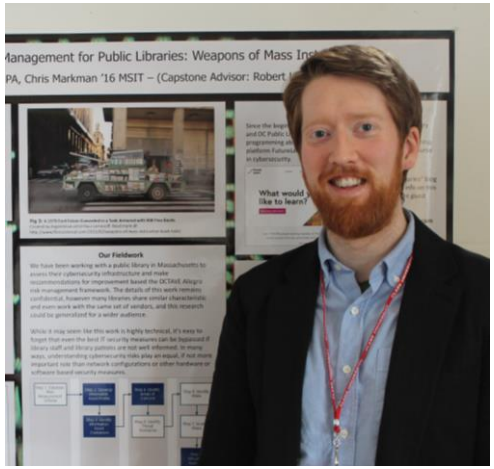
Cybersecurity Risk Management for Public Libraries: Weapons of Mass Instruction

Presented by Chris Markman, MSLIS

Some background

- Capstone Project / Fieldwork since 2014
- Collaborators: Alex Caro & faculty advisor Robert Lyons

BA Political Science &
Masters in Public Administration
(expected 2015)



MSLIS 2011,
MSIT (expected 2016)

Outline

- What we talk about when we talk about cybersecurity?

  (sorry Raymond Carver, bad joke)

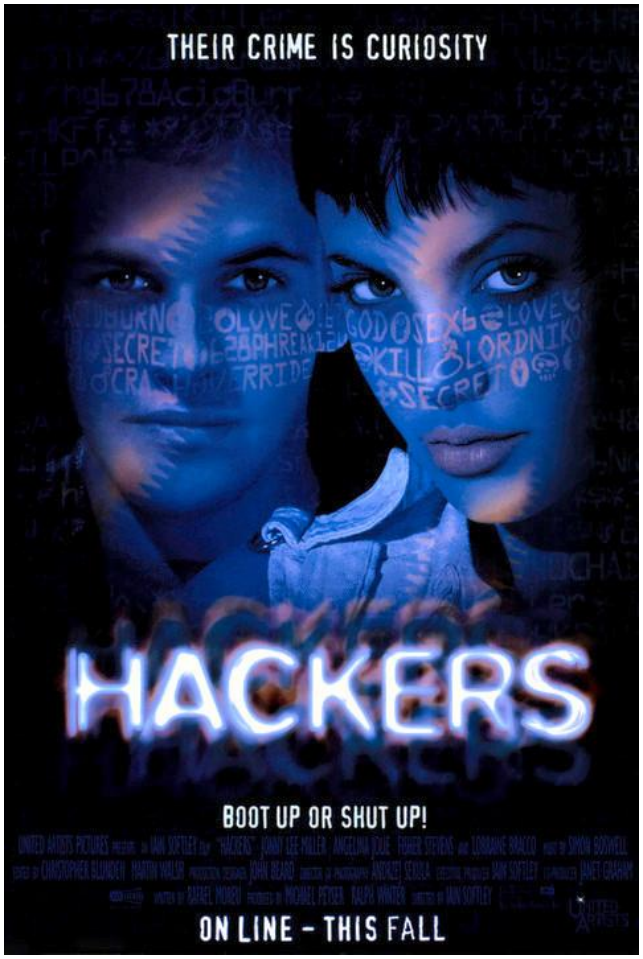
- Some things we found

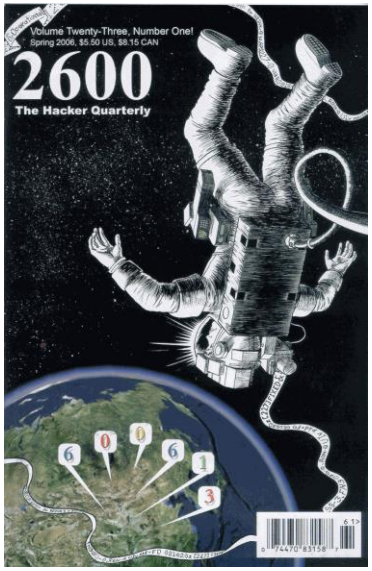
  (without getting too specific)

