

Sustainable Tech: How to care for your gadgets and the planet

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Agenda

Focus: laptops and mobile phones

- **Costs / Impacts**
- **Tips**
 - hardware
 - software
- **Other sustainability actions**

About me:

- Computer Science graduate & IT professional
- Owner of 3 laptops ... (newest is 6 years old)



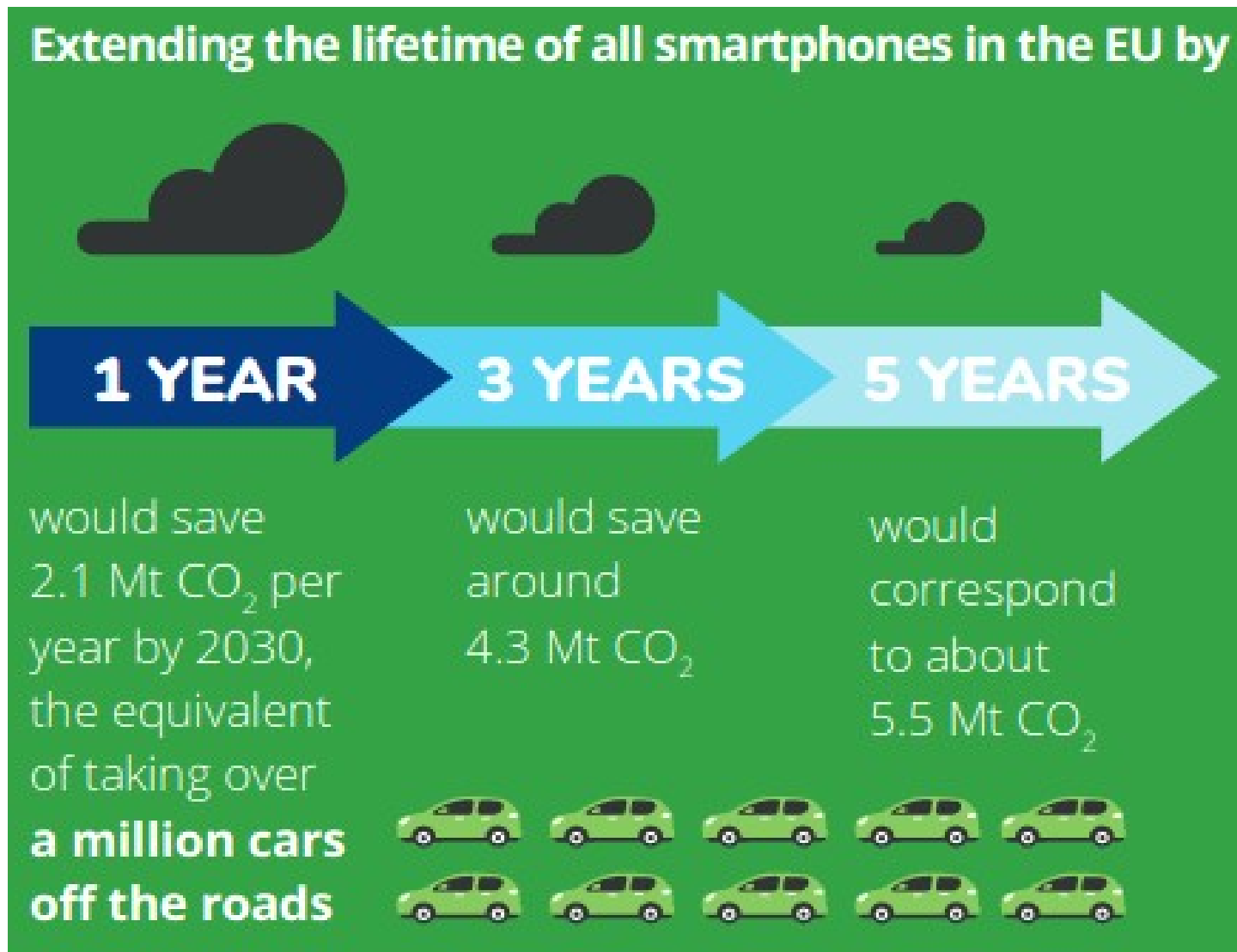
Brought to you by... ALDI in 2007!

