



Open Source and Web Mapping

Join at
slido.com
#ucla

Albert S. Kochaphum
Week 2 | April 6th, 2021

Today's Agenda

Awards

Lecture

Discussion

Group Time

Lab

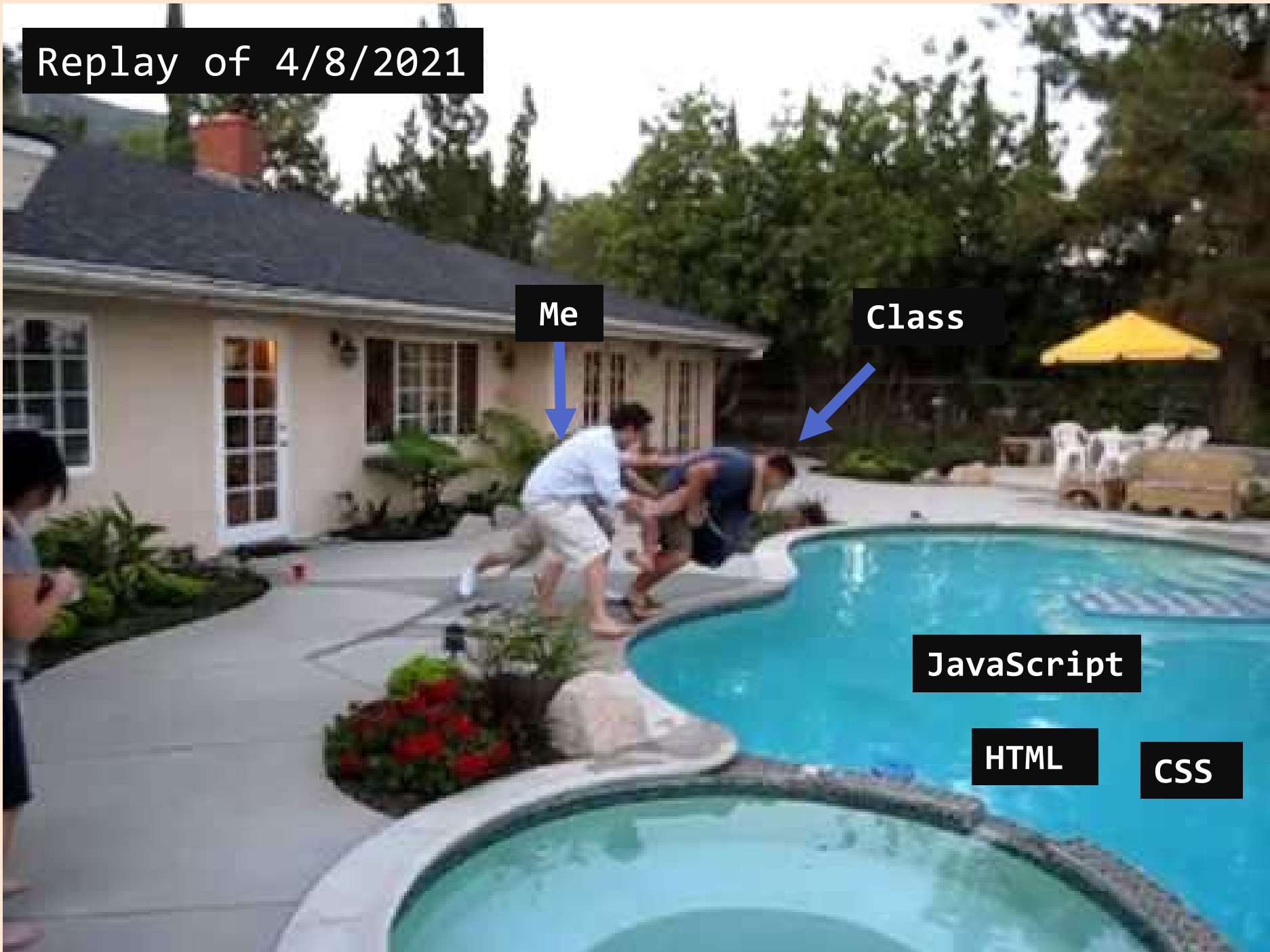


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What would you like to focus on today?

 Start presenting to display the poll results on this slide.

