
Cyber
security
Shift

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The first developers' platform with personality.


Certificate of Birth
ANTI-THEFT SYSTEM

CYBERSECURITY

- MOVIES VS REALITY
- WHAT SHOULD I BE WORRIED ABOUT?
- KIDS & TECHNOLOGY

Part I:

Movies vs. Reality

Who are the “Bad Guys”?

1. Nation/State/Military
   - Unlikely unless you’re “high value”
2. **Organized crime**
   - Very likely
3. **Someone who doesn’t like you**
   - Very likely
4. Random vandalism
   - Unlikely, but possible

What do the “Bad Guys” want?

1. They want to steal your **data**

2. They want to steal your **money**

3. They want you to **do something**

Can the “Bad Guys” actually do this?

No.

But hackers are ***very*** creative.

Most computer systems/apps today are **relatively** secure.

Hackers typically need **access** to sensitive data in order to harm you.

Hacking: In Recent News

2016 US Presidential Election

- 21 states targeted by hackers
- Only IL reported systems “breached”

2017 Equifax Hack

- 143M customers’ data stolen

https://www.nbcnews.com/storyline/hacking-of-america/federal-government-tells-21-states-election-systems-targeted-hackers-n804031

http://www.latimes.com/business/hiltzik/la-fi-hiltzik-equifax-breach-20170908-story.html

Other Notable Hacks...

94M customers CC details (2007)

83M customers personal info (2014)

70M customers CC details (2014)

56M customers CC details (2014)

117M users login details (2012)

150M users login details (2014)

When a company gets “hacked”, what exactly does that mean?

1 *Billion* Hacked

Happened in 2013
Not disclosed until 2016

https://www.theguardian.com/technology/2016/dec/14/yahoo-hack-security-of-one-billion-accounts-breached

- Email addresses
- Names
- Phone numbers
- Date of birth

- Hashed passwords*
- Unencrypted security questions/answers

80M Hacked

Happened in 2015

http://www.nbcnews.com/tech/security/yahoo-breach-500m-accounts-could-be-biggest-all-time-n652796

- Names
- Addresses
- Date of birth
- Social Security Numbers
- Health Care ID Numbers
- Employment Information

Healthcare IT News

Privacy & Security

Ransomware attack on Texas pediatric provider exposes data of 55,000 patients

ABCD Children's Pediatrics also discovered other evidence of hackers on the network, which included suspicious user accounts.

By Jessica Davis | April 05, 2017 | 04:36 PM

A ransomware attack at San Antonio-based ABCD Children's Pediatrics may have breached the data of 55,447 patients.

Affected files may have included patient names, Social Security numbers, insurance billing information, dates of birth, medical records, laboratory results, procedure technology codes, demographic data, address and telephone numbers.

Pediatric patient records are a high commodity on the dark web, according to ICIT Senior Fellow James Scott. There two markets for child records, one including tax fraud. These are long form, full medical records available for sale.

Part II:

What should I be most worried about?

Attack vectors

1. Email attachments (PDF, MSWord)
2. Login
   - Stolen (“hacked”) password
   - Default credentials
3. Identity Theft

In most attacks, **booby-trapped attachments sent via email** were the main delivery mechanism.

http://www.bbc.com/news/technology-39730407

RANSOMWARE

You received an email and opened the attachment.

Now your computer is being held for $500 ransom.

Do you pay the ransom?

40%

2 in 5 small businesses:

