Willow Valley Computer Club

Member of apcug

An International Association of Technology & Computer User Groups

Project Upskill II

Identifying and Mitigating Cyber Threats to Your Assets

Al Williams

January 28, 2025

Your personal information is valuable.

Which personal information?

Your identifying information

Name, address, date of birth, Social Security Number, etc.

Your financial information

Bank accounts, investment accounts, credit cards, etc.

We simultaneously
give our personal information away
while
working to protect it

We give away a lot of
identity and financial information.

I’ll provide examples to illustrate the scope.

I’ll also describe how that
identity and financial information
can be used to harm us.

This presentation identifies ways that your personal information is given away, either legally or illegally.

Your personal information can be used for identity theft

You can mitigate (reduce) personal information exposure or loss.

This presentation sets the stage for the following seven presentations, showing how to significantly reduce personal information exposure or loss due to physical access or cybersecurity breaches.

Project Upskill II Modules

- Identifying and Mitigating Cyber Threats to Your Assets
- Basic Cybersecurity for Personal Computers and Mobile Devices
- Protecting Your Accounts from Compromise
- Protecting Data Stored on Your Devices
- Protecting Your Data in Transit
- Securing Your Home Wi-Fi
- Managing Your Privacy and Security Online
- Virtual Private Networks

When you watch TV or read the news, you frequently hear about data breaches that reveal millions of people's personal information, such as birth dates, cell phone numbers, email addresses, etc.

Your personal information has likely been exposed.

Perhaps you know people who have been scammed, lost money, had credit cards stolen, lost access to accounts, or had similar experiences.

Perhaps you've been scammed.

Whether your information has been exposed or you've been scammed, we all deal with scammers, criminals, and organizations that want our personal information.

How Did We Get to Where We Are?

In 1993, the software and protocols that made the world wide web accessible were released

It was a time of rapid growth and change.

Users enthusiastically embraced social media platforms like Facebook, using them to share a wide range of personal details with family and friends.

How Did We Get to Where We Are?

Most users choose software apps based mainly on the features and how convenient they are to use

Users are usually unaware of possible personal information disclosure.

Users typically do not want to pay for apps, but software developers need money to cover their costs, and they began selling personal information.

Is this use of
our personal information
legal?

Supreme Court Rulings – Third-Party Doctrine

In 1976 (*United States v. Miller*) and 1979 (*Smith v. Maryland*), the Supreme Court affirmed that “a person has no legitimate expectation of privacy in information he voluntarily turns over to third parties.”

Source: *The Third-Party Doctrine and the Fourth Amendment*, Dmitry Gorin, https://www.thefederalcriminalattorneys.com/third-party-doctrine, December 08, 2023

Executive Order 12333

President Ronald Reagan signed *Executive Order 12333, United States Intelligence Activities*, on December 4, 1981, to provide for the effective conduct of US intelligence activities and the protection of constitutional rights.

2.3 *Collection of information*. Elements of the Intelligence Community are authorized to collect, retain, or disseminate information concerning United States persons only in accordance with procedures …

2.3 (a) Information that is publicly available or collected with the consent of the person concerned;

Source: https://dpcld.defense.gov/Portals/49/Documents/Civil/eo-12333-2008.pdf

The issue is the use of our personal information
when it is
publically available or given by consent.

There are some laws
which put limits on the Third-Party Doctrine
thereby protecting some use of
our personal information.

Many organizations
have privacy policies
which ask for our consent
to use our personal information

The European Union's
General Data Protection Regulation (GPDR)
requires
privacy policies

Google’s Privacy Policy

Google Collects

"The activity information we may collect include:

- Terms you search for
- Videos you watch
- Views and interactions with content and ads
- Voice and audio information
- Purchase activity
- People with whom you communicate or share content
- Activity on third-party sites and apps that use our services"

Source: https://policies.google.com/privacy#infocollet Effective July 1, 2023

Google Collects

"We also collect the content you create, upload, or receive from others when using our services. This includes things like email you write and receive, photos and videos you save, docs and spreadsheets you create, and comments you make on YouTube videos."