Replay of 4/8/2021



Me



Class



JavaScript

HTML

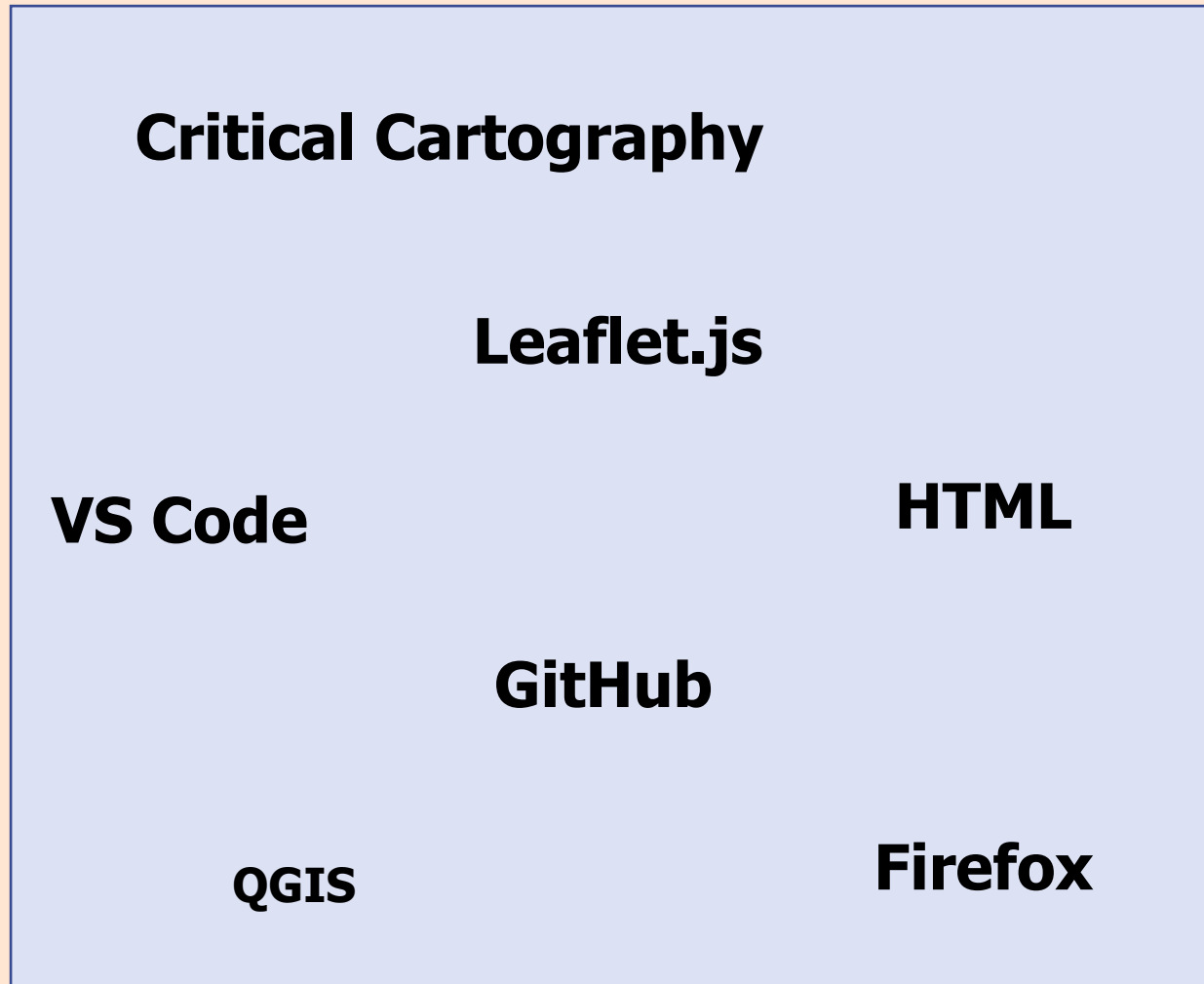
CSS

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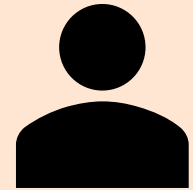
Please fill in the survey

 Start presenting to display the poll results on this slide.

Where we **ARRRRR** at



Why?



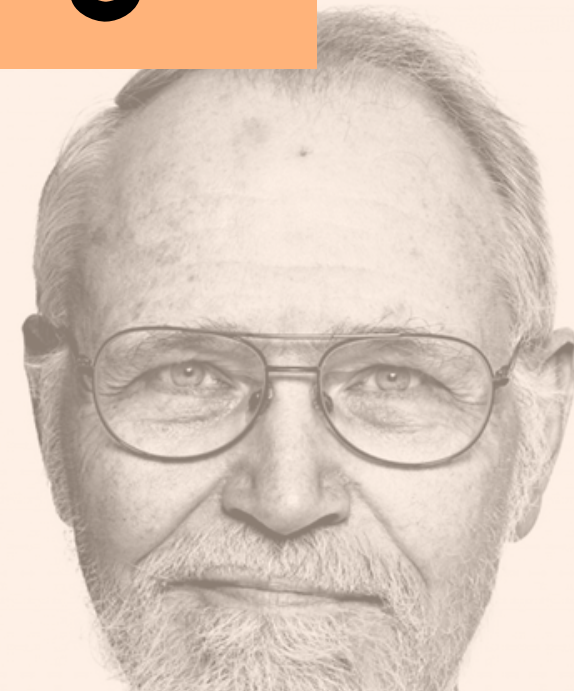
Theme of the week

How do you decide what technology is right?

First off what “Technology” are we talking about?



Open Source and Web Mapping



<https://www.facesofopensource.com/>

The Three Opens

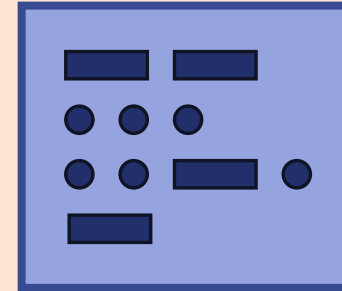
- Open Source
- Open Standards
- Open Data



Open-source vs Closed-Source

```
<html>  
  <body>  
    hi  
  </body>  
</html>
```

VS



You can see the code

You can never see the code

Why is this important?

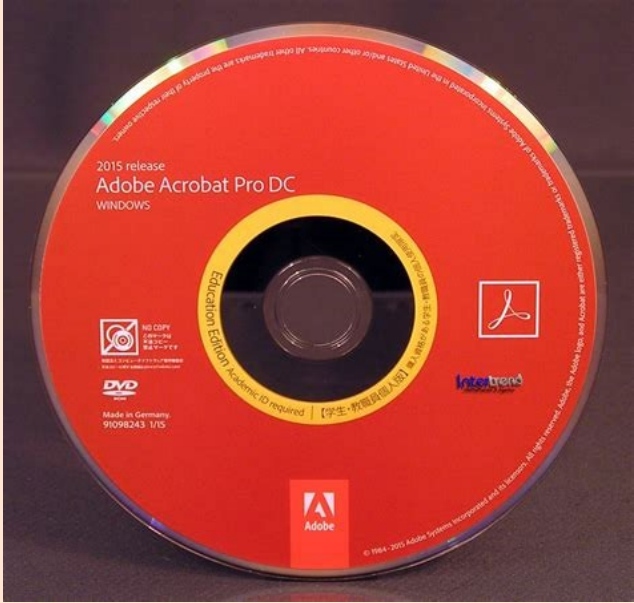
Quick History on software...

**REMEMBER WHEN
SOFTWARE USED TO BE ON CDS?**



PEPPERIDGE FARM REMEMBERS

Quick History on software...



How does this play out today?

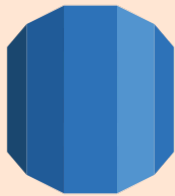
aws value capture

compute



ec2

compute + db



rds

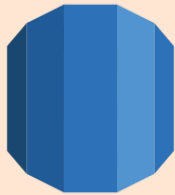
aws value capture

compute



ec2 = 9.6 ¢/hr

compute + db



rds = 17.8 ¢/hr

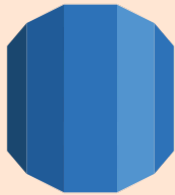
aws value capture

compute



ec2 = 9.6 ¢/hr

compute + db



rds = 17.8 ¢/hr

postgresql value = 8.2 ¢/hr

aws value capture

8.2 ¢/hr * 8760 hrs/yr

























*** 1000 instances? \$718,320**

























*** 10000 instances? \$7,183,200**



don't forget!



