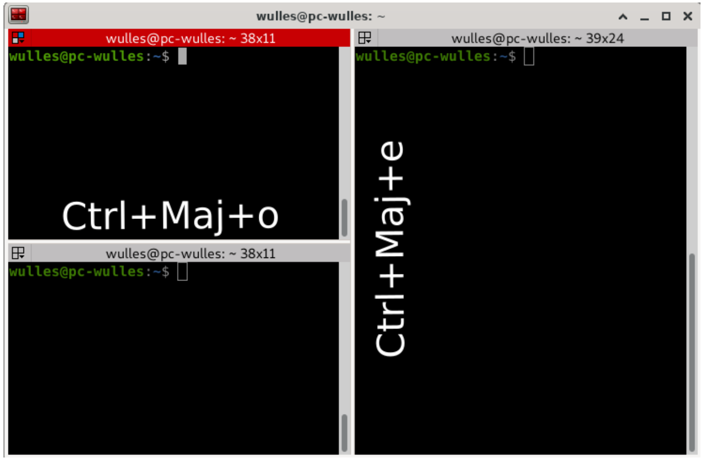
Terminator

You can create multiple windows by splitting:

`Ctrl+Maj+e` and `Ctrl+Maj+o`

and resizing via:

`Ctrl+Maj+↑` , `Ctrl+Maj+↓` , `Ctrl+Maj+→` and `Ctrl+Maj+←`


wulles@pc-wulles: ~
wulles@pc-wulles: ~ 38x11
wulles@pc-wulles: ~ 39x24
wulles@pc-wulles: ~ 38x11

```
wulles@pc-wulles:~$
```

```
wulles@pc-wulles:~$
```

```
wulles@pc-wulles:~$
```

Ctrl+Maj+o

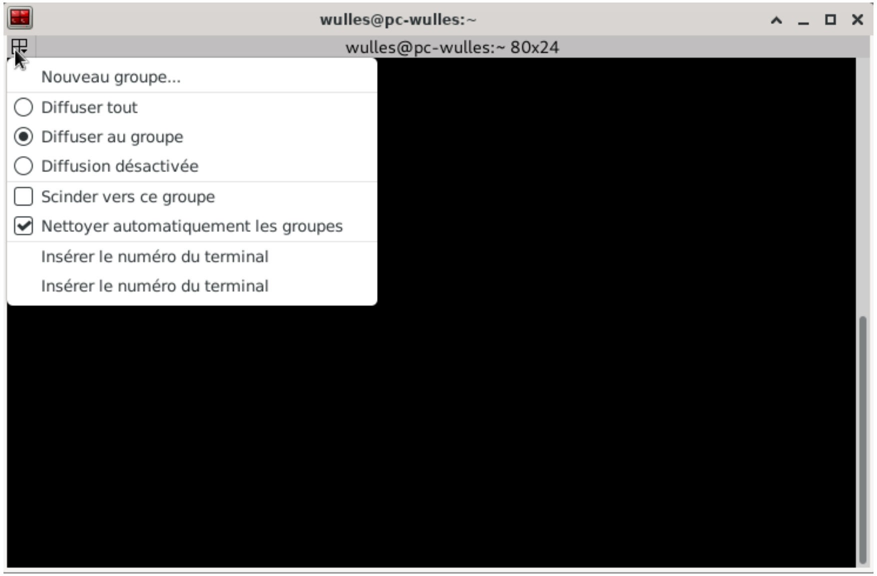
Ctrl+Maj+e

Figure 4.

Switch windows with: `Alt+↑`,`Alt+←`,`Alt+→` and `Alt+↓`

Terminator

You can broadcast commands to several terminals:



Nouveau groupe...

○ Diffuser tout
● Diffuser au groupe
○ Diffusion désactivée

□ Scinder vers ce groupe
☑ Nettoyer automatiquement les groupes

Insérer le numéro du terminal
Insérer le numéro du terminal

Figure 5.

