

Protecting Your Identity, Data, and Business



Danielle Nicole Cox
Cyber Security Manager
State of West Virginia
Danielle.n.cox@wv.gov

TOPICS

- What is Cyber Security?
- Understanding Scams
- Managing Online Reputations
- Making Safe Decisions
- Technical Concerns





ABOUT CYBER SECURITY

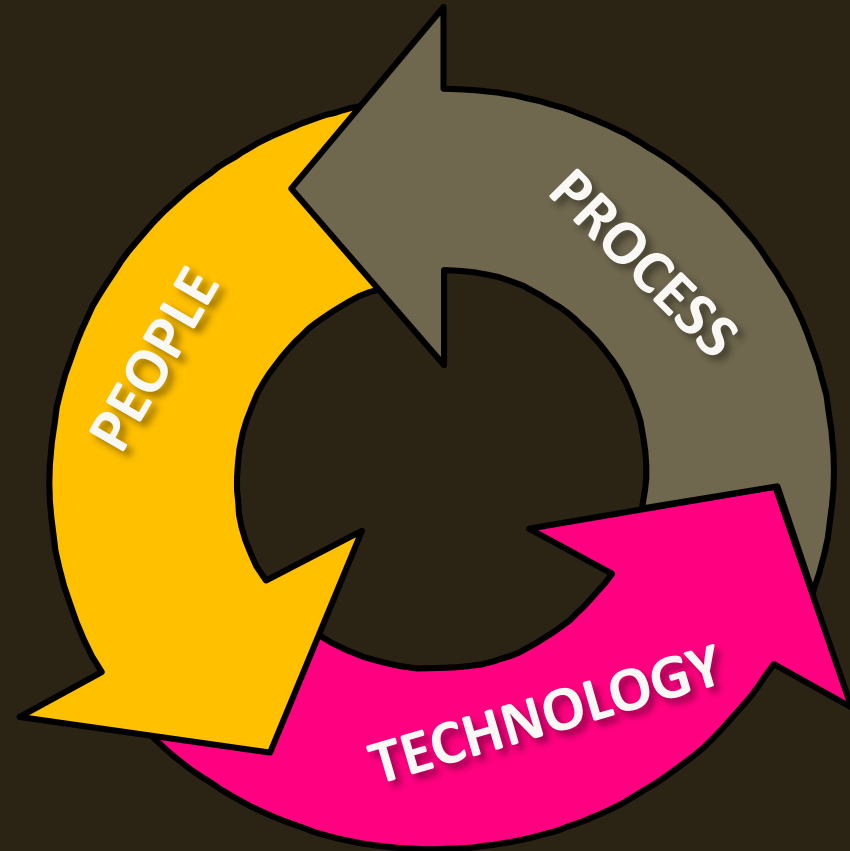


Information Security

Think in Threes

- Confidentiality
- Availability
- Integrity

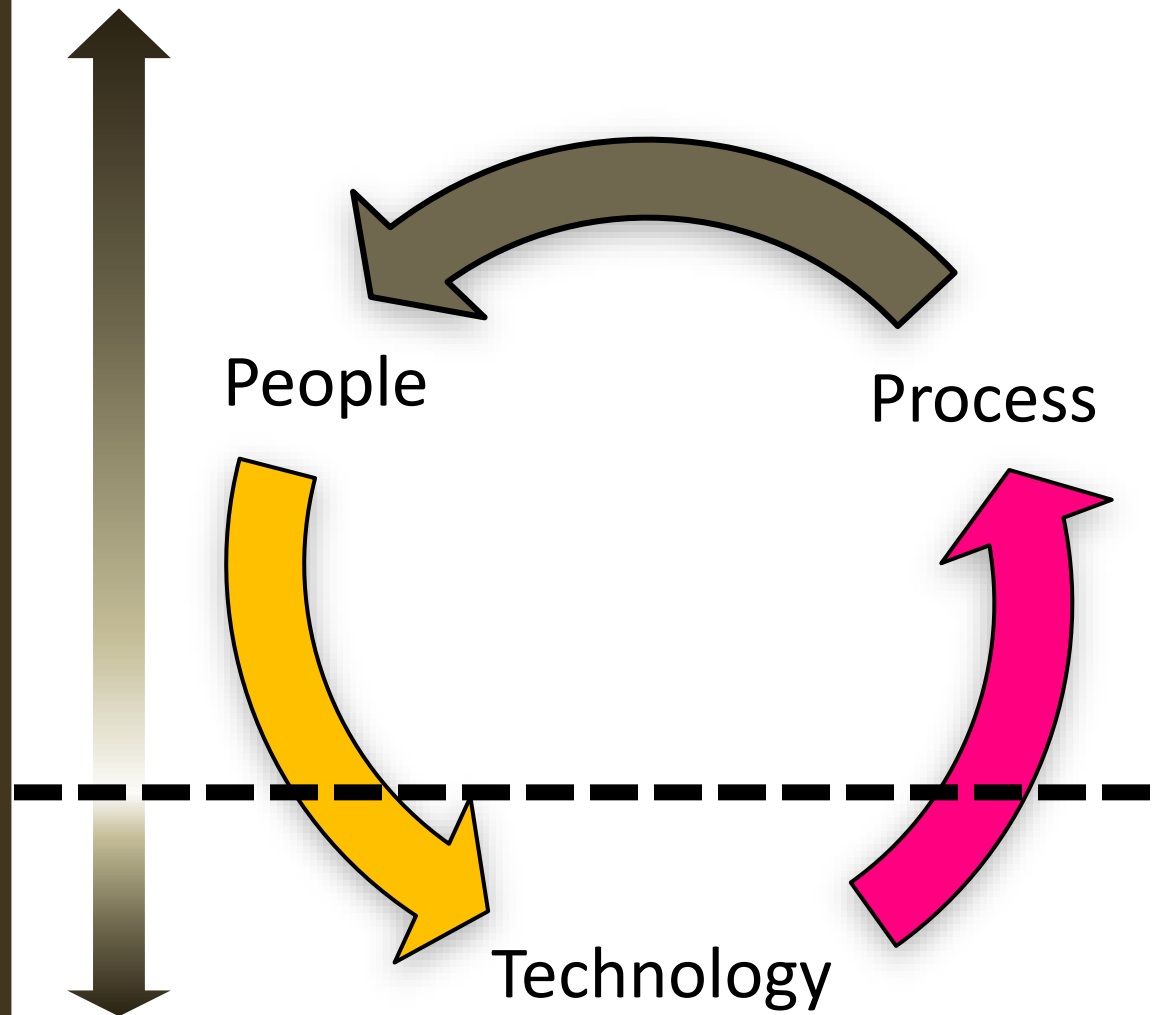
- People
- Process
- Technology



90/10 Rule

90% of security safeguards rely on the computer user (YOU!) to adhere to good computing practices

