



Data Collection and Privacy

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1. How data is collected
2. How it's used
3. Existing regulations
4. How to stay private



How is my data being collected?

- ❖ Cookies
- ❖ Computer ID and IP addresses
- ❖ Smartphones and social media
- ❖ Phishing scams
- ❖ Wifi
- ❖ Trackers / web bugs
- ❖ Digital assistants



Cookies and How They Work

- ❖ Information saved by your web browser to recognize your device in the future
- ❖ Reads cookies from previous visit
 - Keeps track of your online history





Different types of cookies

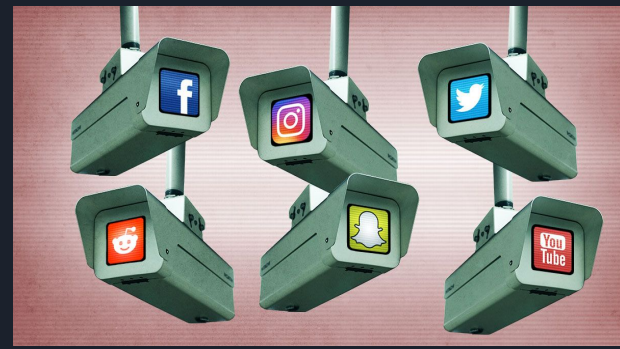
❖ Single - session cookies

- Only record information temporarily
- Help with navigation on the website
- Known as tier 1 technologies

❖ Persistent / Multi - session cookies

- Stay on computer and record information
- Stored on hard drive of computer
- Would have to manually delete or wait until they expire
- Known as tier 2 technology

Smartphones and Social Media



- ❖ Identifiers built into smart devices
 - Allow providers to collect information about user
- ❖ Consumer activity on websites and social media are some of the best platforms for data collection
- ❖ Information about users location and activities is collected through....
 - Allowing apps to use their GPS
 - Wifi
 - Bluetooth options
- ❖ Implement on-the-phone software app that passively collect data



Wifi

- ❖ Intercepting communications through wifi
 - Google street view car captured email messages and account passwords from anyone that was within their wifi range
- ❖ Location can be tracked with wifi

Digital Assistants

- ❖ Some popular digital assistants
 - Siri
 - Amazon's Echo
 - Google Home
- ❖ Hearing and recording everything user is saying when device is turned on
- ❖ Amazon's Echo lets device identify statements of interest
 - Enables speaker to be monitored based on interested
 - Targeted for related advertising
- ❖ Google patent application talks about future release of its 'Smart Home' system to monitor everything from screen time to hygiene habits to meal and travel schedule and other activities



What is Data Used For





Collecting and Analyzing Data

- ❖ Companies collect several different kinds of data
- ❖ This data is categorized and examined to find patterns



Data Analysis - What's Collected

❖ Types of data collected can include

- Individual I.P. addresses
- A customer's purchase history
- Location of the sale
- The date of the sale
- What has been sold
- How many sales a business has per hour
- Which pages have the highest traffic
- etc.



Data Analysis - How it's Used

- ❖ Data collection tools allow for:
 - The analysis of long term data
 - Finding patterns
 - The improvement of various company operations
 - The tracking of trends in user population interest
 - Adjusting marketing strategies to improve business




Data Analysis - How it's Used

- ❖ The real primary use of data collection
 - Make sure a product gets to the people who want to use it
- ❖ These methods are used offline as well
 - Businesses have tracked data for as long as there have been businesses and data to collect
 - For example, McDonald's tracks sales per hour, as well as the average amount per sale



Data Analysis - How it's Used

- ❖ Web traffic is very important
 - Traffic patterns on sites can show what is popular and what needs work
 - They also show how good the search engine results are
- ❖ High traffic does not automatically create successful business
 - If a webpage has a lot of views, but very few purchases are made, something about the page may need to be adjusted



Data Collection - The Struggles

- ❖ When collecting data, you don't want to collect too much, or it becomes difficult to track relevant trends
- ❖ Just because the trends are there doesn't mean they are important
- ❖ "Correlation is not causation."
 - Every statistician ever



Data Collection - Privacy

- ❖ Data improves marketing, but can come across as invasive
- ❖ Collecting user data can result in too much or the wrong kind of data
- ❖ It could contain:
 - Private information
 - Information on minors



Data Collection - Privacy

- ❖ Social media sites are one of the biggest offenders when it comes to collecting private data
 - Facebook
 - Twitter
 - TikTok
- ❖ Even data that would not normally be collected by most businesses
 - Contacts
 - Pictures
 - Video

Existing Regulations





Existing Regulations

- No comprehensive federal data privacy law in the United States
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Methods of Staying Private



Don't want strangers listening in?

- Alexa: Settings > Alexa Privacy > Manage Your Alexa Data > turn off “Use Voice Recordings to Improve Amazon Services to Develop New Features”
- Google: myaccount.google.com > Web & App Activity > turn off “Include voice and audio recordings”
- Siri: Settings > Privacy > Analytics and Improvements > turn off “Improve Siri & Dictation”



Other holes in the wall



- Android: Settings > Apps & Notifications > Advanced Permission Manager > pick which settings you want to examine > click on any app within list > Allow or Deny permissions
- iOS: Settings > Privacy > Microphone or Camera > toggle permissions for each app
- Location/Camera Permissions

Cookies (nom nom nom nom nom)

- Chrome: vertical dots > Settings > Cookies and other site data > select cookies preference
- Safari: Safari > Preferences > Privacy > select cookies preference

Privacy Notice

Our site collects and stores information about you, your preferences and behavior, and your device to analyze website traffic, personalize content and ads, and provide social media features.

Because we care about your privacy, you can decide whether to allow or reject the use of this technology.

ACCEPT ALL

DECLINE ALL

[More Options](#)



More cookie-crunching options

- DuckDuckGo
 - Chrome: Extension
 - Safari: Preferences > Search > set DuckDuckGo as default search engine
 - iOS/Android: App Store
- Tor
 - [Torproject.org](https://torproject.org)





Sources

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- Should Sniffing Wi-Fi Be Illegal – By Paul Ohm – Article (Privacy Nasty Stuff)
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