# Google Photos vs local photo storage

Online Photo Storage

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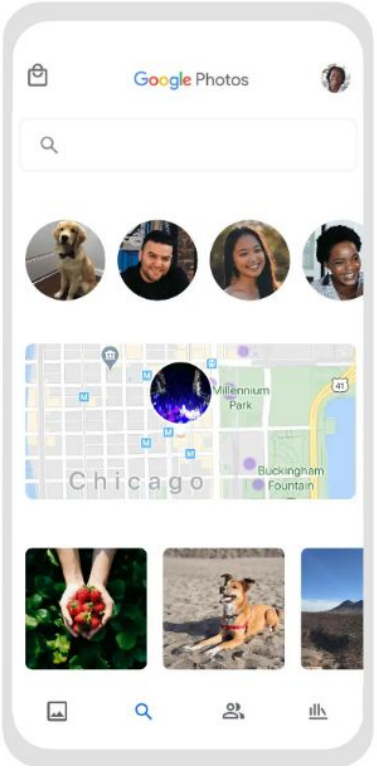
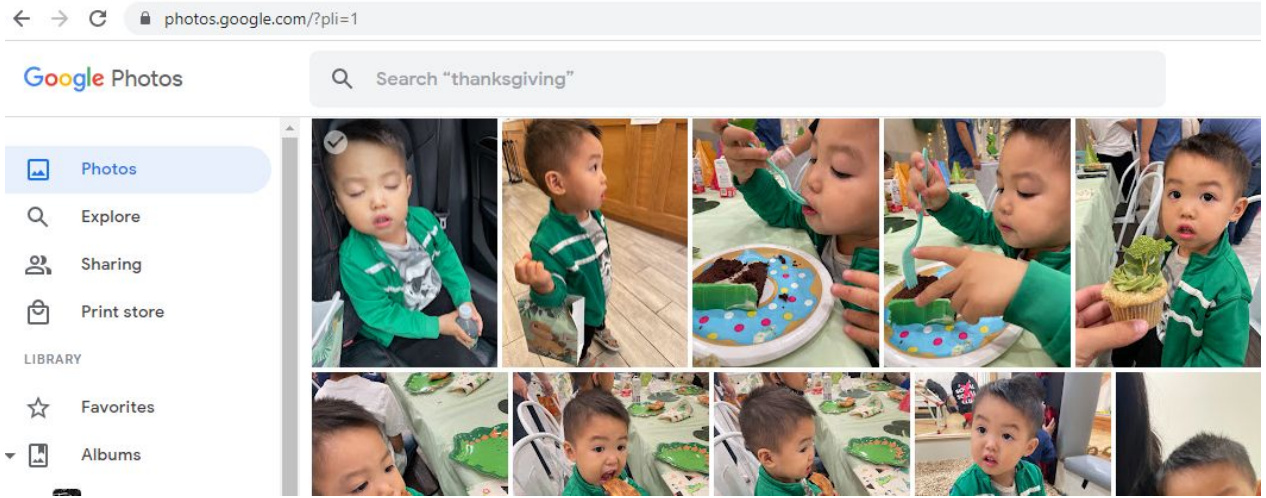
# Google Photos




"The home for your memories"



# Overview

- Cloud based photo storage
- Multiple device synchronization, Access photos anywhere*
- Collaboration / Sharing of photos relatively easily
- AI facial recognition, sorting, and searching

# Behavioral / Cultural Effects and Changes

- People take enormous amount of photos and retakes
- Instant access is also instant feedback
- Proof of event / “Receipts”
- Sharing of events / records / family can happen instantaneously and across the world

# Benefits of Google Photos

- Access your data anywhere
- “Free” limited storage per account
- Automatic sorting and searching for people and objects in the photos
- Collaboration and sharing is relatively easy

# Negative effects of Google Photos

- Over-reliance on the internet
  - No access to data if internet is down
- Corporation has access to all photos uploaded.
  - Pictures scanned and cataloged
- Privacy concerns if company is hacked and personal pictures are leaked.