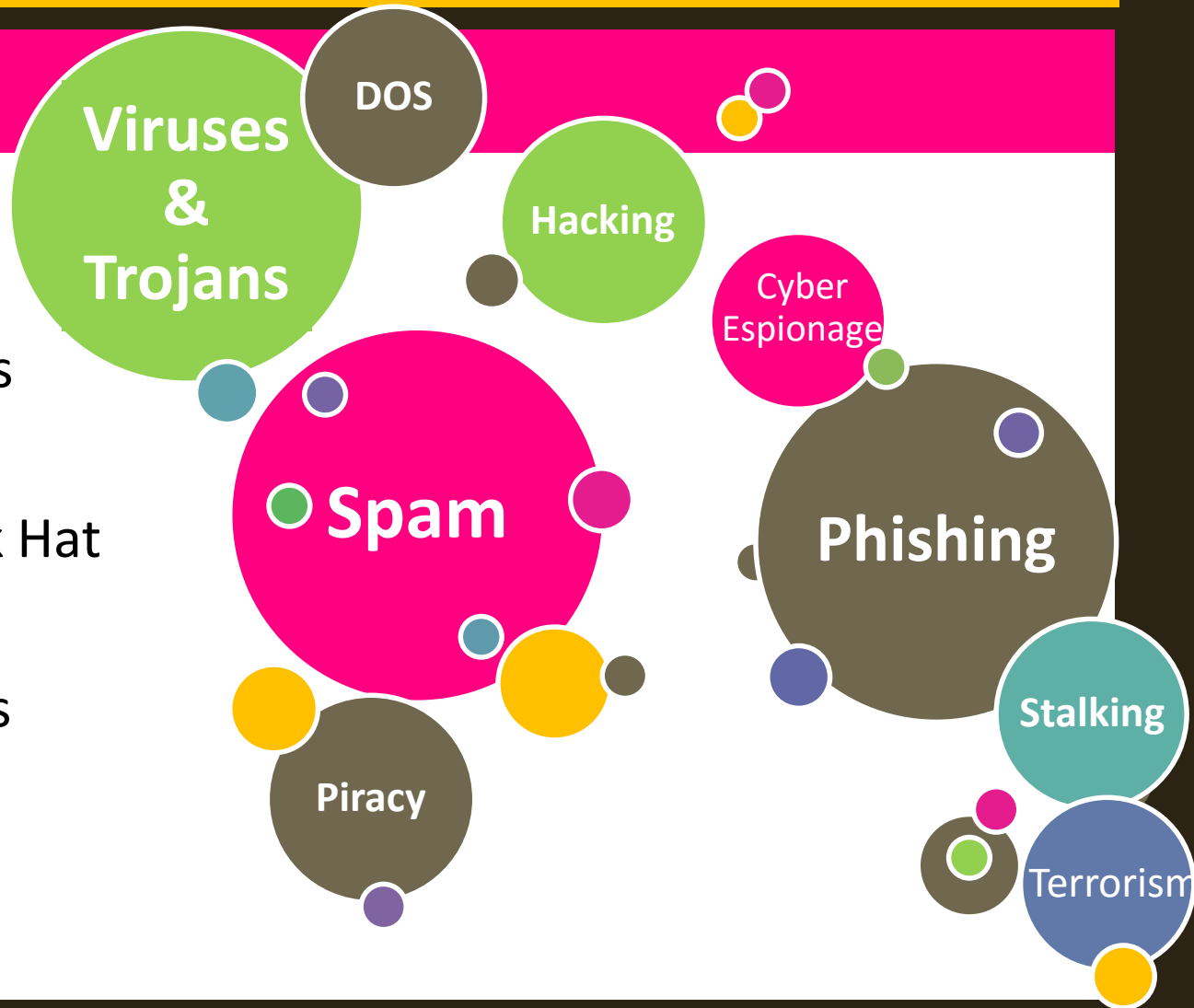
10% of security safeguards are technical



The Bad Guys

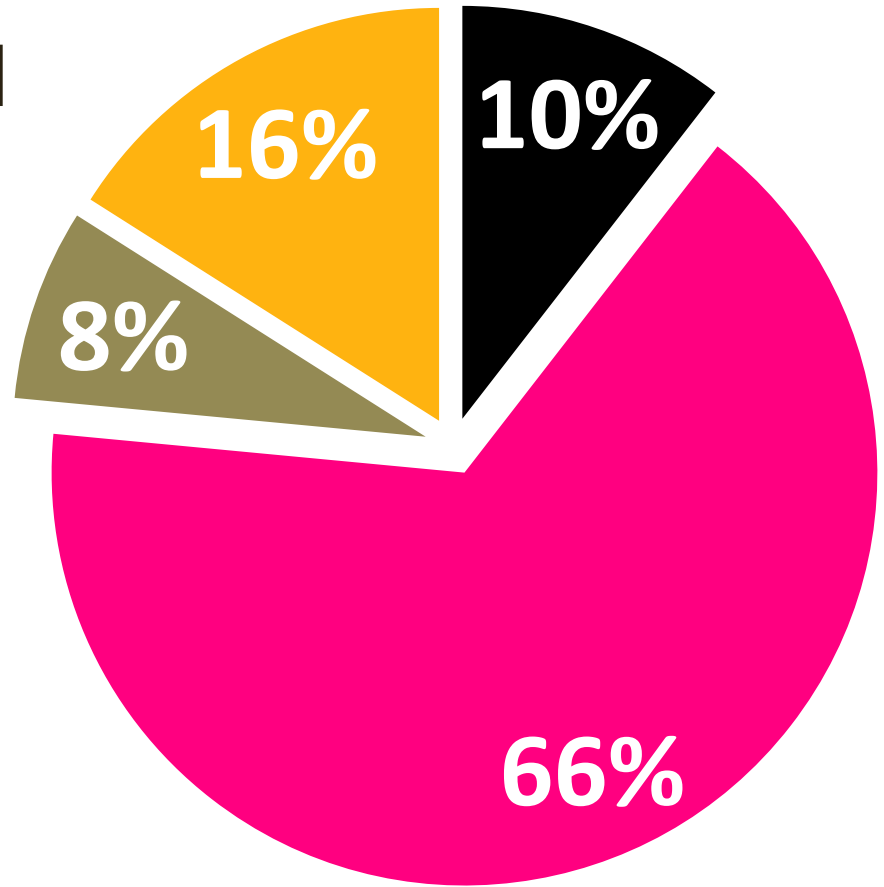
Who does what?

- Hackers
- Crackers
- Malware Writers
- Phreakers
- White Hat/Black Hat
- Cyber Terrorists
- Cyber Scammers



By the Numbers

- ▶ 25% Cyber Crimes Remain Unresolved
- ▶ 75 Million Scam Emails Daily
- ▶ 73% of Americans have experienced some form of cyber crime



■ UK ■ USA ■ Nigeria ■ Other

I don't have a computer

SCHOOL
LIBRARIES
OTHER
HOUSES
PHONES

FRIENDS

GAMING DEVICES

SITTERS
MUSIC
PLAYERS
FAMILY



How Bad is it?

- ▶ **Two out of three** internet users fall victim to cybercrime
- ▶ **78%** of Americans feel that cyber criminals will not be brought to justice





SCAMS



Social Engineering



SCAMS HAVE EXPANDED

What does it entail?



Phishing



Vishing



Smishing



Recognizing Scams



- ▶ Spelling & Grammar
- ▶ Formatting
- ▶ TO: Address
- ▶ FROM: Address
- ▶ Fear Tactics
- ▶ Incorrect Links



PHISHING 1: Real or Fake?

FAKE

From: Account Management [mailto:googleaccount@hotmail.com]

To: <recipient email>

Subject: Confirm Email Identity

DEAR GOOGLE EMAIL OWNER;

This message is from the **google** messaging center to all Gmail users. We are currently upgrading our **data base and e-mail center.** We are deleting all unused emails. **You are required** to update and confirm your email details. Respond to this email **within the next 4 business days** or you will lose this email address **permanently.**

Thanks for using **google!**

Warning Code: VX34JIQ4

Thanks,
Google Gmail Admin

PHISHING 2: Real or Fake

REAL

From: PayPal
To: <recipient email>
Subject: Credit Card Expiring Soon

Dear Specific User,

Your credit card ending in 2008 will expire soon. To avoid any interruption to your service, please update your credit card expiration date. If you do not update your credit card expiration date you may no longer be able to use Instant Transfer. To update your credit card expiration date, log in to your PayPal account and on the Profile tab, click "Credit Cards." Make sure you click Save before exiting.

