

Technological Parenting

Protecting your Family with and against technology

Agenda

- What is Technological Parenting?
- Understanding the problem
- Understanding the technology
- Protection Strategies
- Resources

Technological Parenting

Technological Parenting

- This isn't Parenting 101
- It's understanding the tech your kids (and family) are using..
- And learning how to protect those using it.
- Stay engaged!
 - Things can change daily - 7 times faster than "real" life
 - New apps and technology come out all of the time
 - Not knowing can be dangerous!
- You're the parent!!! You decide what you need to do!

Understanding the Problem

Kids are Digital Natives

Your Kids

- Highly connected
- 97% play video games
- 75% or more have cell phones
- 68% use instant messaging / text messaging
- 70% use social networks (facebook, instagram, etc)
- Easily adapt and adopt
- Generate content

You

- Internet didn't exist!
- You mean Pong?
- Tethered to kitchen phone
- Maybe passed notes in class to friends
- Neighborhood kids or extended family “networks”
- Technophobe?
- What is content again?

Kids are Digital Natives

- Their relationships are greatly influenced by the digital world of the Internet and Dark Web
- The Internet is their main communications channel for interacting with their peers
- More comfortable with a “public persona”
 - May “over share” & be more trusting due to comfort with tech

Internet Time for Kids

- Time spent online up to 13 hours per week
- Was 8 hours just 5 years ago
- Social Networking and Apps dominate this time
- Pediatricians recommend no more than 2 hours per day for youth

Internet Dangers

- Who are you really talking to?
- Predators troll social networks
 - NAMBLA on Facebook
- Practice of “Sextortion” using digital content for blackmail
 - Kid tricked into identifying themselves and predator uses digital content to blackmail them into unspeakable things



15 year old girl on Facebook

Internet Dangers

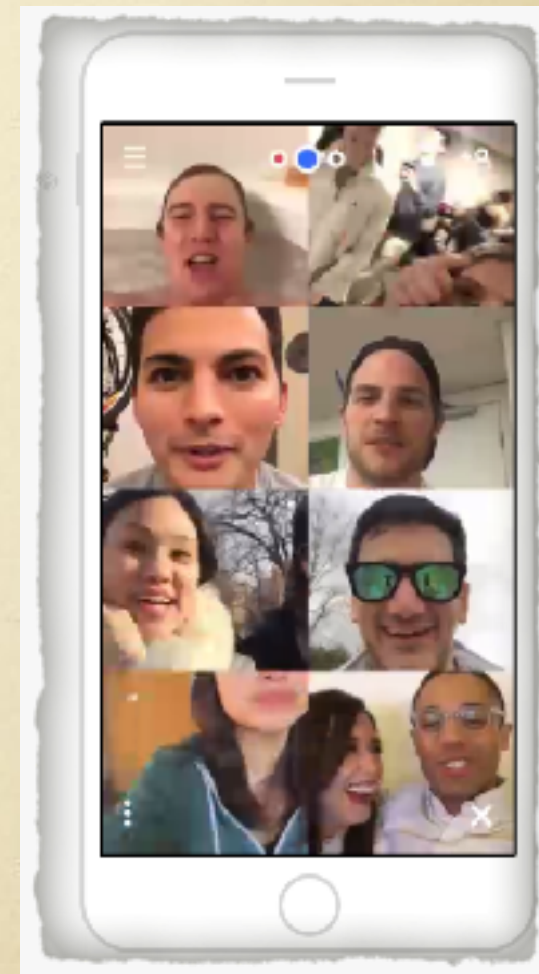
- Pornography and other content
 - More available and graphic than ever before
 - Increasing chance of accidental exposure due to spam attacks on social networks.
 - Average age for first exposure to pornography is 11!
- Phishing scams
 - Clicks from email
 - Fraudulent attempts to steal your personal information

Internet Dangers

- Malware
 - Short for “malicious software”
 - Can get installed by just visiting a web site or downloading software
 - Once on your device it can communicate private information like credit card numbers and passwords to the bad guys
 - Can also take over your computer to perform tasks for the bad guys - “bot net”

Internet Dangers

- Cyberbullying
 - Bullying but online
 - Text, Facebook, Youtube
- On demand video - House Party
- Disappearing Text - SnapChat
- Anything can be found online
 - Silk Road dark site...



