

LINUX WORKSHOP

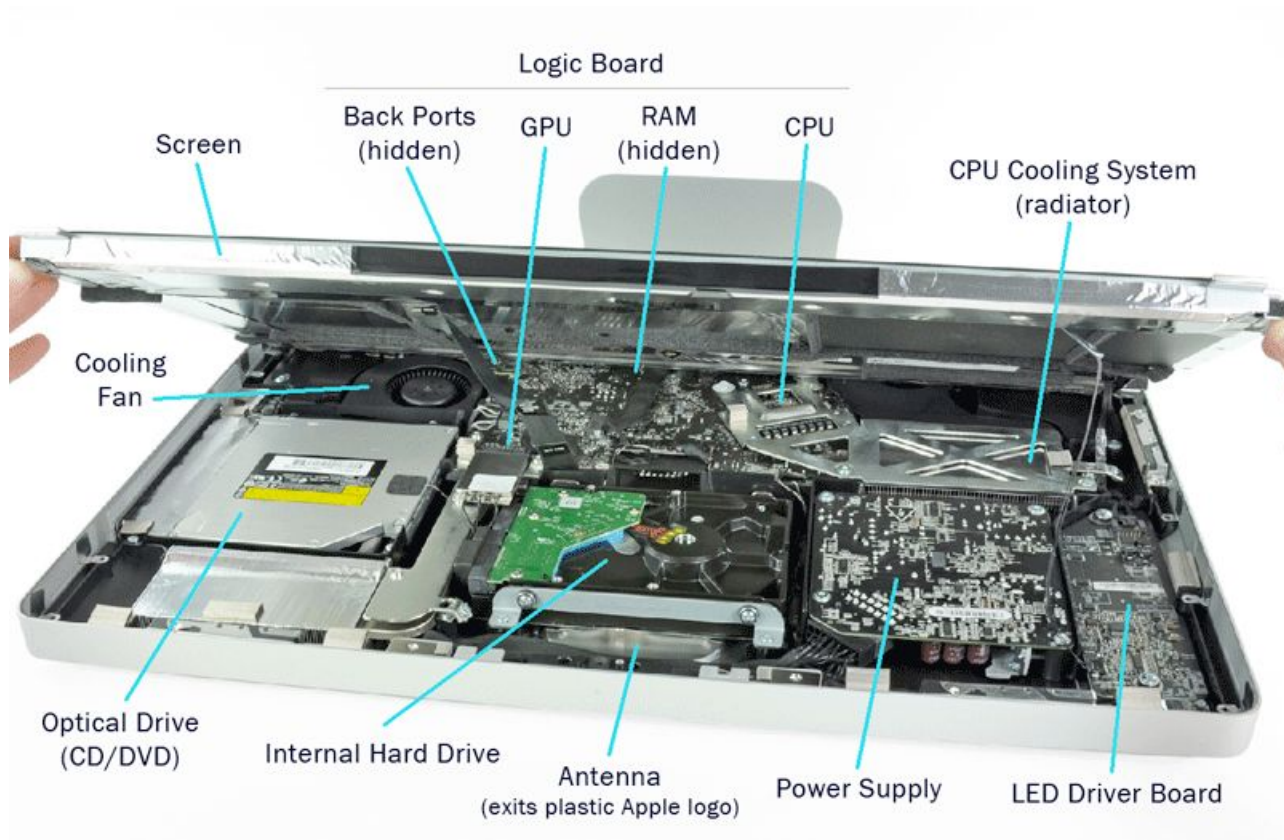
(and other stuff like virtual machines)

OPERATING SYSTEMS

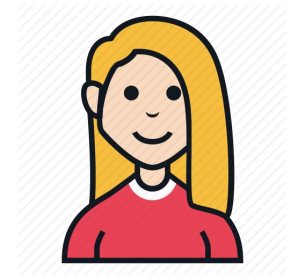
OPERATING SYSTEMS

Something needs
to control this
chaos!

OS systems
interface the
physical parts
and software
installed in it.