Thank you for using PayPal!
The PayPal Team

PROTECT YOUR PASSWORD! NEVER give your password to anyone and ONLY log in at <https://www.paypal.com/>. Protect yourself against fraudulent websites by opening a new web browser (e.g. Internet Explorer or Netscape) and typing in the PayPal URL every time you log in to your account.

PHISHING: 3. Real or Fake?

FAKE

From: Great Western Bank
To: <recipient email>
Subject: Update your Great Western Bank Information



Online Banking

Dear Specific Person,

Security is a priority at Great Western Bank. We are committed to protecting the security and confidentiality of your personal and financial information. There **have been a recent increase** in the number of identity theft attempts targeting Great Western Bank customers.

To securely update your Great Western Bank information please **goto:**
<https://www.greatwesternbank.com/netteller> Thank you for your prompt attention to this matter and for banking with Great Western Bank!

Regards,
Matilda O'Reilly,
Head of Great Western Banks® Identity Theft Department

www.gwbankk.net/updateinfo

Real or Fake?

FAKE

The image shows a screenshot of a Facebook news feed. The top navigation bar includes the Facebook logo, a search bar, and icons for home, messages, and notifications. The left sidebar contains navigation options: News Feed (selected), Messages, Events, Find Friends (with a notification badge of 5), Groups, and Apps (with a notification badge of 19). The main content area shows a post from a user with a profile picture of a woman. The post text reads: "Eat at Cheesecake Factory for FREE!! (limited time only) Cheesecake Factory is currently giving away \$100.00 dinner vouchers to all facebook users!! claim yours before they are all taken!". Below the text is a photo of a Cheesecake Factory dessert. The post has a "Like" button and a timestamp of "a few seconds ago via mobile". A large, pink, slanted "FAKE" watermark is overlaid on the top right of the screenshot.

Real or Fake?

facebook



Plum Market

To redeem your offer, take this email to Plum Market and show it to the staff from your phone or in print.



Save \$10 off your next purchase of \$50 or more!

Expires October 15, 2012

Claimed by **Nadia Safi**

Barcode: 000000040570



Expires 10/15/12. Limit one per guest. Excludes beer, wine, alcohol, catering, gift cards, sales tax, bottle deposits. May not be combined with other Plum Market offers or discounts. Coupon must be present at time of purchase. Minimum \$50 purchase required, not redeemable for cash.

Share Offer

• Like Plum Market

REAL

Real or Fake?

FAKE

facebook

Email

Password

Log In

Sign Up

Facebook helps you connect and share with the people in your life.



Going (7,520)



Maybe (1,218)



Invited (390,249)



Export · Report

Get A McVoucher (Limited Offer)

Public Event · By GiftsM

Thursday at 7:00am until Wednesday, May 16, 2012 at 10:00am

Celebrating a whopping \$50 billion revenue in 2011, McDonalds has decided to give away Free Vouchers to our loyal customers.

How does this work? Follow these steps :

Step 1 : Click on "Join" at the top of the page.

... ..

Step 2 : Click "Invite Friends" at the top of the page and select your friends and click SUBMIT. Voucher Price depends upon amount of friends you invite.

- Invite 50 Friends = \$20 Voucher
- Invite 100 Friends = \$50 Voucher
- Invite 200 Friends = \$100 Voucher
- Invite 500 Friends = \$150 Voucher

[NOTE : To select friends faster, press TAB and SPACE repeatedly.]

Step 3 : <http://www.getavoucher.info/> < Go here after completing above two steps to get your voucher.

McVoucher

Real or Fake?

FAKE

OMG! - Summertime Theme Park accident in Ireland





Rollercoaster Accident in Ireland

Check this @: <http://facebook.com/RollercoasterCrash>

This has just been leaked!

17 hours ago via WATCH NOW! · Like · Comment

  likes this.

  Hey, Did you see this? Its awful. I couldnt watch it all. Im NEVER going to a Theme Park again

17 hours ago · Like

Write a comment...

Real or Fake?

facebook



Kate Spade New York

To redeem your offer, take this email to Kate Spade New York and show it to the staff. Print the email out, or just show it from your phone.



enjoy 25% off in our shops, outlets
and online with code **FFSPR12SOC**
(valid in the us & uk)

Expires tomorrow

Claimed by **Brendan Irvine-Broque**

offer only valid at kate spade new york retail shops in the us and uk, kate spade new york outlets in the us and katespade.com. offer not valid at kate spade new york outlet shops in sawgrass hills and myrtle beach, which are currently closed for renovations. cannot be combined with any other promotion or coupon code at kate spade new york retail shops or katespade.com. offer is combinable in our kate spade new york outlet shops. offer not combinable with corporate discount. offer is

REAL

Hoaxes

- ▶ Don't pass those emails along – some of them are simply misguided, but some are downright dangerous
 - <http://snopes.com/>
 - <http://www.nonprofit.net/hoax/default.htm>
 - <http://hoaxbusters.ciac.org/>
 - <http://www.vmyths.com/>



IDENTITY THEFT



Cost of ID Theft

- ▶ Average hours each victim spent on resolution: 30
- ▶ Average out-of-pocket expense to victim: \$500



How Were Identities Stolen?

- ▶ Lost or stolen wallet or credit card: 14%
- ▶ Stolen mail: 4%
- ▶ During a purchase: 13%

$$14 + 4 + 13 = 31$$



Other Consequences

- ▶ Credit card problems
- ▶ Harassment by bill collectors
- ▶ Loan rejection
- ▶ Banking problems
- ▶ Insurance rejection
- ▶ Utilities cut off
- ▶ Law suits





E-REPUTATION



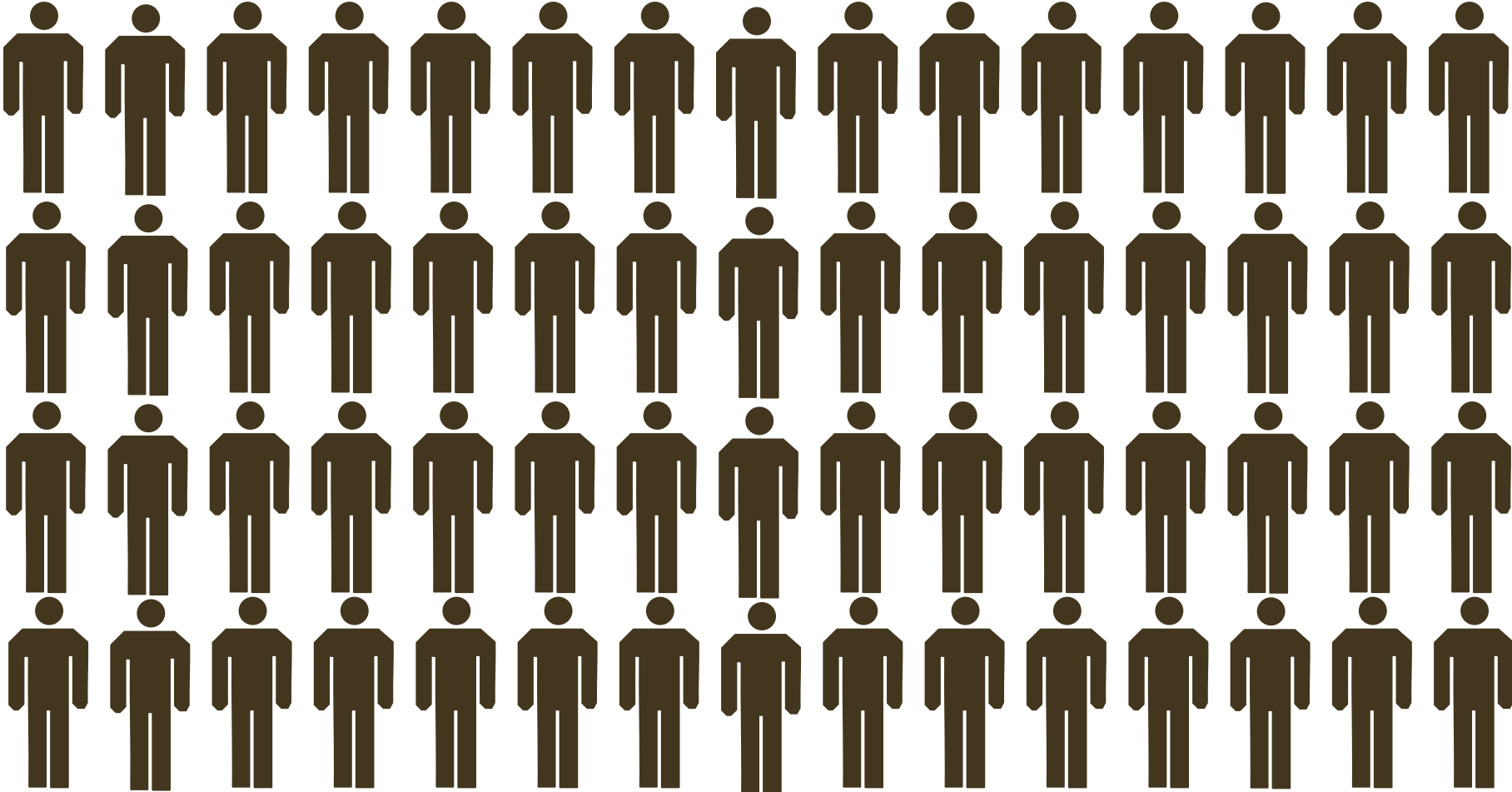
What is an E-Reputation?



