STUXNET

STUXNET

THE WORM THAT BROKE PHYSICAL MACHINES

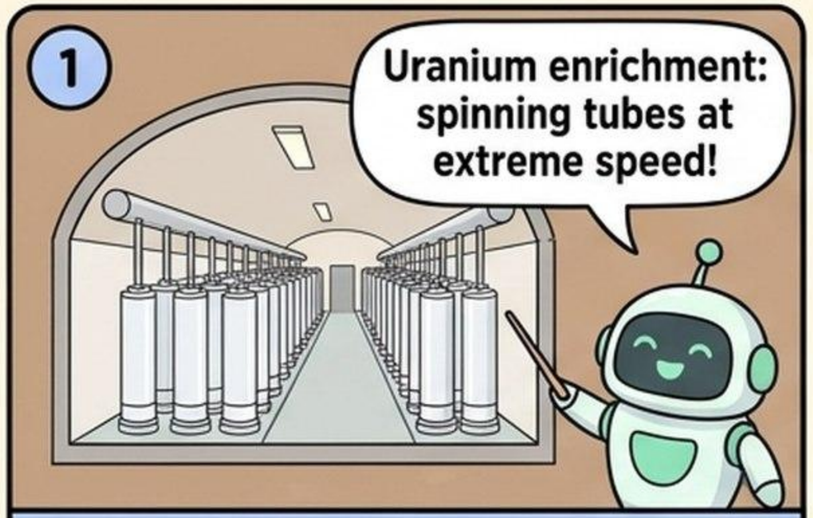
A COMIC BOOK FOR SECURITY STUDENTS



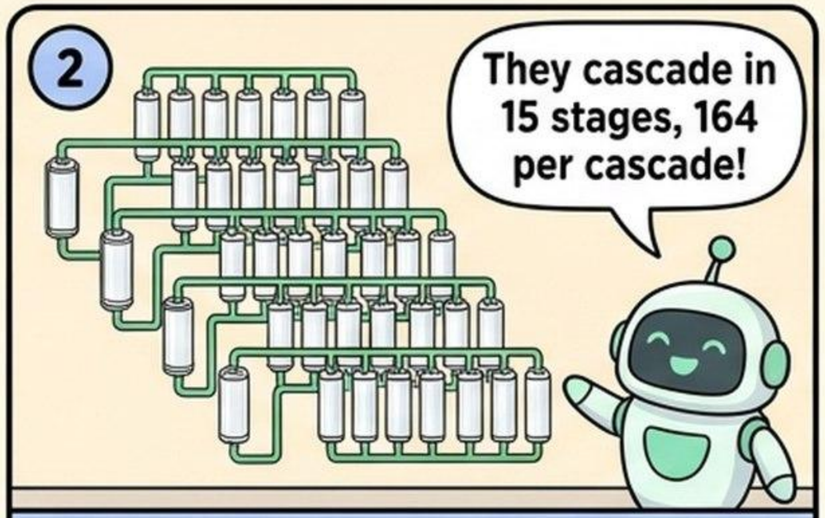
Created by @hardik05

PAGE 1: THE PLANT

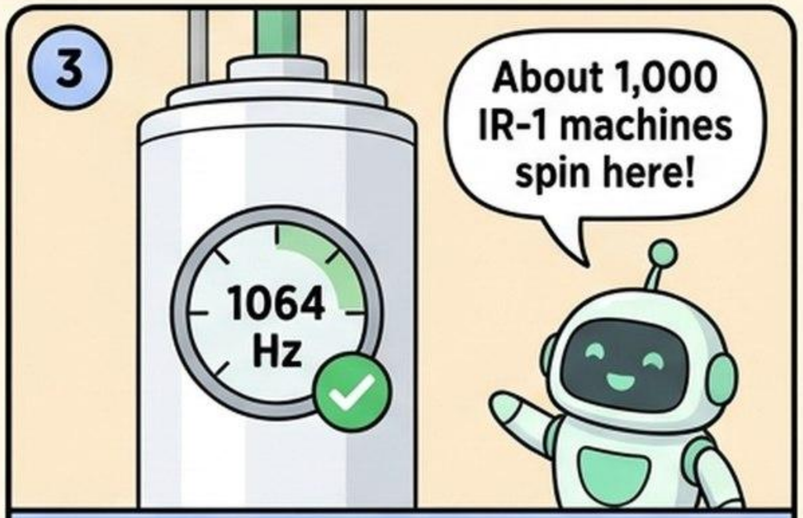
STUXNET



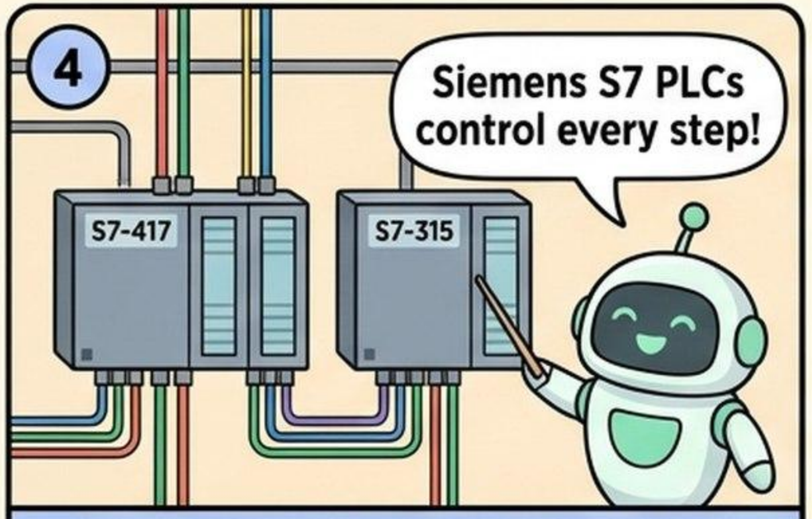
NATANZ FUEL ENRICHMENT PLANT



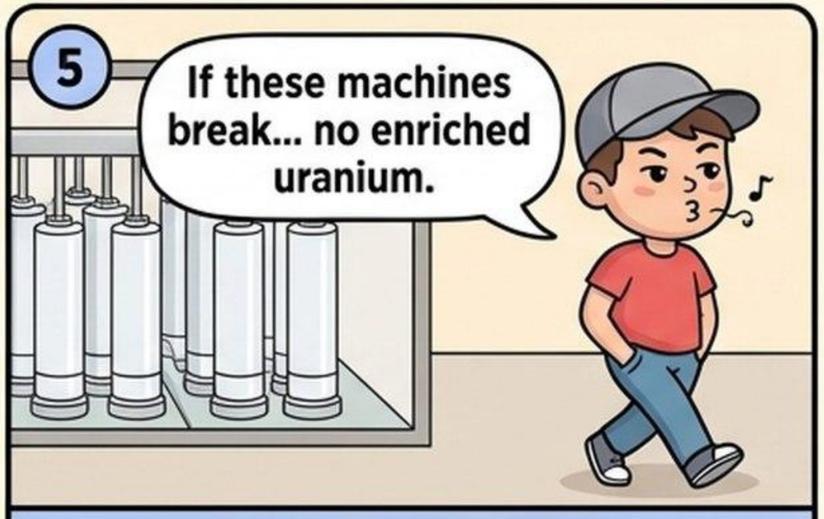
A CASCADE: 164 CENTRIFUGES, 15 STAGES



NORMAL SPIN: 807-1210 Hz



CONTROLLERS RUN THE SHOW



WHY IT MATTERS



THE WEAPON HAS A PLAN

hacktoons.com

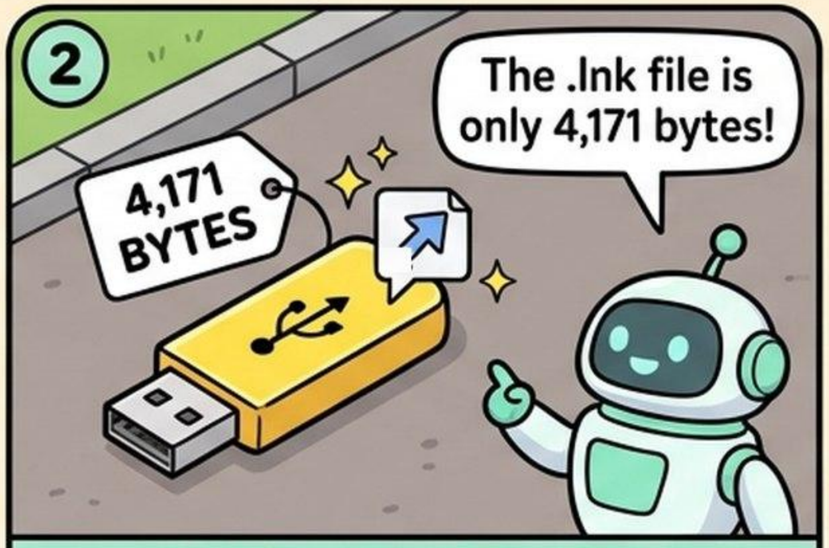
Created by @hardik05

PAGE 2: THE USB

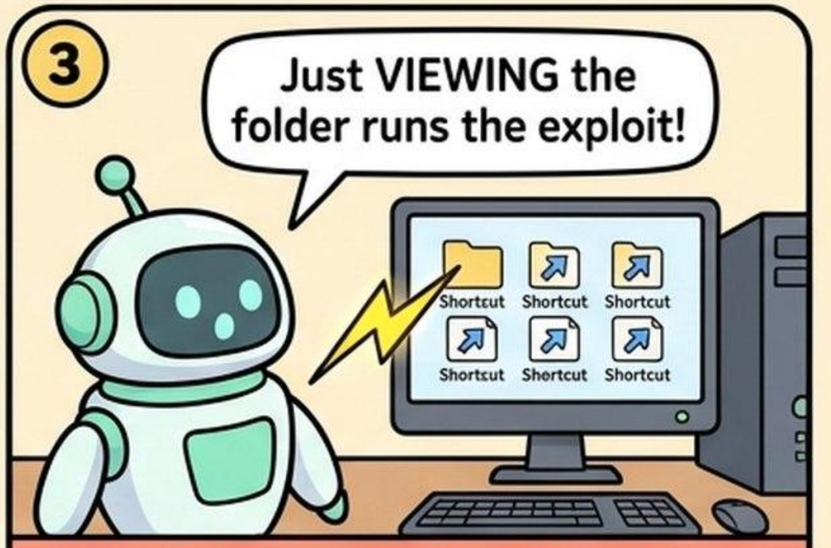
STUXNET



THE DROP



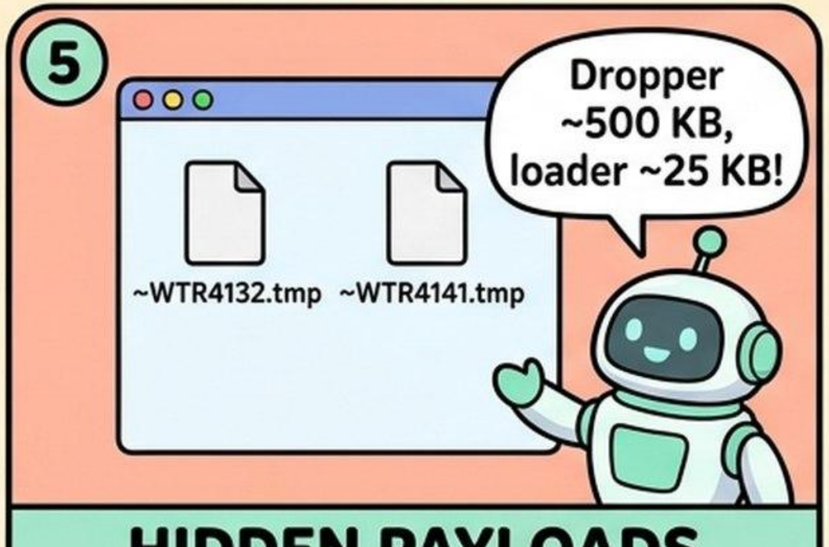
JUST 4,171 BYTES



CVE-2010-2568



NO CLICK NEEDED



HIDDEN PAYLOADS



POLITE WORM

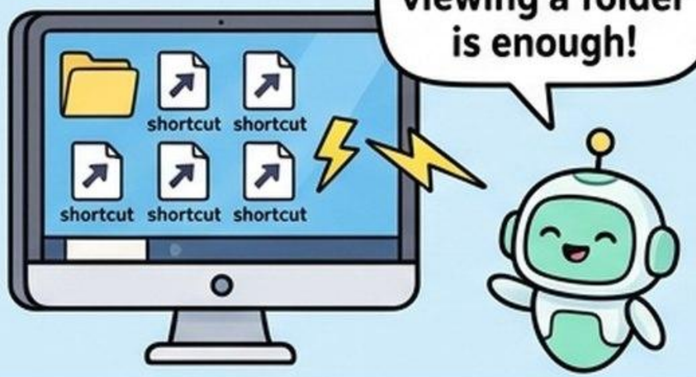
hacktoons.com

Created by @hardik05

PAGE 3: FOUR ZERO-DAYS!