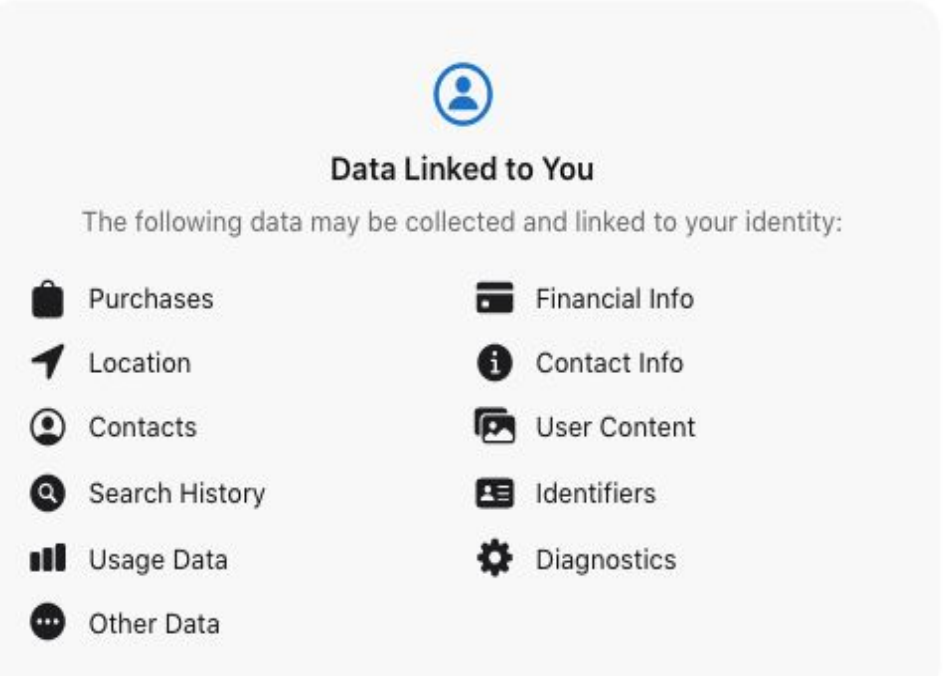
# Negative effects of sharing photos online

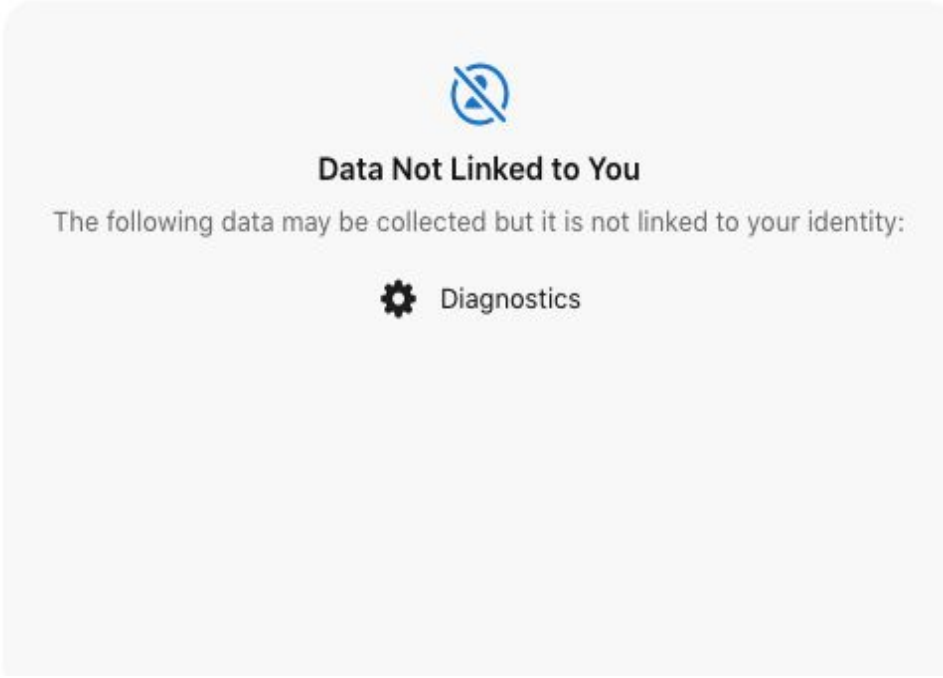
- Less emotional attachment to a photo/events
- Enormous amount of photos become another dump of data to ignore
- Memory and recall of event is reduced

