DSD 101: Tips, Tools, and Best Practices to Stay Safe Online

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In this corner, we have firewalls, encryption, antivirus software, etc. And in this corner, we have Dave!!
You’re a Target. Why?
What are the Top Three Ways to Protect Yourself?
Top online safety practices?

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Use antivirus software</td>
<td>1. Install software updates</td>
</tr>
<tr>
<td>2. Use strong passwords</td>
<td>2. Use unique passwords</td>
</tr>
<tr>
<td>3. Change passwords frequently</td>
<td>3. Use two-factor authentication</td>
</tr>
<tr>
<td>4. Only visit websites they know</td>
<td>4. Use strong passwords</td>
</tr>
<tr>
<td>5. Don’t share personal information</td>
<td>5. Use a password manager</td>
</tr>
</tbody>
</table>

http://googleonlinesecurity.blogspot.com/2015/07/new-research-comparing-how-security.html
Protecting Your Computer

- Anti-virus
- Firewalls
- Patching and updates
- Passwords/passphrases

https://www.rit.edu/security/content/desktop-and-portable-computer-security-standard
Update and Browser Tools

Secunia

Stay Secure

Warning: Dangerous Site

Whoa!
Are you sure you want to go there?

http://harmontt.ru/ may be risky to visit.

Why were you redirected to this page?
When we visited this site, we found it exhibited one or more risky behaviors.

MCAFEE SiteAdvisor keeping me protected!

88,009 people like this

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Passwords/Passphrases

- **Tr0ub4dor & 3**
  - Caps?
  - Common Substitutions
  - Numerical
  - Punctuation
- **Correct Horse Battery Staple**
  - Four random common words

**Entropy**
- ~28 bits of entropy
  - $2^{28} = 3$ days at 1000 guesses/sec
  - Difficulty to guess: **Easy**
- ~44 bits of entropy
  - $2^{44} = 530$ years at 1000 guesses/sec
  - Difficulty to guess: **Hard**

**Difficulty to Remember**
- Was it trombone? No, troubadour, and one of the Os was a zero?
- And there was some symbol...
- Difficulty to remember: **Hard**

Through 20 years of effort, we've successfully trained everyone to use passwords that are hard for humans to remember, but easy for computers to guess.

http://xkcd.com/936/  https://www.rit.edu/security/content/password
How Strong is Your Password?

GRC's Interactive Brute Force Password "Search Space" Calculator

(Nothing you do here ever leaves your browser. What happens here, stays here.)

- No Uppercase
- No Lowercase
- No Digits
- No Symbols

Enter and edit your test passwords in the field above while viewing the analysis below.

Brute Force Search Space Analysis:

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Search Space Depth (Alphabet)</td>
<td>none</td>
</tr>
<tr>
<td>Search Space Length (Characters)</td>
<td>no characters</td>
</tr>
<tr>
<td>Exact Search Space Size (Count):</td>
<td>0</td>
</tr>
<tr>
<td>(count of all possible passwords with this alphabet size and up to this password's length)</td>
<td></td>
</tr>
<tr>
<td>Search Space Size (as a power of 10):</td>
<td>0.00 x 10^0</td>
</tr>
</tbody>
</table>

Time Required to Exhaustively Search this Password's Space:

<table>
<thead>
<tr>
<th>Scenario</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Online Attack Scenario:</td>
<td>_</td>
</tr>
<tr>
<td>(Assuming one thousand guesses per second)</td>
<td></td>
</tr>
<tr>
<td>Offline Fast Attack Scenario:</td>
<td>_</td>
</tr>
<tr>
<td>(Assuming one hundred billion guesses per second)</td>
<td></td>
</tr>
<tr>
<td>Massive Cracking Array Scenario:</td>
<td>_</td>
</tr>
<tr>
<td>(Assuming one hundred trillion guesses per second)</td>
<td></td>
</tr>
</tbody>
</table>

Note that typical attacks will be online password guessing limited to, at most, a few hundred guesses per second.

(The Haystack Calculator has been viewed 2,395,343 times since its publication.)

https://www.grc.com/haystack.htm
Passphrases

It was a dark and stormy night

becomes

ItwasADark215&StormyNight

Length $> \text{complexity}$
Password Managers
Two-Factor Authentication
Two Factor Authentication
www.turnon2FA.com
Mobile Devices, Smartphones, Tablets

- Protection commensurate with risk of information accessed or stored
- Storage of private information is prohibited

https://www.rit.edu/security/content/desktop-HTMLStandard
Mobile Security Apps

• Lookout Security & Antivirus (Android, iOS)
• Avast Mobile Security (Android)
• Avast SecureMe (iOS)
• Google Authenticator (Android, iOS)
• Find My iPhone (iOS)
• iVault (iOS)
What about Physical Security?

If you see something, say something.
If something does not look right, let us know.

Call OC Transpo Security at 741-2478

Ottawa
OC Transpo
TRANSCITY
Protecting your identity

PHISHING
DON'T TAKE THE BAIT!

Phishing is a form of social engineering in which ID thieves trick people into providing their personal information by pretending to be someone they're not.
Phishing

Lures belong in your tackle box, NOT your inbox.