STUXNET

1



ZERO-DAY #1: CVE-2010-2568

2



ZERO-DAY #2: CVE-2010-2729

3



ZERO-DAY #3: MS10-073

4



ZERO-DAY #4: CVE-2010-3888

5



PLUS A FREE OLD BUG

6



AND A GIFT PASSWORD

hacktoons.com

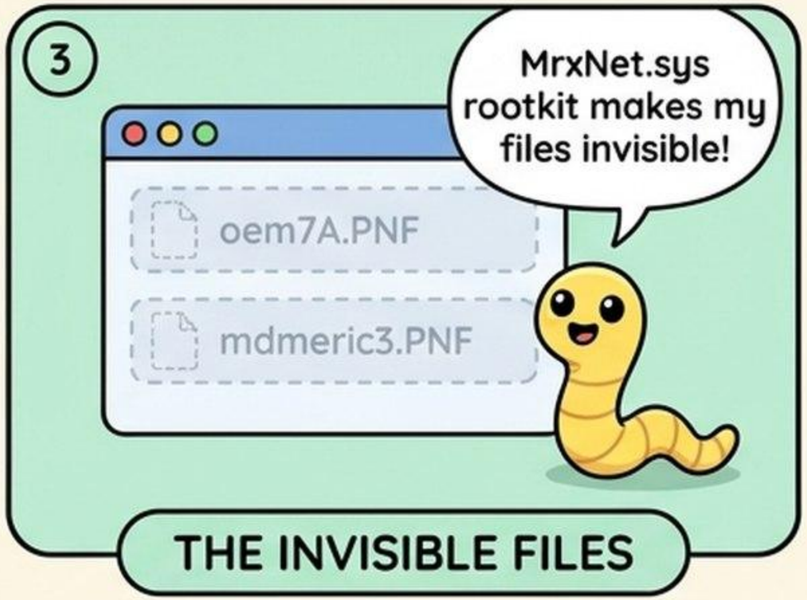
Created by @hardik05

PAGE 4: THE PERFECT DISGUISE

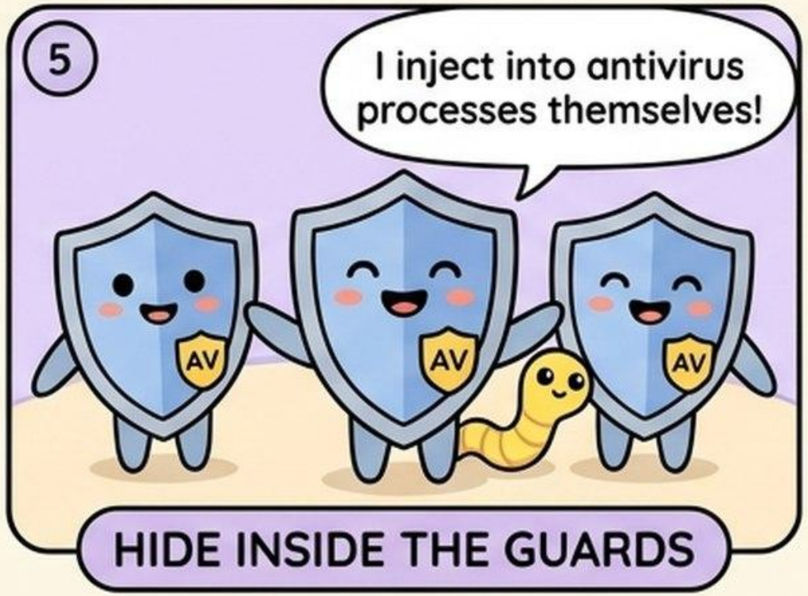
STUXNET

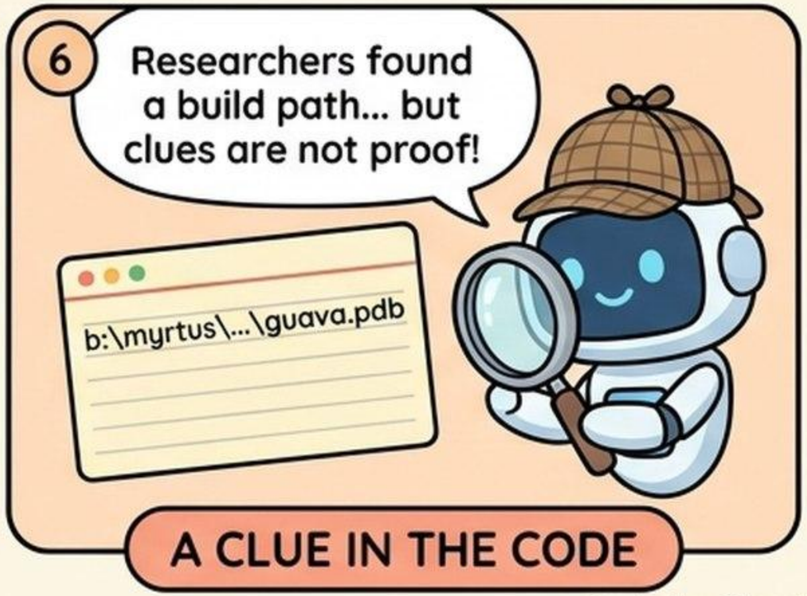










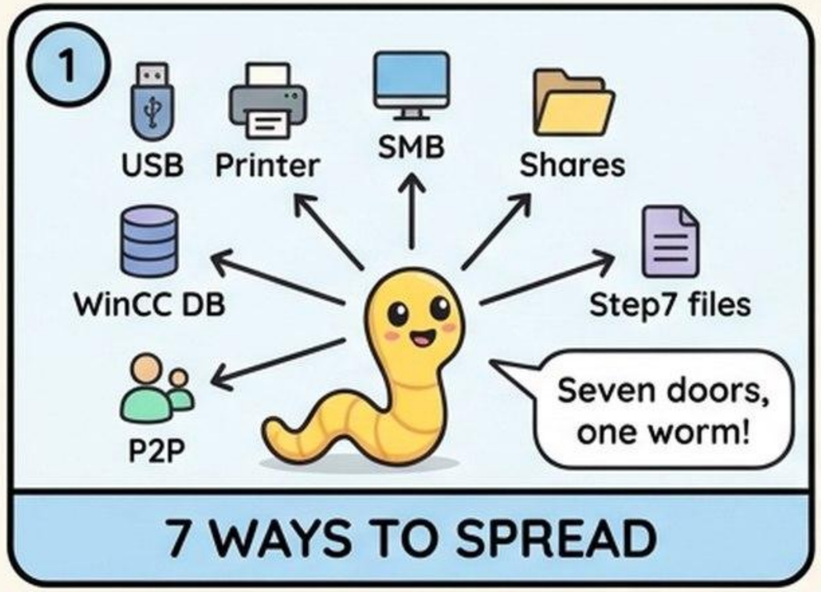


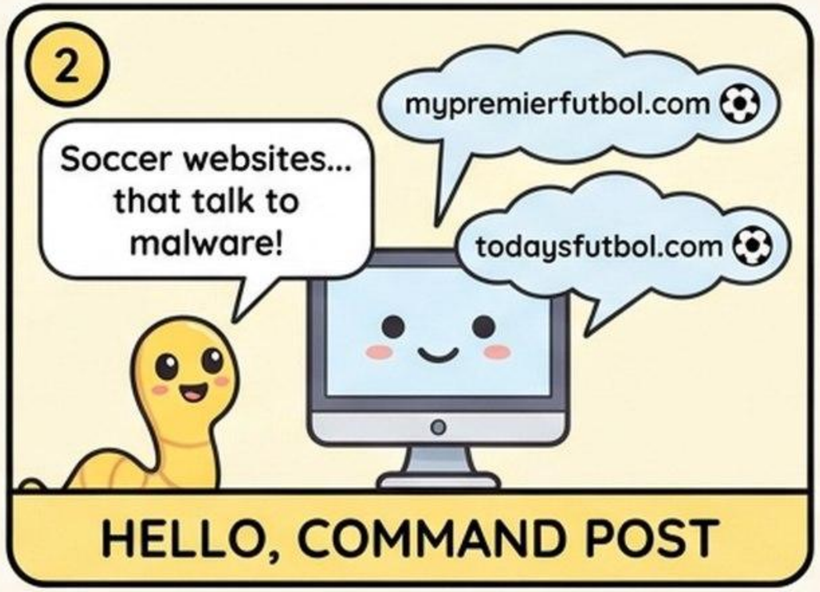
hacktoons.com

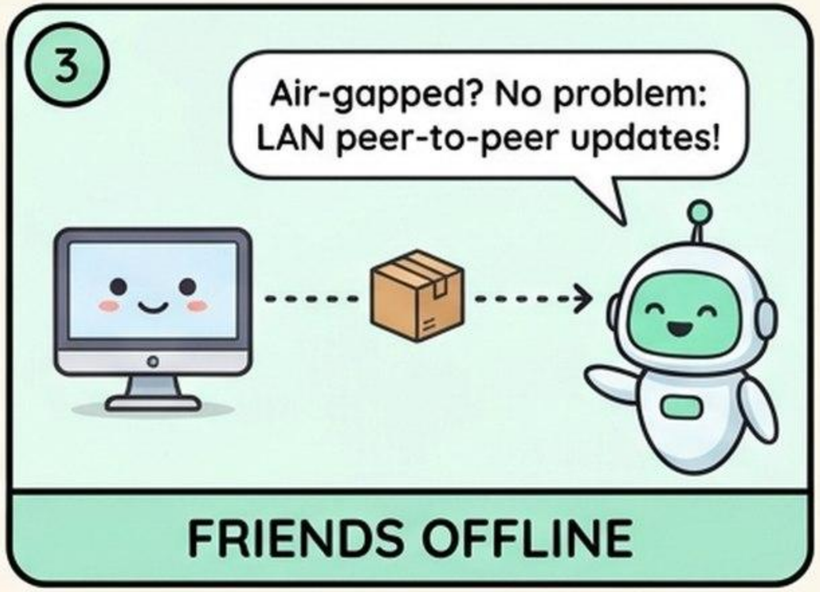