Internet Dangers

- Internet is:
 - Ubiquitous - Everywhere!
 - Content kids create is Public
 - Constant - School, play, vacation, home
 - Viral via social mediums
 - Serious - Risks of suicide!

Technology and the Family

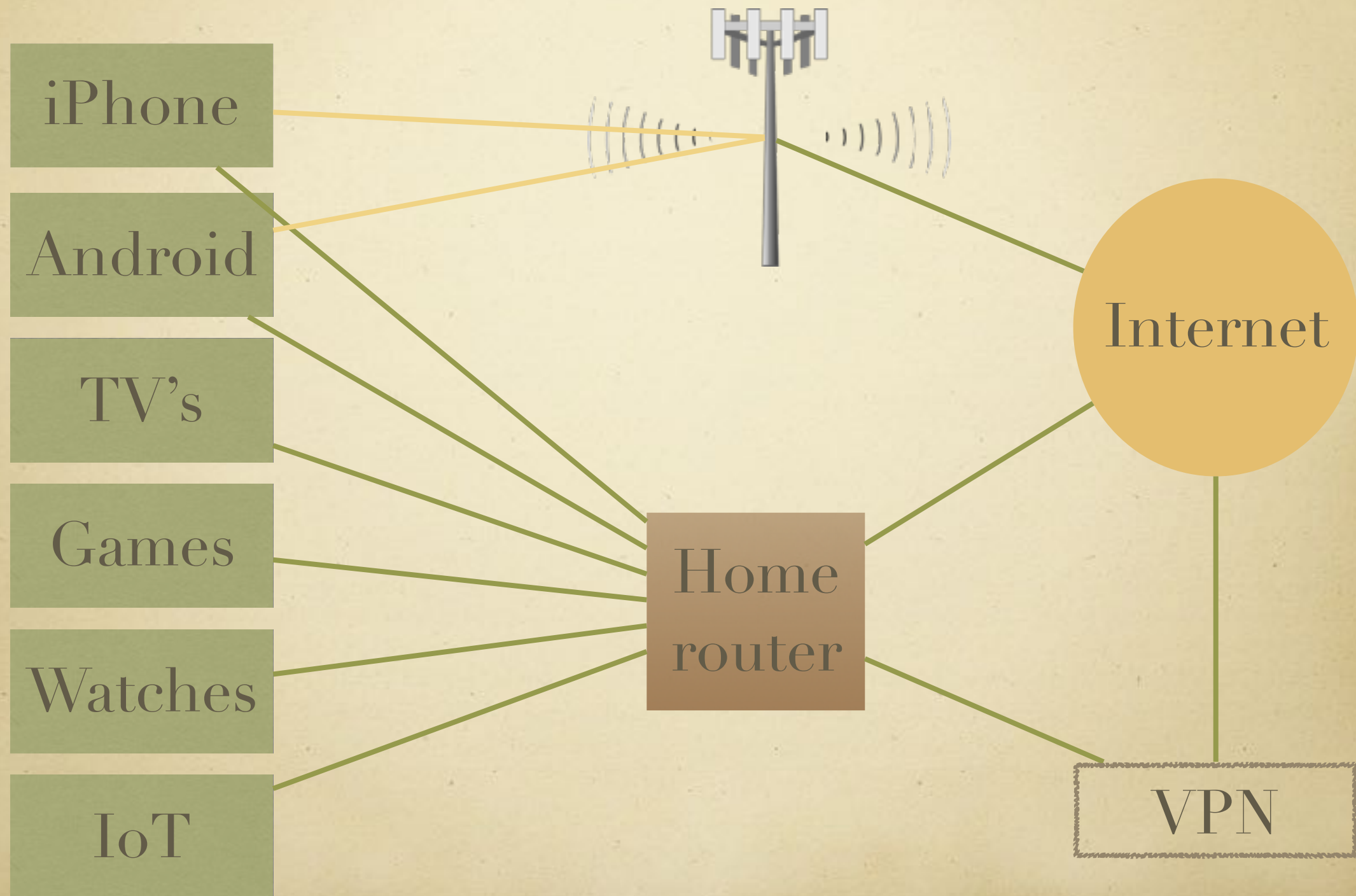
- All the devices and gadgets your Family uses are part of the IoT - Internet of Things
 - Not just “computers” anymore
 - Phones, Tablets, Smart TV’s, Gaming Consoles, Apple TV, Google TV’s, Watches, Refrigerators, Cars!
- All these devices and more can be used to “connect” to the Internet and can be used against you if compromised via botnets, virus’s and malware
 - 24 in my house - Use Fing app to see and count yours
- Devices **NEED** to be protected from the Internet