 Bruce Momjian	 Joe Conway	 Alvaro Herrera
 Thomas Munro	 Tom Lane	 Andrew Dunstan
 Robert Haas	 Stephen Frost	 Peter Eisentraut
 Amit Kapila	 Peter Geoghegan	 Tomas Vondra
 Andres Freund	 Teodor Sigaev	 Heikki Linnakangas
 Kevin Grittner	 Alexander Korotkov	 Greg Stark
 Michael Paquier	 Jeff Davis	 Magnus Hagander
 Fujii Masao	Michael Meskes	 Tatsuo Ishii
 Etsuro Fujita	Noah Misch	Dean Rasheed

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 Fujii Masao	Michael Meskes	 Tatsuo Ishii
 Etsuro Fujita	Noah Misch	Dean Rasheed

revenue



2009

\$670M

\$210M

revenue



2009

\$670M

\$210M

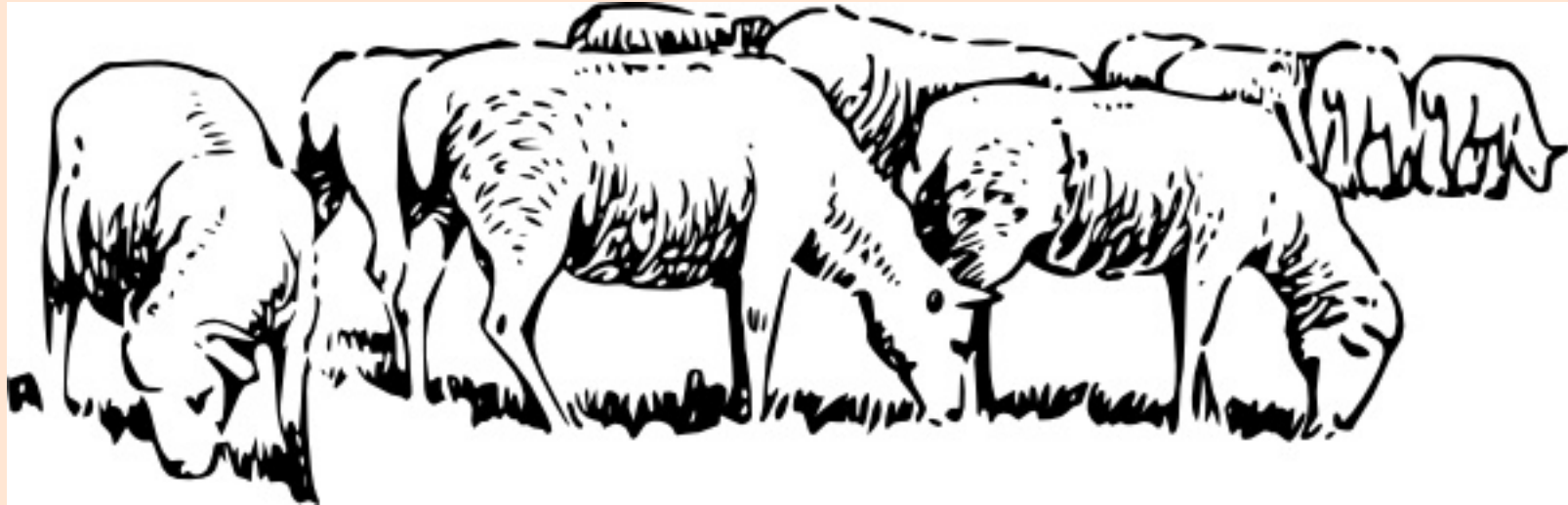
2019

\$3.4B

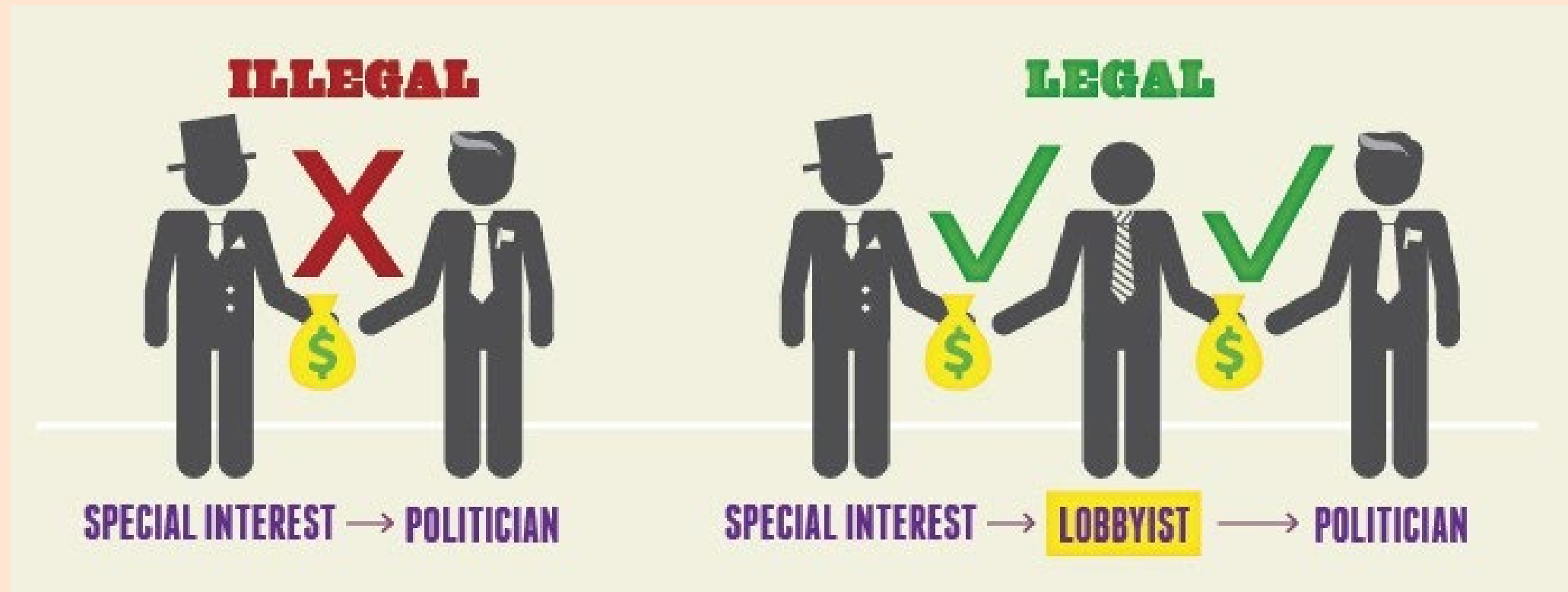
\$25B

Is this fair?

