

HOW TO MAKE STRONG, EASY-TO-REMEMBER PASSWORDS

WHAT WE'LL COVER TODAY

- What ARE Passwords?
- The Biggest Problem with Passwords
- The Do's and Don'ts of Passwords
- How to Create Secure and Easy-to-Remember Passwords
- Where to Store your Passwords

Disclaimer

Do not verbatim copy any of my example passwords from today!

WHAT ARE PASSWORDS?

- A layer of security to our online presence
- They provide proof to the computer/system that we are who we say we are
- This is ONLY 1 layer of security: It's not enough
- MFA helps better protect you ON TOP of your password

WHY DO WE USE PASSWORDS?

- To protect our online resources
- To protect YOURSELF

THE PROBLEMS WITH PASSWORDS NOWADAYS

- Passwords aren't "hacked", they're stolen or discovered
 - One of the most common ways they are stolen, is phishing.
- Think about the last time you had to make a new password... how did you feel? Confused? Annoyed?

THE DON'TS OF PASSWORDS

- DON'T make it too short
- DON'T make it too simple/easy to guess
- DON'T reuse it
- DON'T share it

DON'T MAKE IT TOO SHORT

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DON'T MAKE IT TOO SHORT

2022

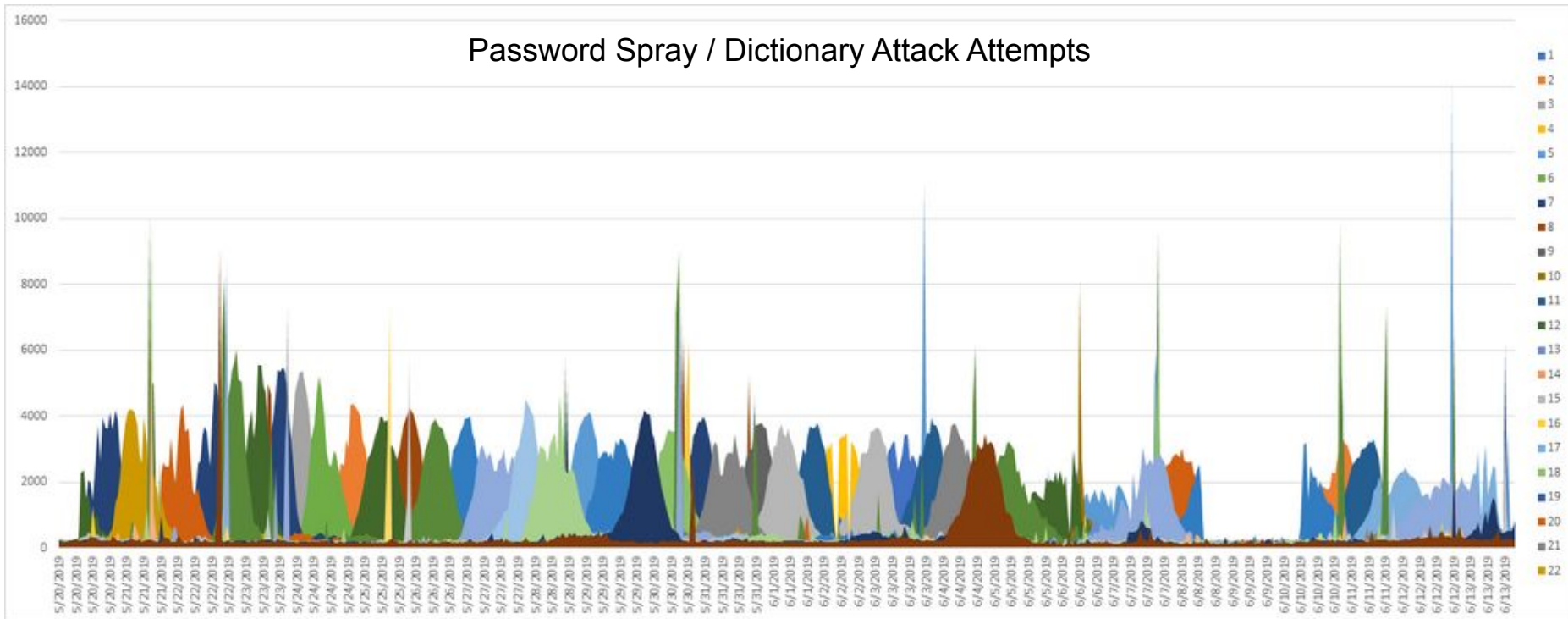
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DON'T MAKE IT TOO SIMPLE/EASY TO GUESS

