# **Safer Internet: Browsing: Protect Passwords**

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#### Summary I

References: General | 1Password | Multi-Factor Authentication | Android | Apps | Biometrics; Passkeys | Bitwarden | Browser (as PM) | Chrome | Credential Stuffing | DashLane | Edge | Facebook | Firefox | Freq. of Changing | iCloud/KeyChain | iOS | LastPass | macOS | Password Managers | Safari | Security Questions | SMS, SIM hijacking | SSO (Single Sign-On | Password Strength | Windows

# **Summary**

• Passwords are now covered in a separate 3-session OLLI course: P@s\$w0rdz

*Non-expert Online Practices* 

**Expert Online Practices** 1. Use Antivirus Software 1. Install Software Updates 2. Use Strong Passwords 2. Use Unique Passwords

3. Change Passwords Frequently 3. Use Multifactor-Factor Authentication

4. Only Visit Websites They Know 4. Use Strong Passwords

5. Don't Share Personal Info 5. Use a Password Manager

- <u>Passwords:Intro</u> (from earlier in this course) now summarizes highlights from P@s\$w0rdz.
- This section originally provided more details about other password issues, e.g., secret answers, biometrics, 2FA, etc.
- This section now provides only Reference articles (below) [for <u>P@s\$w0rdz</u>] -- it will continue to be updated.

# References

- {TCYOP-4: 99-100; TCYOP-3: 81-83}
- e-Books: Take Control of...: Your Passwords, 1Password; Passwords cheat sheet
- <u>haveibeenpwned.com</u> check if you have an account that has been compromised in a data breach
- SYSTEM: Please enter your new password.
- USER: cabbage
- **SYSTEM**:... Sorry, the password must be more than 8 characters.
- <u>USER:...</u> boiled cabbage
- **SYSTEM**:... Sorry, the password must contain 1 numerical character.
- <u>USER:...</u> *I boiled cabbage*
- <u>SYSTEM:...</u> Sorry, the password cannot have blank spaces.
- <u>USER:...</u> 50bloodyboiledcabbages
- SYSTEM:... Sorry, the password must contain at least one upper case character.
- <u>USER:...</u>50BLOODYboiledcabbages
- <u>SYSTEM:...</u> Sorry, the password cannot use more than one upper case character consecutively.
- <u>USER:...</u> 50BloodyBoiledCabbagesShovedUpYourArseIfYouDon'tGiveMeAccessNow!
- **SYSTEM**:... Sorry, the password cannot contain punctuation.
- <u>USER:...</u> ReallyPissedOff50BloodyBoiledCabbagesShovedUpYourArseIfYouDontGiveMeAccessNow
- **SYSTEM**:....Sorry, that password is already in use.

• Wikipedia: <u>Password</u>; <u>Authentication</u>; <u>Backdoor</u> method of bypassing normal authentication

• HowStuffWorks: <u>Authentication</u>

• Wikipedia: Password manager; Password strength

• Wikipedia: Password entropy derived from # character choices (# of bits) \* length of password

• Wikipedia: FIPS-181 Fed. Info Processing Std.: Automated Password Generator

• Wikipedia: Random password generator; Diceware

• Wikipedia: <u>Password cracking</u> depends on info entropy; number, speed of CPU/GPUs, # of permitted attempts; e.g., 2008: A user-selected eight-character password with numbers, mixed case, and symbols, reaches an estimated 30-bit strength, according to NIST. 30 is only one billion permutations and would take an average of 16 minutes to crack

• Wikipedia: salt random data that is used as an additional input to a one-way function that hashes a password or passphrase

• zxcvbn (password strength tester): testing page; intro; source code

Top Ten Password Security Standards 6/21/2023

Back Up and Secure Your Digital Life

product reviews: ...