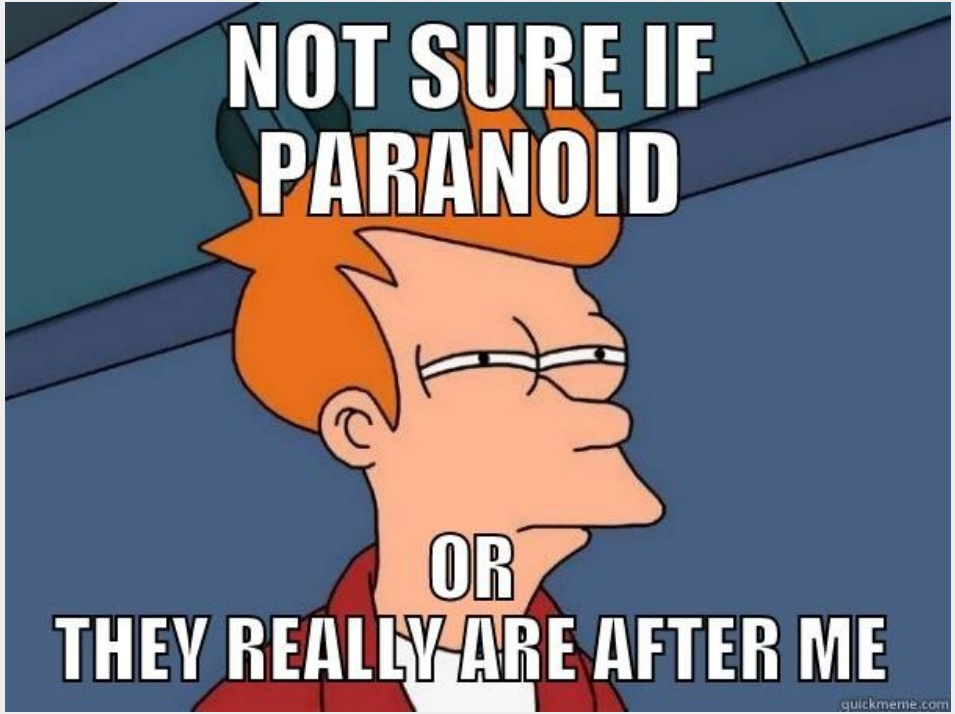
Paid the ransom for their computers.

Less than half got their information back.

(2017) http://post.oreilly.com/rd/9z1zosdefqak2pehkrrhomp8kq4o8nbe511dhekbqk0

Don’t Trust Anyone

“This won’t happen to me”




PASSWORD


IF THE MEDIA STOPPED
SAYING "HACKING"
ROBCO INDUSTRIES (TM) TERMLINK PROTOCOL
ENTER P
2 ATTEM
0xF4F0 ?!@-'@'"#'([0xF5BC NG<,CONSIST
0xF4FC "=/#[!{-CONF 0xF5C8 (@[_/$:.JES
0xF508 IRM<"_ROAMIN 0xF5D4 ICA*|##-@-\(
0xF514 G{,']|;=;+#- 0xF5E0 '|_{:>HOUSIN
0xF520 ==FARMING@"= 0xF5EC G^?:,(^(.|\$
0xF52C ^'|.>>[%)$'? 0xF5F8 =(STERILE/.=
0xF538 .==@>GAINING 0xF604 #'#]?]{<GETT
0xF544 {)-,;")!-@|H 0xF610 ING@_;^>(TAC
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0xF55C ;()/+--[$'}| 0xF628 *'-"'[ENGLIS >FARMING
0xF568 '.):=,"<#)_- 0xF634 H://'PACKING >Entry denied
0xF574 (=?)..@)'\-; 0xF640 +,;'>)($$!%S >4/7 correct.
0xF580 _<!(._>_:-# 0xF64C ELLING_){->; >MANKIND
0xF58C MANKIND"#}'} 0xF658 },?.+@'{$'), >Entry denied
0xF598 !/>'|,%MORNI 0xF664 {FENCING.>KE >2/7 correct.
0xF5A4 NG[{/=]]\HEA 0xF670 DRICK?-,{>{<
0xF5B0 LING}=)LFAUI 0xF67C]+)!@(-!@_-{ >
AND INSTEAD SAID "FIGURED OUT THEIR
PASSWORD", PEOPLE WOULD PROBABLY TAKE
PASSWORD SECURITY A LOT MORE SERIOUSLY.
made on imgur

<u>EVERY</u> STATISTIC

in this presentation is obsolete.

40%

2 in 5 people:

Received notice that their data had been compromised,
Had an account hacked, or
Had a password stolen

(2015) https://www.entrepreneur.com/article/246902

21%

People who use a password more than 10 years old.

47% use a password more than 5 years old.

(2015) https://www.entrepreneur.com/article/246902

73%

Number of online accounts guarded by a duplicate password.

(2015) https://www.entrepreneur.com/article/246902

4.7%

Number of people using “password” as their password.

(2012) http://arstechnica.com/information-technology/2012/11/born-to-be-breached-the-worst-passwords-are-still-the-most-common/

99.8%

Number of people using passwords
from the 10,000 most common

(2012) http://arstechnica.com/information-technology/2012/11/born-to-be-breached-the-worst-passwords-are-still-the-most-common/

PASSWORDS

The most important thing
in this presentation!

- Use strong passwords
- (and a password manager)
- *Never* reuse passwords

Use a Password Manager

LastPass

The Last Password You'll Ever Need.