Useful when doing *ssh* or for the same set of instructions. Otherwise not really.

Possible also to manage tabs.

zsh

- It's a shell (like bash)
- Entirely bash compatible
- By default on macOS or archlinux
- Very good auto-completion and *globbing*
- Extensive git support

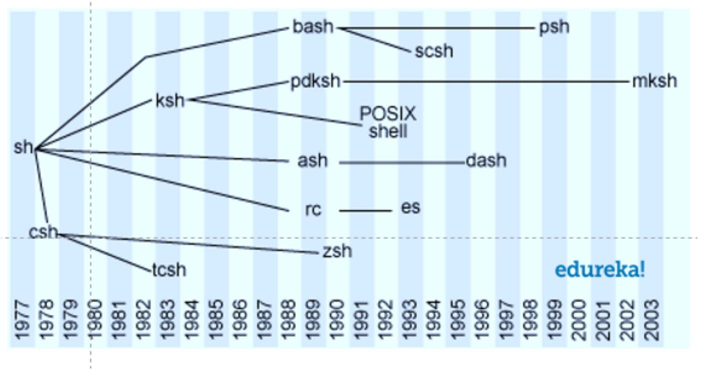
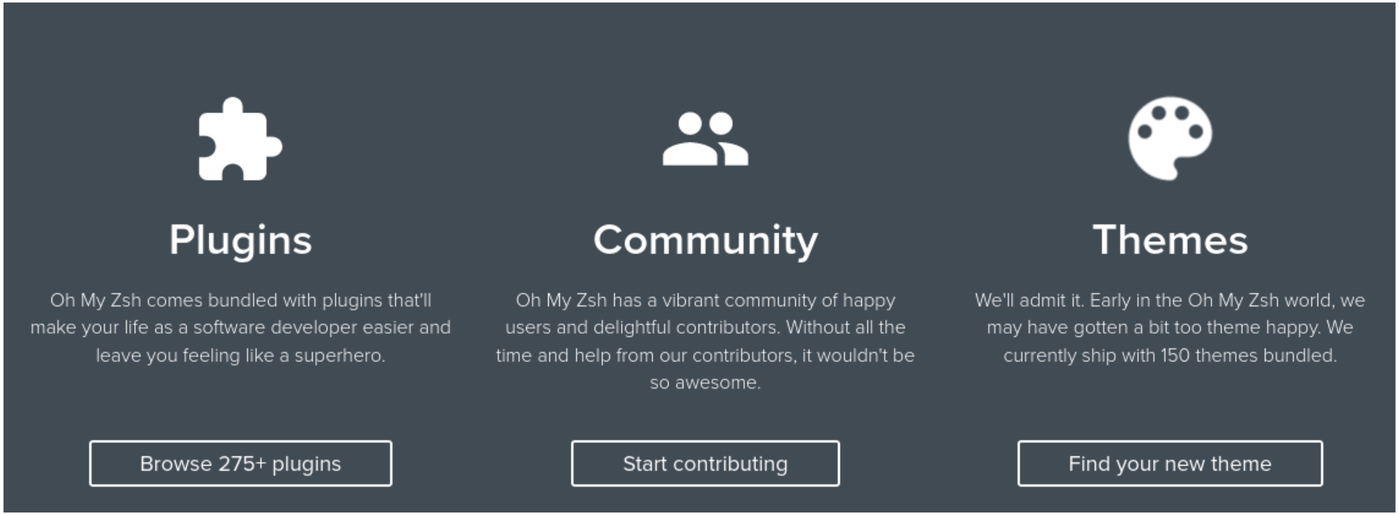


Figure 6.

zsh

Bad sides:

- compatibility with other shells can be tricky
- configuring zsh is a pain, but we have $ oh my zsh



Plugins

Oh My Zsh comes bundled with plugins that'll make your life as a software developer easier and leave you feeling like a superhero.