Source: https://policies.google.com/privacy#infocollect Effective July 1, 2023

Google Collects

"If you use our services to make and receive calls or send and receive messages, we may collect call and message log information like your phone number, calling-party number, receiving-party number, forwarding numbers, sender and recipient email address, time and date of calls and messages, duration of calls, routing information, and types and volumes of calls and messages."

Source: https://policies.google.com/privacy#infocollect Effective July 1, 2023

Google Collects

"We collect information about your location when you use our services, which helps us offer features like driving directions, search results for things near you, and ads based on your general location."

Source: https://policies.google.com/privacy#infocollect Effective July 1, 2023

WhatsApp’s Privacy Policy

WhatsApp

Provides encrypted text messages, calls, photos, videos, voice messages, documents, and status updates

Source: https://faq.whatsapp.com/820124435853543

WhatsApp Privacy Policy

"We collect device and connection-specific information when you install, access, or use our Services. This includes information such as hardware model, operating system information, battery level, signal strength, app version, browser information, mobile network, connection information (including phone number, mobile operator or ISP), language and time zone, IP address, device operations information, and identifiers…"

Source: https://www.whatsapp.com/legal/privacy-policy

WhatsApp Privacy Policy

"We collect and use precise location information from your device with your permission when you choose to use location-related features… Even if you do not use our location-related features, we use IP addresses and other information like phone number area codes to estimate your general location (e.g., city and country)."

Source: https://www.whatsapp.com/legal/privacy-policy

Your car and your privacy

Your Car and Your Privacy

How does my car collect data about me?

- Microphones, cameras, and sensors
- Connected services in your car
- Devices you connect to the car

Source: *What Data Does My Car Collect About Me and Where Does It Go?*, Mozilla Foundation, https://foundation.mozilla.org/en/privacynotincluded/articles/what-data-does-my-car-collect-about-me-and-where-does-it-go//, September 6, 2023

Your Car and Your Privacy

What data does my car collect about me?

- What you do,
- Where you go,
- What you say, and
- How you move your body
- Nissan collects sexual activity, genetic information, etc.

Source: *What Data Does My Car Collect About Me and Where Does It Go?*, Mozilla Foundation, https://foundation.mozilla.org/en/privacynotincluded/articles/what-data-does-my-car-collect-about-me-and-where-does-it-go//, September 6, 2023

Your Car and Your Privacy

"All 25 car brands we researched earned our "Privacy Not Included warning label – making cars the official worst category of products for privacy that we have ever reviewed."

1. They collect too much personal data (all of them)
2. Most (84%) share or sell your data
3. Most (92%) give drivers little or no control over their personal data
4. We couldn't confirm whether any of them meet our Minimum Security Standards (including whether personal data is encrypted)

Source: *It's Official: Cars Are the Worst Product Category We Have Ever Reviewed for Privacy*, Mozilla Foundation, https://foundation.mozilla.org/en/privacynotincluded/articles/its-official-cars-are-the-worst-product-category-we-have-ever-reviewed-for-privacy , September 6, 2023

Your Car and Your Privacy

Honda says they collect “Personal Information” [which] means anything that identifies, relates to, describes, or is capable of being associated with a particular individual including, but not limited to his or her name, signature, social security number, physical characteristics or description, address, telephone number, passport number, driver’s license or state identification card number, insurance policy number, education, employment, employment history, bank account number, credit card number, debit card number, or any other financial information, medical information, or health insurance information.

Source: *What Data Does My Car Collect About Me and Where Does It Go?*, Mozilla Foundation, https://foundation.mozilla.org/en/privacynotincluded/articles/what-data-does-my-car-collect-about-me-and-where-does-it-go//, September 6, 2023

Your Car and Your Privacy

"We cooperate with government and law enforcement officials and private parties to enforce and comply with the law. We may use and disclose Covered Information and any other information about you to government or law enforcement officials or private parties if, in our discretion, we believe it is necessary or appropriate to respond to legal requests (including court orders, investigative demands and subpoenas), to protect the safety, property, or rights of ourselves, consumers, or any other third party, to prevent or stop any illegal, unethical, or legally actionable activity, or to comply with law."