Created by @hardik05

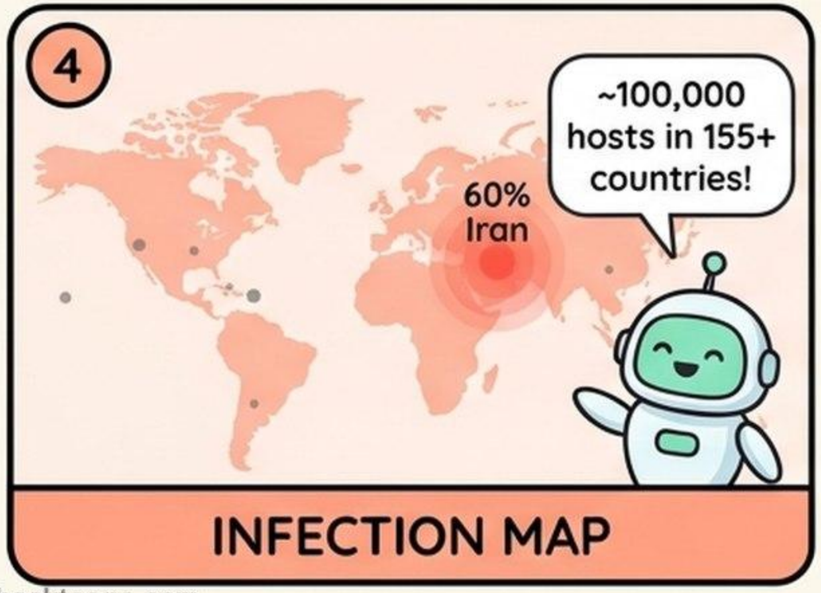
PAGE 5: THE MAZE

STUXNET

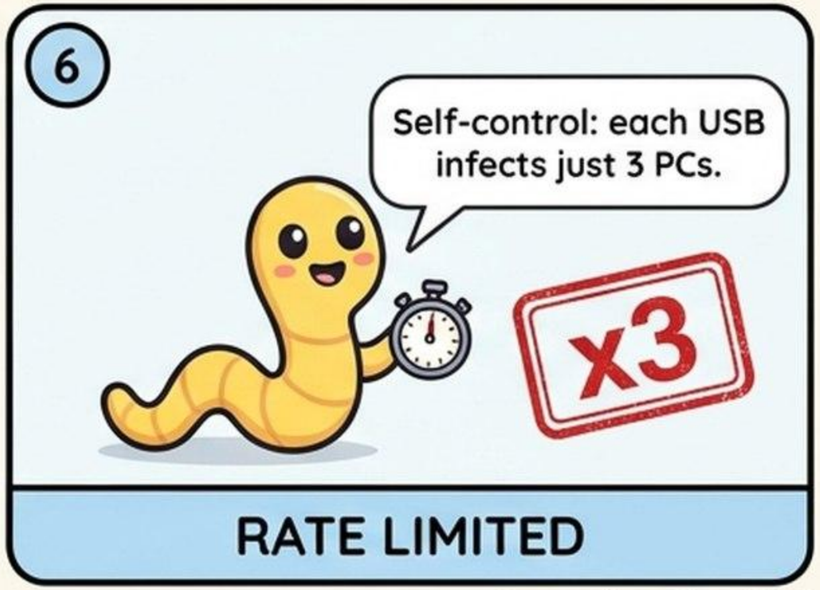












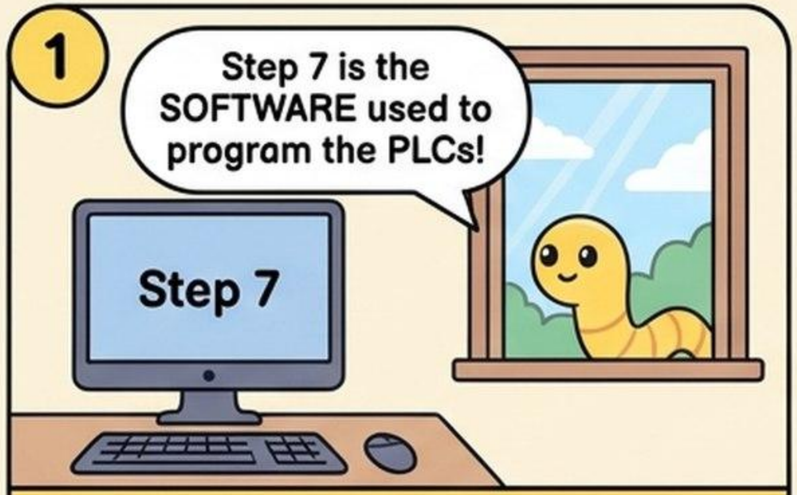
hacktoons.com

Created by @hardik05

PAGE 6: THE STEP 7 HEIST

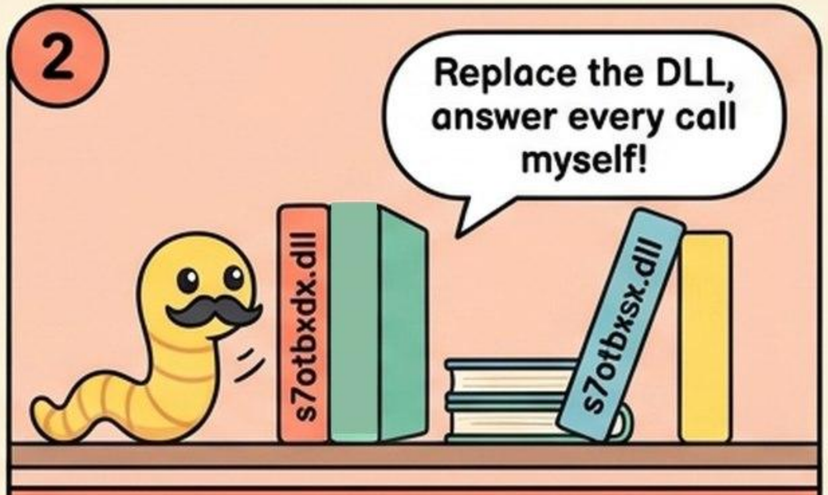
STUXNET

1



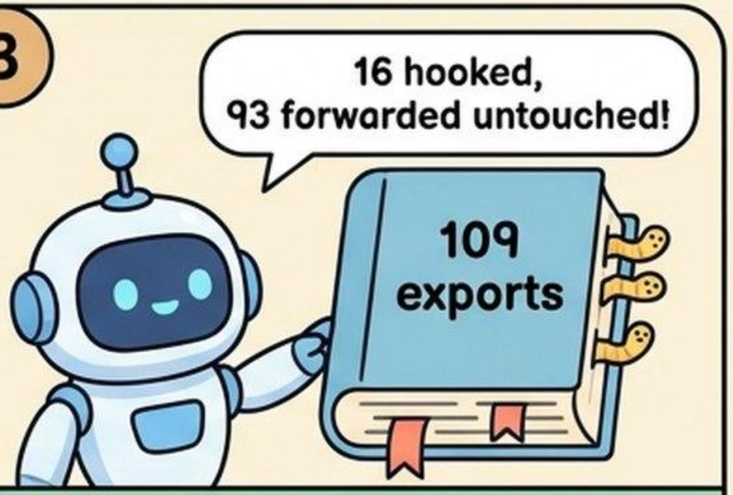
THE KEY TO THE KINGDOM

2



THE DLL SWITCHEROO

3



16 OF 109 EXPOSED

4



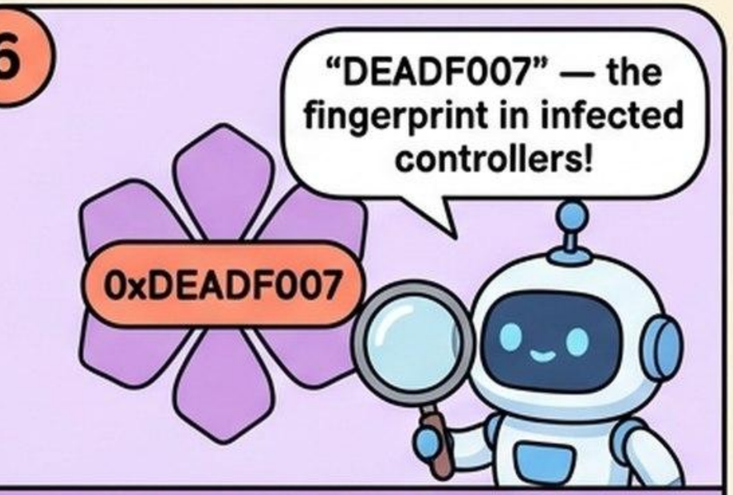
THE PLC ROOTKIT

5



HIDDEN BLOCKS

6



A SIGNATURE FLOWER