OPERATING SYSTEMS - EXAMPLE



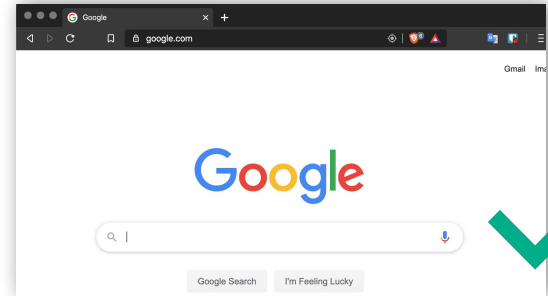
1) **User:** open chrome, please



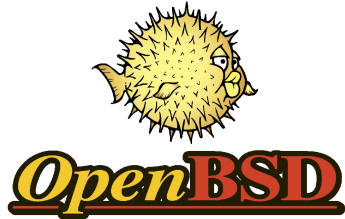
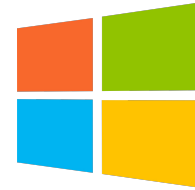
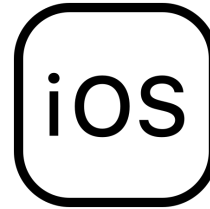
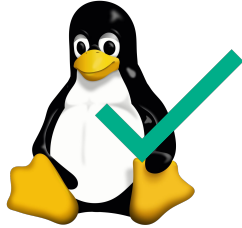
2) **Chrome:** OS, gimme memory so I work!



3) **OS:** Chrome, have memory! Screen, show good stuff!



EXAMPLES OF OPERATING SYSTEMS



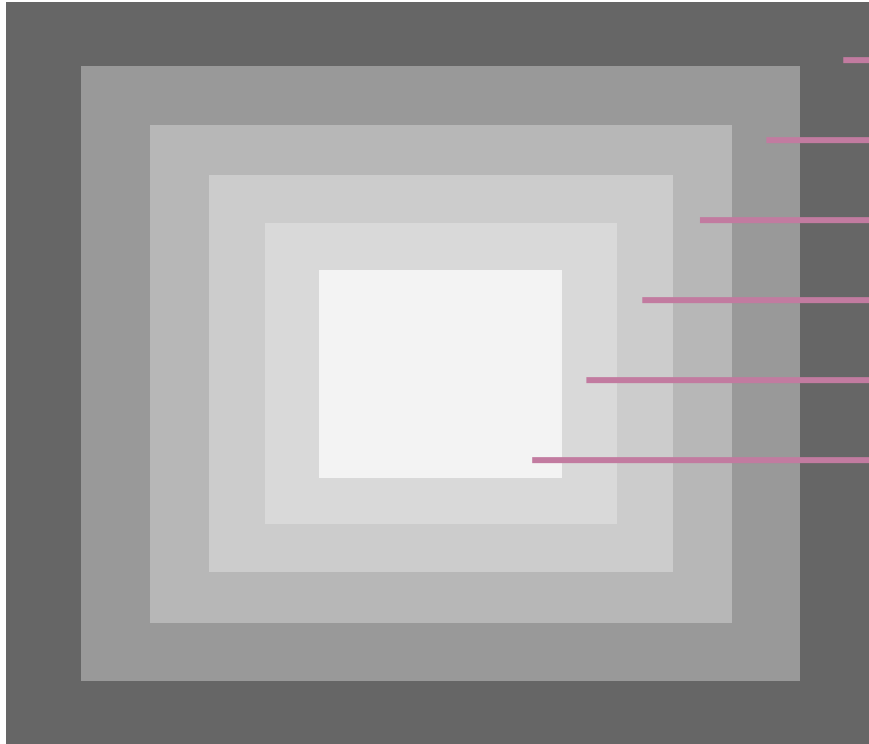
LINUX IS OPEN SOURCE

- Source code is available for anyone to read, modify and release a modified version:
<https://github.com/torvalds/linux>
- Huge community around it: bug fixes, fast development, reliability
- Homework: What are some pros and cons of Open Source software?

LINUX - WHAT IS IT USED FOR? (LINKS IN GITHUB)

- All Android phones and tablets (including the ones on the plane seats)
- Basically all web servers everywhere (including Google, Amazon, Facebook...)
- DevOps / Docker
- Software Development
- Robotics / Raspberry Pi / Car systems
- Scientific research / Data mining / General number crunching
- Animating, apparently: <https://www.youtube.com/watch?v=x9ikzGQW0ys>
- Hmm... to power International Space Station?
- Regular Desktop users