Tragedy of the commons



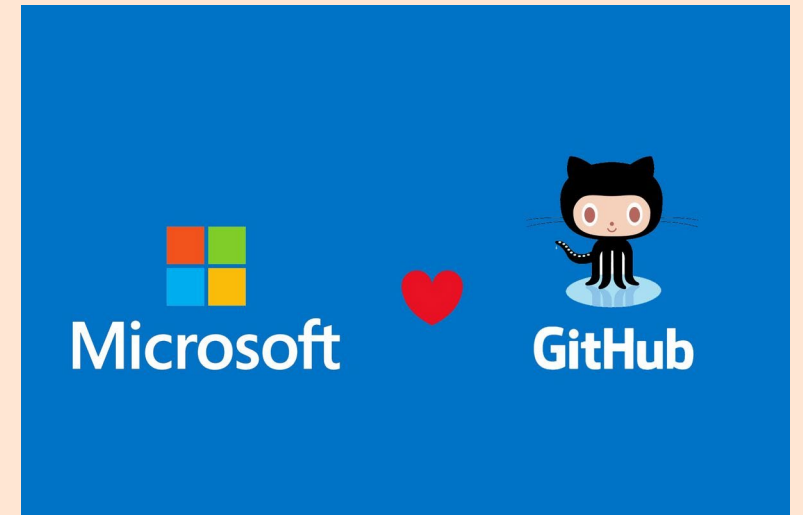
Have coporations infiltrated open source?



Have corporations infiltrated open source?

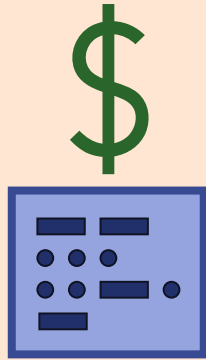


 Google Open Source



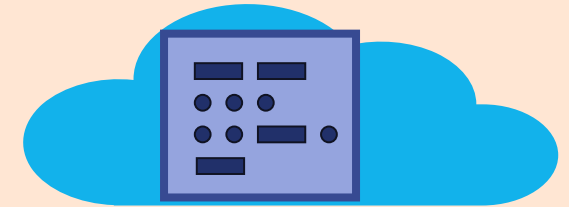
Summary:

Proprietary Software

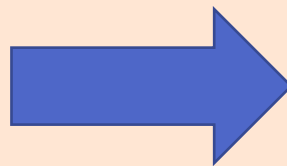
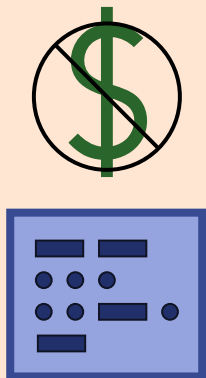


Software as a Service

To a point Takes your data



Free software



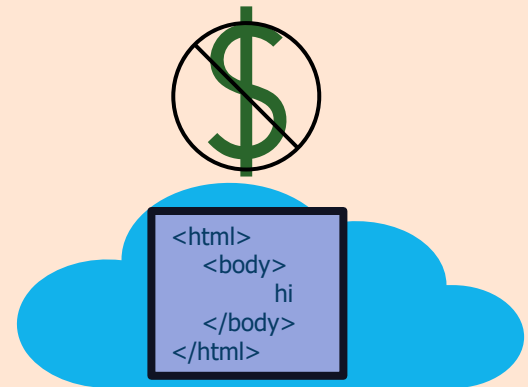
Open Source Software



```
<html>  
<body>  
  hi  
</body>  
</html>
```



Open Software as a Service



Open Source

No costs and long-term
application viability

Vs.

Closed Source

Short-term costs and
application viability

Are you designing for a long-term application or to quickly finish an application?

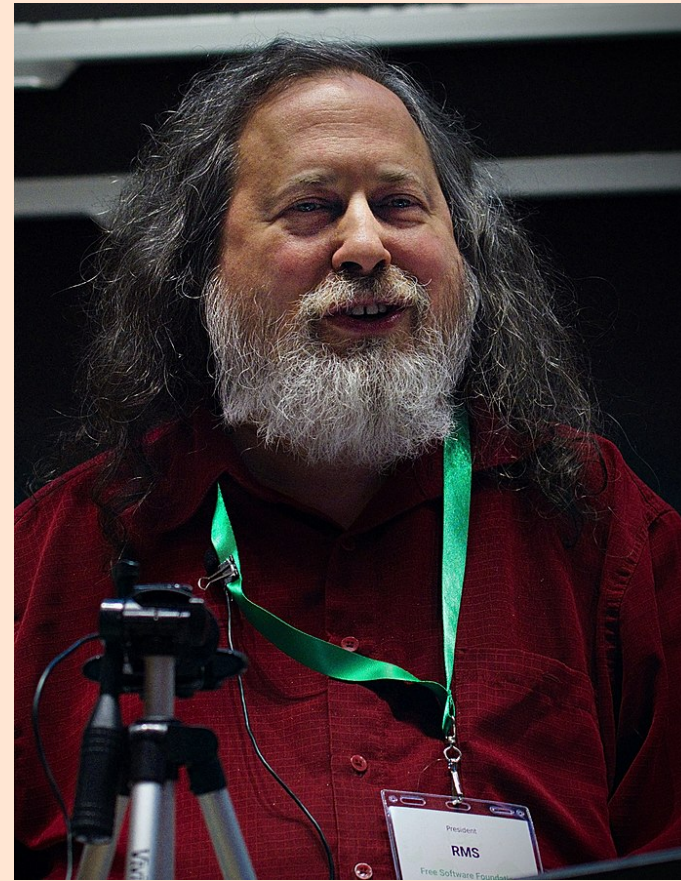
Issues with open source...

Eric S. Raymond



Founder of Open Source Initiative

Richard Stallman



Founder of Free and Open Source Foundation

Issues with open source...

Eric S. Raymond

Co-founder of OSI Banned From Mailing Lists

Written by Sue Gee

Wednesday, 11 March 2020

Eric S Raymond, one of the founders of the Open Source Initiative and its president for the first six years, has been banned from two OSI mailing lists following messages whose tone violated the code of conduct.

<https://www.i-programmer.info/news/136-open-source/13535-co-founder-of-osi-banned-from-.html>

http://lists.opensource.org/pipermail/license-discuss_lists.opensource.org/2020-February/021328.html

Richard Stallman

Return of Stallman to FSF sparks outrage among open-source and free software leaders

Steven J. Vaughan-Nichols · 3/24/2021



<https://www.msn.com/en-us/news/technology/return-of-stallman-to-fsf-sparks-outrage-among-open-source-and-free-software-leaders/ar-BB1eVPC8>

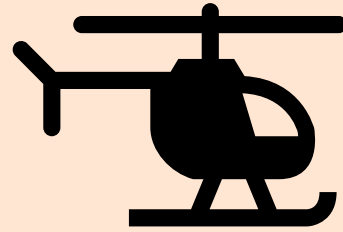
Issues with open source...

It is detached from ethics and treats technology as “neutral”

“Guns aren’t bad, it’s up to the user.”



So...Is open source enough?



Solution: Ethical Source Licensing?