hacktoons.com

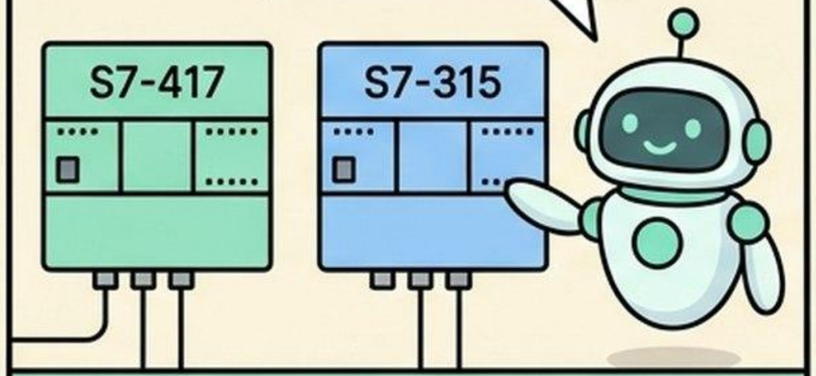
Created by @hardik05

PAGE 7: THE SABOTAGE

STUXNET

1

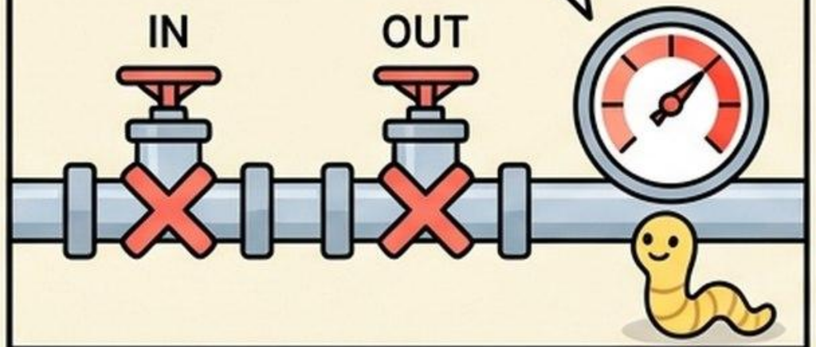
One worm, two sabotage modes!



TWO ATTACKS, TWO CONTROLLERS

2

Close the valves. Let pressure build.



ATTACK 1: OVERPRESSURE (S7-417)

3

De-calibrated gauges report... nothing wrong!



SENSORS LIED

4

Spin at 1410 Hz... far past the normal 807-1210!



ATTACK 2: ROTOR SPEED (S7-315)

5

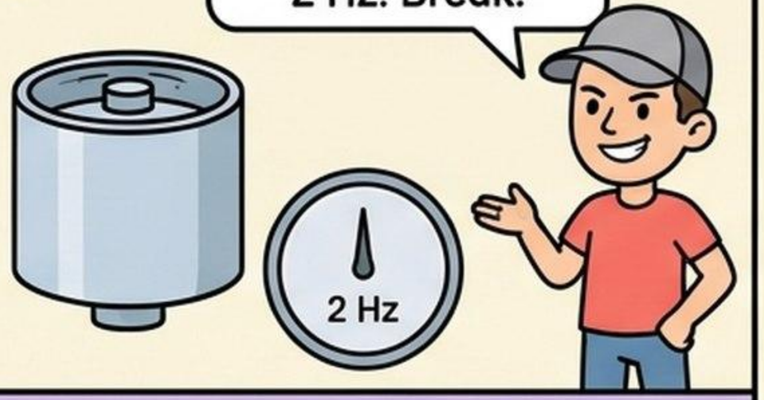
Swing past resonance and rotors crack!