Community

Oh My Zsh has a vibrant community of happy users and delightful contributors. Without all the time and help from our contributors, it wouldn't be so awesome.

Themes

We'll admit it. Early in the Oh My Zsh world, we may have gotten a bit too theme happy. We currently ship with 150 themes bundled.

Figure 7.

oh-my-zsh

- To avoid spending hours in configuring zsh, use in home directory:

```
$ sh -c ‘‘$(wget https://raw.github.com/ohmyzsh/ohmyzsh/master/tools/
install.sh -O -)"
```

- You can also install zsh-autosuggestions:

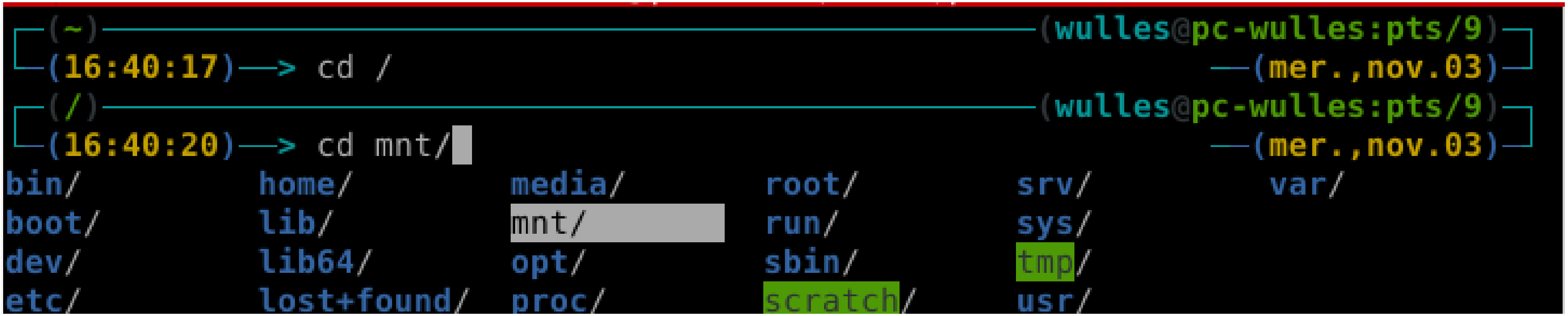
```
$ git clone https://github.com/zsh-users/zsh-autosuggestions
~/.oh-my-zsh/plugins/zsh-autosuggestions
```

and add in the file .zshrc:

```
plugins=(
    git # by default
    zsh-autosuggestions
)
```

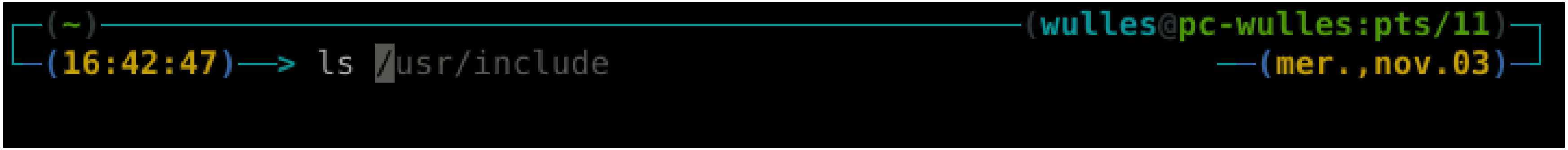
zsh features

- Interactive auto completion ♡ with Tab+↑↓→← and auto-correct:



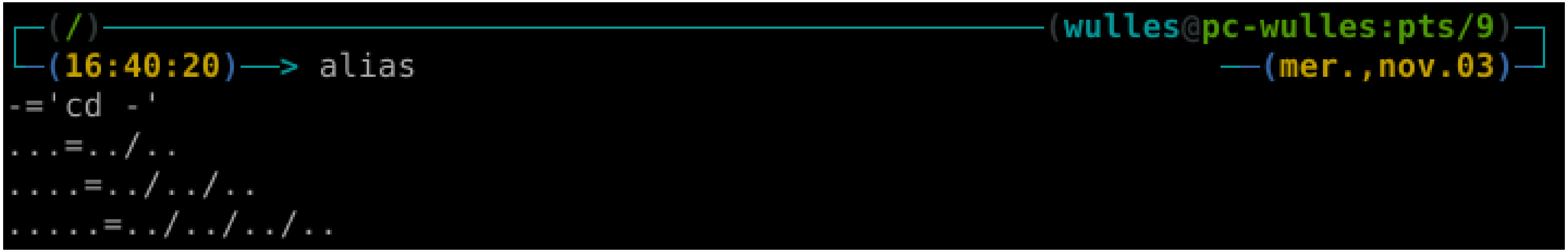
```
┌─(~)──────────────────────────────────────────────(wulles@pc-wulles:pts/9)─┐
└─(16:40:17)──> cd /                                       ──(mer.,nov.03)─┘
┌─(/)──────────────────────────────────────────────(wulles@pc-wulles:pts/9)─┐
└─(16:40:20)──> cd mnt/                                    ──(mer.,nov.03)─┘
bin/          home/         media/        root/         srv/          var/
boot/         lib/          mnt/          run/          sys/
dev/          lib64/        opt/          sbin/         tmp/
etc/          lost+found/   proc/         scratch/      usr/
```

- Smart history ♡, takes into account what is typed.



```
┌─(~)─────────────────────────────────────────────(wulles@pc-wulles:pts/11)─┐
└─(16:42:47)──> ls /usr/include                            ──(mer.,nov.03)─┘
```

- A lot of aliases:



```
┌─(/)──────────────────────────────────────────────(wulles@pc-wulles:pts/9)─┐
└─(16:40:20)──> alias                                      ──(mer.,nov.03)─┘
-='cd -'
...=../..
....=../../..
.....=../../../..
```

zsh globbing

- Basic usage, access a directory everywhere:

```
$ cd **/myDirectory
$ for i in **/test; do mkdir $/truc; done
```

- You can precise extensions:

```
$ cd **/*.py
```

- Precise the path:

```
$ cd test/abc/glob
$ cd t/a/g  # + Tab
```

- Filter by size:

```
$ ls -lh **/*(.Lm+250)
$ ls -lh **/*(.Lk-10) # m g k available
```