- Hackers GUESS common passwords FREQUENTLY
- The Most Commonly Used Passwords (Microsoft 2019):
 - 123456
 - Password
 - 000000
 - 1qaz2wsx
 - a123456
 - abc123
 - abcd1234
 - 1234qwer
 - qwe123
 - 123qwe

DON'T MAKE IT TOO SIMPLE/EASY TO GUESS

Password Spray / Dictionary Attack Attempts



DON'T MAKE IT TOO SIMPLE/EASY TO GUESS

- Hackers GUESS common passwords FREQUENTLY.
- MORE easy-to-guess passwords:
 - Dates of ANY sort
 - family/pet names
 - Locations of personal interest/importance
 - Companies/addresses
- If you added it to a profile on social media, it shouldn't be your password

DON'T REUSE IT

- If it was "Password1" (which IT SHOULD NOT BE in the first place)
- DON'T make it "Password12" somewhere else
- If your password was compromised, it just became MUCH easier to access other information/accounts

DON'T SHARE IT

- NOBODY should know it except you
- Don't PHYSICALLY share it with coworkers/friends
- Watch out for Phishers!
- It was hard ENOUGH to make it! Why ruin your hard work?

THE DO'S OF PASSWORDS

- DO make it long
- DO keep your password secret
- DO use various characters

DO MAKE IT LONG, WITH DIFFERENT CASES & SYMBOLS WHERE POSSIBLE

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DO USE VARIETY

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HOW TO CREATE SECURE, EASY-TO-REMEMBER PASSWORDS

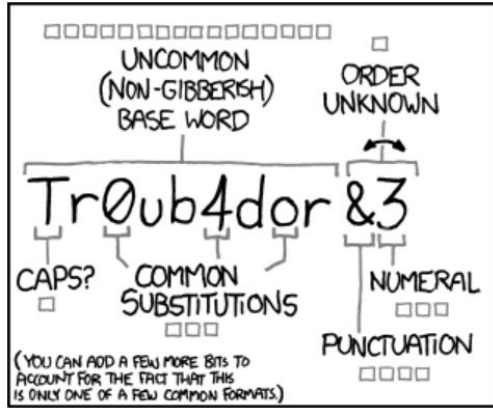
- 2 methods:
 - Correct Horse Battery Staple
 - Bruce Schneier

**CORRECT HORSE BATTERY STAPLE
(CHBS)**

CORRECT HORSE BATTERY STAPLE

- Helps YOU remember the password, but makes it HARD to brute-force
- Password algorithms use Dictionary to crack passwords
- By taking these random items and putting them together, it becomes harder for the algorithm to guess
- HOW do you remember a password like that?

CORRECT HORSE BATTERY STAPLE

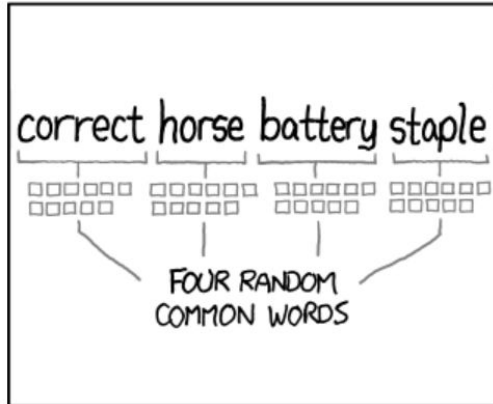


WAS IT TROMBONE? NO, TROUBADOR. AND ONE OF THE O's WAS A ZERO?