Password manager: free, paid;

Two-factor authentication; ... NYT; 6/16/2023

## • Everything you've been told about passwords is a lie

Aim for longer password phrases; Use a password manager if you can; Consider two-step authentication on your important accounts; WaPo; 1/10/2023

A Breach at LastPass Has Password Lessons for Us All
reassess whether to trust companies to store our sensitive data in the cloud; NYT; 1/5/2023

- What to Do if Your Password Is Exposed in a Data Breach Giz; 7/27/2022
- How to Set Up Google Password Manager's On-Device Encryption for iOS, Chrome, and Android Giz; 6/22/2022
- Steps to Simple Online Security: 1: Always use strong passwords; 2: Set Up Two-Factor Authentication NYT; 4/1/2022
- Lapsus\$ found a spreadsheet of passwords as they breached Okta, documents show TC; 3/28/2022
- Why You Should Sign Into All of Your Accounts Every Now and Then

inactive accounts -- inaccessible due to invalid email address; account deletion -- policies vary:  $6\ mo.$  -  $2\ years;$  LH; 11/30/2021

• Why the Password Isn't Dead Quite Yet

some drawbacks to new authentication methods; often newer devices are required; Wired; 7/6/2021

• Have I been Pwned (HIBP) goes open source

HIBP will now also receive compromised passwords discovered in the course of FBI investigations; ZD; 5/27/2021

- PSA for US Congresspeople: Please do not enter your phone's passcode on TV Verge; 5/25/2021
- How to See Who's Using Your Streaming Passwords

Netflix; Hulu; Disney+; Amazon Prime Video; Spotify; Giz; 5/3/2021

• How to tell if your password has been stolen

HaveIBeenPwned;

Hass-Platner-Institut;

Google Password Checkup;

Firefox Lockwise:

Microsoft Edge Password Monitor;

password managers: LastPass, Dashlane, 1Password;

PC; 2/10/2021

• The 5 Best Ways to Store Passwords Safely

 $Use\ your\ browser;\ 1Password;\ LastPass;$ 

Dashlane; NordPass; Giz; 2/9/2021

Microsoft takes on Keychain with Autofill features on iOS, macOS

via Microsoft Authenticator app and a Google Chrome extension; ApIn; 2/6/2021

• Lost Passwords Lock Millionaires Out of Their Bitcoin Fortunes

But what happens when you can't access that wealth because you forgot the password to your digital wallet? NYT; 1/12/2021

• Here's how many Americans still secretly use their ex's passwords

- <u>Have I Been Pwned is going open source</u> tells you if passwords were breached; Verge; 8/7/2020
- How Do I Get Into My Email If I've Lost My Recovery Codes? LH; 8/7/2020
- Why Am I Locked Out of My Netflix Account? (password oversharing?) LH; 7/31/2020
- How Have I Been Pwned became the keeper of the internet's biggest data breaches 10 billion+ breached accounts; TC; 7/3/2020
- How to Change Your Email Address LH; 6/17/2020
- Neo-Nazis Are Spreading a List of Emails and Passwords for Gates Foundation and WHO Employees MB; 4/21/2020
- Silicon Valley Legends Launch Beyond Identity in Quest to Eliminate Passwords Beyond Identify; 4/14/2020
- 10 Billion Wrecked Accounts Show Why You Need 'Have I Been Pwned' LH; 4/9/2020
- Three old password rules that are dumb today
   Don't be afraid to write down your passwords; Do share your accounts;
   Don't constantly change your passwords; CNet; 3/11/2020
- How to Share Your Online Accounts Without Sharing Your Password
  via password manager; Amazon Prime 'Household Package'; Spotify, Apple Music, YouTube Music: family plan;
  Netflix, Hulu, Disney Plus: share pw, but setup profiles; Wired; 2/23/2020