Written and presented on...
a budget laptop
bought in ALDI in 2007

The same year the first iPhone
was launched



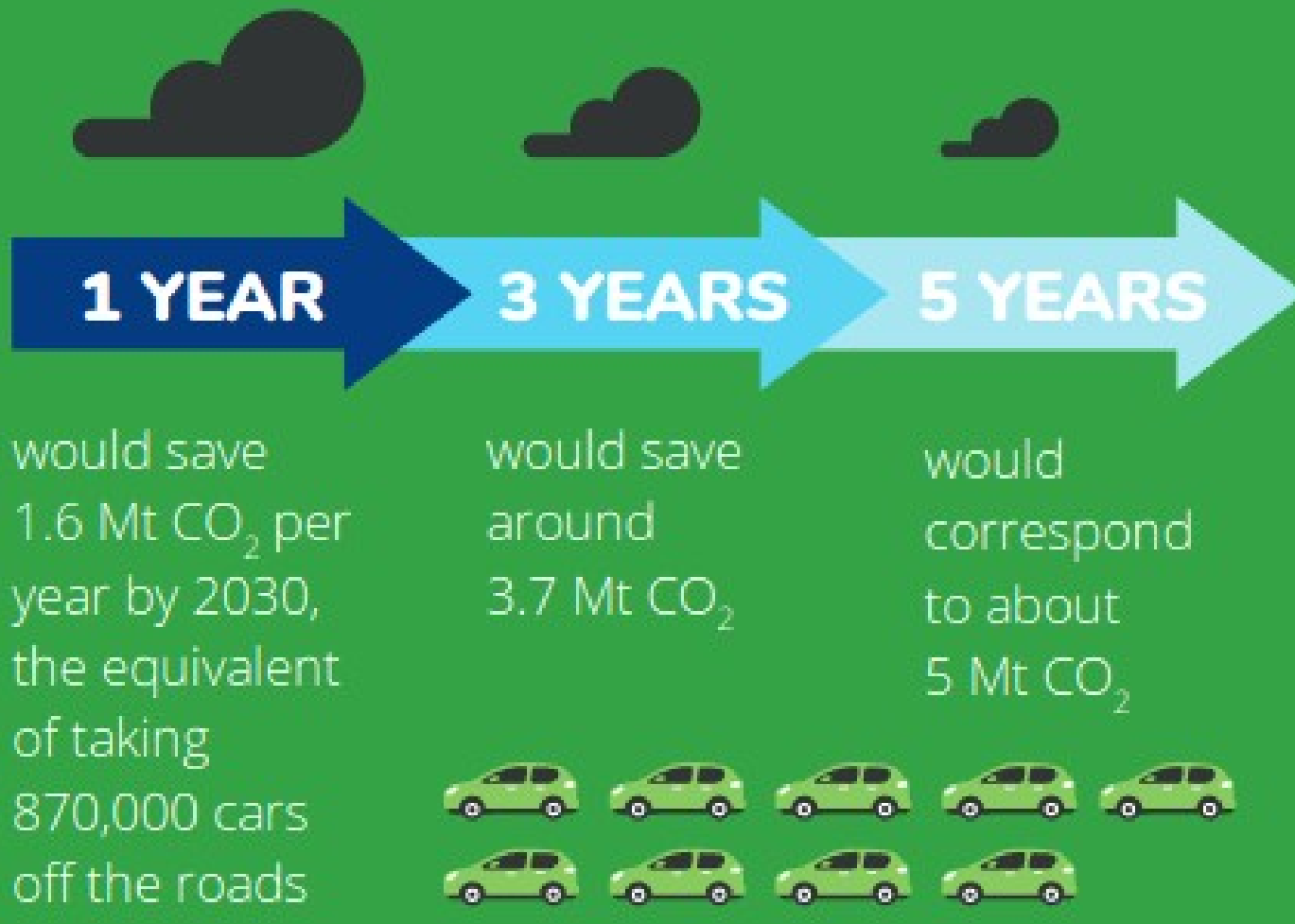
Impacts



Source: [European Environmental Bureau 2019](#)