Established in 2019

<https://ethicalsource.dev/>

Ethical Source License

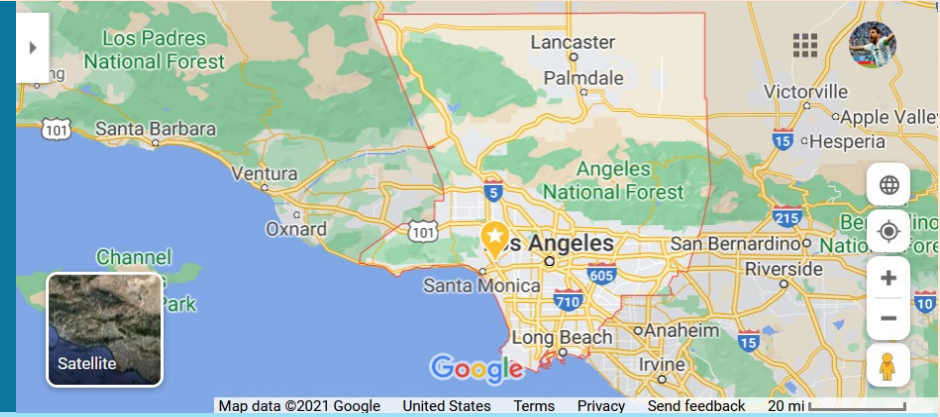


GNU
General Public License

Open Data

Closed Data

Google Maps



Open Data

LA County GIS Open Data Portal

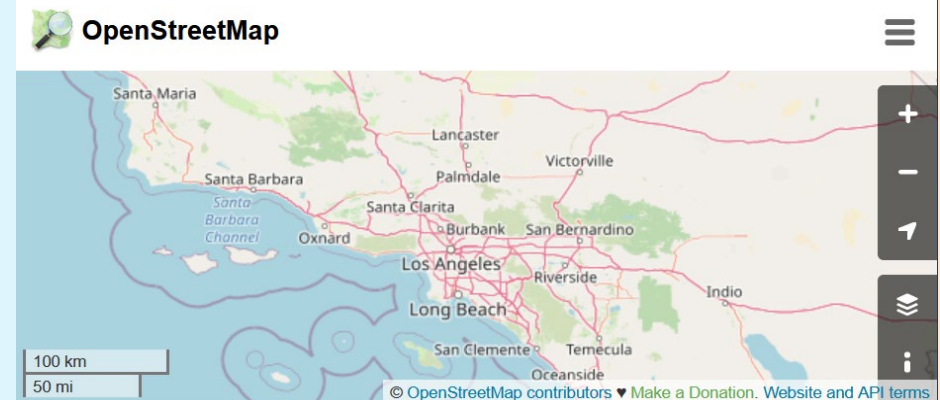
LA County City Boundaries

Last updated last month | 318 Records



Crowdsourced Data

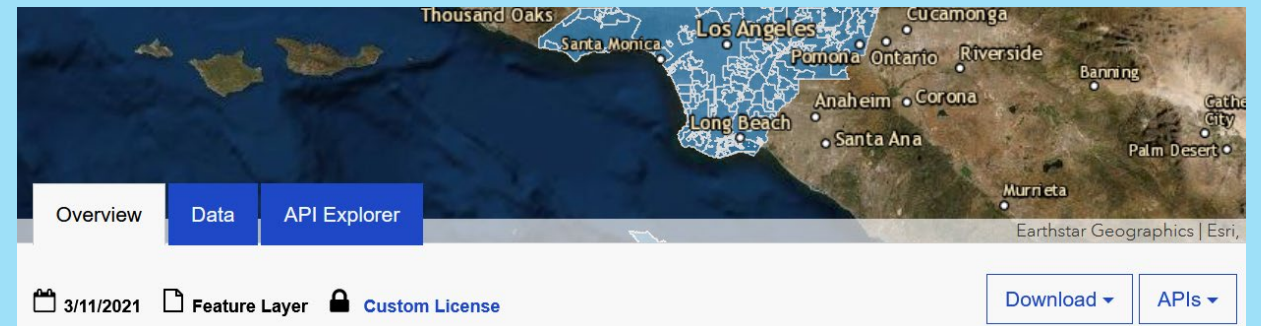
Open Street Map



Closed Data

N/A

Open Data



Overview Data API Explorer

3/11/2021 Feature Layer Custom License

Download APIs

Crowdsourced Data

Download OpenStreetMap data for this region:

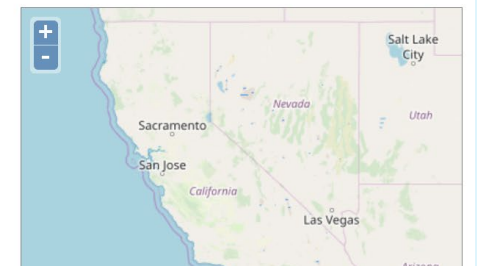
California

[\[one level up\]](#)

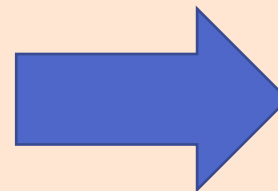
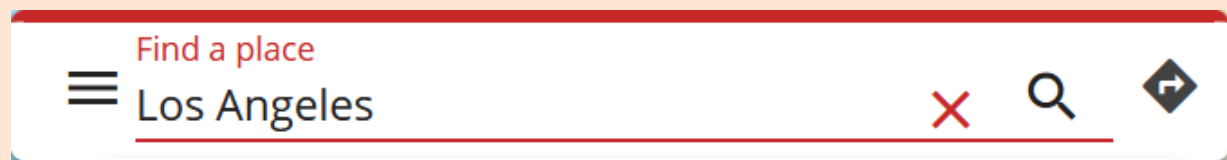
The OpenStreetMap data files provided on this server do **not** contain the user names, user IDs and changeset IDs of the OSM objects because these fields are assumed to contain personal information about the OpenStreetMap contributors and are therefore subject to data protection regulations in the European Union. [Extracts with full metadata](#) are available to OpenStreetMap contributors only.

Commonly Used Formats

GEOFABRIK *downloads*



Example: Geocoding



Name: **Los Angeles, CA,USA**
Country: **United States**
Layer: **Locality**
Lon.: **-118.25703**
Lat.: **34.05513**

Leaflet vs. Google Maps



an open-source JavaScript library
for mobile-friendly interactive maps

Leaflet Control Geocoder npm v2.2.0 Leaflet 1.0.0 ✓

A simple geocoder for [Leaflet](#) that by default uses [OSM/Nominatim](#).