- More than 38,000 people will stand in line this week to get a new password on paper, at German university; ZD; 12/18/2019
- How Can I Close Accounts for Old Services I Don't Use Anymore?
   Check through your email for notices, confirmations, etc.; Search for old passwords in your browser and password managers; Google your username; Clear out permissions for other apps; LH; 12/5/2019
- Who's Hacking Your Spotify? NYT; 12/5/2019
- Why Sharing Your Disney+ or Netflix Password Is a Bad Idea use unique password,2FA; Giz; 11/29/2019
- Suspect can't be compelled to reveal "64-character" password, court rules Ars; 11/23/2019
- Nikki Haley lost her password, so she sent sensitive info over unclassified system OpenNet; Ars; 11/20/2019
- How to use Sign In With Apple and manage your log in information ApIn; 11/7/2019
- Please get your digital affairs in order password manager, backup codes; TC; 9/15/2019
- How to create a backup plan to restore passwords if your system fails iCloud, password manager; MW; 9/3/2019
- Fernando Corbató, a Father of Your Computer (and Your Password), Dies at 93 timesharing; NYT; 7/12/2019

- <u>Hacker Lexicon: What Is Credential Dumping?</u> extracting usernames and passwords from a victim computer, so that they can be used to reenter that computer at will and reach other computers on the network; Wired; 7/7/2019
- [2] A quarter of major CMSs use outdated MD5 as the default password hashing scheme Offenders include WordPress, osCommerce, SuiteCRM, Simple Machines Forum, miniBB, MyBB, SugarCRM, and others; ZD; 6/17/2019
- <u>5 alarming facts in honor of World Password Day</u>
  - 1. Data breaches are happening more often;
  - 2. Data breaches are getting worse;
  - 3. Data breaches may not be detected and reported promptly;
  - 4. The more online accounts you have, the more vulnerable you are;
  - 5. We can't seem to shake our bad password habits; PC; 5/2/2019
- Introducing the 1Password Internet Password Book
  - ;-) bad handwriting is the best form of encryption; 4/1/2019
- WebAuthn: What you need to know about the future of the passwordless Web while OS and browser makers now support the WebAuthn API, it's unclear when and how Web sites will begin implementing it; PC; 3/7/2019
- The web just took a big step toward a password-free future
  WebAuthn is here to kill the password; uses USB key or other biometrics;
  already supported by most browsers (Chrome, Firefox, Edge, and Safari); Verge; 3/4/2019
- Once Again, Sharing Streaming Passwords Is Not 'Piracy' Or 'Freeloading' most actual streaming companies view as marketing and source of new accounts; TD; 3/1/2019

- [2] Cryptocurrency wallet caught sending user passwords to Google's spellchecker
  Coinomi wallet bug sends users' secret passphrases to Google's Spellcheck API via HTTP, in plaintext; ZD; 2/27/2019
- Millions of utility customers' passwords stored in plain text and sent in plain text via email; Ars; 2/25/2019
- When Your Shared Netflix Account Outlasts The Relationship NPR; 2/14/2019
- You happily share passwords for Netflix, HBO and more, despite risks CNet; 2/12/2019
- <u>Digital exchange loses \$137 million as founder takes passwords to the grave cryptocurrency; Ars; 2/2/2019</u>
- How to Stop Worrying About Every 'Mega' Password Breach That Comes Along
  - 1. Enable 2FA;
  - 2. Get a password manager;
  - 3. Buy a physical security token, e.g., Yubikey, Google Titan;
  - 4. Enjoy; Giz; 1/17/2019

### 1Password

- wikipedia, 1password.com, Take Control Books
- <u>1Password 8.10.13</u> TB; 8/28/2023
- Two-Factor Authentication, Two-Step Verification, and 1Password not true 2FA, but 2SV; TB; 7/10/2023

• <u>1Password launches a passkey public beta for Chrome, Edge, Safari, Firefox, and Brave but not its mobile apps</u> 1PW announced passkey support in Nov. 2022; Verge; 6/6/2023
• <u>1Password is finally rolling out passkey management</u> save passkeys and synchronize them across devices and platforms after 6/6; Verge; 5/16/2023
• How 1Password is designed to keep your data safe, even in the event of a breach 1PW; 1/10/2023
• Now 1Password remembers sites that use third-party accounts like Google or Facebook to log in Verge; 12/1/2022
• 1Password 8 arrives on Android and iOS with a big redesign and personalized home Verge; 8/9/2022
• <u>1Password now lets you securely share files and documents with just a link</u> Verge; 6/29/2022
• Twitter pays \$150M fine for using two-factor login details (phone #, email) to target ads Ars; 5/26/2022
• <u>1Password 8.0</u> TB; 5/9/2022
• <u>1Password 8 for Mac brings autofilling passwords to native apps</u> Verge; 5/3/2022
• <u>1Password 7.9.4</u> TB; 4/8/2022
• Moving from 1Password to KeePass TB; 4/11/2022