- The value proposition for libraries

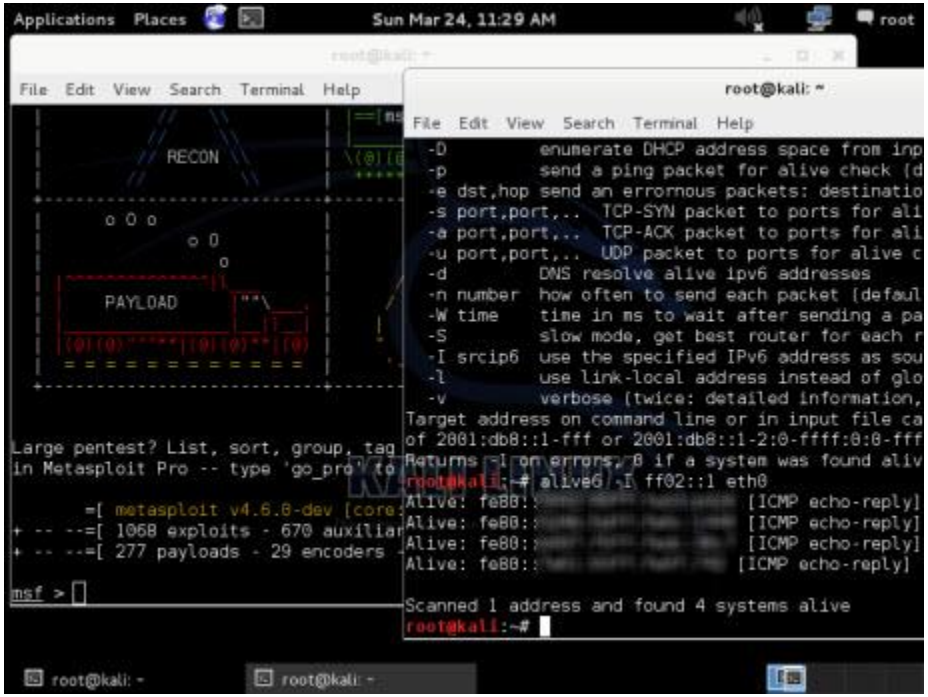
  (and how to fund these ideas)