The plugin supports many different data providers:

- [LatLng](#) to parse basic latitude/longitude strings
- [OSM/Nominatim](#)
- [Bing Locations API](#)
- [Google Geocoding API](#)
- [Mapbox Geocoding](#)
- [MapQuest Geocoding API](#)
- [What3Words](#)
- [Photon](#)
- [Pelias](#), [geocode.earth](#) (formerly Mapzen Search), [Openrouteservice](#)
- [HERE Geocoder API \(legacy\)](#)
- [Neutrino API](#)

Google Maps Platform APIs by Platform 🔖

MAPS	ROUTES	PLACES
▼ Static Maps Display maps as images		FREE FOR MOBILE \$2 PER 1000 REQUESTS
▼ Dynamic Maps Display interactive, customizable maps		FREE FOR MOBILE \$7 PER 1000 REQUESTS
▼ Local Context Map (Beta) Provide detailed information on nearby places directly on your maps - including user ratings, reviews, photos, pricing, ETA and walking directions		FREE DURING BETA Requires enabling Dynamic Maps - \$7 CPM
▼ Static Street View Display a non-interactive Google Street View 360 panoramic or thumbnail image		\$7 PER 1000 REQUESTS
▼ Dynamic Street View Display an interactive Google Street View 360 panoramic or thumbnail image		\$14 PER 1000 REQUESTS



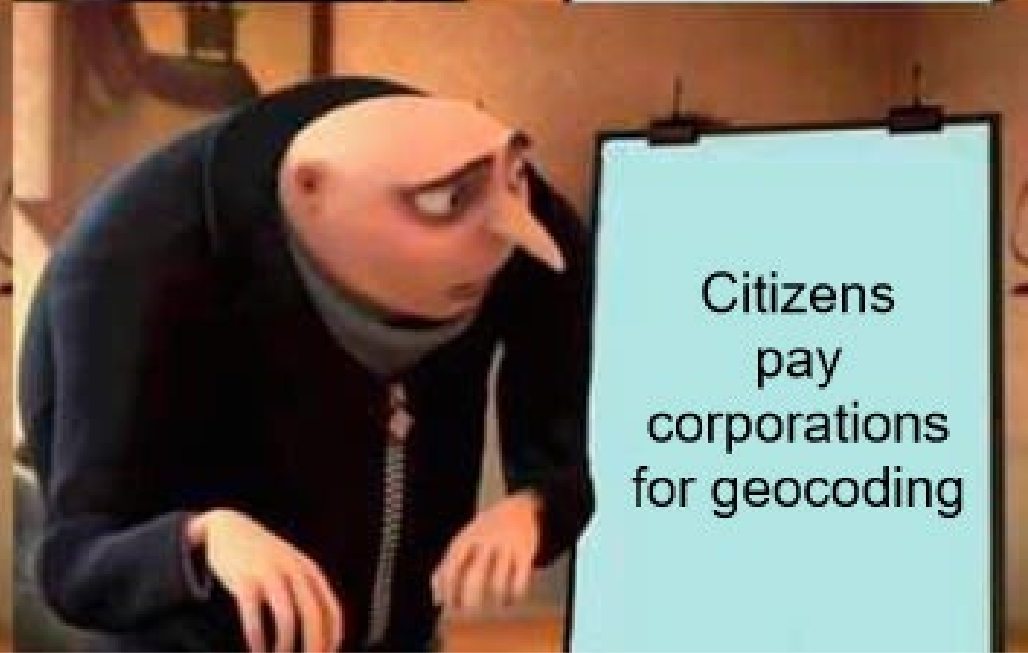
Government
owns
ROAD data



Government
owns
ADDRESS data



Citizens
pay
corporations
for geocoding



Citizens
pay
corporations
for geocoding

Public data is now the commodity



Data Privacy

Press the Accept button to agree to the License Agreement and continue.

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- [Local Storage](#),
- [Settings Manager](#),
- [Peer Assisted Networking Technology](#),
- [Content Protection Technology](#), and

Print

Save

Accept

Decline

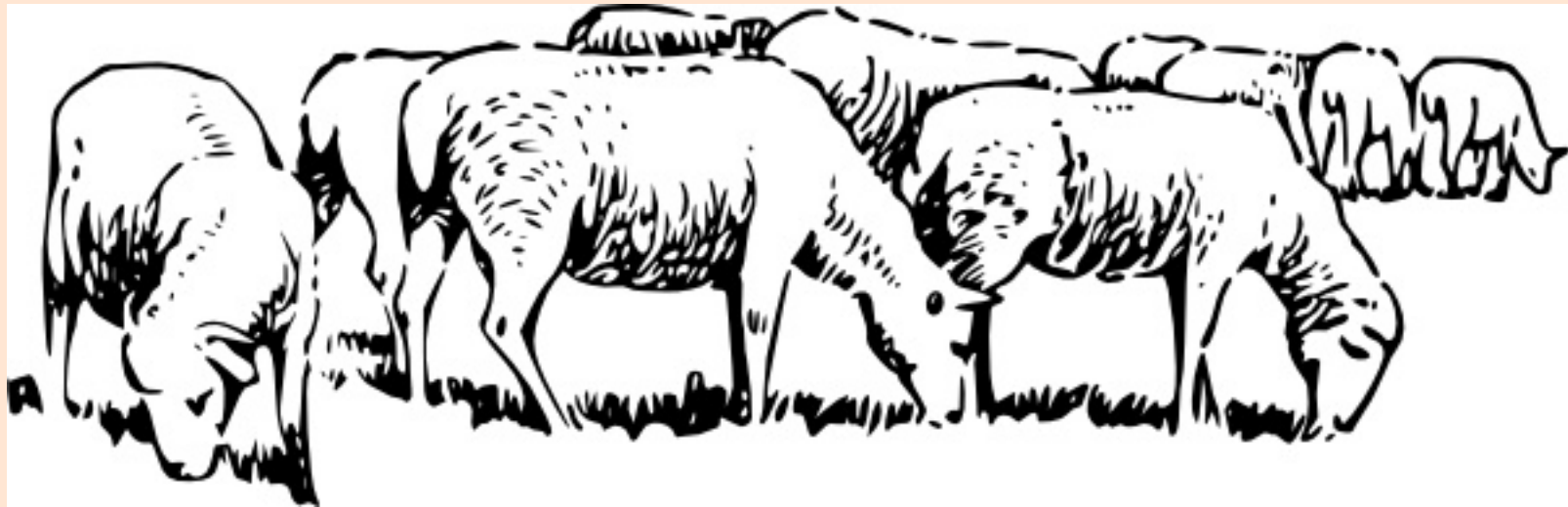
Welcome to iCloud

THIS LEGAL AGREEMENT BETWEEN YOU AND APPLE GOVERNS YOUR USE OF THE iCloud PRODUCT, SOFTWARE, SERVICES, AND WEBSITES (COLLECTIVELY REFERRED TO AS THE "SERVICE"). IT IS IMPORTANT THAT YOU READ AND UNDERSTAND THE FOLLOWING TERMS. BY CLICKING "AGREE," YOU ARE AGREEING THAT THESE TERMS WILL APPLY IF YOU CHOOSE TO ACCESS OR USE THE SERVICE.