- <u>1Password now lets you easily store crypto wallet details</u> Verge; 2/23/2022
- <u>1Password 8 for Windows is here</u> 1PW; 11/16/2021
- Psst! Now you can securely share 1Password items with anyone 1PW; 10/12/2021
- Protect your privacy with 1Password and Fastmail 1PW; 9/28/2021
- Sync options compared 9/28/2021; Is it safe to sync my data over the cloud? 11/3/2021
- [2] syncing: other folder, cloud e.g., Box, Dropbox, Google Drive, Microsoft OneDrive, SpiderOak, SugarSync; 11/12/2021
- [2] from local file e.g., USB drive; some browsers restrict access
- Guide: Setup Touch ID 9/22/2021
   How safe is it to use Touch ID to secure my vault?

   settings for how often to re-enter master password; 9/22/2021
- <u>1Password has plans to get companies to actually use one password</u> supplement rather than compete with SSOs like Okta; Verge; 1/21/2022
- <u>1Password 7.9.2</u> TB; 12/10/2021
- <u>1Password 7.9 Adds Secure Password Sharing</u>
   <u>blog.1password.com</u>;
   one-use or expiring link, optional email verification; TB; 10/19/2021

- <u>1Password 7.8.8</u> TB; 10/11/2021
- <u>1Password gets its own 'hide my email' feature</u>

Create Masked Email -- unique email aliases for logins, much like Apple's iCloud Plus Hide My Email function but integrated and not only for Apple users; video; Verge; 9/28/2021

- 1Password Releases Safari Extension for iOS 15 and iPadOS 15 MR; 9/20/2021
- Accel doubles down on 1Password, which just raised \$100M more at a \$2B valuation TC; 7/27/2021
- <u>1Password 7.8.5</u> TB; 6/3/2021
- <u>1Password acquires SecretHub and launches new enterprise secrets management tool</u> TC; 4/13/2021
- How to Pay Using Virtual Credit Cards in 1Password each tied to a separate merchant
  - -- linked to debit card or checking account (not credit card); one-off & recurring payments; can also use privacy.com directly w/o 1PW; LH; 9/24/2020
- Toronto-based password manager 1Password raises \$200M Series A led by Accel, its first external round of funding in its 14-year history; 11/14/2019

# Multi / 2 Factor Authentication (2FA) / 2 Step Verification

- Wikipedia: Two factor authentication; multi-factor authentication
- Wikipedia: <u>Two step verification</u>; <u>One-time Password (OTP)</u>; TOTP = Time-based OTP
- <u>List of websites and whether or not they support 2FA</u>
- Apple: Apple ID (iCloud, iTunes, App Store) Frequently asked questions about two-step verification
- Apple: <u>Two-factor authentication for Apple ID</u> upgrade from 2-step verification; 5/11/2017
- Google: 2-Step Verification Authenticator (app); App Passwords; Backup codes
- How to Automatically Delete Passcode Texts on Android and iOS Wired; 8/6/2023
- Google Authenticator finally, mercifully adds account syncing for two-factor codes but it's not E2EE (end-to-end encrypted) yet; Verge; 4/24/2023
- How to set up two-factor authentication on your online accounts Verge; 4/14/2023
- <u>Still using authenticators for MFA? Software for sale can hack you anyway</u>
  AitM (adversary in the middle) works by placing a phishing site between the user and the desired site; Ars; 3/14/2023
- The Best Two-Factor Authentication App Authy; NYT; 7/27/2022
- How to set up two-factor authentication for your Apple ID and iCloud account MW; 5/5/2022