- ▶ Professional Presence
- ▶ Search Engines
- ▶ Blogs and Websites
- ▶ Social Media



It Matters



It Matters



It Matters



21%

**WERE FIRED
FROM A JOB**



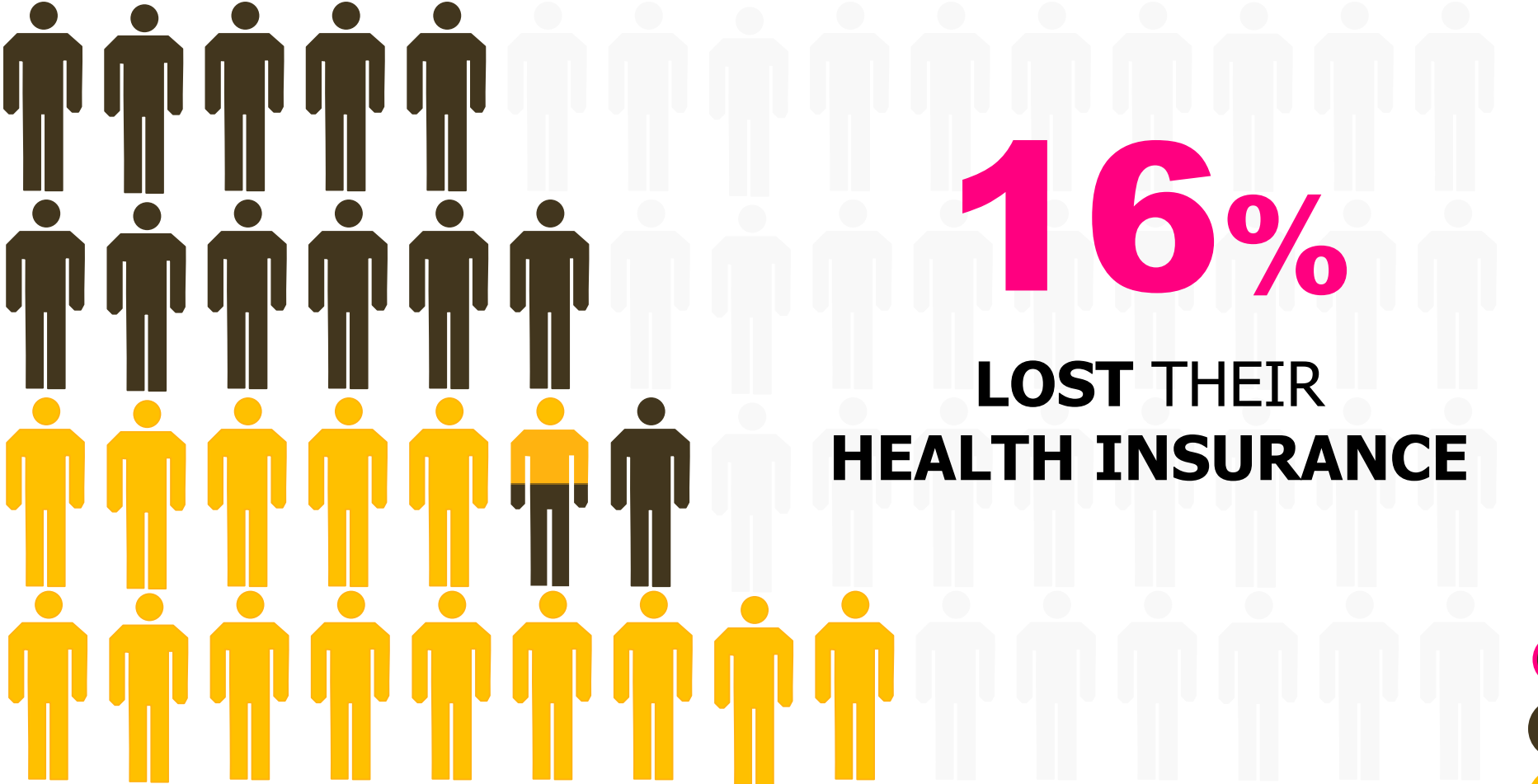
It Matters



16%

**LOST OUT ON
GETTING A JOB**

It Matters



16%

**LOST THEIR
HEALTH INSURANCE**

It Matters



14%

**LOST OUT ON
A COLLEGE
THEY WANTED**



It Matters



Why Online Reputations Matter

► Future Jobs & Other Interests

78% of **recruiters check** search engines to find out more about **potential employees**





BE SAFE



Protect Yourself

Simple Steps

- Birth Info



Protect Yourself

Simple Steps

- Birth Info
- Security Questions

-EMAIL ACCOUNT SETUP-
TO VERIFY YOUR IDENTITY,
WE NEED TO ASK YOU A
QUESTION NOBODY ELSE
COULD ANSWER.



Q: WHERE ARE THE
BODIES BURIED?

A: BEHIND THE



BEHIND THE
...NICE TRY.