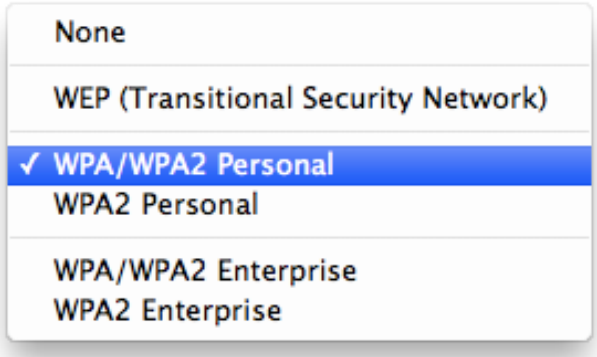
Not Cybersecurity



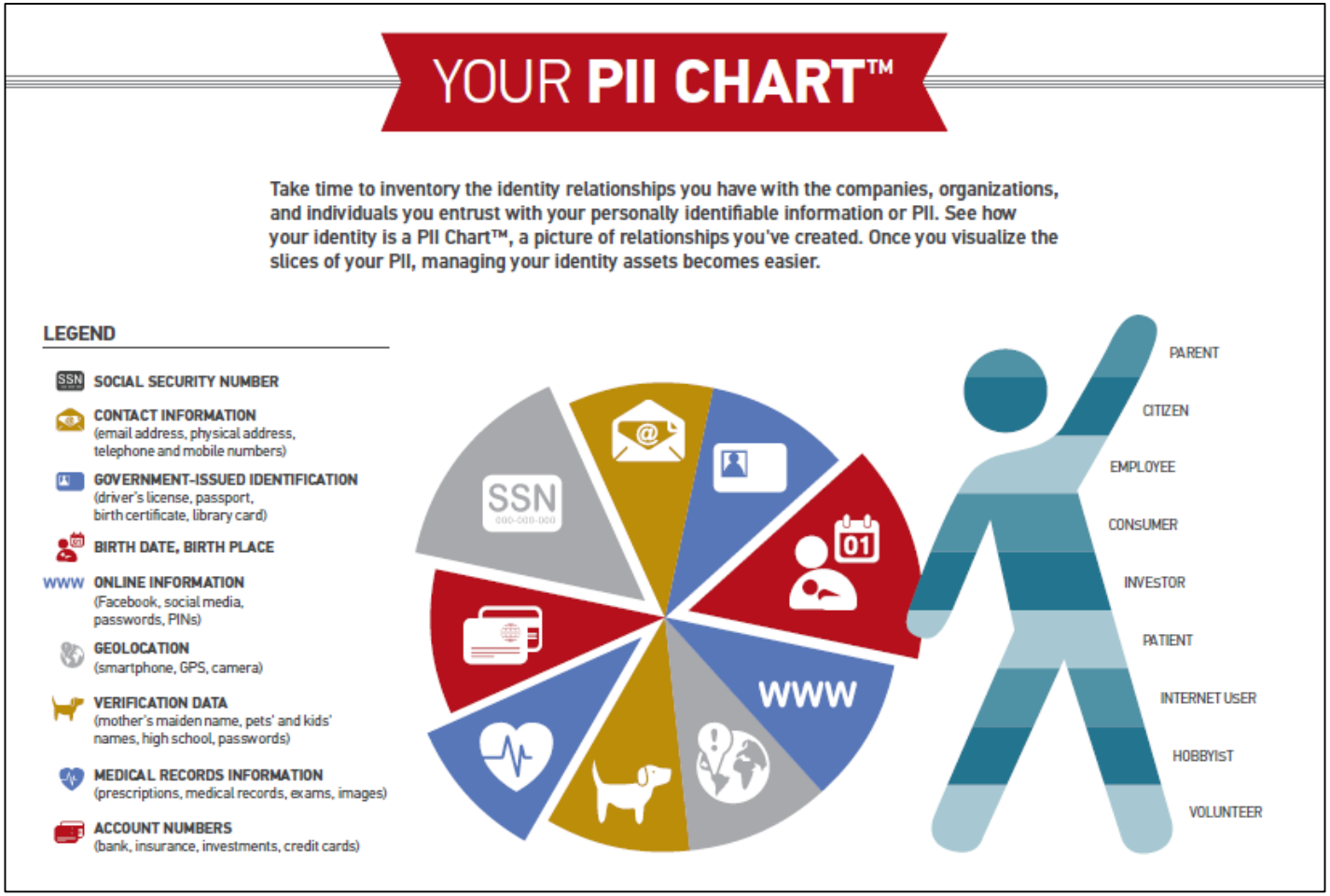


Not this…

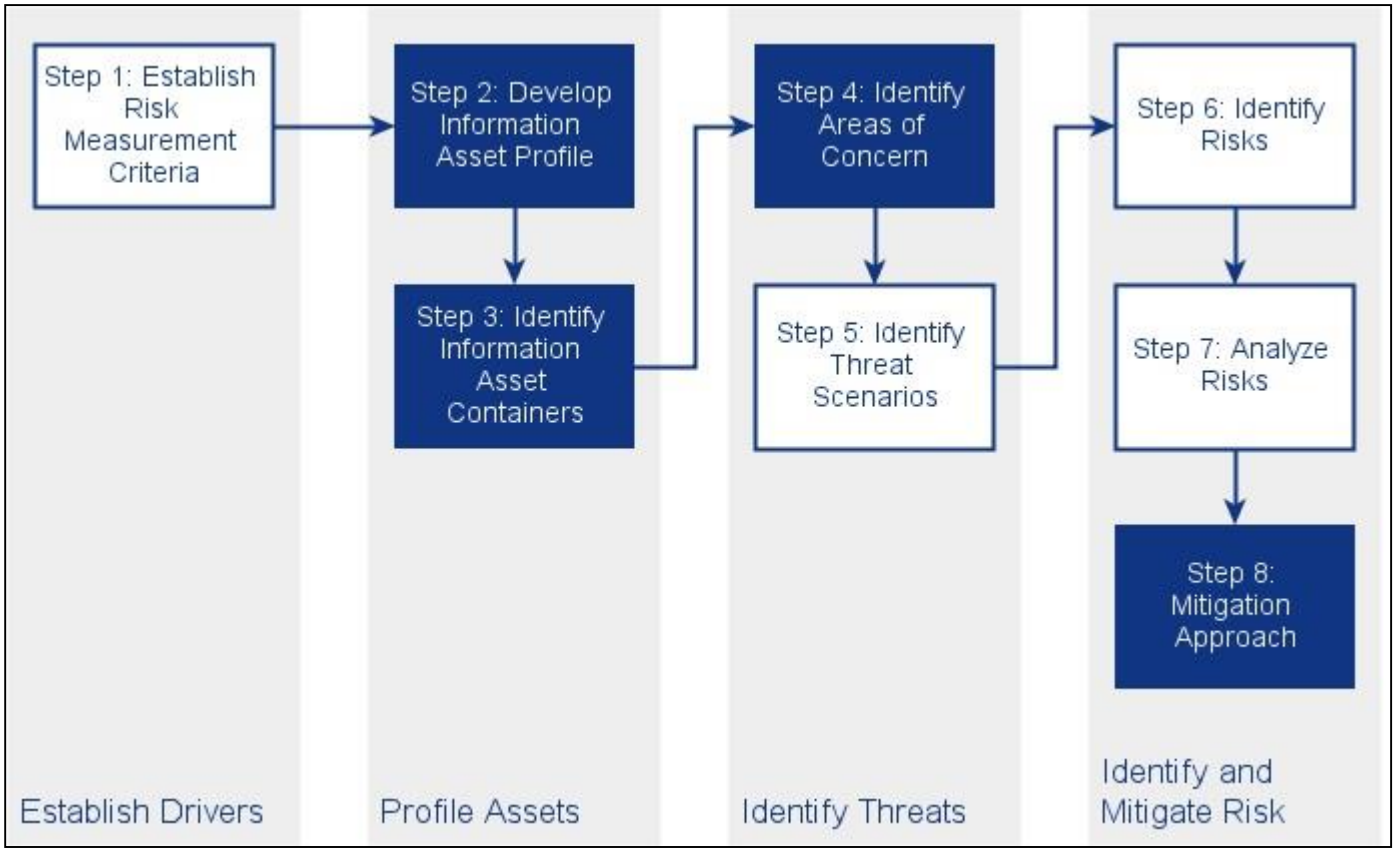

Applications Places
Sun Mar 24, 11:29 AM
root
File Edit View Search Terminal Help
RECON
PAYLOAD
Large pentest? List, sort, group, tag
in Metasploit Pro -- type 'go_pro' to
=[metasploit v4.6.8-dev [core:
-- --=[1068 exploits - 670 auxiliar
-- --=[277 payloads - 29 encoders
msf >
root@kali: ~
File Edit View Search Terminal Help
-D enumerate DHCP address space from inp
-p send a ping packet for alive check [d
-e dst,hop send an errornous packets: destinatio
-s port,port,... TCP-SYN packet to ports for ali
-a port,port,... TCP-ACK packet to ports for ali
-u port,port,... UDP packet to ports for alive c
-d DNS resolve alive ipv6 addresses
-n number how often to send each packet [defaul
-W time time in ms to wait after sending a pa
-S slow mode, get best router for each r
-I srcip6 use the specified IPv6 address as sou
-l use link-local address instead of glo
-v verbose (twice: detailed information,
Target address on command line or in input file ca
of 2001:db8::1-fff or 2001:db8::1-2:0-ffff:0:0-fff
Returns -1 on errors, 0 if a system was found aliv
root@kali:~# alive6 -I ff02::1 eth0
Alive: fe80:: [ICMP echo-reply]
Alive: fe80:: [ICMP echo-reply]
Alive: fe80:: [ICMP echo-reply]
Alive: fe80:: [ICMP echo-reply]
Scanned 1 address and found 4 systems alive
root@kali:~#
root@kali: ~
root@kali: ~


None
WEP (Transitional Security Network)
✓ WPA/WPA2 Personal
WPA2 Personal
WPA/WPA2 Enterprise
WPA2 Enterprise