Understand the Technology

Understand the Tech

- How can a device get connected to the Internet?
 - Internet / Cloud = just a lot of servers / computers
 - Routers at home (cable modem, DSL, etc)
 - Directly via phone, tablet, car, etc (3G, LTE, etc)
 - Indirectly through a VPN (virtual private network)
- All devices have an “addresses” they use to talk to each other
 - TCP/IP address or just IP
- URL's get converted to the address so the device can talk to the servers -
google.com = 172.217.5.78 via DNS
- You need to protect all the devices regardless of how they connect

Understand the Tech (cont)



What is DNS?

- Domain Name System
- DNS translates URL's / Web site addresses into IP addresses for devices
- It's the phonebook for the Internet
 - People understand URL's -> google.com
 - Computer understand IP addresses -> 192.168.0.1
- There are lots of DNS servers out there
 - Usually provided by your internet service provider
 - Configured for each device by the router - "DHCP"

What is DHCP?

- Dynamic Host Configuration Protocol
- When you connect to a wired/wireless network it:
 - Automatically assigns you an IP address
 - Configures your DNS servers
 - Configures other things you need to connect
- DHCP servers control the config of its network domain
 - they assign the “phone numbers” or IP addresses

How it works v1

- Type in or click on a URL like google.com
- DNS Request made to DNS Server to get IP from your router - includes your routers source IP
- DNS server responds with IP
 - “Resolves” the name into a number
- Your device starts talking to the resource using its IP address

Protection Strategies

Protection Strategies

- 1 - Be a Parent and be informed and engaged
 - You decide when they are ready for a phone, computer, etc.
 - Ask specific questions about online activities
 - Who are you chatting with?
 - What apps are you using?
 - Can I see your phone?
 - Stress respect of others
 - Consider maturity of peers and your child
 - Set clear rules AND clear consequences - “parent / child contracts”
 - Watch for changes in online activities and changes in mood / closed doors
 - No Phones at night

Protection Strategies

- 2 - Take control over your DNS “phonebook” and DHCP at home
 - Free software and services are available to do this
 - Check your kids DNS settings - they can bypass!
 - Protects against accidental clicks and malware as well
- 3 - Monitor your devices as they can move outside the protected home network
 - Install software on devices
- The parent / child relationship is still the most important protection strategy you have!

How it works v2

- Type in or click on a URL like google.com
- DNS Request made to OpenDNS Server to get IP
- OpenDNS matches your router IP to your settings
- If site is “ok” - OpenDNS server responds with IP
- Your device starts talking to the resource using its IP address
- If site is NOT ok, a warning is displayed, site blocked

Protection Strategies

- Do it yourself option
 - Configure existing router with OpenDNS servers
 - Also need to install OpenDNS agent on at least one home based computer
 - Change router and other devices default passwords!
 - Disable router remote management and UPnP
 - Use virus / malware protection software on devices
 - Search term “parental controls” to keep up!
- Buy Family Safe routers (resource page)
- Buy device monitoring software (resource page)

Control DNS - OpenDNS

- This is what I use, but not the only solution
- <https://www.opendns.com/home-internet-security/>
- Free to use at home
- Create a free account to control your settings
- Install App on home computer to link your home to your settings
 - Link is tied to your router's external IP address which can change
 - The app makes sure when it changes, OpenDNS knows
- Configure your router to configure settings for devices in your home
 - DHCP - Dynamic Host Configuration Protocol
- Can actually speed up your Internet access

Control DNS - OpenDNS

Web Content Filtering

Choose your filtering level

- High Protects against all ad sharing sites, and general 26 categories in this group
- Moderate Protects against all ad sharing sites, and general 26 categories in this group
- Low Protects against all ad sharing sites, and general 26 categories in this group
- None Protects against all ad sharing sites, and general 26 categories in this group
- Custom Choose the categories you want to block.