- Getting started with 2FA: Add an extra layer of protection to your passwords MW; 5/5/2022
- How to add your verification codes to Apple Passwords iOS/iPadOS 15, Safari 15 for macOS; MW; 4/5/2022
- Lapsus\$ and SolarWinds hackers both use the same old trick to bypass MFA Ars; 3/28/2022
- More than 1,200 phishing toolkits capable of intercepting 2FA detected in the wild stealing authentication cookies; 12/27/2021
- How to Manually Get Apple 2FA Codes on Mac OSXD; 12/17/2021
- Google wants every account to use 2FA, starts auto-enrolling users Ars; 11/3/2021
- The Booming Underground Market for Bots That Steal Your 2FA Codes user cooperation necessary; Vice; 11/2/2021
- The White House's Plan to Stop Government Employees From Getting Phished focus on hardware security keys; Vice; 10/15/2021
- How Coinbase Phishers Steal One-Time Passwords 10/13/2021
- Google is about to turn on two-factor authentication by default for millions of users set up the Inactive Account Manager while you still can; Verge; 10/5/2021

- How to move Google Authenticator to your new iPhone ApIn; 9/24/2021
- You Should Use Your iPhone's New Built-in Two-Factor Authentication instead of 3rd-party app; LH; 9/23/2021
- Microsoft adds a passwordless option for Microsoft accounts
   In place of a password, Microsoft will use its Microsoft Authenticator app for your phone,
   Windows Hello, and codes sent to your email or phone; PC; 9/15/2021
- The Best Security Key for Multi-Factor Authentication Yubico YubiKey 5 Series has the best combination of compatibility, usability, and security of any key we tested; NYT; 8/10/2021
- Wireless Carrier Injects Ads Into Two-Factor Authentication Texts TD; 7/1/2021
- This Agency's Computers Hold Secrets. Hackers Got In With One Password.
   New York City's Law Department had old unpatched software, did not implement 2FA; NYT; 6/18/2021
- Google will make two-factor authentication mandatory soon PC; 5/6/2021
- How to set up two-factor authentication for your Apple ID and iCloud account MW; 5/4/2021
- Why You Should Use a Physical Key to Sign Into Your Accounts Giz; 4/30/2021
- Two-Factor Authentication: Who Has It and How to Set It Up PCMag; 4/27/2021

- How to Move Google Authenticator Account to a New iPhone OSXD; 1/27/2021
- No emails have leaked from the 2020 election campaigns yet
   tiny USB sticks may be one reason why CNBC; 12/23/2020
- Trump Twitter 'hack': Police accept attacker's claim BBC; 12/16/2020
- SolarWinds hackers have a clever way to bypass multi-factor authentication Ars; 12/14/2020
- With Google Authenticator's Latest iOS Update, You Really Have No Excuse Now like Android version, supports account transfer to a different device; Giz; 12/3/2020
- Use 2FA to Stop This New WhatsApp Account Attack LH; 11/28/2020
- <u>Microsoft urges users to stop using phone-based multi-factor authentication</u> use app-based authenticators and security keys instead; ZD; 11/12/2020
- A Dutch security researcher says he logged into Trump's Twitter account, which didn't have 2FA, using the password 'maga2020!'
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- <u>Gatekeeper Two-Factor Authentication review: Needs a consumer-grade overhaul</u> GateKeeper Wireless Security Key; PC; 10/15/2020
- Zoom's mobile and desktop apps now support two-factor authentication previously only available via the web; Verge; 9/11/2020