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address
- House Layout



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address
- House Layout
- Vacations



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address
- House Layout
- Vacations
- Confessionals



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address
- House Layout
- Vacations
- Confessionals
- Phone Numbers



Protect Yourself

Simple Steps

- Birth Info
- Security Questions
- Physical Address
- House Layout
- Vacations
- Confessionals
- Phone Numbers
- Risky Behavior



What to Avoid

▶ Inappropriate

- Drunken/Party
- Sexual
- Illegal
- Demeaning
- Discriminating



- ▶ Unflattering Information
- ▶ Incriminating Information
- ▶ Being Digitally Non-Existent

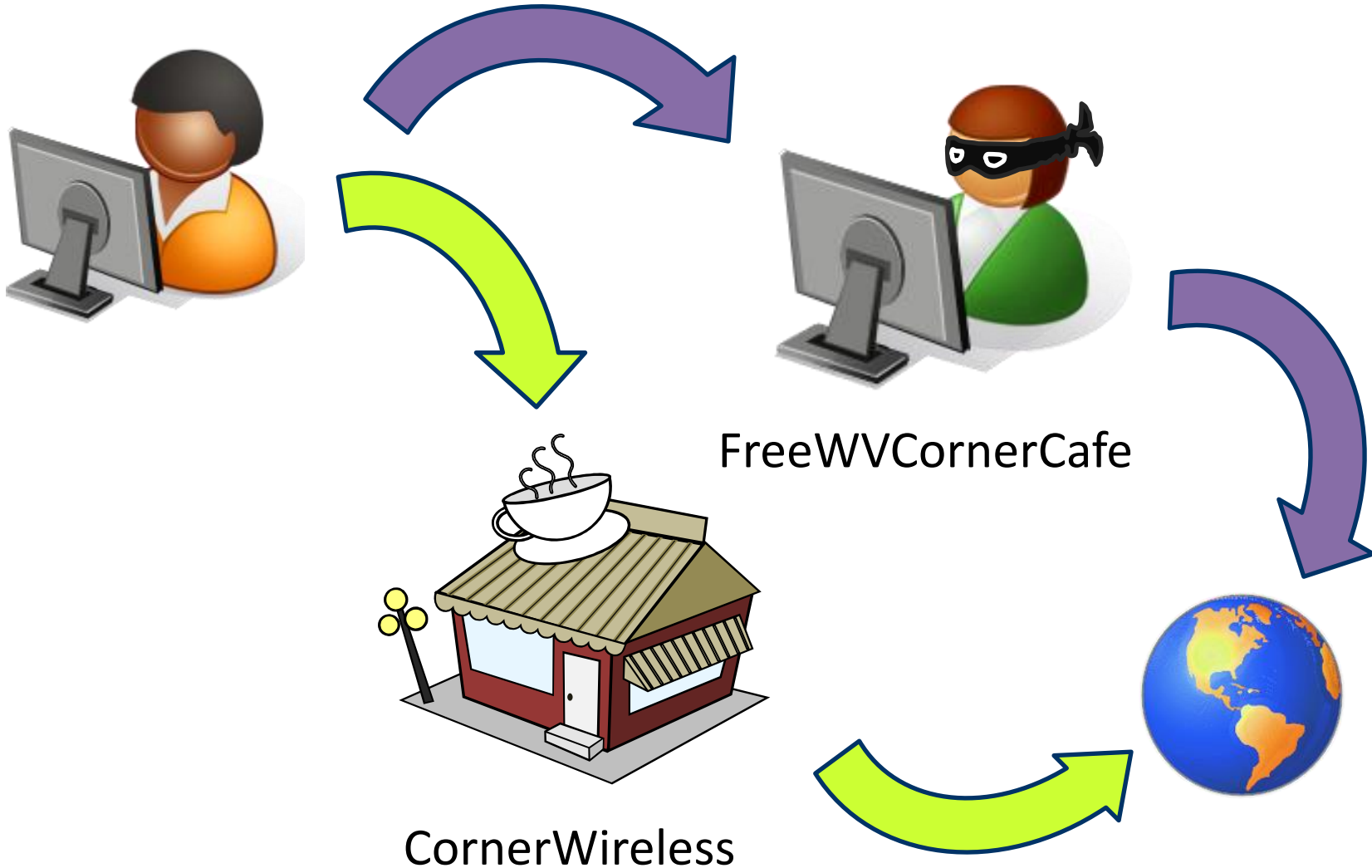




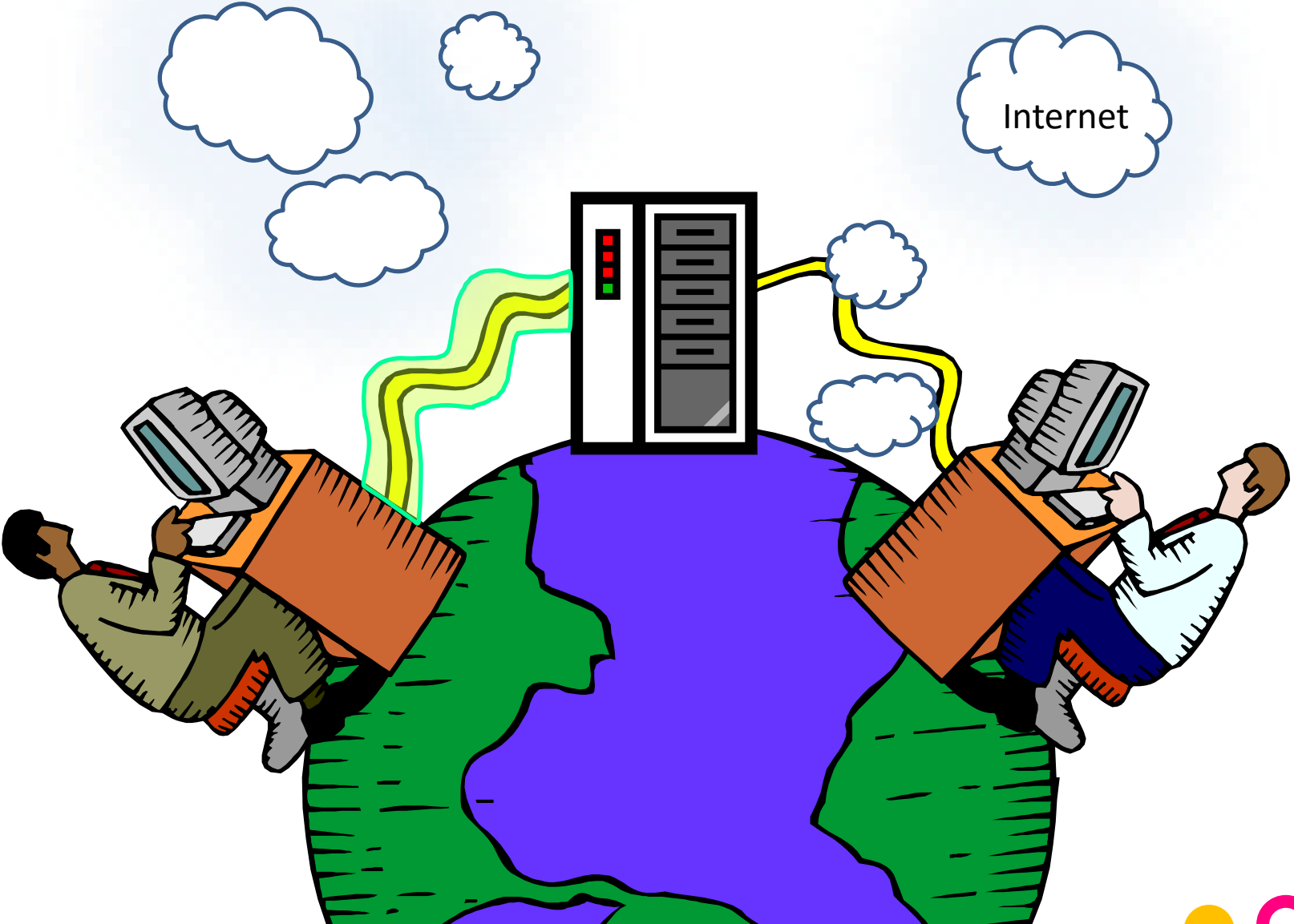
MOBILE SECURITY



When You Travel



Virtual Private Network (VPN)



PHYSICAL SECURITY

- ▶ Vehicles
- ▶ Coffee shops
- ▶ At an office
 - Your office
 - Their office
- ▶ Hotels
- ▶ Airports
- ▶ Libraries
- ▶ Court



Apps/Music

▶ M
●
▶ C

Backgrounds FREE
Stylem Media ★★★★★

- Network communication**
full Internet access
- Phone calls**
read phone state and Identity
- System tools**
prevent phone from sleeping
- Storage**
modify/delete SD card contents
- Your personal information**
read contact data, write contact data