Impacts

Extending the lifetime of all notebooks in the EU by



Buying

- Do you really **need** it?
- Be **realistic** about what you need - 'fashion tech'
- Buy **slightly above** what you *need*
- What components are **replaceable / repairable** (or not)?
- **2nd hand** / refurbished
- **Avoid “version 1”** of new gadgets!

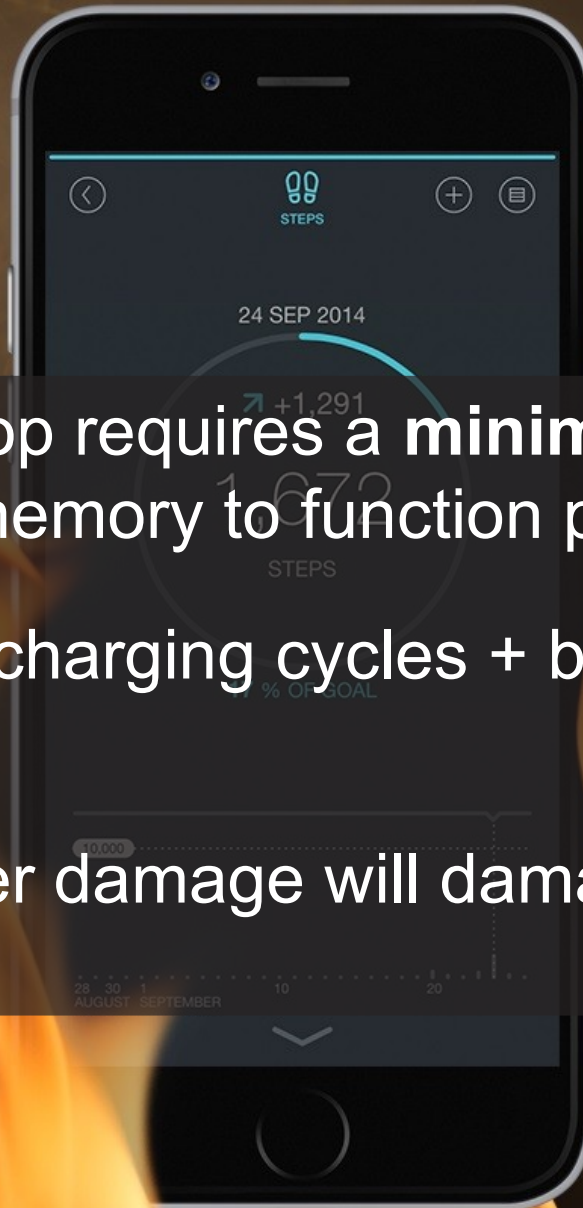


The Theory

Your phone/tablet/laptop requires a **minimum amount of space** on its internal memory to function properly

Battery drain = more charging cycles + battery, cable & port wear

Overheating and water damage will damage components and reduce battery life



Maintain Phone Performance

No unnecessary apps!

- use browser instead
- delete unused ones

**Store photos & files
in the cloud**

Update apps
**(Update OS for 2-3
years)**

**Store files & apps on
a micro SD Card**



Occasional restart

“Final option” :
Factory reset

Maintain Phone Itself!

Don't let battery drain too close to 0%

(~20-80% range is good)

Replace the battery

(find a good repair shop)

Screen protector and case!

Clean out charging port

Don't charge phone on your bed / sofa

Don't pull on charging cable

Your Laptop ... a similar story

“CPU is key to a fast laptop.”
Partially true...