- How to transfer your Google Authenticator 2FA to a new phone Verge; 9/2/2020
- Musk says Tesla two-factor authentication 'embarrassingly late' but coming soon Verge; 8/15/2020
- Apple has finally embraced key-based 2FA. So should you Advanced Protection Program (APP); Ars; 7/17/2020
- How Two-Factor Authentication Keeps Your Accounts Safe Wired; 7/12/2020
- [2] Choosing 2FA authenticator apps can be hard. Ars did it so you don't have to technical; doesn't discuss 1Password at all (except in reader comments); Ars; 5/27/2020
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- Google will switch on mandatory two-factor authentication for Nest accounts this month TH; 5/5/2020
- You Should Set Up Two-Step Verification on Your Nintendo Account Right Now LH; 4/20/2020
- How to bypass Apple's multi-device two-factor system with Messages auto-fill except uses SMS; MW; 3/24/2020
- How Do I Switch From One 2FA Authentication App to Another? LH; 3/13/2020
- Microsoft: 99.9% of compromised accounts did not use multi-factor authentication

- What you need to know about security keys on iOS and macOS e.g., YubiKey; ApIn; 3/2/2020
- Researchers find an Android malware strain Cerberus that can extract and steal one-time passwords generated by Google's Authenticator mobile app ZD; 2/27/2020
- Google now treats iPhones as physical security keys Verge; 1/15/2020
- Alternative Ways to Protect Yourself from Being Spearfished

Prioritize Your Accounts;

Use Strong, Unique Passwords & 2FA;

Provide Fake Answers to Security Questions;

Think You're Important;

Your Cell Phone Number Is the Weak Link;

The Problem With Authenticator Apps (most poorly designed);

Google Voice as an Alternative to Authenticator Apps and Cell Phone Numbers; TB; 1/31/2020

#### • The Best Authenticator Apps for Protecting Your Accounts

Google Authenticator; Microsoft Authenticator; Authy; LastPass; Duo Mobile; (it didn't mention 1Password); Giz; 1/1/2020

#### • <u>Does Apple ID two-factor work if you leave the country?</u>

Make sure you know what devices and phone numbers you trust (e.g., set up a free or inexpensive phone number that can receive text messages, e.g., Google Voice or Skype); MW; 12/10/2019

• How to add trusted phones to your Apple ID two-factor authentication MW; 12/3/2019

- Twitter will finally let you turn on two-factor authentication without giving it a phone number You could switch to another option later (like Google Authenticator, or a physical Yubikey)
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- [2] Why One Secure Platform Passed on Two-Factor Authentication Keybase; Wired; 10/25/2019
- What Happens If I Use Two-Factor Authentication and Lose My Phone? write down your backup codes; use a 3rd-party authentication app, such as Authy; get a replacement phone for backup SMS authentication codes; what to do if you get locked out (and haven't prepared); LH; 10/18/2019
- No One Knows About Two-Factor Authentication, and It's Putting Their Security at Risk 28% can identify (Pew survey); LH; 10/9/2019
- Beware a New Scam That Asks for Your Bank PIN on the Phone LH; 10/9/2019
- Twitter Took Phone Numbers for Security and Used Them for Advertising MB; 10/8/2019
- How to use 2FA on older Apple devices that won't let you enter a verification code MW; 8/14/2019
- How to Set Up Two-Step Authentication on Your Amazon Account LH; 7/6/2019
- I'll be passing on Google's new 2fa for logins on iPhones and iPads Ars; 6/12/2019
- What is two-factor authentication, and which 2FA solutions are best? PC; 6/5/2019

- Here Are the Best Account Security Methods, According to Google LH; 5/22/2019
- Here's the Best Way to Protect Your Accounts From Hacker Takeovers security key or device-based (rather than knowledge-based) challenges; LH; 5/17/2019
- When 2FA isn't 2FA: How Apple's iCloud authentication system fails to protect your account MW; 4/12/2019
- Two-factor authentication explained: How to choose the right level of security for every account PC; 4/10/2019
- How to set up two-factor authentication on all your online accounts
   Apple, Instagram, Facebook, Twitter, Amazon, Google, Snapchat, Slack, Microsoft,
   Dropbox, WhatsApp, PayPal, Nest, Signal; Verge; 3/27/2019
- Protecting Your Internet Accounts Keeps Getting Easier. Here's How to Do It.
   four methods for setting up two-factor authentication; 1. text-messaged codes, e.g., Instagram;
   authenticator app, e.g., Facebook; 3. Google Prompt, e.g., gmail; 4. physical key, e.g., Twitter; NYT; 3/27/2019
- [3] How to Set Up Two-Factor Authentication for Multiple Apple IDs on One Device MR; 2/20/2019
- [2] How to use two-factor authentication on popular PC gaming platforms Steam; GOG Galaxy; EA's Origin; Battlenet; Uplay; Epic Games; TNW; 2/19/2019
- [3] Apple to require two-factor authentication for developer accounts ApIn; 2/13/2019
- Push notifications are the future of multi-factor authentication
   verifies the identity of users by sending a push notification to a mobile device associated