LINUX DISTRIBUTIONS



Community

Default software

Package manager

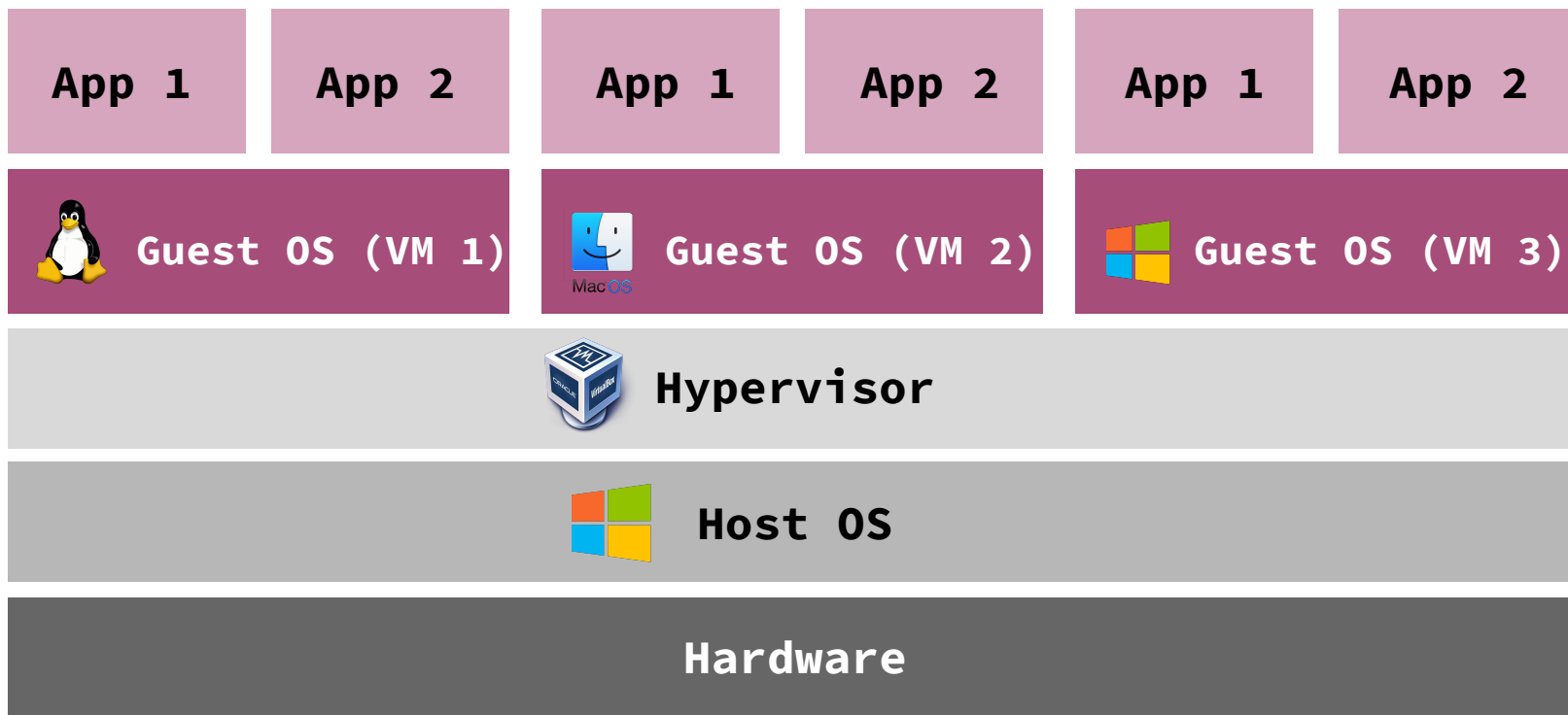
Graphical environment

GNU utilities

Linux Kernel

VIRTUAL MACHINES

WHAT IS A VIRTUAL MACHINE?



WHAT ARE VIRTUAL MACHINES USED FOR?

- Develop in a different environment than your OS
- Learn another Operating System
- Run/Test software in another platform
- DevOps (think Docker, different virtualization method)
- Security (isolate environments)
- VPS! Let's create one 🤓
- Homework: What are VMs good for?

LET'S PRACTICE

SETUP AND INSTALL

- Install VirtualBox:

<https://www.virtualbox.org/wiki/Downloads>

- Download Ubuntu: <https://ubuntu.com/download> (Ubuntu Desktop)

- Install Ubuntu on VirtualBox

LINUX INTERFACE

Sit back, let me
show you around ☕

LINUX COMMAND LINE

1) Learn:

- **whatis** command

```
$ whatis whatis
```

- **man** command and **--help** flag

```
$ man man
```

```
$ man --help
```

```
$ ls --help
```

2) Try:

```
whoami  
whereis  
cd  
pwd  
mkdir  
ls  
ls -l  
cp  
cp -R  
mv  
rm  
rm -r
```

```
cat  
more  
df -h  
du -h  
find  
top  
kill  
exit  
cowsay  
apt  
vim  
ping  
nmap
```

CRON JOBS

Create a (python?) script that fetches a quote from an API and includes it as a new line in a quotes.txt file every minute of every day.

Homework: automatically send a quote to someone every hour via email :P

HOPE THAT WAS FUN! ;)

Get sources, further learning and so on:

<https://github.com/brisa-pedronetto/linux-works-hop>