Apple is the provider of the Service, which permits you to utilize certain Internet services, including storing your personal content (such as contacts, calendars, photos, notes, reminders, documents, app data, and iCloud email) and making it accessible on your compatible devices and computers, and certain location based services, only under the terms and conditions set forth in this Agreement. iCloud is automatically enabled when you are running devices on iOS 9 or later and sign in with your Apple ID during device setup, unless you are upgrading the device and have previously chosen not to enable iCloud. You can disable iCloud in Settings. When iCloud is enabled, your content will be automatically sent to and stored by Apple, so you can later access that content or have content wirelessly pushed to your other iCloud-enabled devices or computers.

I. REQUIREMENTS FOR USE OF THE SERVICE

Your data is now the commodity

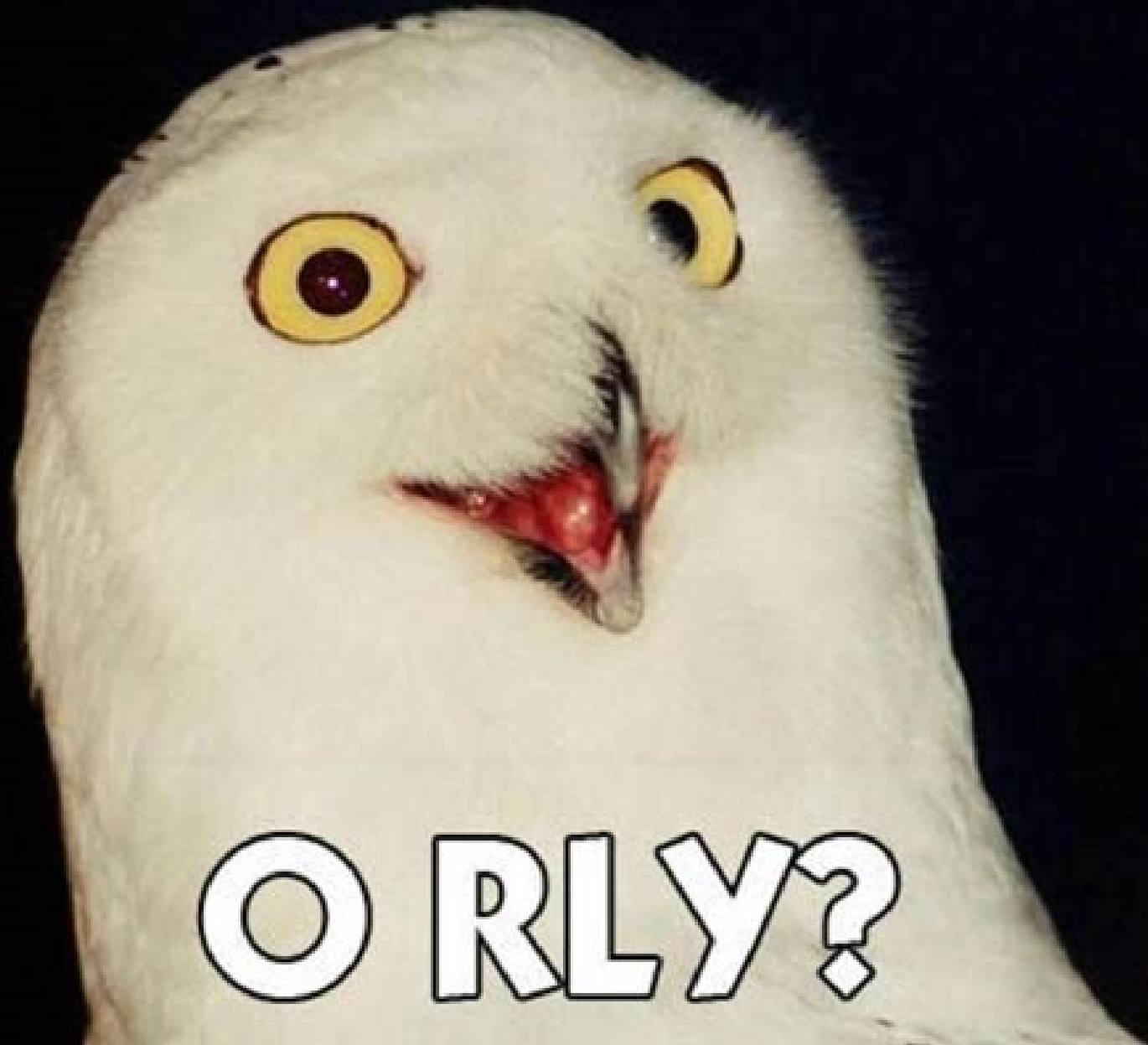


Google

“If you’re doing something you don’t want anyone to know, maybe you shouldn’t be doing it in the first place.”

- Eric Schmidt, Google CEO





ORLY?

SECURITY

Google faces \$5 billion lawsuit in U.S. for tracking 'private' internet use

Google “cannot continue to engage in the covert and unauthorized data collection from virtually every American with a computer or phone,” the complaint said.

June 2, 2020, 3:50 PM PDT / Updated June 3, 2020, 5:00 AM PDT

By Reuters

<https://www.nbcnews.com/tech/security/google-sued-u-s-tracking-users-private-internet-browsing-n1222676>