[Show all](#)

OK Cancel

ilpapers Hello FREE
IceskYsl@1sters! ★★★★★

This application has access to the following:

- Network communication**
full Internet access
- Phone calls**
read phone state and Identity
- Storage**
modify/delete SD card contents

Hide

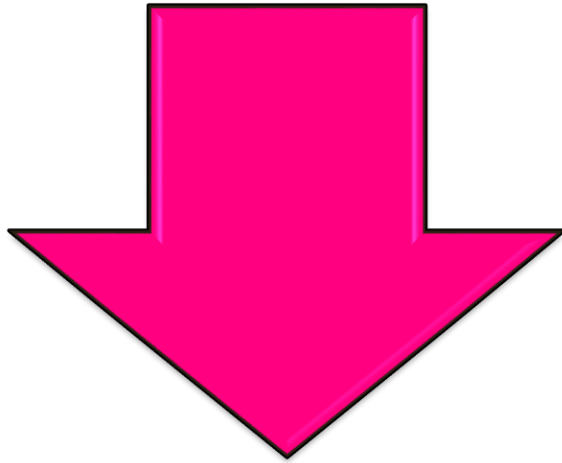
Network communication

OK Cancel

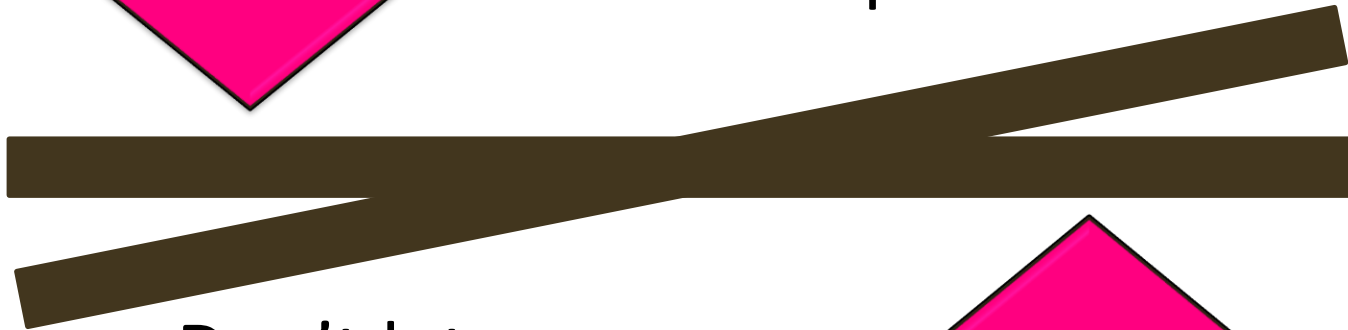


**WHAT ELSE CAN YOU DO TO
PROTECT YOURSELF?**

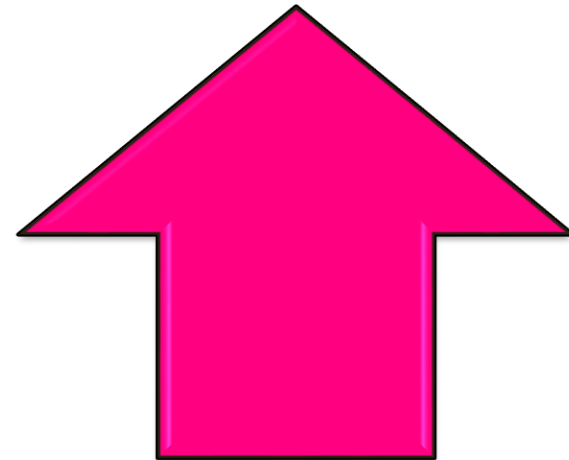
Set Your Own Reputation



Establish a
strong and
positive
presence



Don't let
someone else
create your
reputation



Stay on Top of Things



- ▶ Search for yourself
- ▶ Setup alerts
- ▶ Check aliases
- ▶ Check other's social media



Fix It

- Assess
- Acknowledge
- Delete
- Push
- Promote





TECHNICAL ISSUES



Secure EVERYTHING

Use security
settings

Update settings
frequently

**STAY
SECURE**

Use strong
passwords

Use Protection

Privacy Settings

▶ Check your child's privacy settings.

Privacy Settings and Tools

Who can see my stuff?	Who can see your future posts?	Custom	Edit
	Review all your posts and things you're tagged in		Use Activity Log
	Limit the audience for posts you've shared with friends of friends or Public?		Limit Past Posts
Who can look me up?	Who can look you up using the email address or phone number you provided?	Friends	✎ Edit
	Who can look up your timeline by name?	Friends	Edit
	Do you want other search engines to link to your timeline?	Off	Edit



General

Security

Privacy

Timeline and Tagging

Blocking

Notifications

Mobile

Followers

Apps

Ads

Payments

Support Dashboard

Security Settings

Secure BrowsingSecure browsing is currently **enabled**.**Login Notifications**Login notifications are **disabled**.**Login Approvals**A security code is **not required** when logging in from an unknown browser.**Code Generator**Code Generator is **disabled**.**App Passwords**

You haven't created app passwords.

Trusted Contacts

You don't have any trusted contacts set.

Recognized DevicesYou have **2** recognized devices.**Active Sessions**Logged in from **Morgantown, WV, US** and 5 other locations.[Deactivate your account.](#)

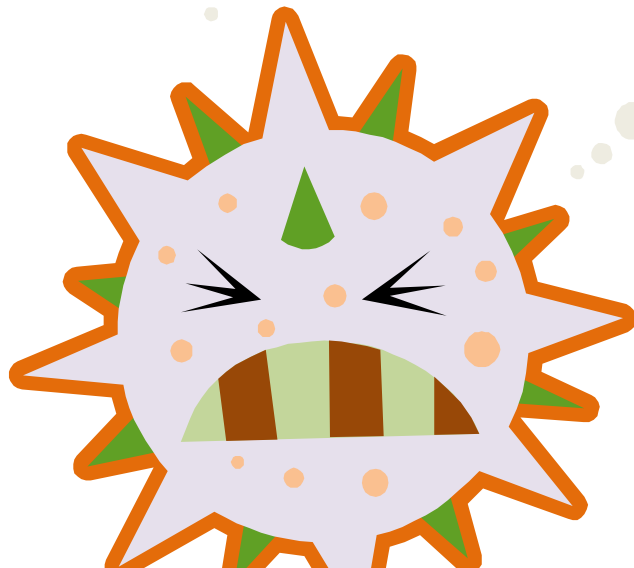
Updating Software

- ▶ Regularly install updates
- ▶ Subscribe to automatic software updates whenever they are offered
 - Example: You can automatically update all Microsoft software.
- ▶ Uninstall software that you don't use.



Malware Defense

- ▶ Install antivirus and antispyware programs from a trusted source
- ▶ Never download anything in response to a warning from a program you didn't install or don't recognize.
- ▶ Get reputable anti-malware programs from a vendor you trust.



Virus Warning: Fake or Real?

The screenshot shows a Windows Internet Explorer browser window with the address bar displaying <http://antivirus-online>. The browser's interface includes a menu bar (File, Edit, View, Favorites, Tools, Help), a Favorites bar, and a toolbar. The main content area displays the results of a system scan, including sections for System Tasks, Other Places, Details, and Your Info. A Windows Security Alert dialog box is overlaid on the scan results, displaying the following information:

Windows Security Alert

To help protect your computer, Windows Web Security has detected trojans and ready to remove them.