- Apple being sued because two-factor authentication on an iPhone or Mac takes too much time and abusive since it can't be rolled back to a less safe login method after 14 days; ApIn; 2/9/2019
- Two-Factor Authentication Might Not Keep You Safe still vulnerable to phishing attacks; NYT; 1/27/2019

#### **Android**

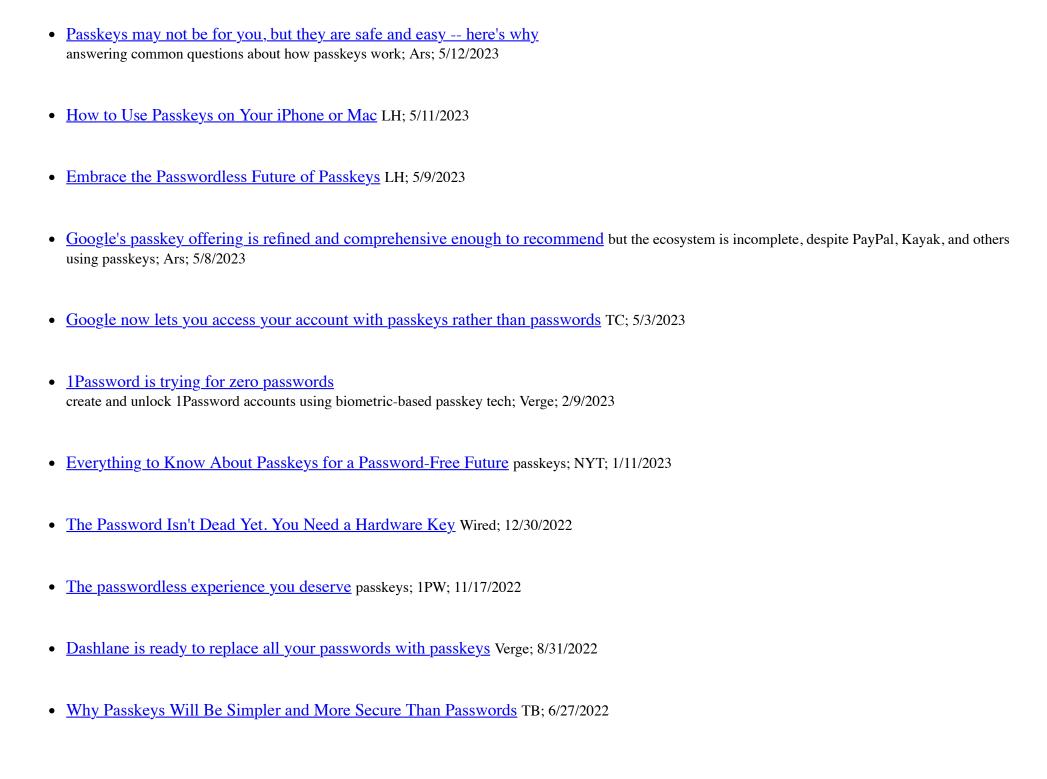
- How to Use Your Android Phone's Built-In Password Manager LH; 5/12/2022
- Google Authenticator's first Android update in years lets you move your account between devices Verge; 5/6/2020
- Now you can use Android phones, rather than passwords, to log in to Google\*
  - \* = For now, fingerprint or lock screen authentication applies only to one Google service; Ars; 8/12/2019
- Google says any Android device running 7.0 or later can now be used as a security key for two-factor authentication Verge; 4/10/2019
- With latest version of Google Play Services, Android 7.0 and up now supports the FIDO2 standard which lets users login to services using fingerprints or PIN Verge; 2/25/2019