1Password

dashlane

LastPass •••| Security Challenge

79%	Top 12%	30%
Your Security Score	Your LastPass Standing	Master Password Score

Challenge your friends

Improve Your Score

- *Step 1 -* **Change Compromised Passwords** +
- *Step 2 -* **Change Weak Passwords** +
- *Step 3 -* **Change Reused Passwords** +
- *Step 4 -* **Change Old Passwords** +

Detailed Stats

Click each below to see a full report of all the logins and passwords stored in your LastPass vault.
On supported websites you can change the password in one click, and you can check more than one to change multiple passwords at once. For other website, use the 'launch' option to go to the website, login, and use the LastPass Password Generator to replace the account's password.

All (138)	Duplicate (29)	Compromised (3)	Weak (7)	Old (20)	Blank (0)

YOUR ROUTER


COMCAST BUSINESS
Power
US/DS
Online
2.4Line
5Line
Tel
Tel
Battery
COMCAST BUSINESS


nest
COOLING
75
78


Baby room


Front Door
End Call


THE INTERNET of THINGS

15 Million

People in the United States
Affected by identity fraud last in 2016

(2017) http://bankinnovation.net/2017/04/identity-fraud-hits-record-high-in-2016/

Most organizations...

- banks,
- universities,
- companies

...don’t ask for your personal information over email.

Beware of requests to update or confirm your personal information.

freecreditreport.com™
a part of Experian®

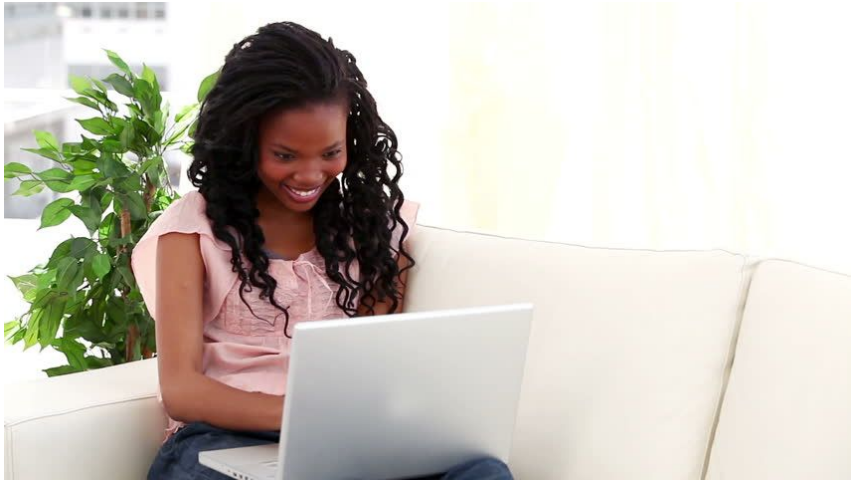
PROTECT my ID.com®
A part of Experian

Part III:

Kids & Technology

Your kids (will) know more about technology than you do.


MAGIC
BULLET



Parents of teens (**41%**) are notably less likely than parents of younger children age 6 to 9 (**68%**) to say they monitor technology usage very closely.

Who are the “Bad Guys”

1. Online Bullies

2. Pedophiles / Predators

Kids: In Recent News

Roblox:

- Kids received sexually inappropriate messages over online chat app

“Blue Whale” Challenge

- Social media “game” in which participants spend weeks completing tasks
- Kids are bullied into completing the final task, which is suicide

http://www.dailymail.co.uk/news/article-4991464/Paedohpiles-target-children-online-game-Roblox.html

https://www.huffingtonpost.com/entry/the-blue-whale-challenge-the-latest-social-media-nightmare_us_59b227f8e4b0c50640cd664f

Security Settings

Mobile device settings:

- iOS / Android: Child accounts
- “Guided Access”

App settings

Computers / Websites:

- Google “safe search”
- Various products for blocking sites

https://www.macworld.com/article/3199908/ios/how-to-set-up-a-kid-friendly-iphone-or-ipad.html
https://www.androidcentral.com/setting-kid-friendly-android-device