THROUGH THE RESONANCE

6

...then nearly stop. 2 Hz. Break.



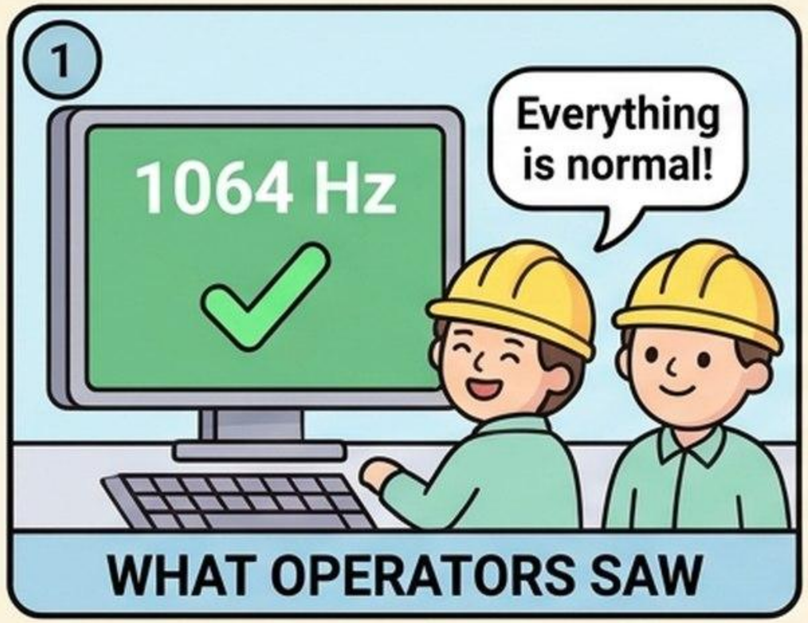
THEN... STOP

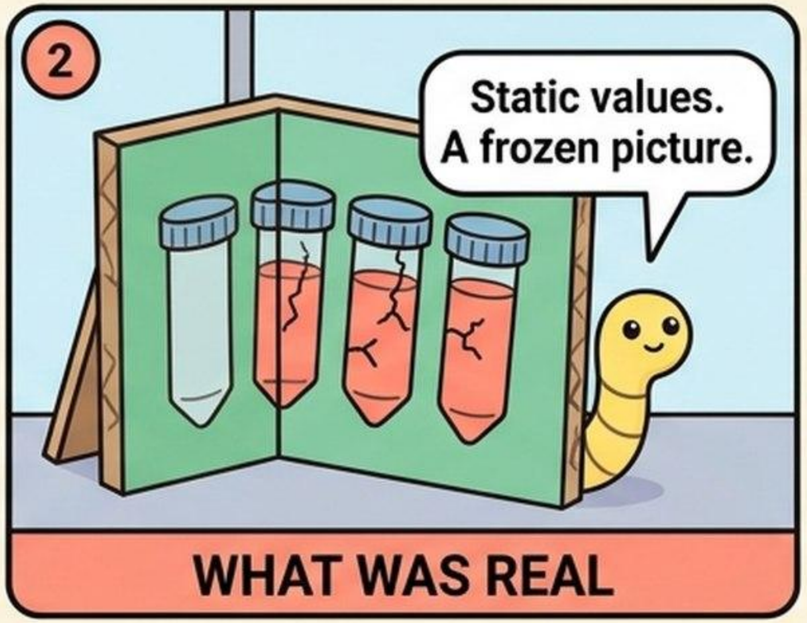
hacktoons.com

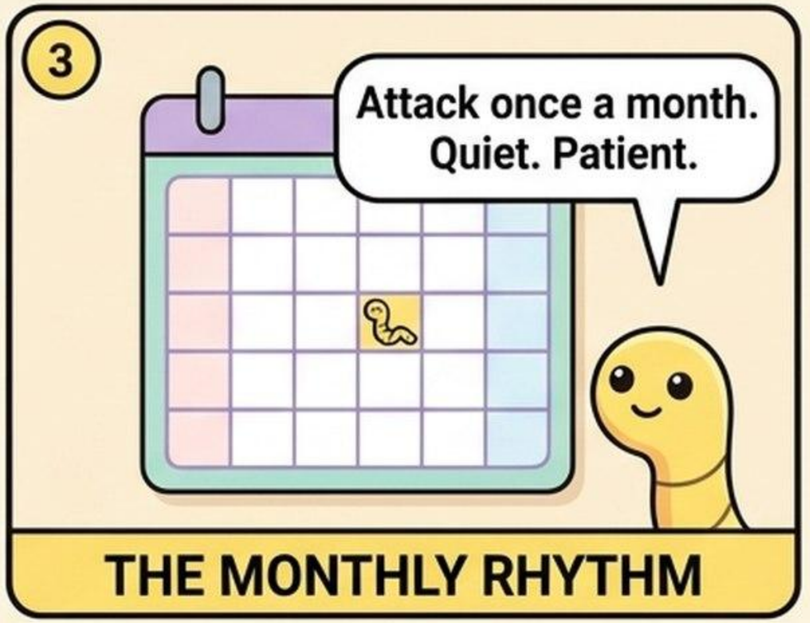
Created by @hardik05

PAGE 8: THE PERFECT LIE

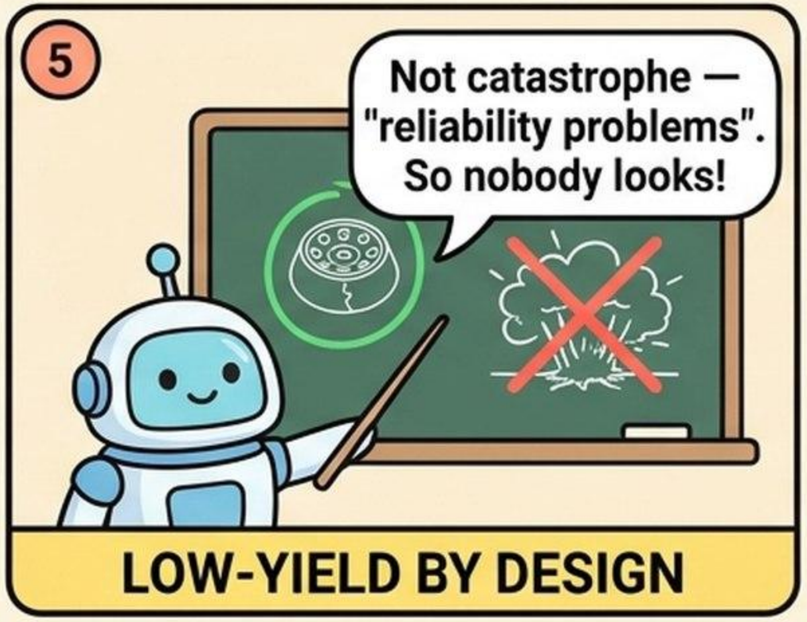
STUXNET

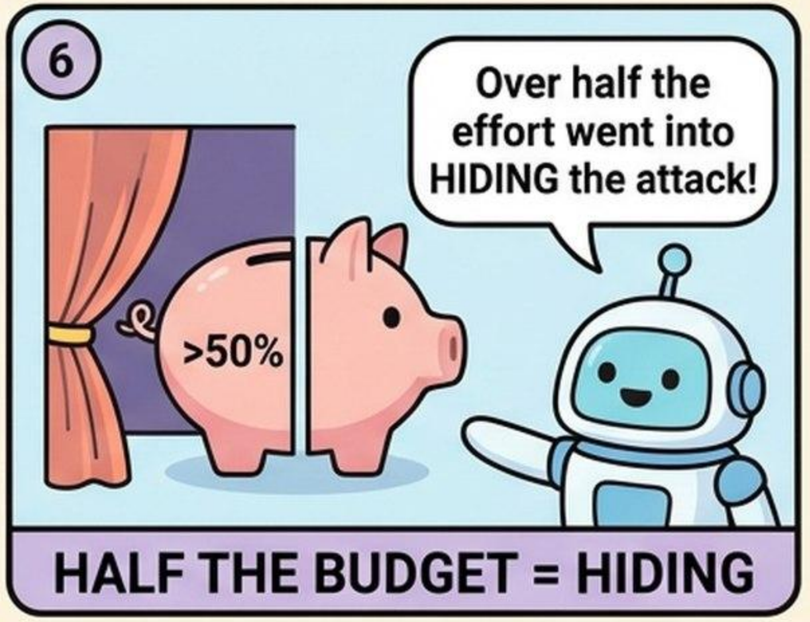












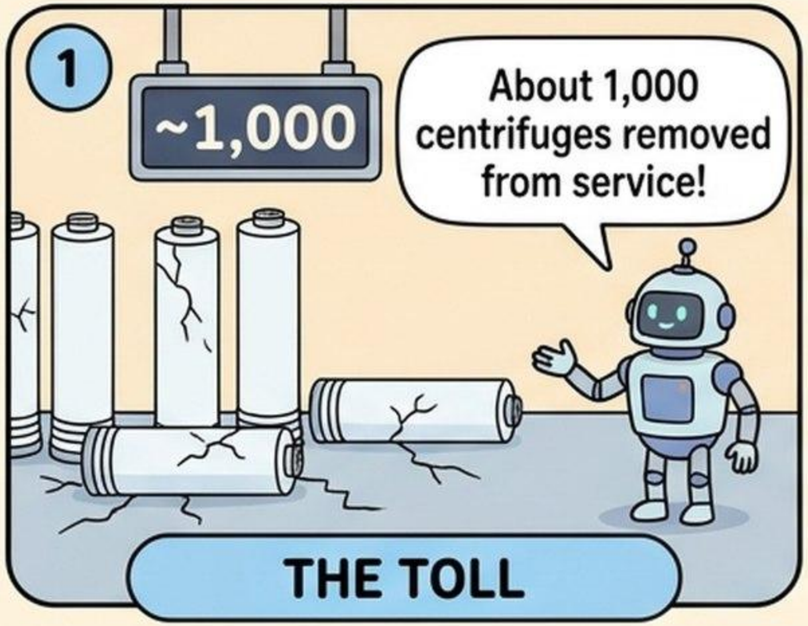
hacktoons.com

Created by @hardik05

PAGE 9: THE AFTERMATH

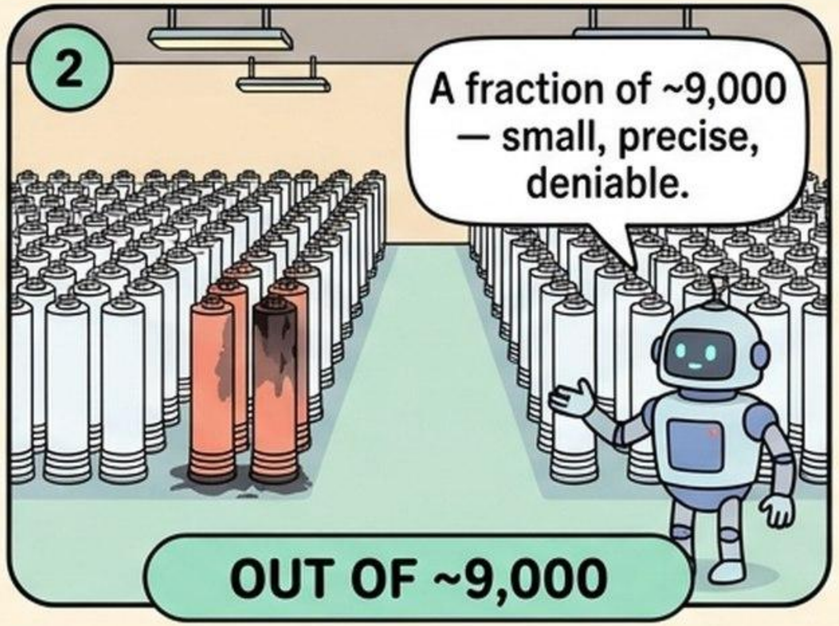
STUXNET

1



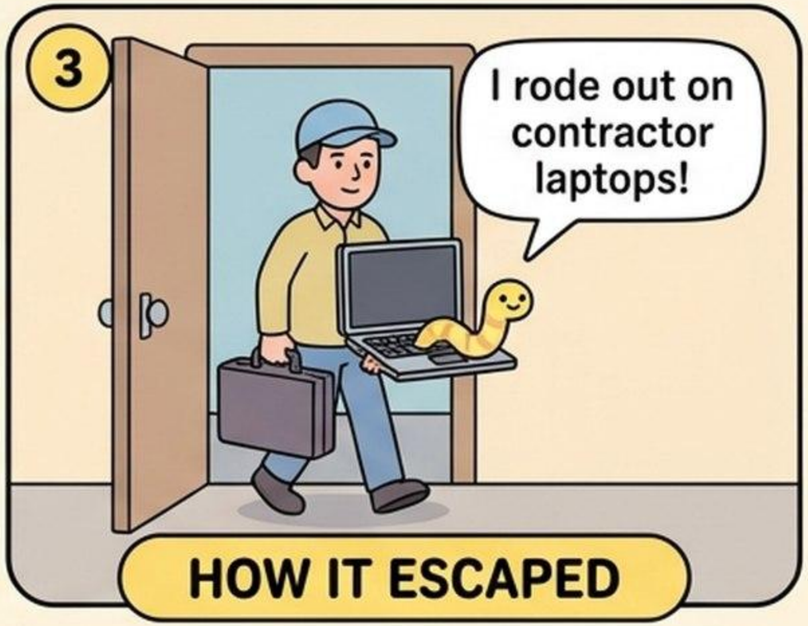
THE TOLL

2



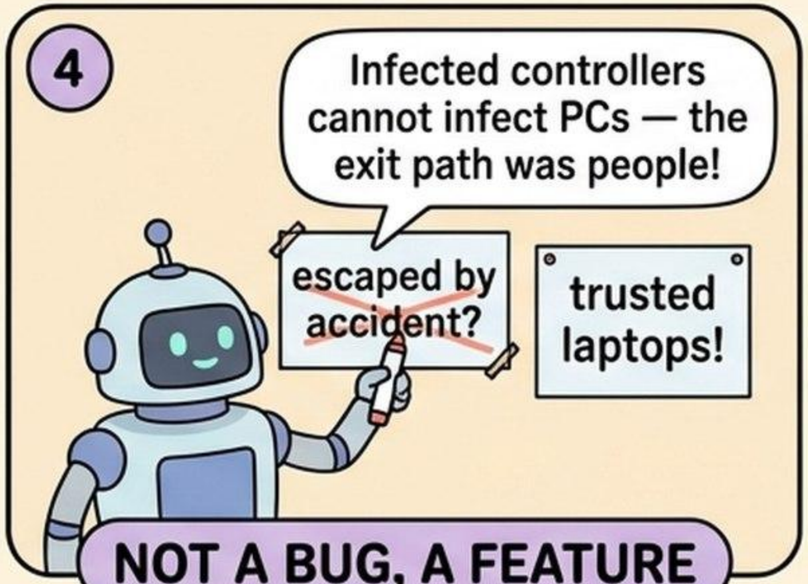
OUT OF ~9,000

3



HOW IT ESCAPED

4



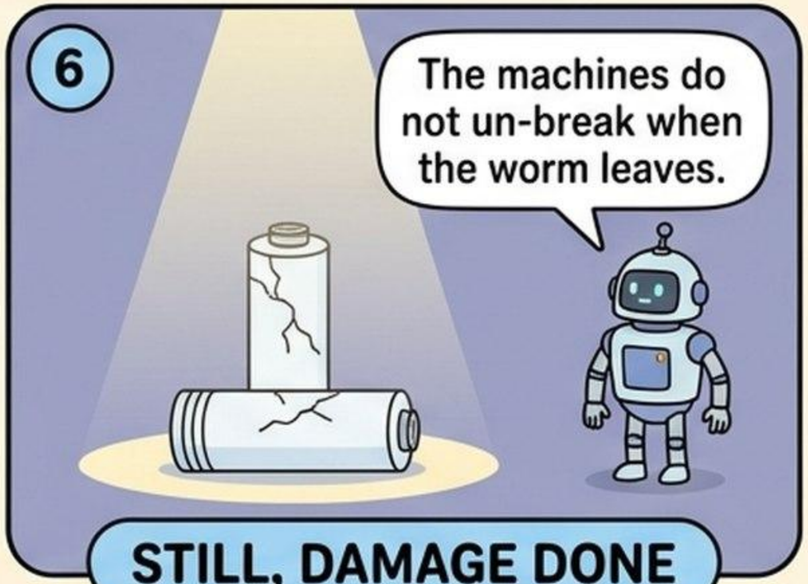
NOT A BUG, A FEATURE

5



IRAN PULLS THE PLUG

6



STILL, DAMAGE DONE