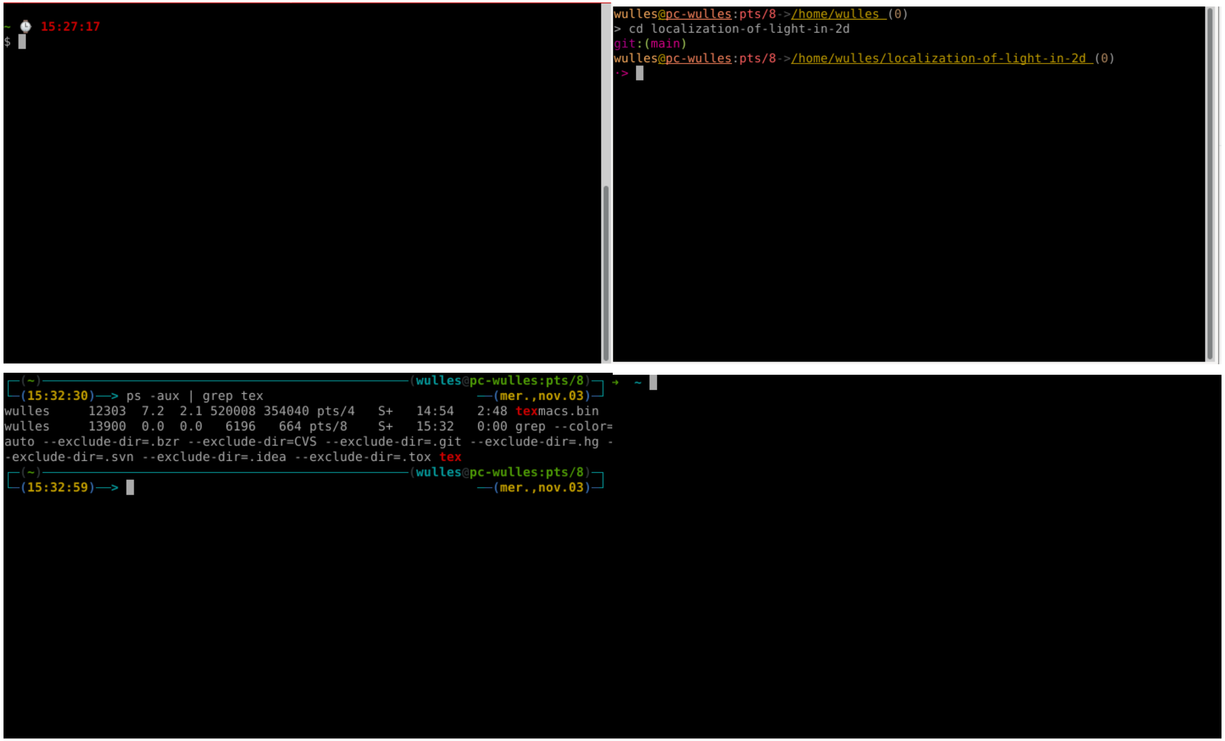
- Or by modification date:

```
$ ls -lh **/*(.md-1) # d w m available, doc
```

zsh theming

Edit the file .zshrc:

```
ZSH_THEME='mytheme'
```



```
~ ⌚ 15:27:17
$ 
```

```
wulles@pc-wulles:pts/8->/home/wulles (0)
> cd localization-of-light-in-2d
git:(main)
wulles@pc-wulles:pts/8->/home/wulles/localization-of-light-in-2d (0)
·> 
```

```
┌─(~)──────────────────────────────────────────────────(wulles@pc-wulles:pts/8)─┐
└─(15:32:30)──> ps -aux | grep tex                                ──(mer.,nov.03)─┘
wulles     12303  7.2  2.1 520008 354040 pts/4   S+   14:54   2:48 texmacs.bin
wulles     13900  0.0  0.0   6196   664 pts/8    S+   15:32   0:00 grep --color=
auto --exclude-dir=.bzr --exclude-dir=CVS --exclude-dir=.git --exclude-dir=.hg -
-exclude-dir=.svn --exclude-dir=.idea --exclude-dir=.tox tex
┌─(~)──────────────────────────────────────────────────(wulles@pc-wulles:pts/8)─┐
└─(15:32:59)──>                                                   ──(mer.,nov.03)─┘
```

```
➜  ~ 
```

Figure 8. amuse,linuxonly,jonathan, default

Going further

RTFM:

- zsh doc
- terminator doc
- oh-my-zsh website: lot of really interesting plugins (python, spotify!,..) themes, …

Cheatsheet:

- Linux - Commandes fondamentales
- bash cheatsheet
- zsh cheatsheet

Questions ?

WHENEVER I LEARN A NEW SKILL I CONCOCT ELABORATE FANTASY SCENARIOS WHERE IT LETS ME SAVE THE DAY.
OH NO! THE KILLER MUST HAVE FOLLOWED HER ON VACATION!
BUT TO FIND THEM WE'D HAVE TO SEARCH THROUGH 200 MB OF EMAILS LOOKING FOR SOMETHING FORMATTED LIKE AN ADDRESS!
IT'S HOPELESS!
EVERYBODY STAND BACK.
I KNOW REGULAR EXPRESSIONS.
PERL!
TAP TAP

Figure 9.