Custom Categories:

<input checked="" type="checkbox"/> Academic Fraud	<input checked="" type="checkbox"/> Adult Themes	<input checked="" type="checkbox"/> Adware
<input type="checkbox"/> Alcohol	<input checked="" type="checkbox"/> Anime/Manga/Webcomic	<input type="checkbox"/> Auctions
<input type="checkbox"/> Automotive	<input type="checkbox"/> Blogs	<input type="checkbox"/> Business Services
<input type="checkbox"/> Chat	<input type="checkbox"/> Classifieds	<input checked="" type="checkbox"/> Dating
<input checked="" type="checkbox"/> Drugs	<input type="checkbox"/> Ecommerce/Shopping	<input type="checkbox"/> Educational Institutions
		<input type="checkbox"/> Forums/Message boards
		<input checked="" type="checkbox"/> German Youth Protection
		<input type="checkbox"/> Health and Fitness
		<input type="checkbox"/> Jobs/Employment
		<input type="checkbox"/> Music
		<input checked="" type="checkbox"/> Nudity
		<input type="checkbox"/> Photo Sharing
		<input checked="" type="checkbox"/> Pornography
		<input type="checkbox"/> Radio
<input type="checkbox"/> Religious	<input type="checkbox"/> Research/Reference	<input type="checkbox"/> Search Engines
<input checked="" type="checkbox"/> Sexuality	<input type="checkbox"/> Social Networking	<input type="checkbox"/> Software/Technology
<input type="checkbox"/> Sports	<input checked="" type="checkbox"/> Tasteless	<input type="checkbox"/> Television
<input type="checkbox"/> Tobacco	<input type="checkbox"/> Travel	<input type="checkbox"/> Video Sharing
<input type="checkbox"/> Visual Search Engines	<input type="checkbox"/> Weapons	<input type="checkbox"/> Web Spam
<input type="checkbox"/> Webmail		

Site Blocked

malwaresite.com

OpenDNS blocked this page because it contains malware.

If you think this shouldn't be blocked, please email us at contact@opendns.com.

OpenDNS

OpenDNS Configuration

- Config is different based on your hardware
 - Google is your friend
- Configure via your routers config page
 - 192.168.0.1 or 192.168.1.1
 - <http://www.techspot.com/guides/287-default-router-ip-addresses/>
- <https://support.opendns.com/hc/en-us/categories/204012907-OpenDNS-Device-Configuration>

Monitor Devices

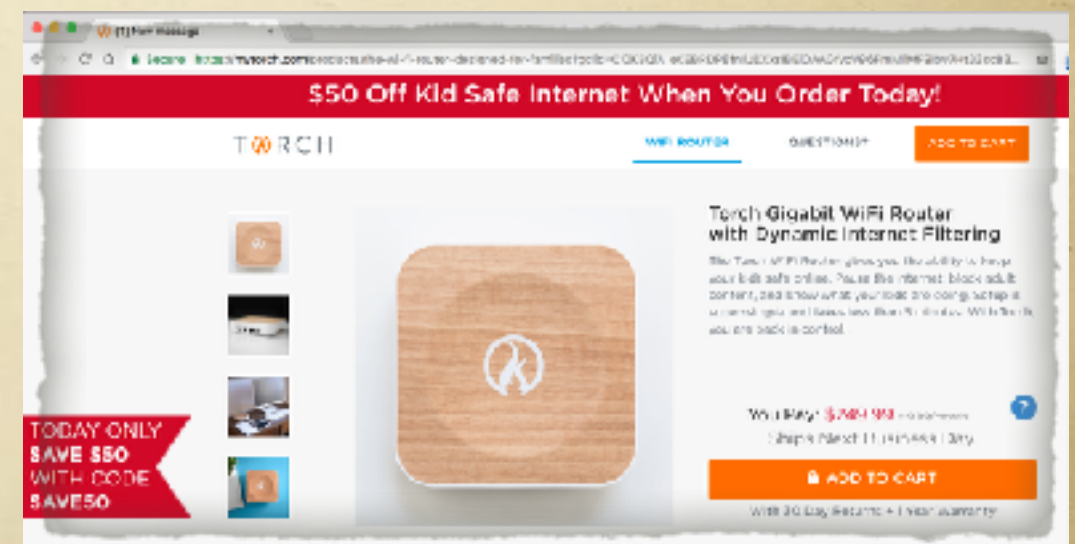
- Purchase software for each device and install
 - PC, Mac, Android, iOS
 - Can capture:
 - all text typed
- Get email with reports
- Access reports online