Warmer…


YOUR PII CHART™
Take time to inventory the identity relationships you have with the companies, organizations, and individuals you entrust with your personally identifiable information or PII. See how your identity is a PII Chart™, a picture of relationships you've created. Once you visualize the slices of your PII, managing your identity assets becomes easier.
LEGEND
SOCIAL SECURITY NUMBER
CONTACT INFORMATION (email address, physical address, telephone and mobile numbers)
GOVERNMENT-ISSUED IDENTIFICATION (driver's license, passport, birth certificate, library card)
BIRTH DATE, BIRTH PLACE
ONLINE INFORMATION (Facebook, social media, passwords, PINs)
GEOLOCATION (smartphone, GPS, camera)
VERIFICATION DATA (mother's maiden name, pets' and kids' names, high school, passwords)
MEDICAL RECORDS INFORMATION (prescriptions, medical records, exams, images)
ACCOUNT NUMBERS (bank, insurance, investments, credit cards)
SSN
WWW
PARENT
CITIZEN
EMPLOYEE
CONSUMER
INVESTOR
PATIENT
INTERNET USER
HOBBYIST
VOLUNTEER

OCTAVE Allegro



Things We Found, a.k.a.

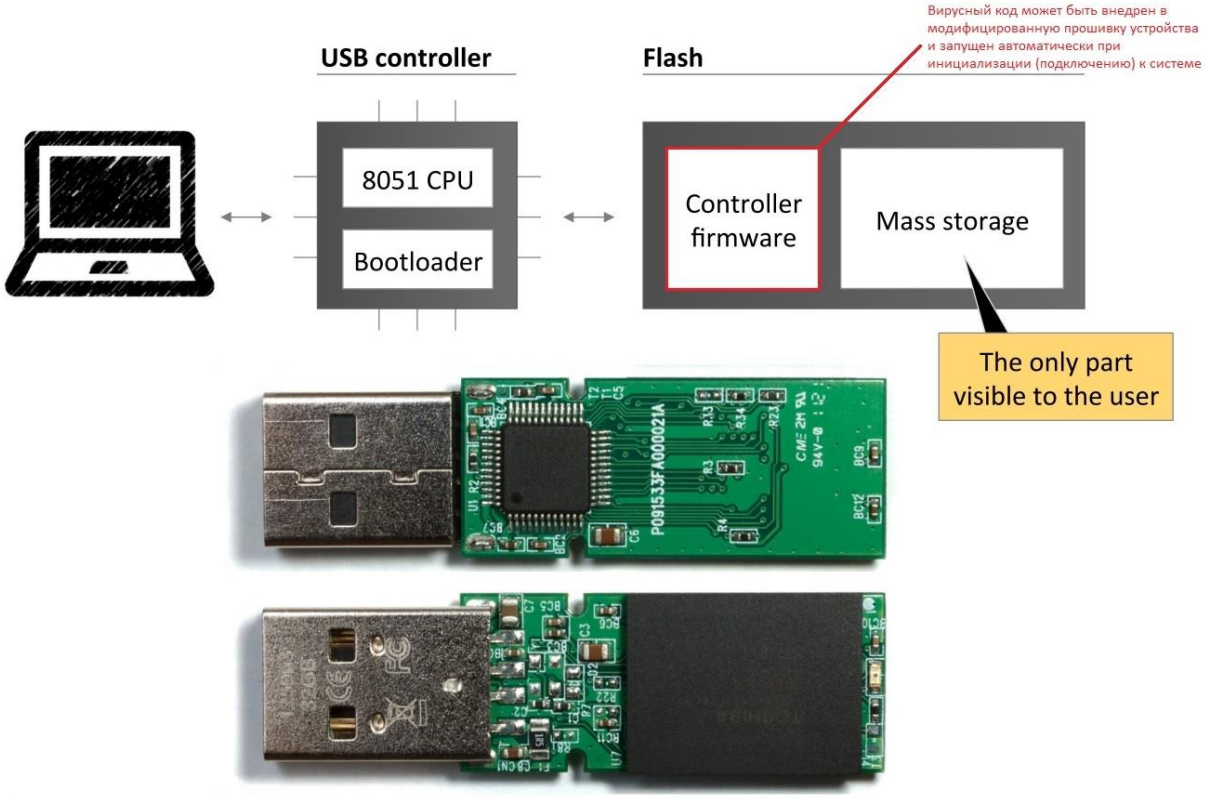
The Scary Part?

