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# Safety and Security

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Simple ways to keep your data and identity safe

By Erik Christiansen



# Outline

- What is security?
  - Why secure your devices?
  - Sharing information
  - Creating backups
  - Passwords
  - Other security tools
  - Privacy downsides
  - Takeaways
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# What is security?

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“Prevention of or protection against (a) access to information by unauthorized recipients or (b) intentional but unauthorized destruction or alteration of that information.”

- *Oxford Dictionary of Computing*



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# Why secure your devices?



- Keep your information and identity safe and secure:
  - Photos
  - Passwords
  - Financial information
  - Coursework
  - Personal and professional correspondence

# Share information selectively

- Don't give out personal information such as your phone number, mailing address, or email when asked.

[Sharing information](#)  
[video](#)



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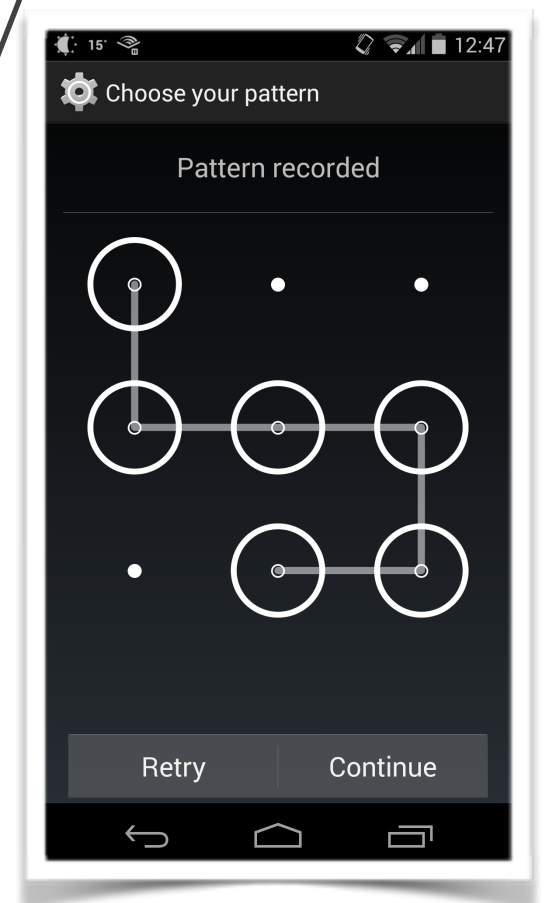
# Backup your data!



- Save all your work
- Make duplicates of your work
- Encrypt your files
- Keep a copy of your files off-site
  - Hard drive at home
  - Cloud backup: Google Drive, Dropbox, Carbonite, etc

# Using a phone passcode

- Only about 50% of people use a password or passcode on their phone.