Resources

Resources

- Not a complete list!
- DNS / DHCP Solutions
 - [OpenDNS.com](https://www.opendns.com)
 - SafeDNS
- Family Safe Routers
 - <https://mytorch.com>
 - <https://www.roqos.com>



Resources

➤ Device Monitoring

➤ <https://www.webwatcher.com>

➤ PC / Mac

➤ Android / iPhone

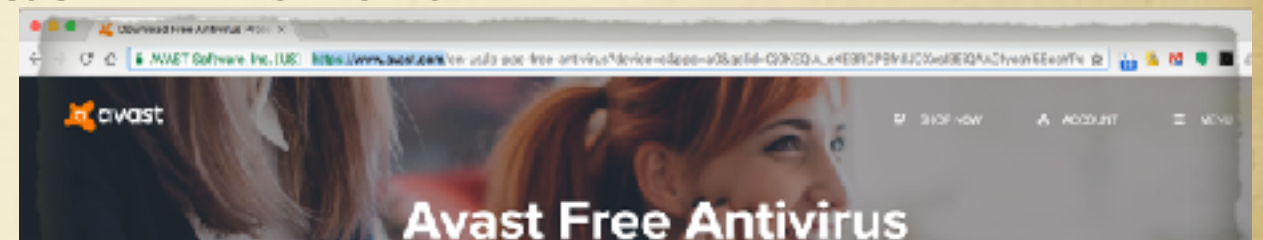