Source: https://www.honda.com/privacy/connected-product-privacy-notice

Your Car and Your Privacy

The 2024 Honda CR-V offers users a data-sharing option, but if you turn off data-sharing because you want to turn off location tracking, you also turn off desirable services

This collected
personal information
is sometimes known as
Commercially Available Information (CAI)

Office of the Director of National Intelligence

Senior Advisory Group

Panel on Commercially Available Information

27 January 2022

Declassified 9 June 2023

Source: https://s3.documentcloud.org/documents/23843212/odni-declassified-report-on-cai-january2022.pdf

Why Was The Report To The DNI Written?

"Given the increasing volume of data that is commercially available, I … asked them to make recommendations … regarding how and under what circumstances the IC [Intelligence Community] should use commercially available information, and … to reflect on … ensuring the protection of privacy and civil liberties…"

Source: ODNI News Release No. 15-23 June 14, 2023

Who Sells Commercially Available Information?

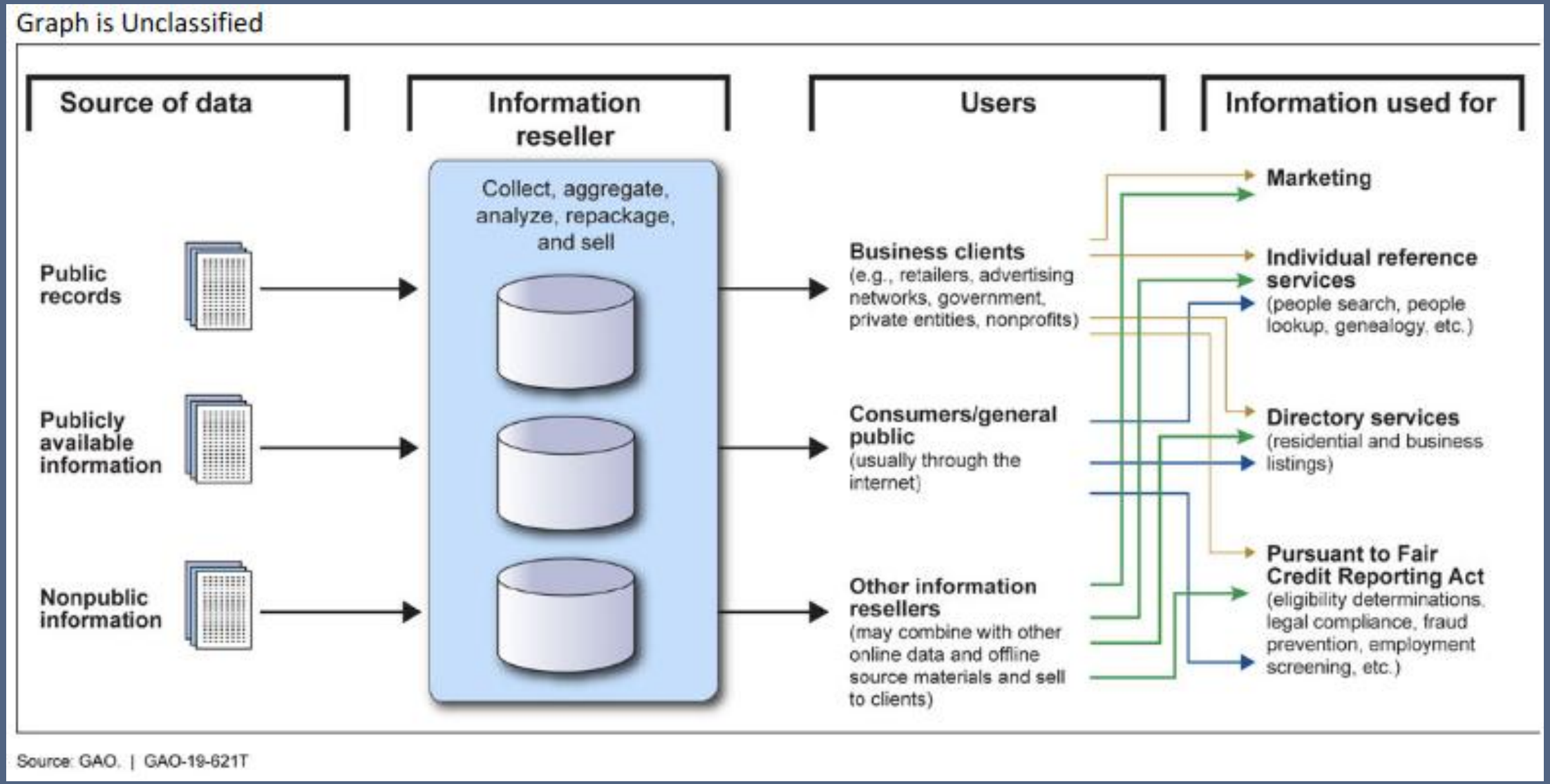
"…CAI..is often sold or otherwise made available by commercial entities…often referred to as "data brokers" or "information resellers." [They] maintain large, sophisticated databases with consumer information that can include credit histories, insurance claims, criminal records, employment histories, incomes, ethnicities, purchase histories, and interests...