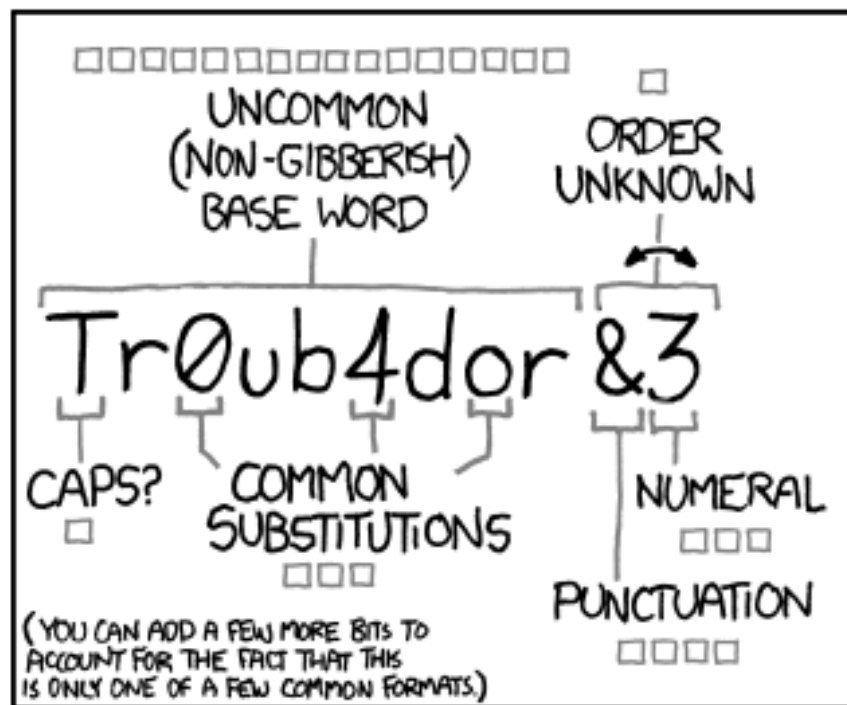


# Password Poll

<https://strawpoll.me/5209527>

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~28 BITS OF ENTROPY

$2^{28} = 3 \text{ DAYS AT } 1000 \text{ GUESSES/SEC}$

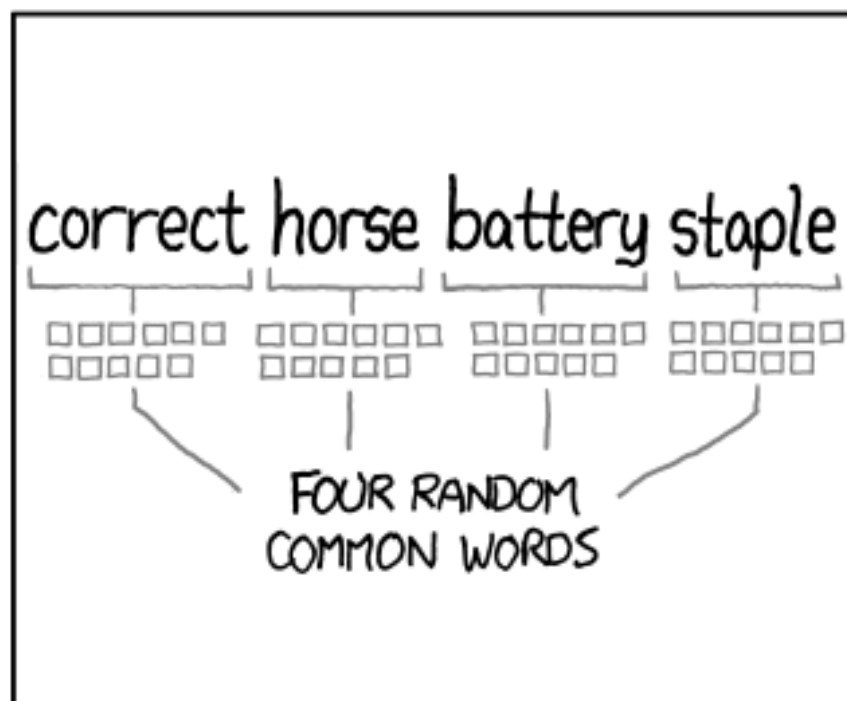
(PLAUSIBLE ATTACK ON A WEAK REMOTE WEB SERVICE. YES, CRACKING A STOLEN HASH IS FASTER, BUT IT'S NOT WHAT THE AVERAGE USER SHOULD WORRY ABOUT.)

DIFFICULTY TO GUESS: **EASY**

WAS IT TROMBONE? NO, TROUBADOR. AND ONE OF THE 0s WAS A ZERO?

AND THERE WAS SOME SYMBOL...

DIFFICULTY TO REMEMBER: **HARD**



~44 BITS OF ENTROPY

$2^{44} = 550 \text{ YEARS AT } 1000 \text{ GUESSES/SEC}$

DIFFICULTY TO GUESS: **HARD**

THAT'S A BATTERY STAPLE.

CORRECT!

DIFFICULTY TO REMEMBER: YOU'VE ALREADY MEMORIZED IT

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.

# Create strong passwords

Lorrie Faith Cranor: What's wrong with your  
pa\$\$wOrd?

- Create longer alpha-numeric passwords, using symbols and spaces.
  - Use a password saver such as Last Pass or One Password.
    - Will auto generate secure passwords and log you into your sites automatically.
-

# Last Pass

The screenshot shows the LastPass web interface in a Chrome browser window. The browser's address bar displays `chrome://lastpass/content/home2.xul`. The page header includes the LastPass logo, a search bar, and the user email `lpuser@lastpass.com`. The main content area is titled 'My LastPass Vault' and features a sidebar with 'Actions' (Enterprise Console, Manage Shared Folders, Settings, Add Site, Add Secure Note, Create Group, User Manual, Security Check) and a central table of saved credentials. The table is organized into 'favorites' and 'recently used' sections. The 'favorites' section lists sites like HSN, CVS, bit.ly, ebay, gmail, LastPass, linkedin, meebo, and reddit. The 'recently used' section lists generated passwords for google.com and skreened.com, as well as 'ga' and 'Lp note'. Each entry includes a name, a timestamp, and icons for editing, sharing, and deleting. A 'Help spread the word' sidebar on the right encourages users to share LastPass with friends.

Name	Last Touch	Acti...
▼ favorites		
25a - HSN	2 years ago	[edit] [share] [delete]
85 - CVS	2 years ago	[edit] [share] [delete]
bit.ly	2 years ago	[edit] [share] [delete]
ebay	5 months ago	[edit] [share] [delete]
gmail	5 months ago	[edit] [share] [delete]
LastPass	2 years ago	[edit] [share] [delete]
linkedin	1 year ago	[edit] [share] [delete]
meebo	2 years ago	[edit] [share] [delete]
reddit	5 months ago	[edit] [share] [delete]
▼ recently used		
Generated Password for google.com	2 days ago	[edit] [delete]
Generated Password for skreened.com	3 weeks ago	[edit] [delete]
ga	3 weeks ago	[edit] [share] [delete]
Lp note	1 month ago	[edit] [share] [delete]

# Tip

“Have a separate email for your personal correspondence and your Internet accounts.”

