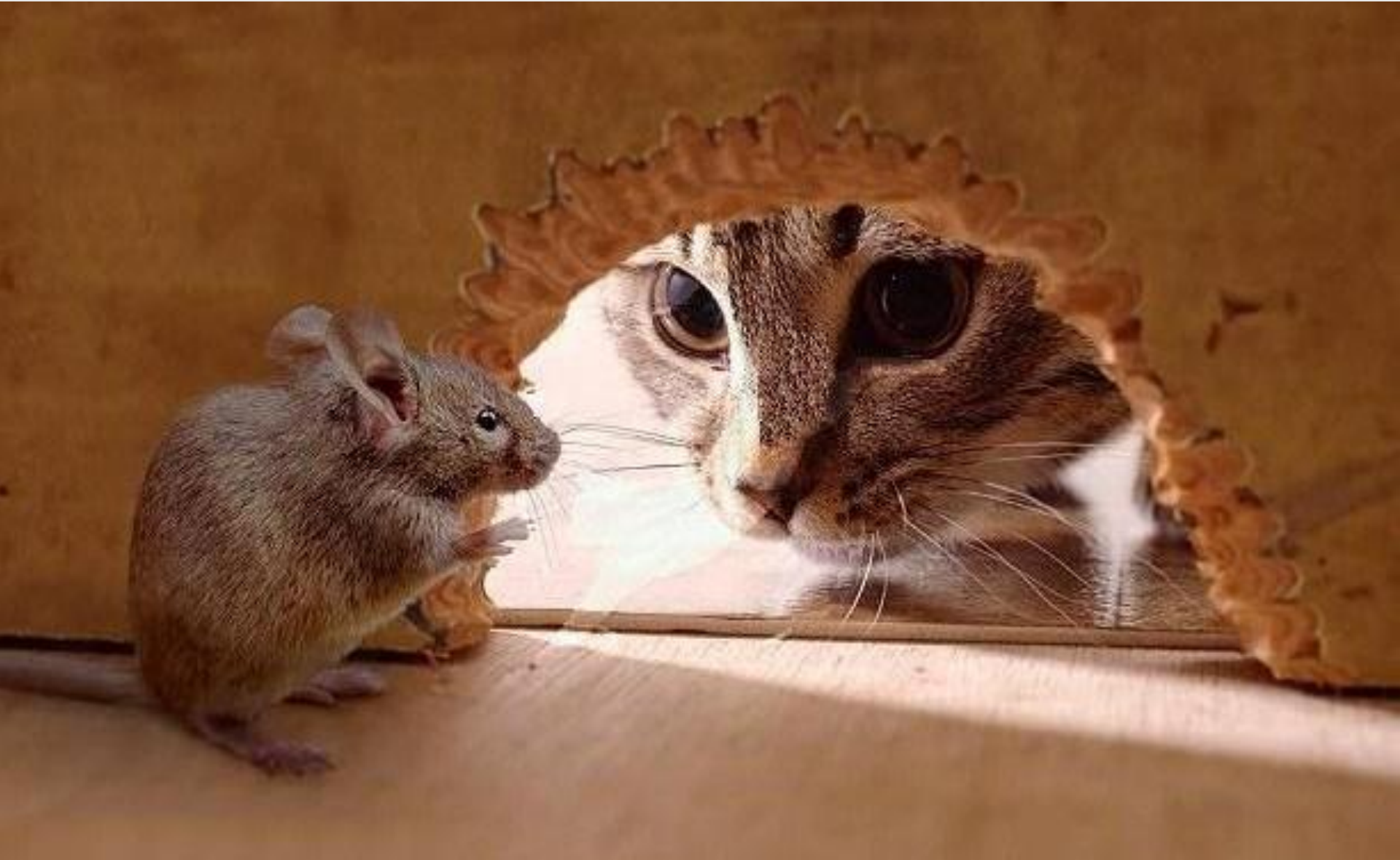


Trojans Deceived.

Foundational Computer Security

July 19, 2023

Understand the Landscape











Windows 10



Windows 10



macOS Monterey



macOS Monterey

Criminal
Hackers

A large, two-story house with a grey shingled roof and brick exterior is under construction. Scaffolding is visible around the house, and a worker is on a ladder. In the foreground, a metallic robot with glowing red eyes stands in a field of tall grass. The text "macOS Monterey" is overlaid in the center, and "Malware" is in a box at the bottom left.

macOS Monterey

Malware



macOS Monterey

Malware

Criminal
Hackers

What are criminals / malware looking for?

Anything that gets them power / control / wealth:

- Control of your operating system
 - Sell that control to someone else
 - Launch Distributed-Denial-of-Service network attack on a bank
 - Mine BitCoin / cryptocurrency
- Control of your data
 - Encrypt your data and make you pay to get it back (Ransomware)
 - Corporate espionage / spying
- Control of your web accounts (email, financial, social)
 - Sell account access to someone else
 - Impersonate you via your email / social
 - Reset passwords via your email



Close and lock
all the doors and windows!
(Apply security updates)

Installing Windows updates...
Do not turn off your computer.



