LSU CYBERSECURITY CLINIC

Inaugural Cybersecurity Seminar Series
for Small Businesses
February 2024

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About the Clinic…

First NSA-funded cybersecurity clinic	Experiential cyber education for LSU students	Enhance cybersecurity practices for small businesses in LA	Pro-bono services
	Training	Counseling	Assessment

National Security Agency — United States of America
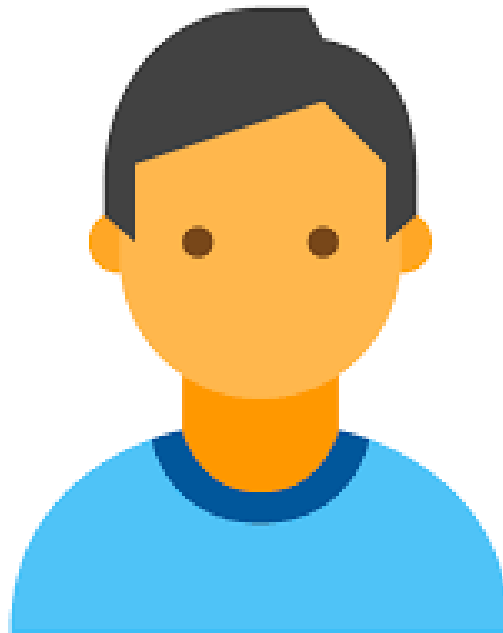
KEEPING YOUR PASSWORD SAFE

THE IMPORTANCE OF PASSWORD MANAGEMENT

WWW.LSU.EDU/CYBERCLINIC
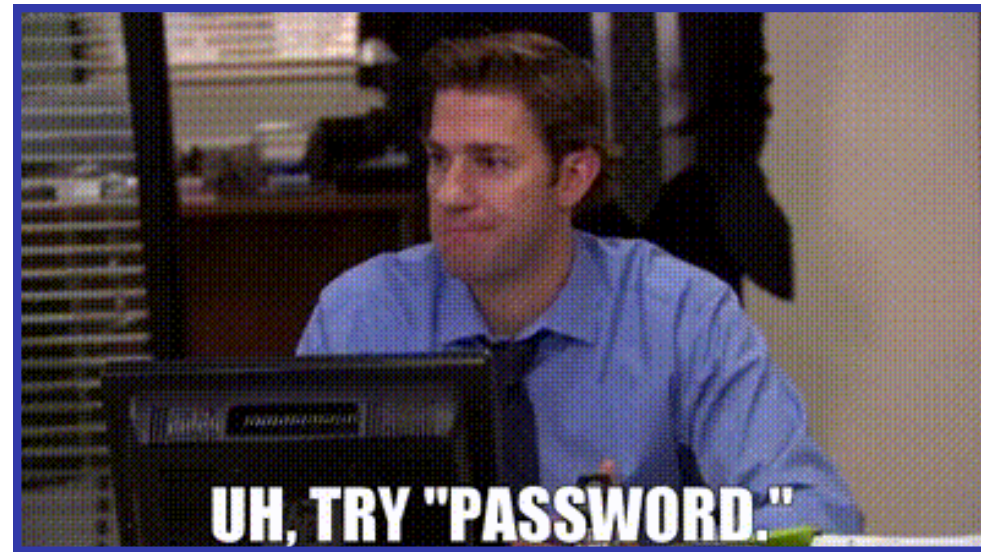
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THIS IS STAMPY

$43 BILLION IN DAMAGES
VIA: IC3

921 PASSWORD ATTACKS PER SECOND
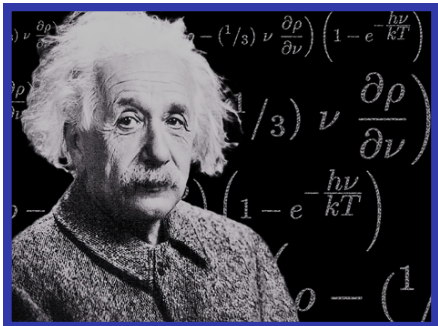## VIA: MICROSOFT

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ABOUT AUTHENTICATION

- Authentication aims to verify the identity of an individual or org.
- Passwords are, by far, the most common authentication medium.
- Know the password? Get the goods!
- You generally pick your own passwords.
- Are you using good passwords?
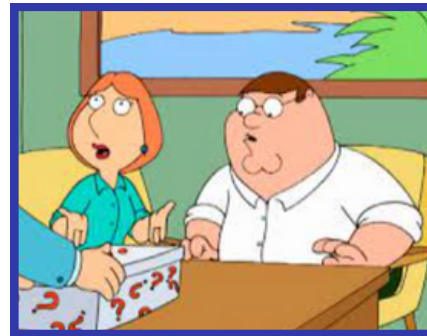
PILLARS OF A GOOD PASSWORD