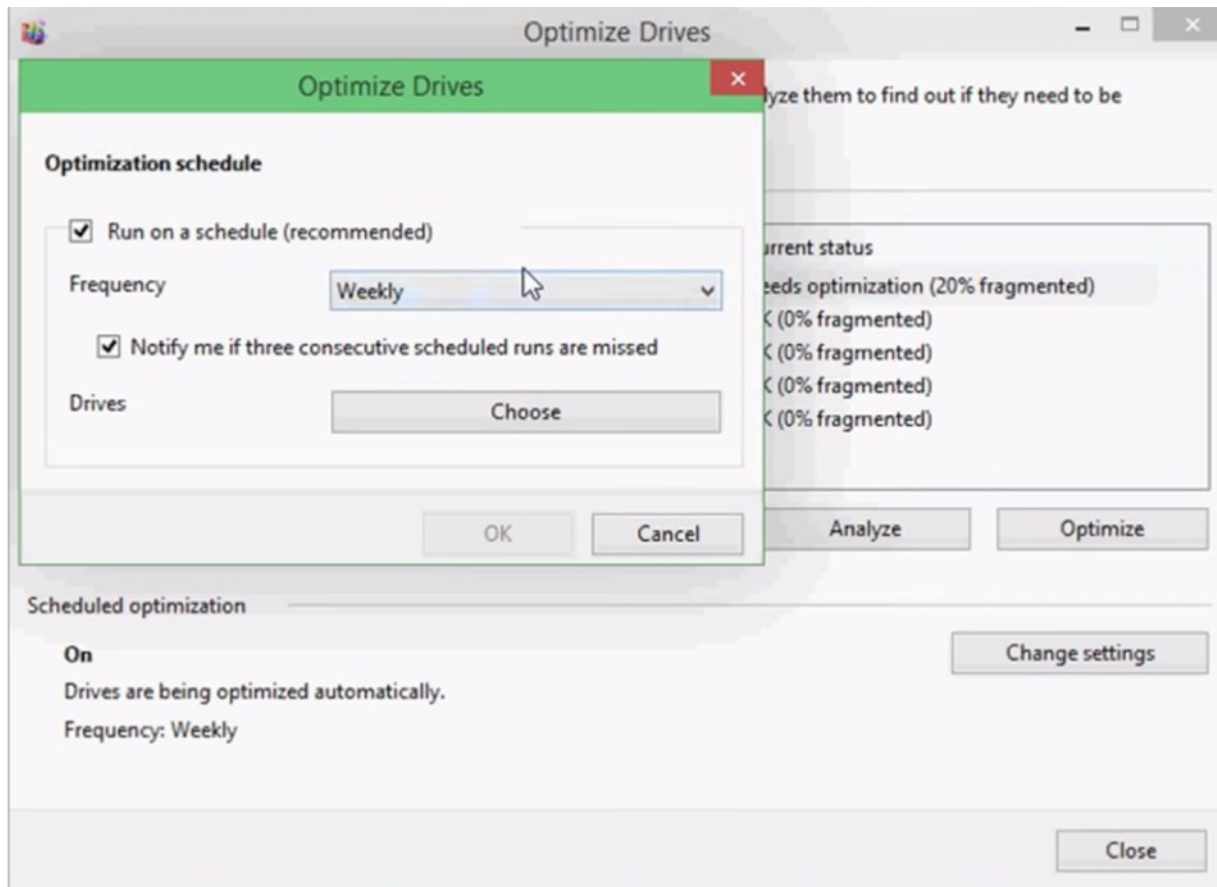
RAM (memory) and disk space also key

Rule of thumb:
Take your RAM and keep double that
amount of free disk space
4GB RAM = 8GB free on C:

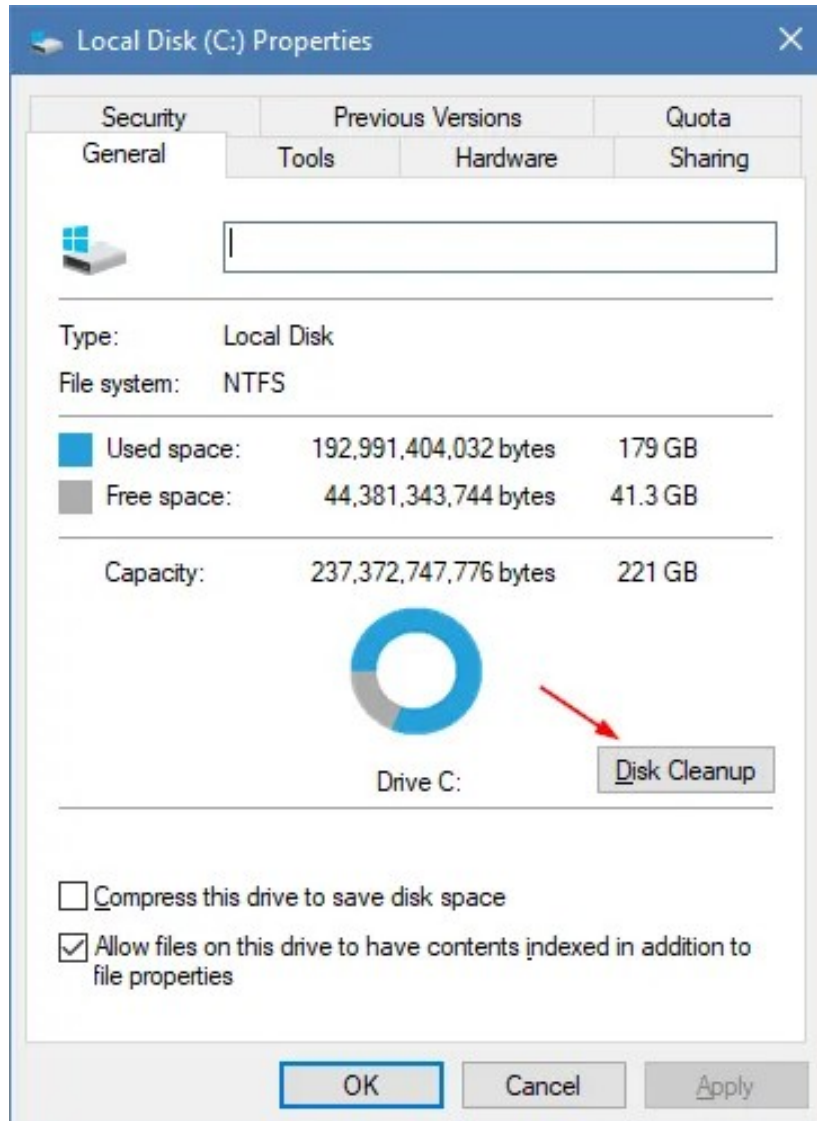
Good news
Unlike CPU...
RAM and disk can
usually
be expanded later!