Installing Windows updates...
Do not turn off your computer.

Patch all the vulnerabilities!
(Apply security updates)

What needs to be updated? (an incomplete list)

At least: anything that interfaces with the Internet:

- Operating Systems (laptop, phone)
 - Windows 10 / 11
 - macOS
 - iOS / iPadOS / Android
- Web Browsers
 - Google Chrome
 - Mozilla Firefox
 - Safari
- Apps that process files shared on the web
 - Adobe Acrobat (PDFs)
 - Microsoft Office

How often do you update?

At least: anything that interfaces with the Internet:

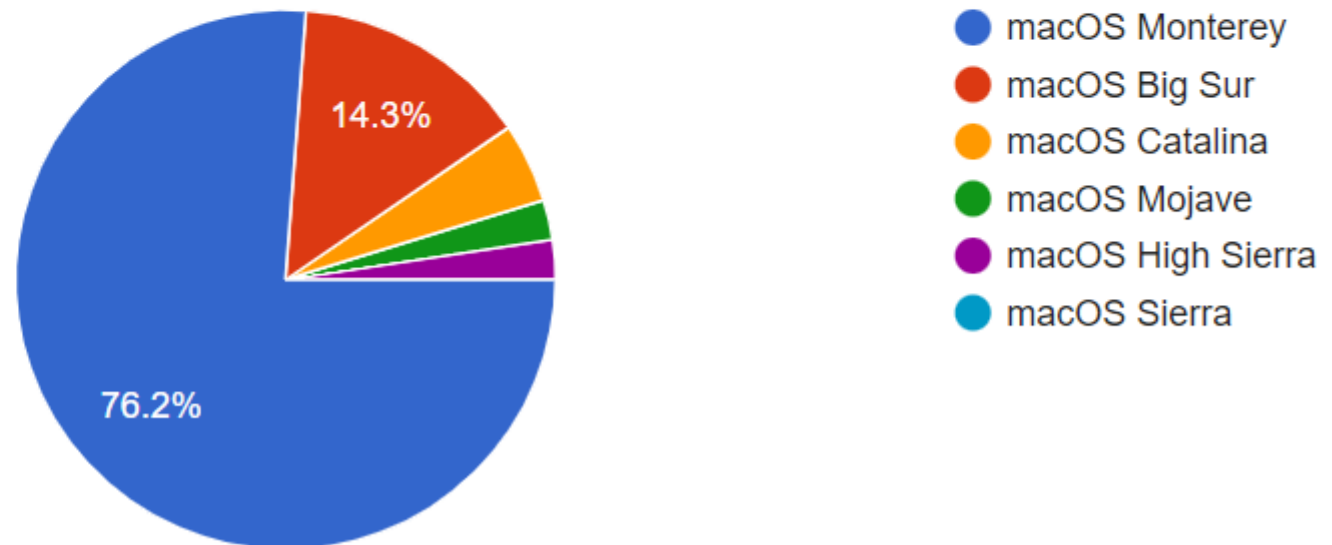
- Operating Systems (laptop, phone)
 - Windows 10 / 11 (monthly, on Second Tuesday)
 - macOS (roughly monthly, time unpredictable)
 - iOS / iPadOS / Android (roughly monthly, time unpredictable)
- Web Browsers
 - Google Chrome (roughly weekly)
 - Mozilla Firefox (roughly weekly)
 - Safari (roughly monthly)
- Apps that process files shared on the web
 - Adobe Acrobat (PDFs) (roughly quarterly)
 - Microsoft Office (roughly quarterly)

Pause to look at OS Version survey results (i.e. who CAN'T apply updates due to end-of-life?)

macOS

Which version of macOS is running on your computer?

42 responses





Hire a security guard!

Antimalware /
Antivirus

Antivirus Software Checklist

- Make sure you have realtime protection
 - macOS has [XProtect](#) built-in
 - Windows has “[Virus & threat protection](#)” built-in
 - But you may have a 3rd party antivirus tool instead
- Run **full** scans at least monthly
 - You have to do this manually.
 - It slows down your computer, try doing it overnight.

Questions

Introduce Homework Assignment (on Moodle)

Links from lecture:

- <https://endoflife.date/windows>
 - End of life dates for Microsoft Windows
- <https://endoflife.date/macOS>
 - End of life dates for Apple macOS
- <https://www.cisa.gov/>
 - Cybersecurity and Infrastructure Security Agency
- <https://support.apple.com/en-us/HT201222>
 - How to know what the latest macOS / iOS versions are
- <https://support.microsoft.com/en-us/topic/windows-11-version-22h2-update-history-ec4229c3-9c5f-4e75-9d6d-9025ab70fcce>
 - Windows 11 22H2 version history
- <https://support.microsoft.com/en-us/topic/windows-10-update-history-8127c2c6-6edf-4fdf-8b9f-0f7be1ef3562>
 - Windows 10 22H2 version history
- <https://support.microsoft.com/en-us/windows/stay-protected-with-windows-security-2ae0363d-0ada-c064-8b56-6a39afb6a963>
 - Instructions for Windows Security virus scans