Source: Report on CAI, Background on CAI, page 2

What Information Do Data Brokers Collect?

"Data brokers collect data from commercial, government, and other publicly available sources. Data collected could include bankruptcy information, voting registration, consumer purchase data, web browsing activities, warranty registrations, and other details of consumers' everyday interactions."

Source: Report on CAI, Background on CAI, page 3



Source: Report on CAI, Background on CAI, page 3

Identifying Individuals Using CAI

"The volume and sensitivity of CAI … have expanded in recent years … due to the advancement of digital technology, including location-tracking and other features of smartphones and other electronic devices, and the advertising-based monetization models … Although CAI may be "anonymized," it is often possible (using other CAI) to deanonymize and identify individuals, including U.S. persons."

Source: Report on CAI, Executive Summary, page 1

Misuse of CAI

"CAI can reveal sensitive and intimate information about the personal attributes, private behavior, social connections, and speech of U.S. persons and non-U.S. persons. It can be misused to pry into private lives, ruin reputations, and cause emotional distress and threaten the safety of individuals. … CAI can increase the power of the government's ability to peer into private lives to levels that may exceed our constitutional traditions or other social expectations…"

Source: Report on CAI, Background on Commercially Available Information, page 11

Misuse of Identity & Financial Information

When data breaches occur, our identity and financial information can be used by another person for:

Financial identity theft – for financial gain

Medical identity theft – to obtain medical services

Criminal identity theft – giving your identity to law enforcement

Synthetic identity theft – to merge identity information to create a new identity

Source: *What is identity theft?,* Prompt, CoPilot, January 27, 2025

We can reduce
the collection of our personal information
by apps and websites
by limiting the information we give and
through non-consent to privacy policies.

What is the Most Valuable Personal Information?

The geolocation information is the single most valuable piece of commercially available data

To deliver targeted advertising based on location (nearby)

To measure the responsiveness of nearby people

For planning and investment decisions

And for surveillance

Source: *Means of Control: How the Hidden Alliance of Tech and Government is Creating a New American Surveillance State*, Byron Tau, (Crown, 2024), Kindle edition, pages xxi - xxii

What could be done with
our personal location information?

Cell phone tracking

Has The Supreme Court Ruled In This Area?