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# Security tools



- Search - [Duck Duck Go](#)
- Private browsing - [HTTPS Everywhere](#)
- Encrypted Messaging: Cryptocat
- Two-step authentication (Google authenticator)



# Google Alert your name

- Create a Google Alert for your name.
- Helps you maintain your reputation online.



# Downsides to privacy and security

- Limits the functionality of some web applications and social media tools.
    - Location information
  - Hard to take control of your identity.
    - Participating and sharing professional information online will create a positive image potential employers will see.
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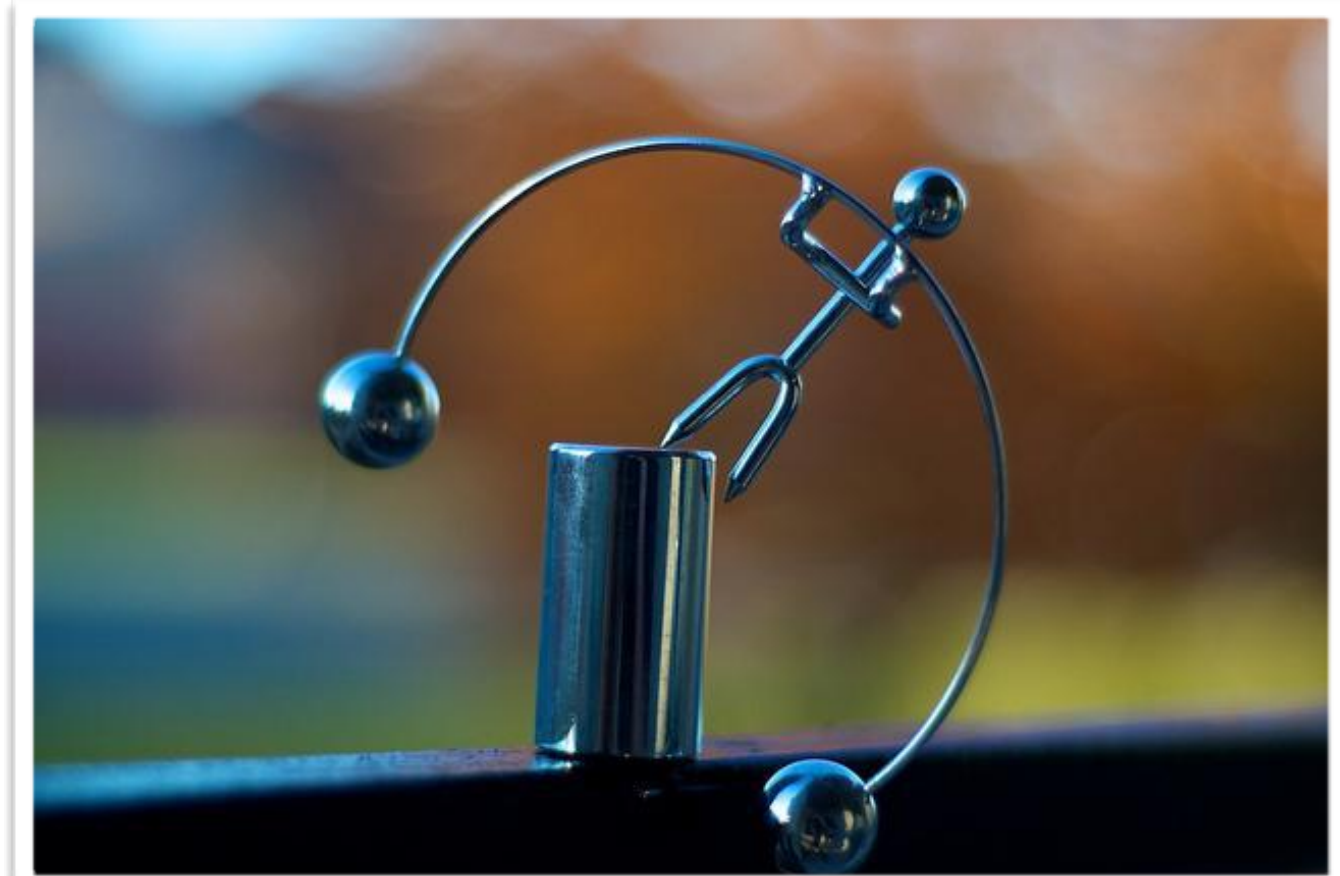
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# Takeaways

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“There is always a balance between convenience and security.”

~ Leo Laporte (Tech Journalist)



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