Detected spyware and adware on your computer:

Filename:	Filename:
<input checked="" type="checkbox"/> Admess.Trojan	tcpservice2.exe
<input checked="" type="checkbox"/> zserv.Transponder.Trojan	ZServ.dll
<input checked="" type="checkbox"/> Wstart.TrojanDownloader	wstart.dll

Remove all **Cancel**

Spyware is software, which can gather information from user's computer through Internet connection and send them to its creator. Gathered information can be passwords, e-mail addresses and all that data, which is important for you.

This program is potentially dangerous for your system. **Trojan-Downloader** stealing passwords, credit cards and other personal information from your computer.

Advice:
You need to remove this threat as soon as possible!

Shop Safely Online

- ▶ Check Reviews
- ▶ Third-party Seals of Approval.
- ▶ Website Protects Data:
 - HTTPS
 - Padlocks
- ▶ Use a Filter
- ▶ Keep Web Browser Updated



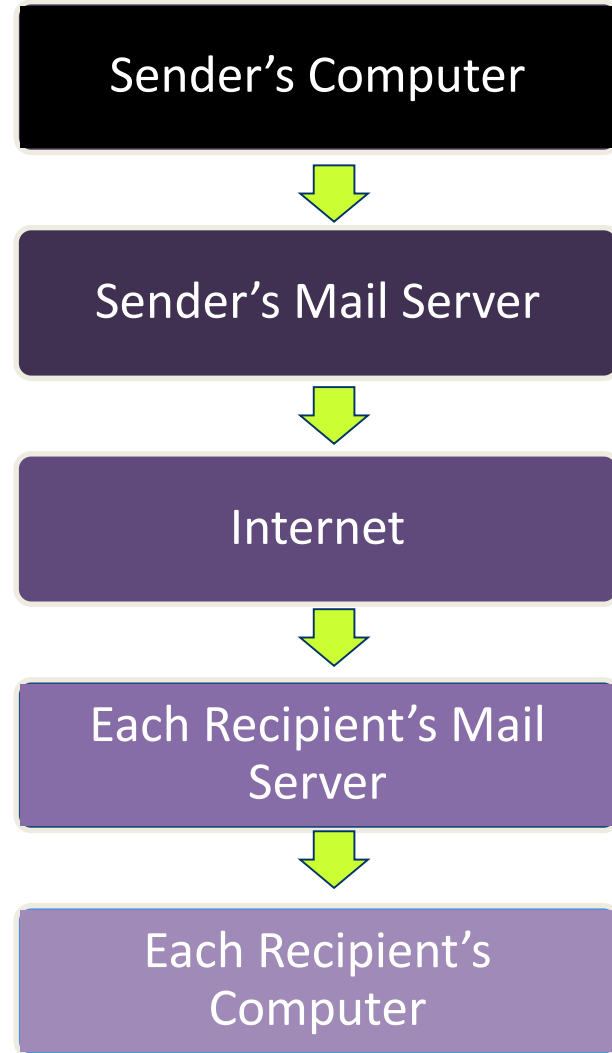
Reporting Shopping Fraud

► If you have problems during a transaction, try to work them out directly with the seller, buyer or site operator. If that doesn't work, file a complaint with:

- the Federal Trade Commission at www.ftc.gov/complaint.
- State Attorney General, using contact information at naag.org.
- County or state consumer protection agency.
- Check the blue pages of the phone book under county and state government, or visit consumeraction.gov and look under "Where to File a Complaint."



Securing Email



Creating Strong Passwords

- ▶ At least eight characters long
- ▶ Consists of:
 - Lower Case Letters
 - Upper Case Letters
 - Numbers
 - Symbols
- ▶ No complete words
- ▶ Does not contain your user name, real name, or company name



Common Frustrations

Why can't I just give my password to my secretary?

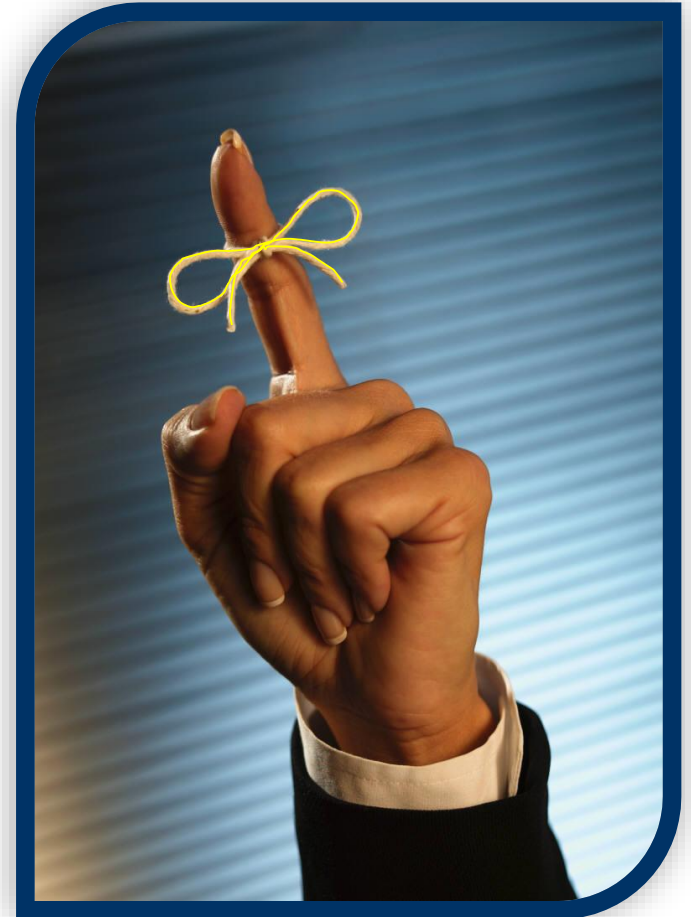
I have too many passwords to remember! Why can't I just use the same one?

Why do I have to change it again? I just did!

At least 8 characters long, a special character, and a number? That's a lot of effort.

Tricks for Remembering

- ▶ Create an acronym
- ▶ Substitute numbers, symbols, and misspellings for letters or words.
- ▶ Relate your password to a favorite activity – not family names.
- ▶ Check the strength
 - passwordmeter.com