Wifi Pineapple by Hak5

“Wall Wart” PCs

BadUSB Exploit

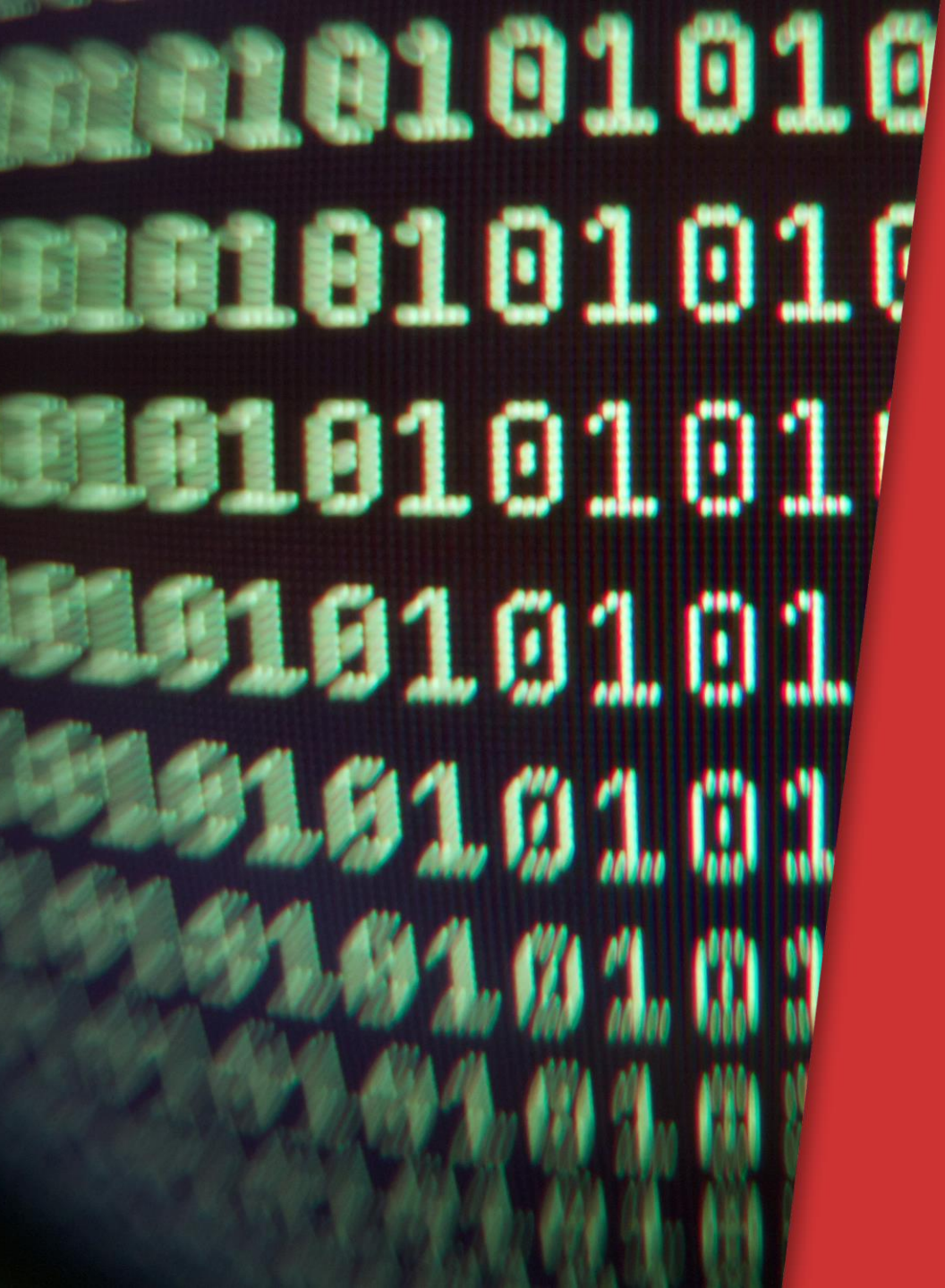
USB devices include a micro-controller, hidden from the user



SECURITY RESEARCH LABS

Value Proposition

- Security skills = Library Skills. Leverage MOOCs.
  - Futurelearn.com
- Digital Collections
  - If my computer is broken, I can't stream!
- Reputation and Funding
  - People really *really* don't like data breaches…
- YA Programming
  - Raspberry Pi & Arduino tools. Workforce initiatives…
- Legal Ramifications
  - Liability, liability, liability



Thanks!

Please check out

sec4lib.wordpress.com

Twitter: @akamarkman

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