# Some privacy concerns over Google Photos

- Google harvests a lot of your personal data when you use this service (see next slide)
- the user hands over massive quantities of your personal data for Google to use however they please
- You need to get familiar with the controls/privacy settings and modify the settings as needed ( not a concern but a responsibility for the user)

# Data collected by Google Photos (app store)



# Local photo storage


- Refers to storing your data locally on different types of devices: local servers, external hard drives etc.
- Lets you access the data with no internet connection, fast and secure
- The price of the external hard drives went down. For ex,  for approx $60 you can get a Seagate Portable 2TB external hard drive.
- Another option is to print your photos

# Pros local storage

- Your photos are easily accessible from your external hard drives/servers
- No privacy controls you need to manage
- No concerns or questions about collecting or mishandling your data by other companies
- Fast speed and access

# Potential downsides of local storage

- If your server/external hard drive dies,the data dies with it
- You need physical space dedicated to the storage devices
- You need to be comfortable handling the tech aspect of it ( maybe a good thing)

# Concern- Google Photos and the Public Sharing Link

- When one shares a Google Photo with another Google user, this happens through the creation and sharing of a public link.  This may sound secure, but *Medium* author Robert Wiblin points out a danger:  “An email thread / document with a link to the photo or album is forwarded or shared with the wrong person, or accidentally posted somewhere public.”

# Concern - Harvesting Metadata


- According to Zak Doffman of *Forbes* and Google itself, “Google—like Facebook—will also harvest metadata from photos and pull the data into its algorithmically-driven money machine. ‘We do use EXIF location data to improve users’ experience in the app,’ the company told [Doffman]. ‘For example to surface a trip in our Memories feature or suggest a photo book from a recent trip.’

# Solution - National Science Foundation

- Koh, Nieh, and Bellovin of the NSF say, “We have created Easy Secure Photos (ESP) to enable users to protect their photos on cloud photo services such as Google Photos. ESP introduces a new client-side encryption architecture that includes a novel format-preserving image encryption algorithm, an encrypted thumbnail display mechanism, and a usable key management system. ESP encrypts image data such that the result is still a standard format image like JPEG that is compatible with cloud photo services. ESP efficiently generates and displays encrypted thumbnails for fast and easy browsing of photo galleries from trusted user devices.”

# Q&A

- Some Q’s to keep in mind or to discuss
  - How do you store your photos: locally or online?
  - Why does Google collect so much personal data?
  - What other companies provide similar services?
  - How is photo storage different than file storage?
  - Does Google own my photos?
  - Can I delete my photos off Google permanently?
  - Does the NSF proposal sound viable?
  - Are publicly available links a security concern?

# Resources


Do You Have a Choice When it Comes to Privacy in Online Photos?

Google Photos on App Store Policy

https://par.nsf.gov/biblio/10298162-encrypted-cloud-photo-storage-using-google-photos

https://www.forbes.com/sites/zakdoffman/2021/09/11/apple-iphone-ipad-mac-users-should-delete-google-photos-after-backlash-and-update/?sh=1430399d35ad

https://medium.com/@robertwiblin/google-photo-is-making-your-photos-semi-public-and-you-probably-dont-realise-6fcc74e40ac6