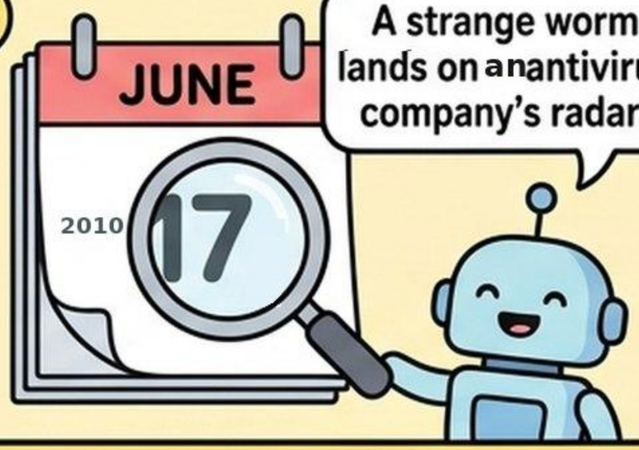
hacktoons.com

Created by @hardik05

PAGE 10: THE DISCOVERY

STUXNET

1



JUNE 17, 2010

2



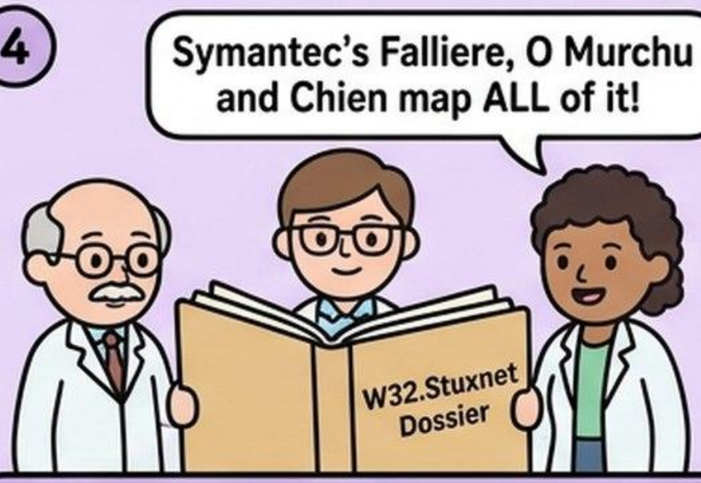
VIRUSBLOKADA, MINSK

3



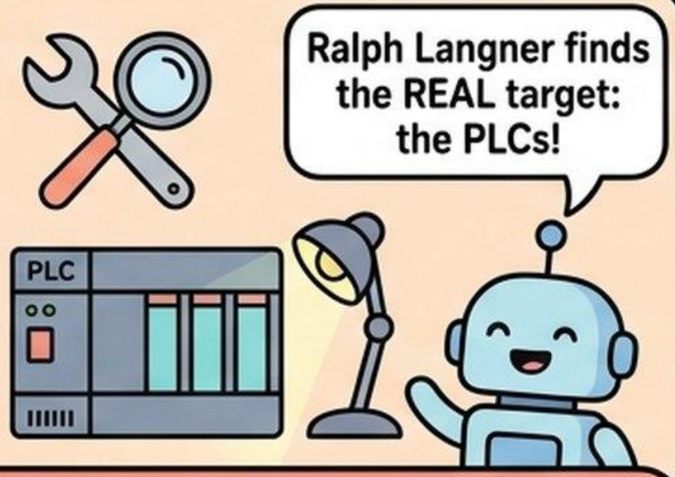
RESEARCHER AT WORK

4



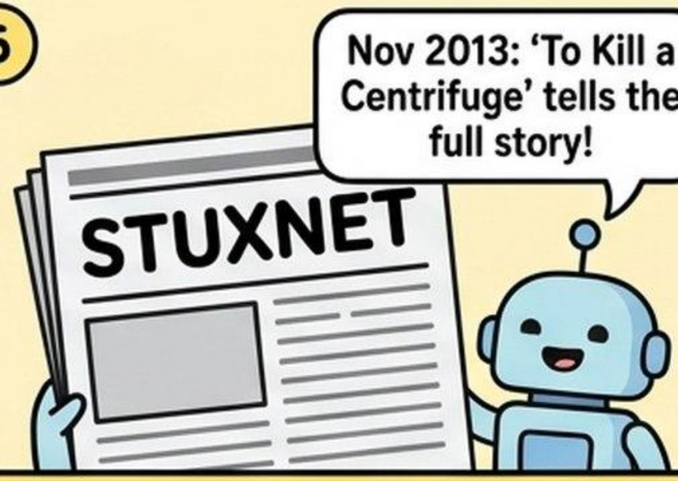
THE A-TEAM ASSEMBLES

5



THE ICS DETECTIVE

6



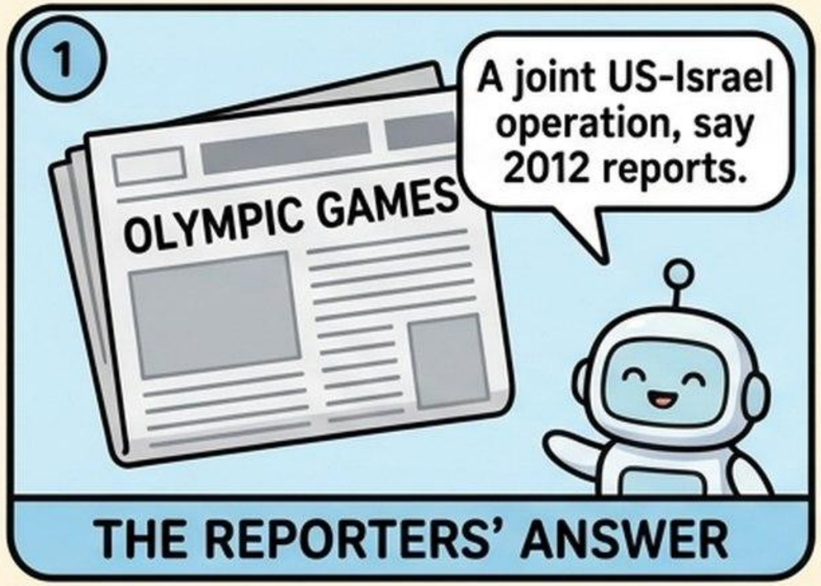
THE WORLD LEARNS

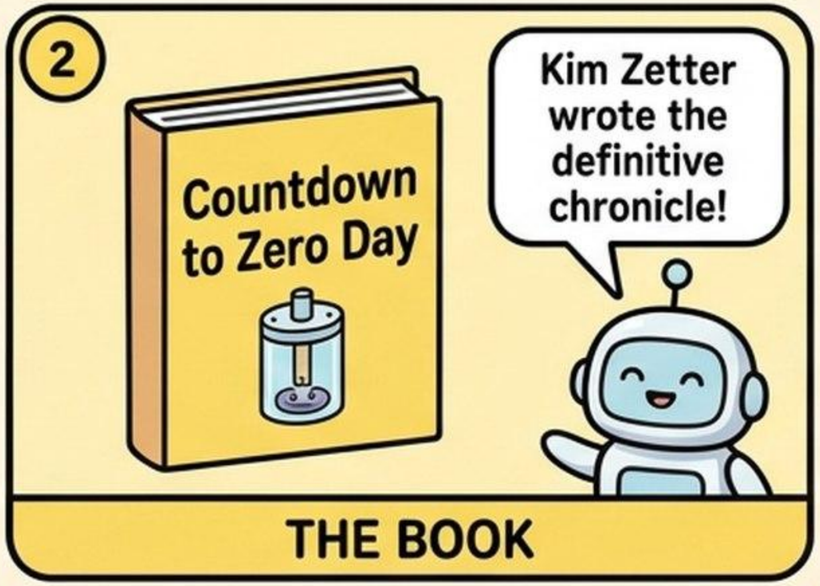
hacktoons.com

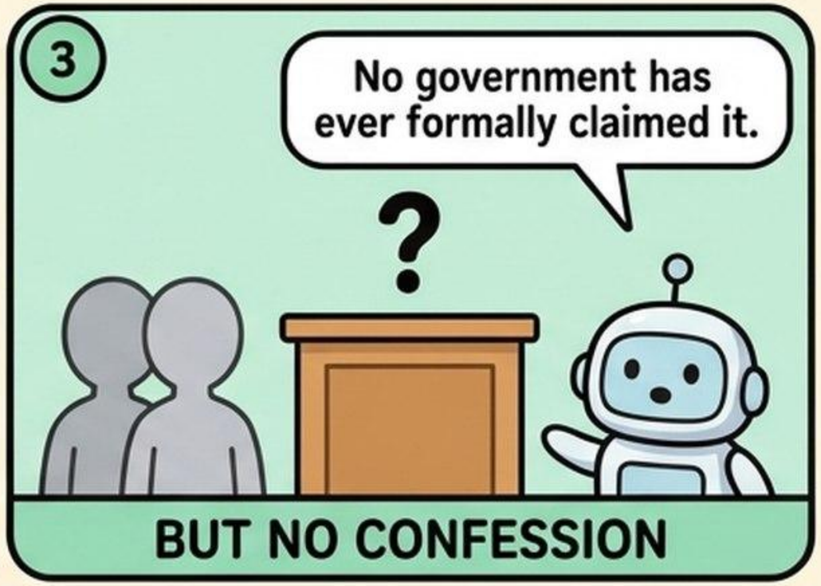
Created by @hardik05

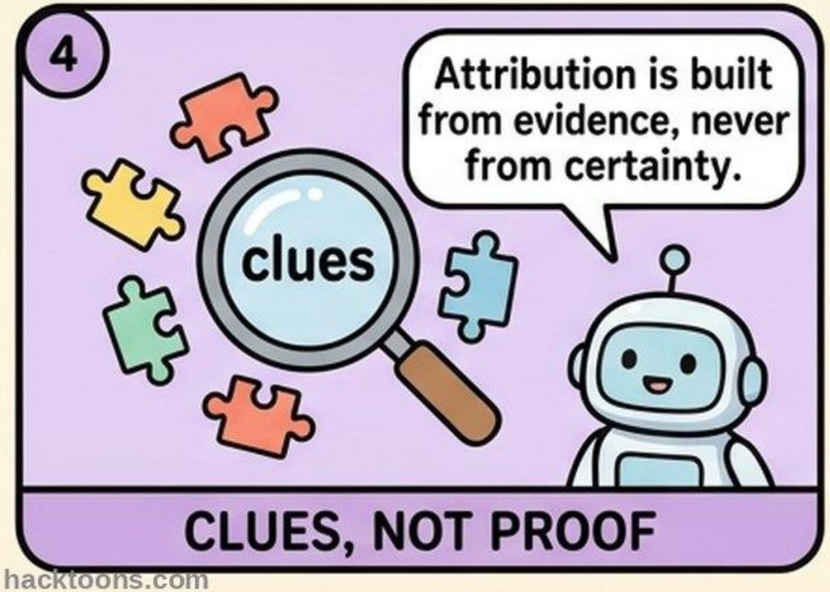
PAGE 11: WHO DID IT?

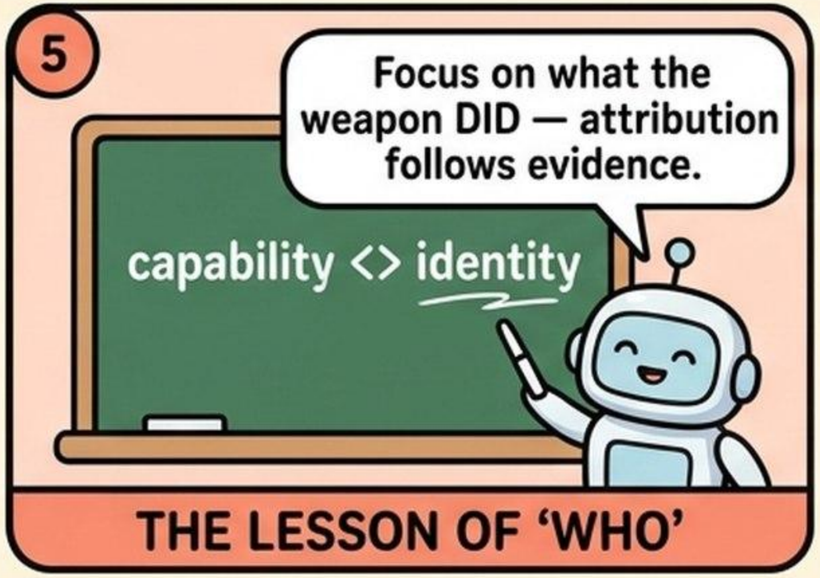
STUXNET

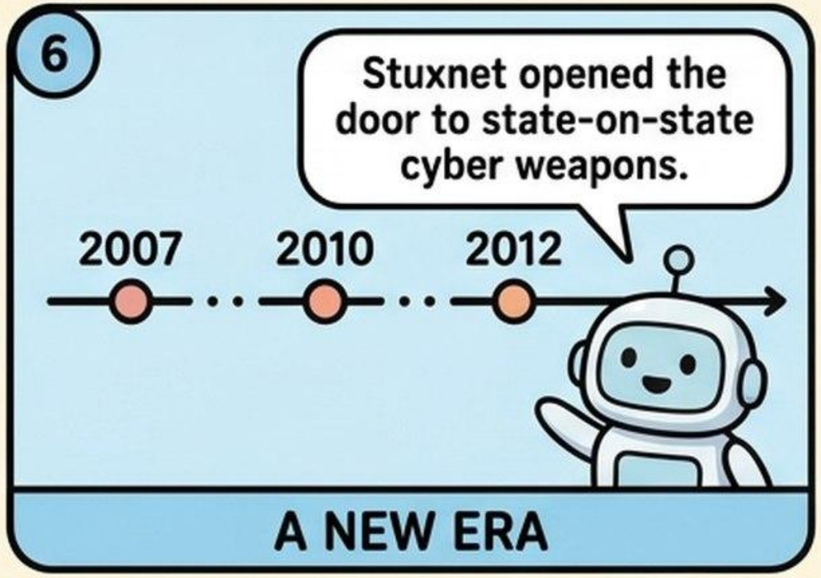












hacktoons.com

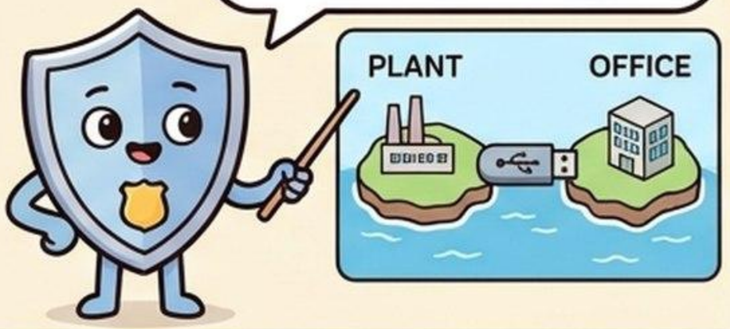