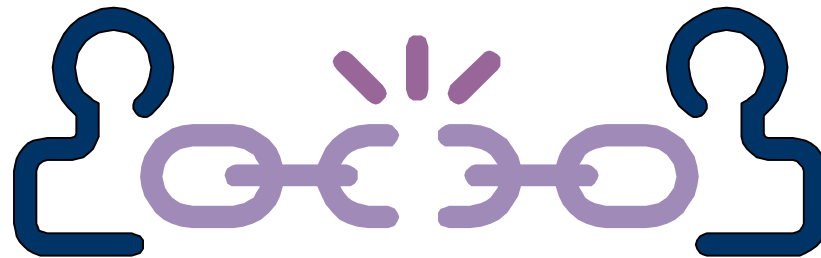
Examples

Weak

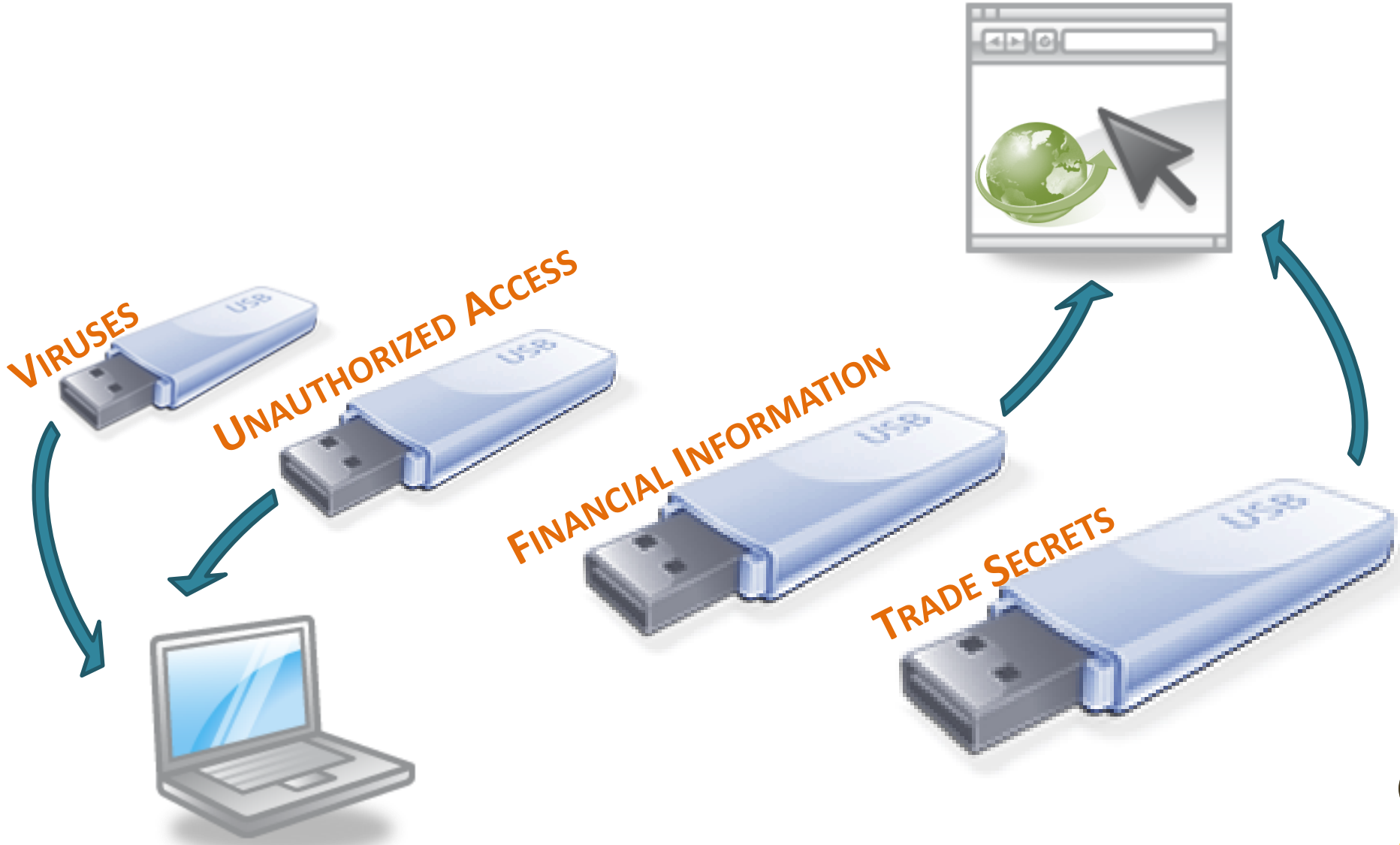
- Hello2U!
- Msbi12/Dec,4
- i<3badminton

Strong

- H3ll0 2 U!
- Mi\$un's Brthd8iz 12124
- lLuv2PlayB@dm1nt()n



Thumb Drives



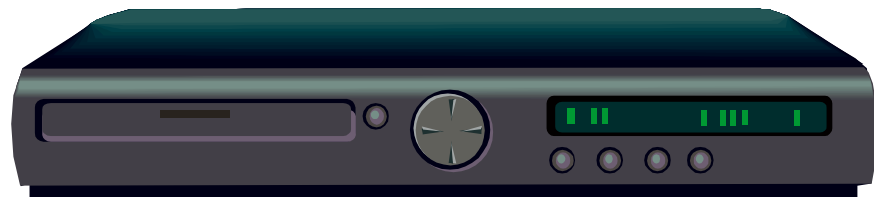
Portable Hard Drives

- ▶ External Hard Drives
- ▶ Mobile Devices



Other Media

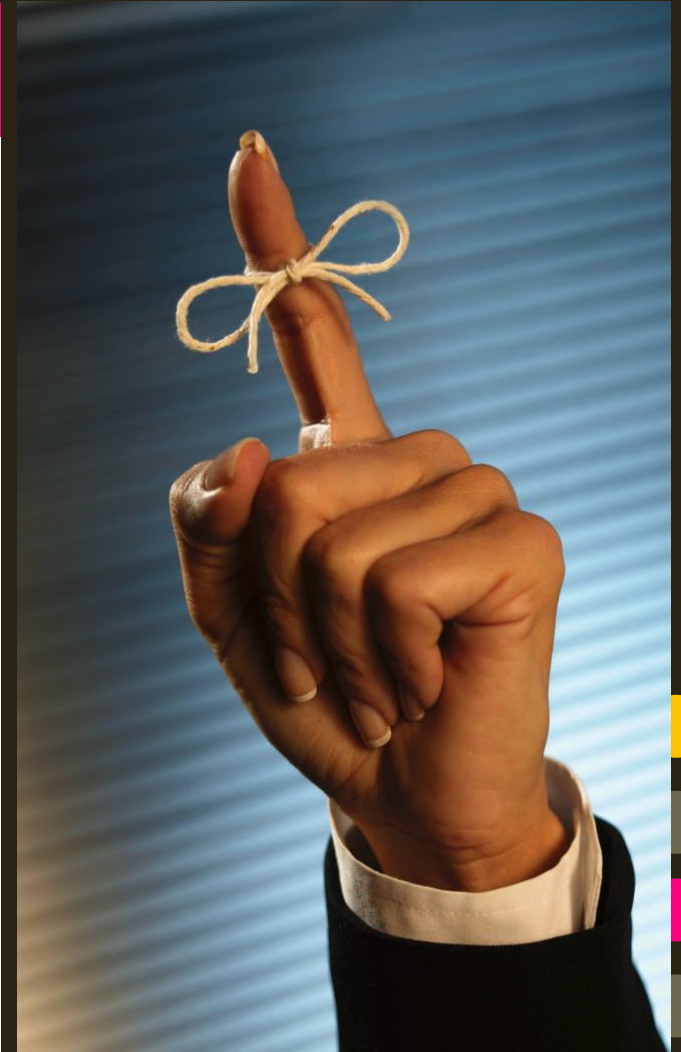
- ▶ CDs
- ▶ DVDs
- ▶ Floppy Disks
- ▶ Cameras



In Summary

Things to Remember

- Be aware of scams
- Manage your e-reputation
- Stay current
 - Human element
 - Technical element





QUESTIONS?

Comments?



Links and Products

- VPNs
 - Boingo's Personal VPN
 - JiWire Hotspot Helper
 - Witopia personalVPN
 - LogMeIn
 - GoToMyPC
- Password Strength
 - passwordmeter.com
- Free Antivirus
 - AVG
 - Norton Free
 - Avast
- Free Anti-Spyware
 - Malware Bytes
 - Spybot Search & Destroy
- Email Encryption
 - Zix
 - MessageLock
 - Protected Trust
 - Crypto heaven
 - Enigmail
 - GPGMail

Links and Products, continued

- Computer Security Institute Crime Survey
 - <http://gocsi.com/survey>
- USB Encryption
 - Cryptainer PE
 - Migo Portable Vault
 - TrueCrypt
 - SanDisk Cruzer Professional
 - BitLocker
- Consumer Links
 - eOpinions.com
 - BizRate.com
 - Better Business Bureau Online
 - <http://www.bbb.org>
 - TRUSTe
 - www.truste.com
 - www.ftc.gov/complaint
 - naag.org
 - consumeraction.gov



THANK YOU

Danielle Nicole Cox
Cyber Security Manager
State of West Virginia
Danielle.n.cox@wv.gov