Your Laptop ... better performance



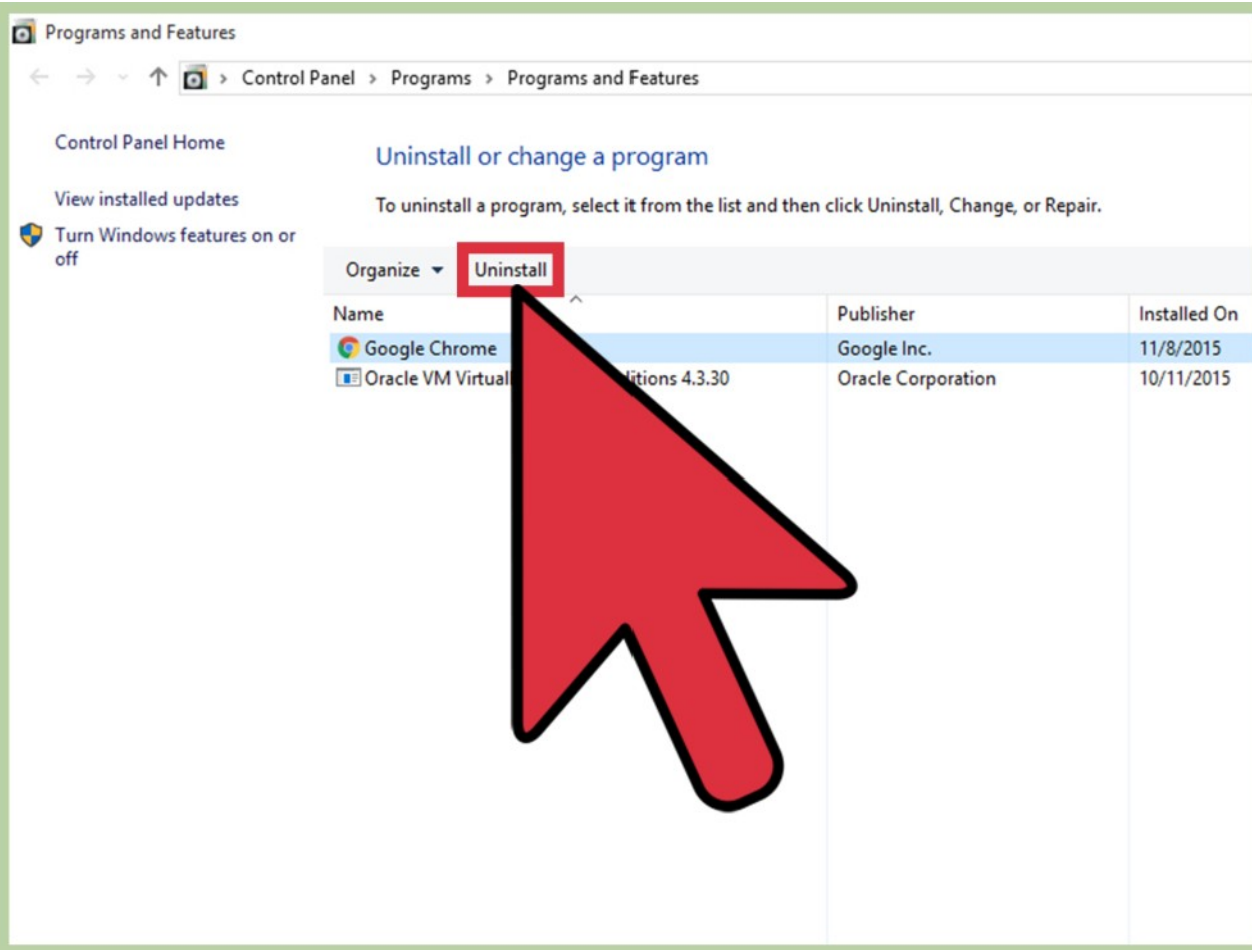
Your Laptop ... better performance



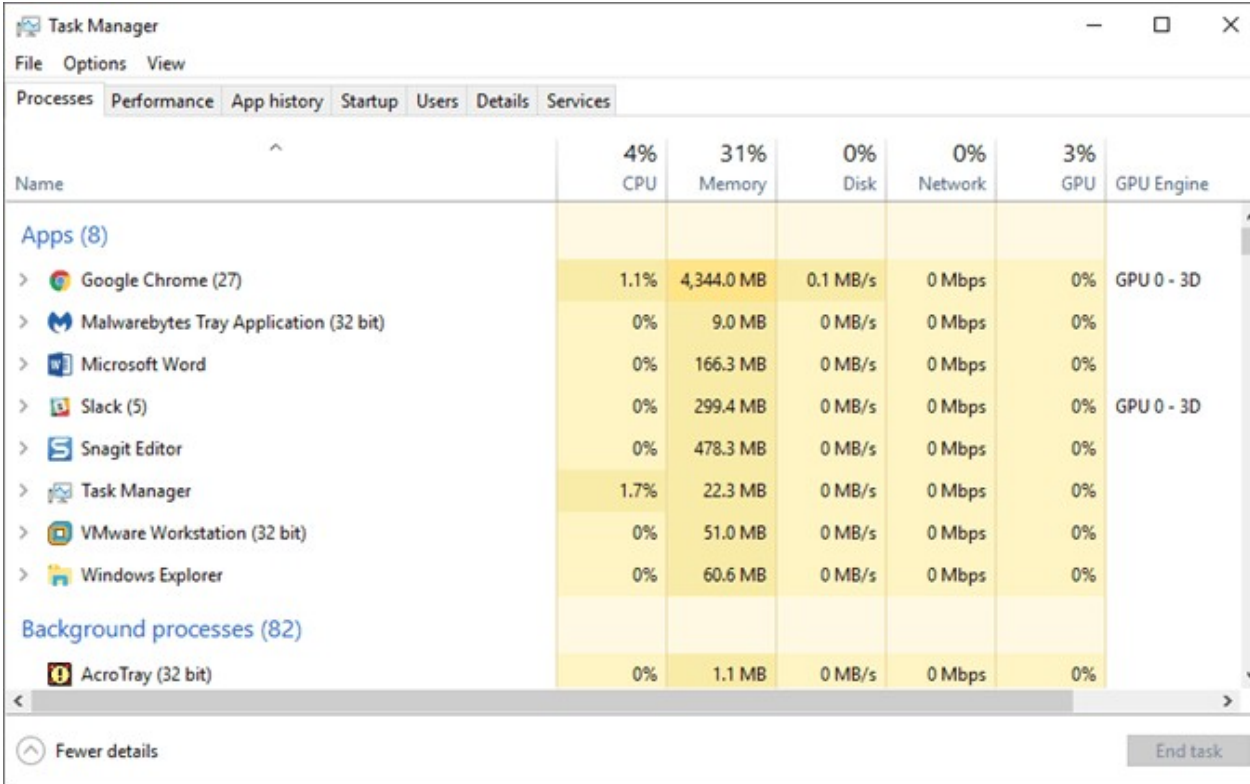
Your Laptop ... better performance



Your Laptop ... better performance



Your Laptop ... better performance



The screenshot shows the Windows Task Manager Performance tab. At the top, it displays overall system usage: CPU at 4%, Memory at 31%, Disk at 0%, Network at 0%, and GPU at 3%. Below this, a table lists running applications and their resource consumption. The 'Apps (8)' section includes Google Chrome (27), Malwarebytes Tray Application (32 bit), Microsoft Word, Slack (5), Snagit Editor, Task Manager, VMware Workstation (32 bit), and Windows Explorer. The 'Background processes (82)' section includes AcroTray (32 bit). A 'Fewer details' button is at the bottom left, and an 'End task' button is at the bottom right.

Name	CPU	Memory	Disk	Network	GPU	GPU Engine
Apps (8)						
Google Chrome (27)	1.1%	4,344.0 MB	0.1 MB/s	0 Mbps	0%	GPU 0 - 3D
Malwarebytes Tray Application (32 bit)	0%	9.0 MB	0 MB/s	0 Mbps	0%	
Microsoft Word	0%	166.3 MB	0 MB/s	0 Mbps	0%	
Slack (5)	0%	299.4 MB	0 MB/s	0 Mbps	0%	GPU 0 - 3D
Snagit Editor	0%	478.3 MB	0 MB/s	0 Mbps	0%	
Task Manager	1.7%	22.3 MB	0 MB/s	0 Mbps	0%	
VMware Workstation (32 bit)	0%	51.0 MB	0 MB/s	0 Mbps	0%	
Windows Explorer	0%	60.6 MB	0 MB/s	0 Mbps	0%	
Background processes (82)						
AcroTray (32 bit)	0%	1.1 MB	0 MB/s	0 Mbps	0%	

Limit open
browser tabs and
programs



Prevention better than cure!