You can't monitor

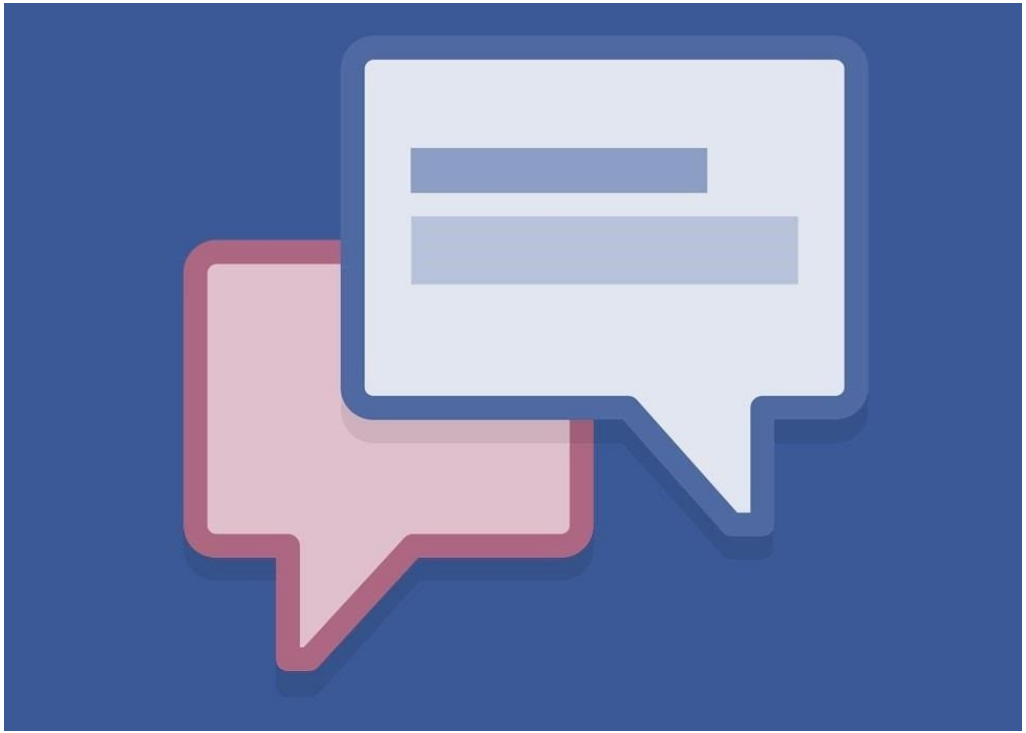
100% *of the things*

100% *of the time.*

So what else should you do?

DHS: Kids lead digital lives

- Create an open and honest environment for discussing **online behaviors** and **security risks**.
- **Start conversations regularly** about practicing online safety; don't try to control online behavior.
- Emphasize the concept of **credibility**: not everything they see on the Internet is true.
- Talk with children, especially teens, about the importance maintaining a **positive online identity**.
- Watch for **changes in behavior**: suddenly avoiding the computer may be a sign of online bullying.
- Review **security settings** and privacy policies for the websites your child uses.
- Protect all **Internet-enabled devices**, including mobile phones and tablets.




catfish
THE TV SHOW

Pearson Reading, Math, and Science

Pearsonsuccessnet.com

Username: [redacted]

Password: [redacted]

[redacted]

Username: [redacted]