In *Carpenter v. United States*, a case about accessing cell-site location information without a warrant, the Supreme Court ruled in 2018, the "data provides an intimate window into a person's life, revealing not only his particular movements, but through them his 'familial, political, professional, religious, and sexual associations.' These location records 'hold for many Americans the 'privacies of life.'"

Summary: The Supreme Court ruled that accessing cell phone location records requires a warrant under the Fourth Amendment. The Court also identified sensitive personal information.

Source: Report on CAI, Background on CAI, page 12

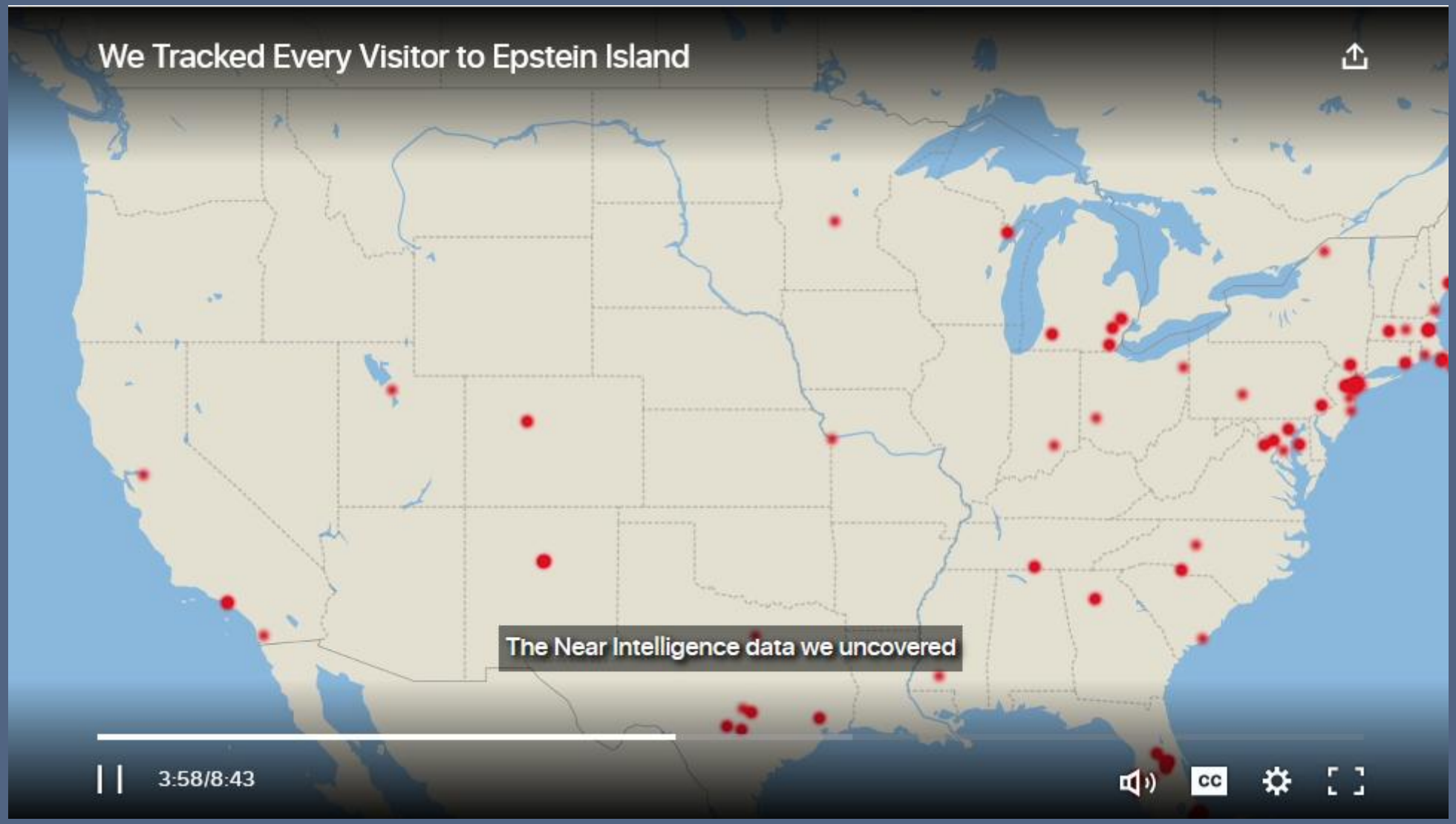
Cell Phone Location Tracking

Someone hired data broker *Near Intelligence* to collect the locations of over 200 cell phones that went to and from Jeffrey Epstein's island.