DON'T LET A PHISHING SCAM REEL YOU IN

In a phishing scam, a criminal sends you an email message that appears to come from a legitimate source, like your bank or some other reputable company. The message, which may look authentic, instructs you to follow an encased web link—usually to "confirm your account" or "verify your information immediately." But the link actually sends you on to a counterfeit website that looks like the real one.
Delete suspicious messages immediately, and NEVER respond to email requests for personal information.
Don’t get hooked!

NEVER respond to e-mail requests for your password.
Protecting Your Information

https://www.rit.edu/security/content/information-access-protection-standard
Never assume privacy

Learn and set social network privacy settings
## Privacy Settings

### Privacy Settings and Tools

<table>
<thead>
<tr>
<th>Who can see my stuff?</th>
<th>Who can see your future posts?</th>
<th>Friends</th>
<th>Edit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Review all your posts and things you’re tagged in</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limit the audience for posts you’ve shared with friends of friends or Public?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Who can contact me?</td>
<td>Who can send you friend requests?</td>
<td>Everyone</td>
<td>Edit</td>
</tr>
<tr>
<td></td>
<td>Whose messages do I want filtered into my Inbox?</td>
<td>Basic Filtering</td>
<td>Edit</td>
</tr>
<tr>
<td>Who can look me up?</td>
<td>Who can look you up using the email address you provided?</td>
<td>Friends</td>
<td>Edit</td>
</tr>
<tr>
<td></td>
<td>Who can look you up using the phone number you provided?</td>
<td>Everyone</td>
<td>Edit</td>
</tr>
<tr>
<td></td>
<td>Do you want other search engines to link to your timeline?</td>
<td>No</td>
<td>Edit</td>
</tr>
</tbody>
</table>

Use Activity Log

Limit Past Posts
## Security Settings

### Login Alerts
Get an alert when anyone logs into your account from a new device or browser.

- **Notifications**
  - Get notifications
  - Don't get notifications

- **Email**
  - Email login alerts to ben.woelk@gmail.com, ben.woelk@urgrad.rochester.edu, bwoelk@alumni.ufl.edu, fbwis@rit.edu
  - Don't get email alerts

- **Text messages**
  - Text login alerts to (585) 354-6247
  - Don't get text alerts

[Save Changes] [Cancel]

### Login Approvals
Use your phone as an extra layer of security to keep other people from logging into your account.

[Edit]

### Code Generator
Use your Facebook app to get security codes when you need them.

[Edit]

### App Passwords
Use special passwords to log into your apps instead of using your Facebook password or Login Approvals codes.

[Edit]

### Trusted Contacts
Pick friends you can call to help you get back into your account if you get locked out.

[Edit]

### Your Browsers and Apps
Review which browsers you saved as ones you often use.

[Edit]
Login Alerts

Facebook <security@facebookmail.com> to Ben

Login Alert

Hi Ben,

Your account was recently logged into from a new browser or device. Was this you?

New Login

📅 July 31, 2015 at 10:01am

📍 Near Rochester, NY, United States

🌐 IE on Windows

[Review Login] [Manage Alerts]
Who’s following you?

Tagged photos on Instagram can be seen by?
Protecting
Your
Reputation

WOULD YOU HIRE THIS GUY?

Don’t let your past haunt your future, play it smart online.

Ask yourself if your posting is something you want future employers or grandma to see.

Visit www.wisc.edu/security to learn more about social networking tips.

DIVISION OF
INFORMATION TECHNOLOGY
University of Wisconsin-Madison
Google My Account Dashboard

Welcome, Ben Woelk

Control, protect, and secure your account, all in one place

My Account gives you quick access to settings and tools that let you safeguard your data, protect your privacy, and decide how your information can make Google services work better for you.

Sign-in & security

- Control your password and account-access settings.
  - Signing in to Google
  - Device activity & notifications
  - Connected apps & sites

Security Checkup

Protect your account in just a few minutes by reviewing your security settings and activity.

GET STARTED
Last checkup: 4 minutes ago

Personal info & privacy

- Manage your visibility settings and the data we use to personalize your experience.
  - Your personal info
  - Activity controls
  - Ads settings
  - Account overview
  - Control your content

Privacy Checkup

Take this quick checkup to review important privacy settings and adjust them to your preference.

GET STARTED

Account preferences

- Set language, accessibility, and other settings that help you use Google.
  - Language & Input Tools
  - Accessibility
  - Your Google Drive storage
  - Delete your account or services
Google Alerts

**Search for yourself**

Check out what people see when they search for you on Google.

**Stay up to date with Web Alerts**

You can have Google email you when new information appears online. (e.g. when a new search result for your name appears).

Monitor use of your name
Questions (and maybe some answers)

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http://rit.facebook.com/RITInfosec
http://twitter.com/RIT_InfoSec
Resources

• RIT Information Security Standards
  http://www.rit.edu/security

• Google Research on User vs Expert Practices
  http://googleonlinesecurity.blogspot.com/2015/07/new-research-comparing-how-security.html