Created by @hardik05

PAGE 12: GUARD'S MASTERCLASS

STUXNET

1

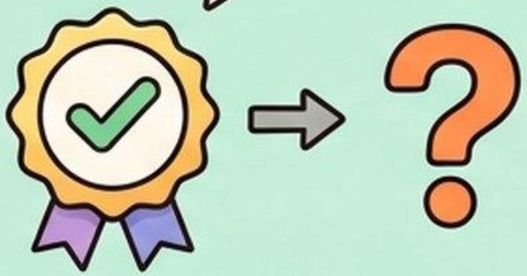
Air-gaps are only real if you AUDIT every path!



LESSON 1: VERIFY THE GAP

2

Signed code proves WHO made it — not that it is SAFE!



LESSON 2: SIGNATURES = PROVENANCE

3

Removable media needs a policy, not trust!



LESSON 3: CONTROL USB

4

Verify controller logic INDEPENDENTLY!



LESSON 4: WATCH THE PLC

5

Static readings are a SIREN, not a comfort!

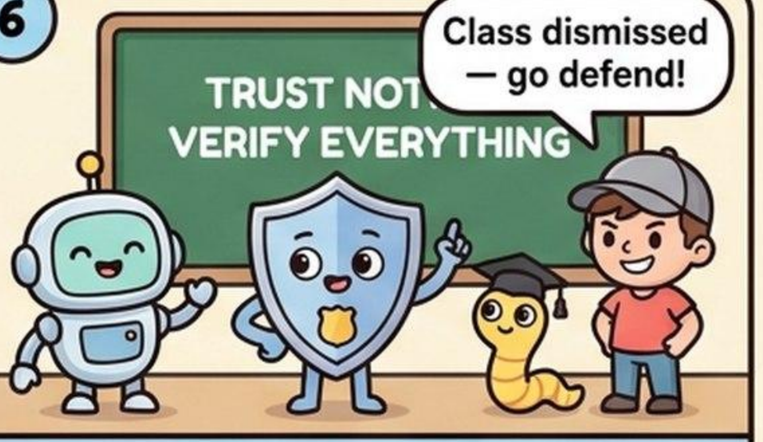


replaced DLLs | stale SCADA values | odd Profibus writes

RED FLAGS

6

Class dismissed — go defend!



THE CLASS PHOTO

hacktoons.com

Created by @hardik05

HACKTOONS

STUXNET — The Worm That Broke Physical Machines

LEGAL DISCLAIMER & EDUCATIONAL NOTICE

Disclaimer: The views and opinions expressed on this website are Hardik's own and do not necessarily reflect the official policy or position of his current or previous employers. All content, guides, and illustrations are provided for general educational and awareness purposes only and do not constitute formal legal, financial, or official government advice. All product names, logos, brands, and trademarks mentioned are the property of their respective owners and are used solely for identification and educational reference — no affiliation, endorsement, or sponsorship is implied. Creative liberty has been taken with visuals, fictional characters, sample messages, and storytelling where needed to explain technical concepts.

Created by @hardik05 · https://hacktoons.com