The data showed the location of each phone to within centimeters.

Source: *We Tracked Every Visitor to Epstein Island*, Dhruv Mehrotra, https://www.wired.com/video/watch/we-tracked-every-visitor-to-epstein-island, (Wired, 11/2/2024)

Source: *We Tracked Every Visitor to Epstein Island*, Dhruv Mehrotra, https://www.wired.com/video/watch/we-tracked-every-visitor-to-epstein-island, (Wired, 11/2/2024)



Source: *We Tracked Every Visitor to Epstein Island*, Dhruv Mehrotra, https://www.wired.com/video/watch/we-tracked-every-visitor-to-epstein-island, (Wired, 11/2/2024)

Cell Phone Location Tracking

The Pentagon used targeted ads to find Vladimir Putin (and other targets) – down to the foot

Putin did not have a cell phone. His aides and support staff did.

If anyone does not have a cell phone – or is using an RFID sleeve to block cell phone transmissions – but is traveling with someone who does, they can be tracked.

Source: *How the Pentagon Learned to Use Targeted Ads to Find Its Targets – and Vladimir Putin*, Byron Tau, https://www.wired.com/story/how-pentagon-learned-targeted-ads-to-find-targets-and-vladimir-putin, (Wired, Feb 27, 2024)

You can control access to location services on your phone. Here are possible choices:

- Do not allow any app access.
- Allow an app access while the app is being used.
- Allow an app access at all times.
- Allow all apps access at all times.

RFID Bag/Sleeve

The company with the highest reputation for RFID shielding is Silent Pocket at slnt.com

They make

- bags
- phone sleeves
- credit card wallets
- jackets and pants
- clutch purses
- wallets
- passport wallets

Source: https://slnt.com

Summary

You can reduce giving away personal information by
reading privacy policies,
reviewing privacy reviews,
choosing the apps you will use,
limiting the personal information you provide, and
controlling location services.

In our upcoming Project Upskill II presentations…

Scammers are stepping up their attacks

- Windows Defender and Malwarebytes are more effective
- Using longer passwords is more effective
- The attacks continue to focus on phishing emails
- The attacks now focus on getting users to install malicious browser extensions, enable scripts in their browsers, or click on malicious links. This malicious software is called InfoStealers.

Extensions, Scripts, and Links Source: *What is a Drive-By Compromise Attack?*, Packetlabs, https://www.packetlabs.net/posts/heres-how-you-can-defend-against-drive-by-compromise-attacks, June 2, 2023

Threat Actors are Manipulating Network Traffic

China has ordered its network equipment manufacturers to report all vulnerabilities in their equipment to the government but not to anyone else.

Chinese threat actors are using home routers, network-attached storage (NAS), and devices such webcams and DVRs to create botnets and attack critical infrastructure

Source: *NSA and Allies Issue Advisory about PRC-Linked Actors and Botnet Operations*, https://www.nsa.gov/Press-Room/Press-Releases-Statements/Press-Release-View/article/3909590/nsa-and-allies-issue-advisory-about-prc-linked-actors-and-botnet-operations, September 18, 2024

The threats are real and constantly changing

We’re going to give you choices of solutions to handle privacy threats so you can pick the ones that best protect you based on your assessment of the risks

We’re going to address physical, cybersecurity, and additional consent threats

We need several sessions to cover everything because there are so many different kinds of threats and ways to deal with them.