- Avoid drinks beside your laptop
- Clean out keyboard gunk
- Store correctly (e.g. laptop bag)
- Don't leave it on 24/7
- Windows / Mac updates
- BIOS updates
- Backup data regularly

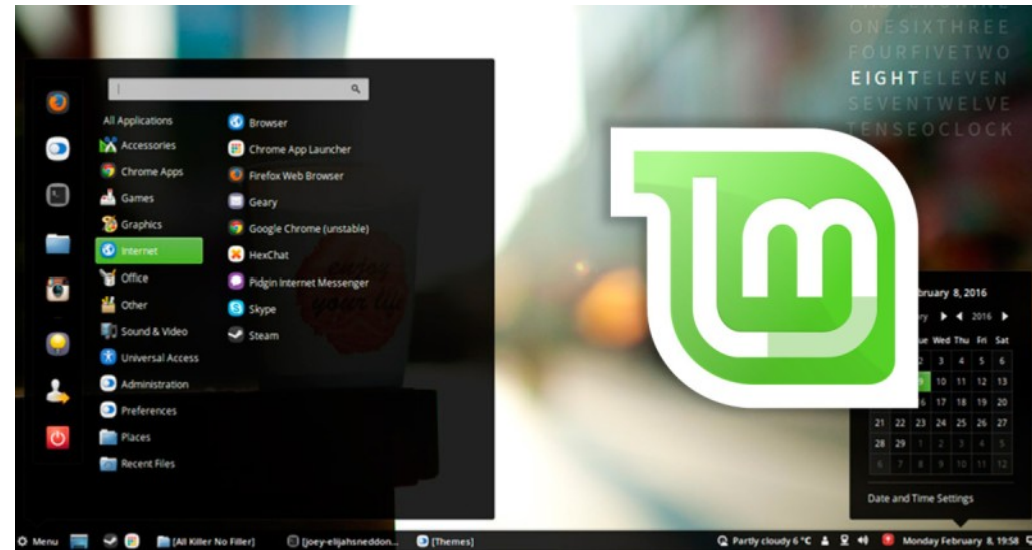


Dying Laptop? Move to Linux!

- Windows may not run on older hardware ...
- Step 1: reinstall Windows
- Step 2: install Linux (or 'dual-boot' to run both)

Linux: a free Windows alternative.

- Typically needs fewer resources (CPU, RAM, disk)
- Runs well on older computers
- Linux Mint is a good option ... more like Windows
- LibreOffice as a substitute for Microsoft Office (or Google Docs)



Dying Laptop? Move to Linux!



Meet my ADVENT 4211C !

- 2014 'netbook' - small, light & good battery
- Ran a box office from it for 5 years
- New battery bought online after 5 years
- 2016: Installed Linux Mint to replace slow Windows XP
- 2016-19: Used to complete a business degree!
- 2020: still going strong

Find a good local repair shop

- Shop around ... ask for quotes & recommendations
- You will be surprised what can be fixed!
- Ask a tech-savvy friend for help ...
- Some devices more repairable than others



When you need to move on...

- Give the device to a friend / relative
- Schools or charities – e.g. camara.org
- Recycling WEEE
- Just remember to fully delete all information
 - Programs / apps for this
 - Full wipe may not be enough...



Peripherals / Accessories

- Mixed blessing!
- More gadgets = more waste?
- But accessories can *extend* the life / use of gadgets
 - Computer monitor
 - External hard disks
 - Memory cards (or new SSD)
 - Phone USB battery
 - Bluetooth keyboards
- Tip: invest in good quality accessories ... they may outlive the gadgets!



Thank You!

- Questions?



Community Resource Network Ireland

Zero Waste Festival Ireland

Rethink Waste