AND THERE WAS SOME SYMBOL...

DIFFICULTY TO REMEMBER: **HARD**

Detailed description: A stick figure is shown in a thinking pose. The text above asks if it was 'TROMBONE' or 'TROUBADOR' and if one of the 'O's was a zero. The figure says 'AND THERE WAS SOME SYMBOL...'. Below, it says 'DIFFICULTY TO REMEMBER: HARD'.



THAT'S A BATTERY STAPLE.

CORRECT!

DIFFICULTY TO REMEMBER: YOU'VE ALREADY MEMORIZED IT

Detailed description: A stick figure is shown in a thinking pose. A thought bubble contains a horse and a battery staple, with the text 'THAT'S A BATTERY STAPLE.' and 'CORRECT!'. Below, it says 'DIFFICULTY TO REMEMBER: YOU'VE ALREADY MEMORIZED IT'.

LET'S TRY IT!

LET'S TRY IT

- Look around the room: what do you see of significance?
 - Plant
 - Sunlight
 - Table
 - Marker

LET'S TRY IT

Sunlighttableplantmarker

Tableplantsunlightmarker

markertablesunlightplant

LET'S TRY IT

24 characters in these passwords

Sunlighttableplantmarker

tableplantsunlightmarker

markertablesunlightplant



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BRUCE SCHNEIER

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- Similar to CHBS: secure password, easy to remember
- It starts with a phrase that means something to you...

I call Clearbridge when my laptop stops working

BRUCE SCHNEIER

“I call Clearbridge when my laptop stops working”

- We're going to convert this sentence into our password by abbreviating and substituting

BRUCE SCHNEIER

“I call Clearbridge when my laptop stops working”

Phase 1 abbreviation: iccbwmlsw

BRUCE SCHNEIER

“I call Clearbridge when my laptop stops working”

Phase 1: iccbwmlsw - (9 characters)

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BRUCE SCHNEIER

“I call Clearbridge when my laptop stops working”

Phase 1: iccbwmlsw - (9 characters)

Phase 2: IcCBwmLAPTOPsw - (14 characters)

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BRUCE SCHNEIER

“I call Clearbridge when my laptop stops working”

Phase 1: iccbwmlsw - (9 characters)

Phase 2: lcCBwmLAPTOPsw - (14 characters)

Phase 3: lcCBwmL@PT0Psw - (14 characters)

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CORRECT HORSE BATTERY STAPLE

BRUCE SCHNEIER

HOW TO REMEMBER PASSWORDS

My Strategy:

Use It or Lose It Technique

WHERE **NOT** TO STORE YOUR PASSWORDS

WHERE NOT TO STORE YOUR PASSWORDS

- On a STICKYNOTE on your monitor
- In an excel, word, or text document → unencrypted, plain text, can read upon opening
- In a notebook, or written ANYWHERE for that matter
- In an email (email is NOT secure)

SO WHERE CAN YOU STORE THEM?

WHERE TO STORE YOUR PASSWORDS

- In your memory:
 - The 4 passwords you MUST know:
 1. Your PRIMARY email
 2. Your bank account
 3. Your computer
 4. Your password manager

PASSWORD MANAGERS

- Can hold an UNLIMITED number of passwords → You only need to remember ONE password now: the password manager
- Some have password generators to help you reduce time to create a unique, secure password
- Password Managers:
 - LastPass (our recommendation)
 - BitWarden
 - Keepass

LET'S REVIEW

LET'S REVIEW

- Passwords are a layer of security that protect our online presence/information
- Don't make your password too short, simple, or easy to guess
- Don't share or reuse passwords
- You have 2 methods to create a password: CHBS and Bruce Schneier
- Don't write your password down, or store it in plain text/excel documents
- The 4 Account passwords you SHOULD remember:
 - Primary email
 - Bank account
 - Your computer
 - Your password manager
- All other passwords can be kept in a password manager

APRIL WEBINAR

MFA