The classes are based on the CISA’s Project Upskill training modules.

Why Does Project Upskill Exist

CISA, through the Joint Cyber Defense Collaborative (JCDC), created Project Upskill to provide high-risk communities with simple steps to improve their cybersecurity.

Project Upskill's series of lessons will break down threat actors' varied avenues of attack to help users understand the steps they can take to mitigate risk. After completing Project Upskill, users should feel more confident that they can implement basic cybersecurity protections.

Source: https://www.cisa.gov/audiences/high-risk-communities/projectupskill Retrieved 8/7/2024

Who Can Benefit From Project Upskill?

"While Project Upskill was developed as part of the JCDC High-Risk Communities Protection planning effort, **this guidance will benefit *any* individual seeking to improve their personal cybersecurity posture**. If you are someone without a technical background looking for straightforward ways to protect your privacy and security, Project Upskill is for you."

Seniors are being targeted. Therefore, we recommend that you implement the Project Upskill II guidance.

Improved Posture Source: https://www.cisa.gov/audiences/high-risk-communities/projectupskill Retrieved 8/7/2024

Our Application of Project Upskill

CISA's Project Upskill does not recommend or suggest hardware or software products, but the Willow Valley Computer Club's version, Project Upskill II, does.

Other threat categories beyond high-risk

Highly targeted individuals

Senior Government Leaders, Senior Political Leaders, CEOs, Celebrities

Extreme privacy

Those who fear for their life or just want maximum privacy

Highly Targeted Individuals Source: *https://www.cisa.gov/sites/default/files/2024-12/guidance-mobile-communications-best-practices.pdf*, Retrieved January 14, 2025

Extreme Privacy Source: *Extreme Privacy: What It Takes to Disappear, 5th Edition*, Michael Bazzell, Self Published, 2024

Project Upskill II Modules

- Identifying and Mitigating Cyber Threats to Your Assets ✓
- Cybersecurity for Personal Computer and Mobile Devices
- Protecting Your Accounts from Compromise
- Protecting Data Stored on Your Devices
- Protecting Your Data in Transit
- Securing Your Home Wi-Fi
- Managing Your Privacy and Security Online
- Virtual Private Networks

Basic Cybersecurity for Personal Computer and Mobile Devices

February 11, Tuesday, 10 am

Cultural Center Education Room

Carpenter v. United States, the Stored Communications Act, & the Third Party Doctrine in the Digital Age

Beatrice Neilson

The Princeton Legal Journal

https://legaljournal.princeton.edu/carpenter-v-united-states-the-stored-communications-act-the-third-party-doctrine-in-the-digital-age

Articles

For the latest cybersecurity information, these are accurate and reliable sources:

Ars Technica	arstechnica.com
Bleeping Computer	bleepingcomputer.com
CISA	cisa.gov
Forbes	forbes.com
Proton Blog	proton.me/blog
Proton VPN Blog	protonvpn.com/blog

Books

Beginner's Introduction to Privacy, Naomi Brockwell, (Independently Published, 2023)

Means of Control: How the Hidden Alliance of Tech and Government is Creating a New American Surveillance State, Bryon Tau, (Crown, 2024)

Your Face Belongs to Us: A Tale of AI, A Secretive Startup, and the End of Privacy, Kashmir Hill, (Crown, 2024)

Extreme Privacy: What It Takes To Disappear, 5th Edition, Michael Bazzell, (Independently Published, 2024)

Firewalls Don't Stop Dragons, 5th Edition, Carey Parker, (Apress, 2024)

YouTube Channels

David Bombal, [Cybersecurity, Privacy, IT] https://www.youtube.com/@davidbombal

Naomi Brockwell TV, [Privacy]
https://www.youtube.com/channel/UCSuHzQ3GrHSzoBbwrIq3LLA

PC Security Channel, [Cybersecurity, Malware]
https://www.youtube.com/channel/UCKGe7fZ_S788Jaspxg-_5Sg

Questions?