### **Apps**

- Use an application to encrypt a file (.txt, .doc, spreadsheet, .pdf)
  -- assuming AES-128 or AES-256 (better) level encryption, with latest version of software.
- Microsoft Office (2016-; 365-); Acrobat (X -)
- compression utils.: WinZip (9.0-); 7-Zip; Keka
- discussion: <u>P@s\$w0rdz: Storing: Secure (Encrypt) Your Passwords</u>

# **Biometrics, Fingerprints, Facial Recognition; Passkeys**

- Biometrics; Fast IDentity Online (FIDO)
- HowStuffWorks: <u>How will biometrics affect our privacy?</u>
- Passkey: Which popular apps and services offer the new feature? ApIn; 9/6/2023
- How to use Passkeys on your iPhone, iPad, and Mac MW; 6/22/2023
- <u>1Password is finally rolling out passkey management</u> save passkeys and synchronize them across devices and platforms after 6/6; Verge; 5/16/2023



- Apple 'passkeys' could finally kill off the password for good TC; 6/6/2022
  Another Step Toward a Password-Free Future TB; 5/5/2022
- <u>Apple, Google, and Microsoft will soon implement passwordless sign-in on all major platforms</u> unlocking phone to enable access; Verge; 5/5/2022
- Some of tech's biggest names want a future without passwords -- here's what that would look like CNBC; 4/24/2022
- A Big Bet to Kill the Password for Good after a decade of work, the FIDO Alliance says it's found the missing piece in the bridge to a password-free future; Wired; 3/17/2022
- What You Need to Know About Facial Recognition at Airports NYT; 2/26/2022
- IRS will end use of facial recognition after widespread privacy concerns ID.me facial recognition/sign-in issues; Verge; 2/7/2022
- The smart toilet era is here! Are you ready to share your analprint with big tech? Guard; 9/23/2021
- Researchers Create 'Master Faces' to Bypass Facial Recognition MB; 8/10/2021
- Apple demos passkeys, to let users set up accounts with just Face ID or Touch ID, joining Microsoft and Google in advocating for passwordless authentication CNet; 6/10/2021
- John Gruber Analyzes Apple's Secure Intent TB; 6/4/2021

- How to Log In to Your Devices Without Passwords Wired; 4/11/2021
- Inside FIDO Alliance's vision of a future free of passwords
  FIDO2 combines W3C's Web Authentication (WebAuthn) specification and FIDO Alliance's
  corresponding Client-to-Authenticator Protocol (CTAP). This allows you to use your phone
  or laptop to identify yourself safely to a web service. To reduce the risk of phishing or
  any other attacks, the FIDO2 method doesn't involve storing your credentials on a server.
  Instead, it uses features such as biometric authentication to validate your identity so the
  password never leaves your device; TNW; 10/9/2020
- Face ID and Touch ID Logins Coming to Websites With Safari Web Authentication API 6/24/2020
- The case for biometric authentication -- and why we should ditch passwords TNW; 6/6/2020
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•	TV Tropes: Embarrassing Password; The Password Is Always "Swordfish"  It seems that most characters in fiction missed the memo on making a good Secret Word or pass phrase.  They are almost invariably single words, names, or dates of significance to a character which can be easily deduced using a little detective work: the clue is often right there on the desk, in the form of a picture or memento. Or simply spelled out in bold lettering on your commemorative plaque or a wall poster.
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- <u>Use an 8-char Windows NTLM password? Don't. Every single one can be cracked in under 2.5hrs</u> NTLM is an old Microsoft authentication protocol that has since been replaced with Kerberos, but it's still used for storing Windows passwords locally or in Active Directory; Reg; 2/14/2019

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- Microsoft Has a New Trick for Keeping Your Password Safe
  Warn me about password reuse; Warn me about unsafe password storage; LH; 9/26/2022
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