Password: 123


nest
COOLING
75
78


Baby room

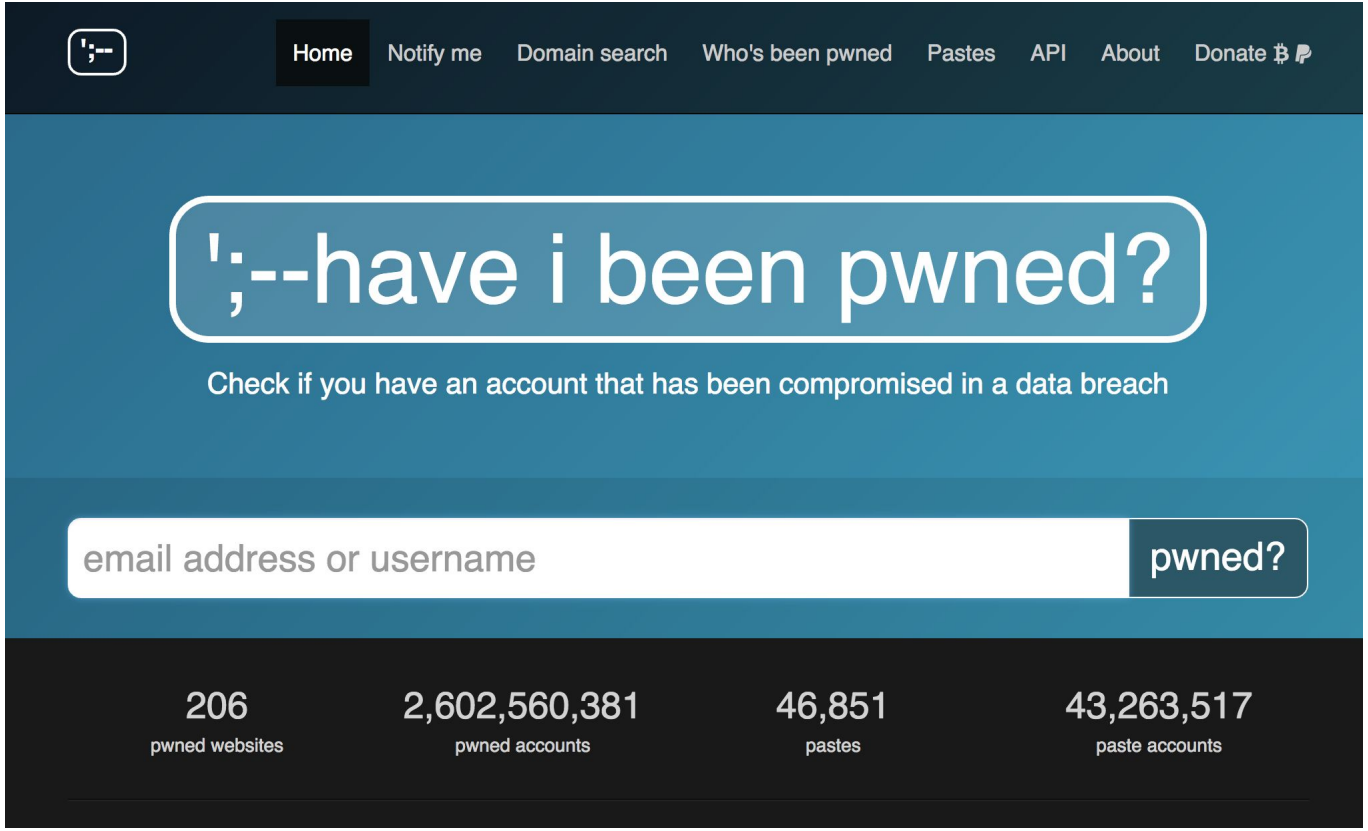

Front Door
End Call


THE INTERNET of THINGS


REDUCE
TRANSFER
RISK
ACCEPT
AVOID

Part IV:

Resources



www.haveibeenpwned.com

‘;--have i been pwned?

You've been pwned!

You signed up for notifications when your account was pwned in a data breach and unfortunately, it's happened. Here's what's known about the breach:

Email found:	arthurakay@gmail.com
Breach:	B2B USA Businesses
Date of breach:	18 Jul 2017
Number of accounts:	105,059,554
Compromised data:	Email addresses, Employers, Job titles, Names, Phone numbers, Physical addresses
Description:	In mid-2017, a spam list of over 105 million individuals in corporate America was discovered online. Referred to as "B2B USA Businesses", the list categorised email addresses by employer, providing information on individuals' job titles plus their work phone numbers and physical addresses. Read more about spam lists in HIBP.
Spam list:	Read more about spam lists

Who?!?

You can also run a search for breaches of your email address again at any time to get a complete list of sites where your account has been compromised.

Check my email address again

Browse Safer with Brave on Your Side

At Brave, our goal is to block everything on the web that can cramp your style and compromise your privacy.
Annoying ads are yesterday's news, and cookies stay in your jar where they belong.

Brave blocks harmful advertising

There's a new ad game in town. It's called "Malvertising". The latest display ad technology can install malware on your laptop without your knowledge. But not with Brave watching your back.

Brave redirects sites to HTTPS

We've integrated HTTPS Everywhere into every Brave browser to make sure you are always moving your bits across the safest possible pipe.

Brave blocks Tracking Pixels and Tracking Cookies

Do you ever get that feeling that someone is watching you when you see an ad for something you bought a few days ago? We make sure you aren't being tracked while you shop online and browse your favorite sites.

www.brave.com

iOS, Android, Desktop

We already talked about this...

- Review **security settings** and privacy policies for the websites your child uses.
- **Protect all Internet-enabled devices**, including mobile phones and tablets.

Resources

- Cybersecurity: 7 Ways to Keep Kids Safe Online (US Dept. of Education)
  - https://www2.ed.gov/free/features/cybersecurity.html
- Families Cybersecurity Presentation: *Stop. Think. Connect.* (US Dept. of Homeland Security)
  - https://www.dhs.gov/sites/default/files/publications/Families%20Cybersecurity%20Presentation.pdf
- A Parent's Guide to Cybersecurity (ConnectSafely)
  - http://www.connectsafely.org/wp-content/uploads/securityguide.pdf

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