COMPLEXITY   **LENGTH**   **UNPREDICTABLITY**   **EASY TO REMEMBER**

6HAˆZABLI2E@2HPB

ILOVEMYJOB504#

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PASSWORD POLICIES: KEEPING PASSWORDS GREAT

TIME IT TAKES A HACKER TO BRUTE FORCE YOUR PASSWORD

Number of Characters	Numbers Only	Lowercase Letters	Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters	Numbers, Upper and Lowercase Letters, Symbols
4	Instantly	Instantly	Instantly	Instantly	Instantly
5	Instantly	Instantly	Instantly	Instantly	Instantly
6	Instantly	Instantly	Instantly	1 sec	5 secs
7	Instantly	Instantly	25 secs	1 min	6 mins
8	Instantly	5 secs	22 mins	1 hour	8 hours
9	Instantly	2 mins	19 hours	3 days	3 weeks
10	Instantly	58 mins	1 month	7 months	5 years
11	2 secs	1 day	5 years	41 years	400 years
12	25 secs	3 weeks	300 years	2k years	34k years
13	4 mins	1 year	16k years	100k years	2m years
14	41 mins	51 years	800k years	9m years	200m years
15	6 hours	1k years	43m years	600m years	15 bn years
16	2 days	34k years	2bn years	37bn years	1tn years
17	4 weeks	800k years	100bn years	2tn years	93tn years
18	9 months	23m years	6tn years	100 tn years	7qd years

- People want to use passwords that are easy to remember.
- But is it secure enough?
- You can help!
- A password policy is set by an organization to ensure good passwords are being used.

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WHAT IS HASHING? WHY DO WE NEED IT?

- This slide is in plaintext.

- If you understand it, congrats!

  You can read!

- ...but so can everyone else.

- Your passwords are no different.

- The solution? Hashing!

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DEMO

PASSWORD CRACKING

WHY DO WE NEED ACCESS CONTROL?

- Ensure everyone has exactly what they need

- Prevent unauthorized access

- Reduces effect of password leaks

PASSWORD SHARING

- While well intentioned, password sharing is not advisable

- 20% of adults have shared their email password with someone else

- Extends your ability to be attacked

PASSWORD REUSE

- Reuse means that a single leak is catastrophic
- 60% of Americans use the same password for multiple accounts
- How do we deal with so many passwords?

PASSWORD MANAGERS TO THE RESCUE

- A central location to store passwords
- Only need to remember one password
- Interfaces with computer and phone
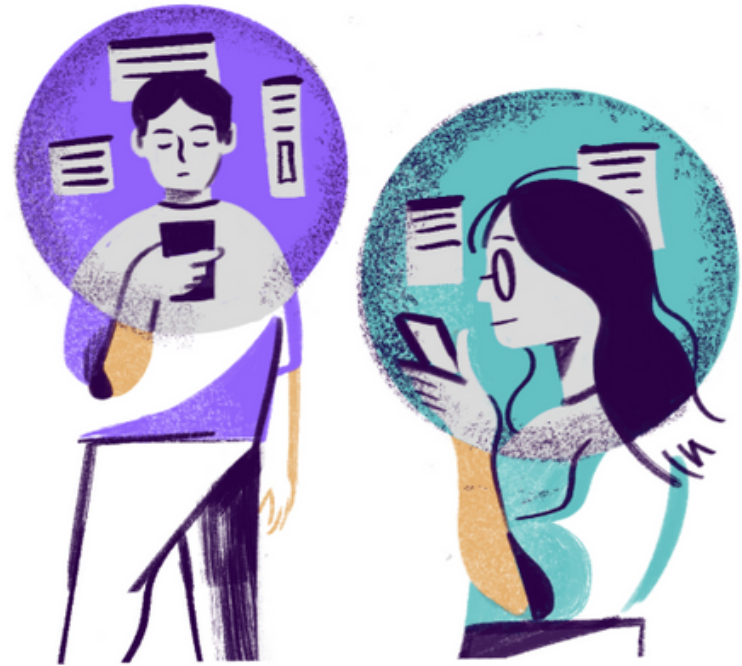
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MULTI-FACTOR AUTHENTICATION

- Used alongside passwords

- Reduces effects of password leaks

- Minimal effort for major benefit

- Comes in various different forms

THANK YOU VERY MUCH!

ANY QUESTIONS?