➤ Web site and email monitoring



Resources

➤ Anti Virus - Free for PC / Mac / Android

➤ <https://www.avast.com>



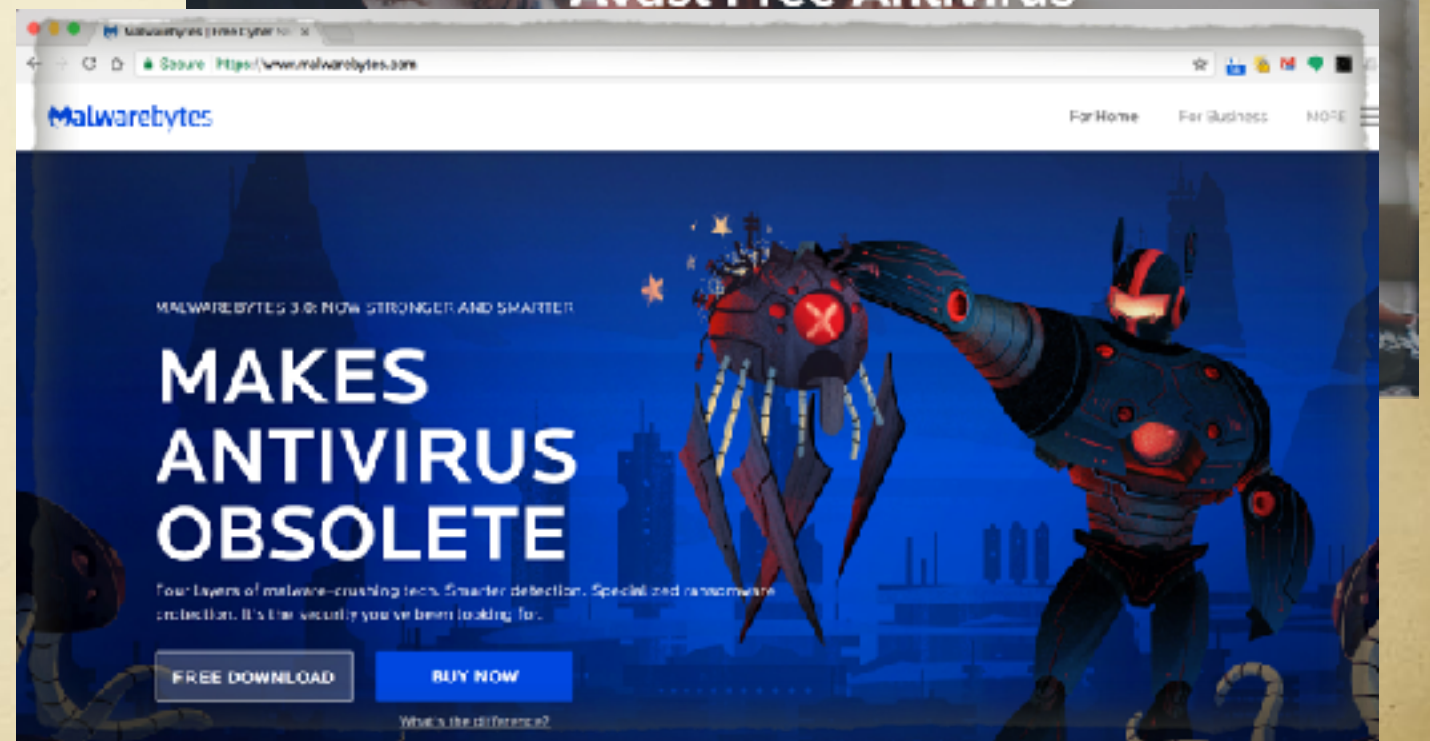
➤ Malwarebytes - Free

➤ Anti-malware

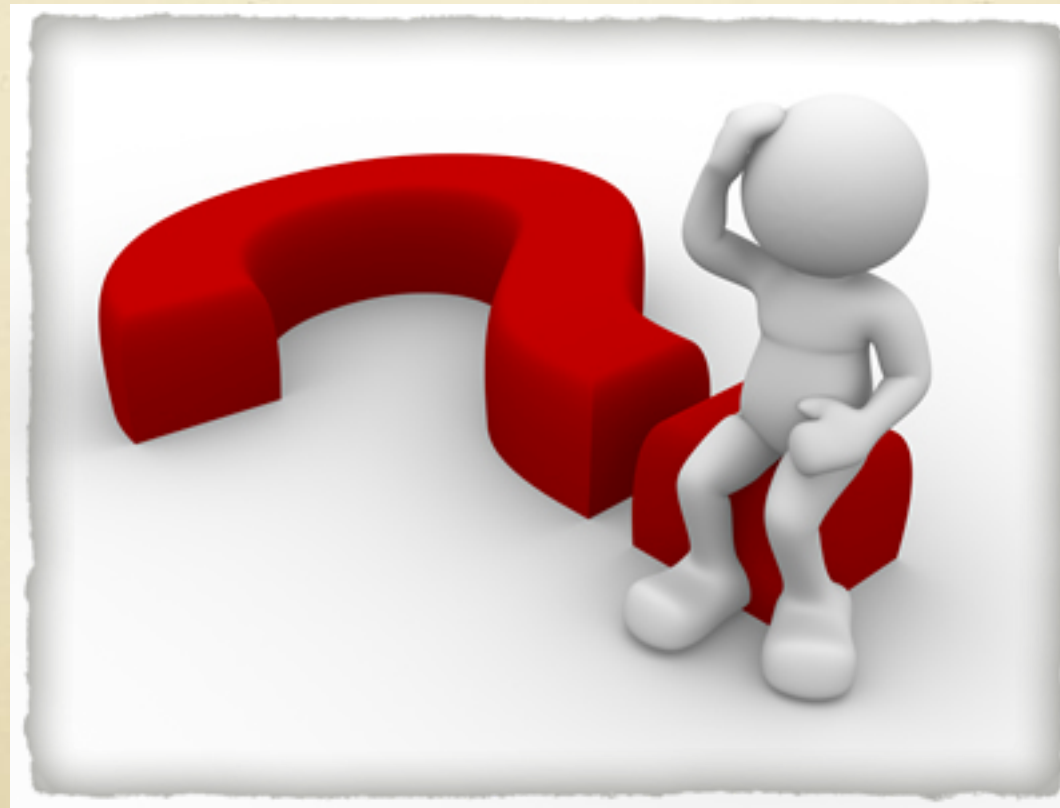
➤ Anti-ransomware

➤ Anti-exploit

➤ Malicious web site protection



Questions?



brad@theschaufs.com