NEWS

REVIEWS

HOW-TOS

VIDEOS

DEALS ▾

PRICE GUIDES ▾

APPLE A-Z ▾

MORE ▾

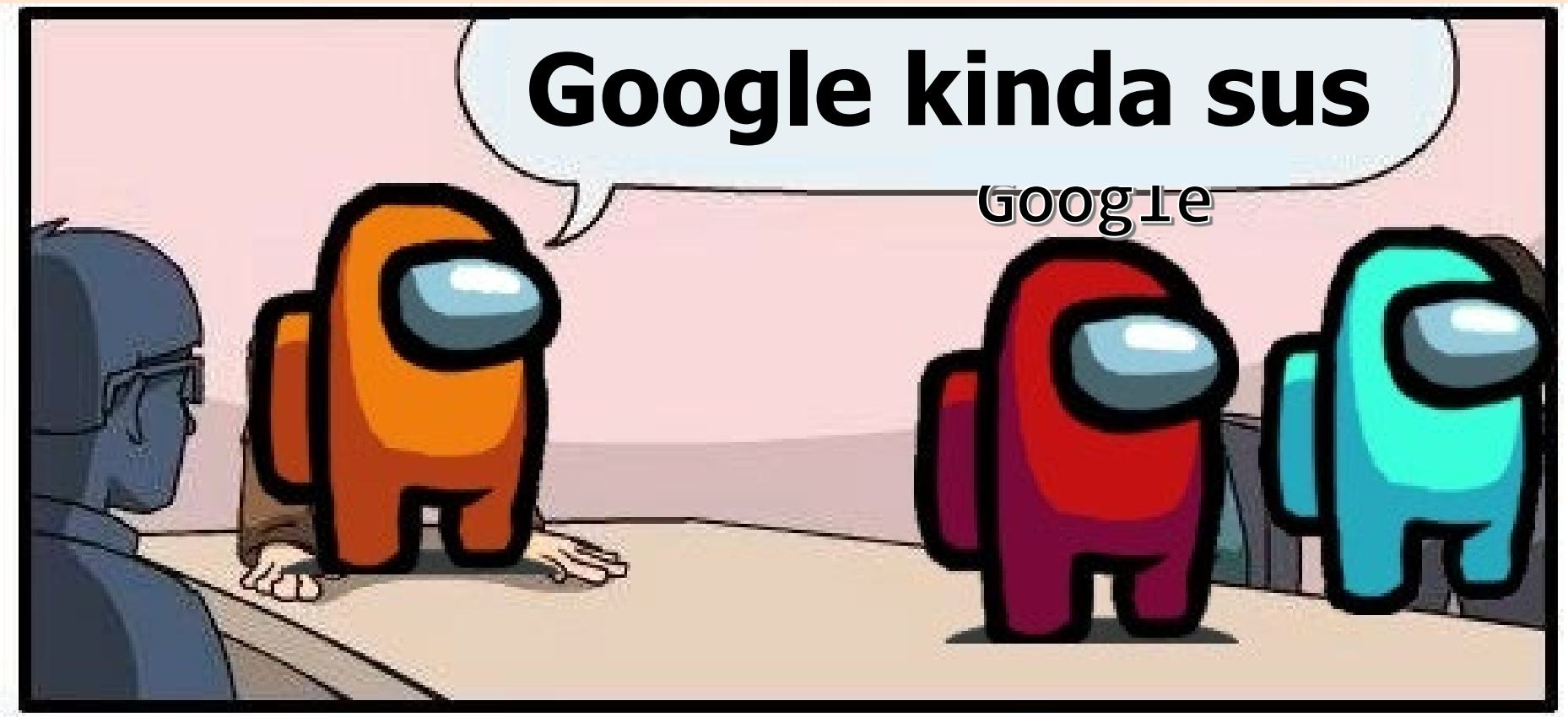
Google fails to end 'private browsing' snooping lawsuit



By *Malcolm Owen* | Mar 13, 2021

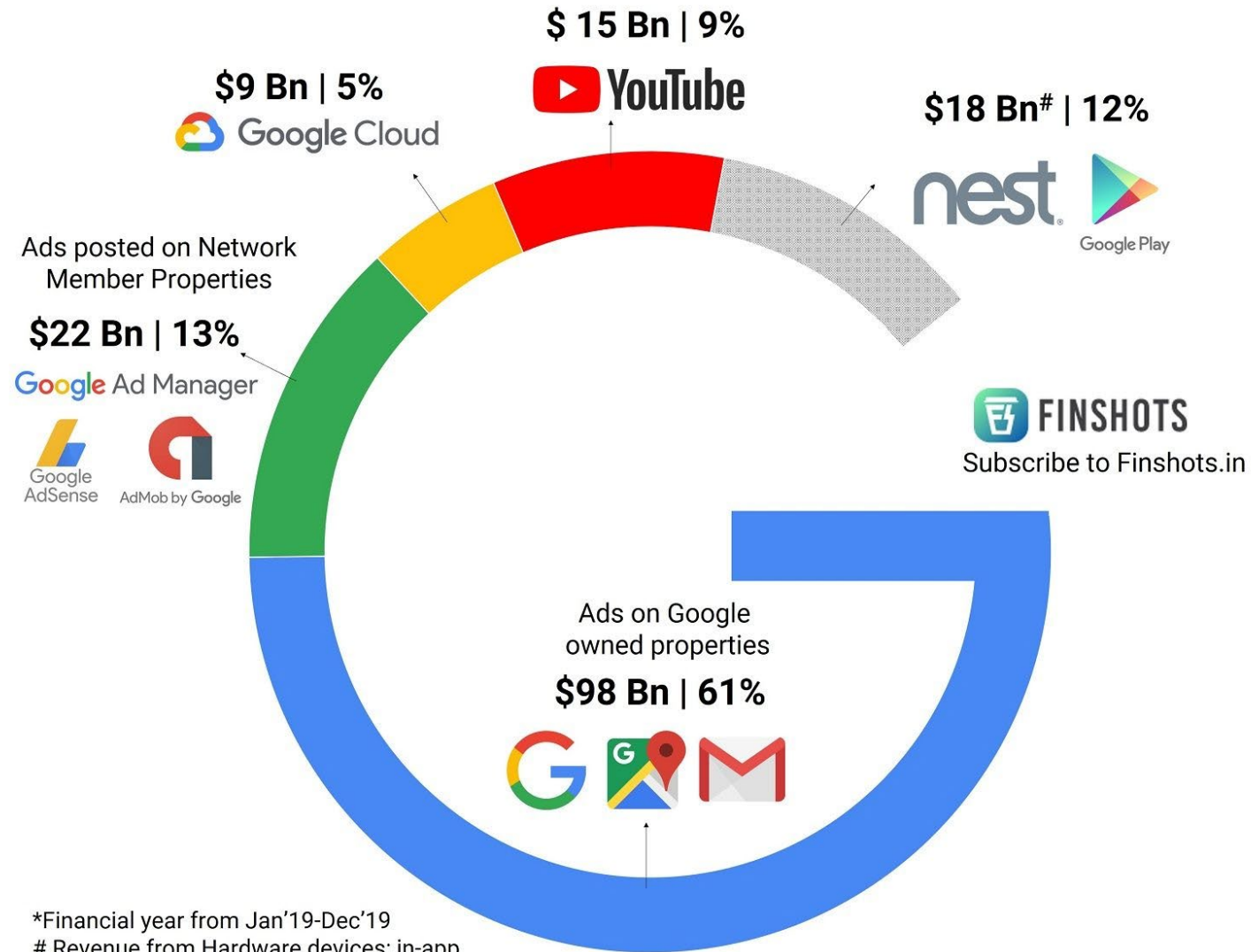
<https://appleinsider.com/articles/21/03/13/google-fails-to-end-private-browsing-snooping-lawsuit>

How important are Ads to Google?



BREAKING DOWN REVENUE STREAMS OF GOOGLE (ALPHABET)

Total Revenues: \$162 Bn



*Financial year from Jan'19-Dec'19
Revenue from Hardware devices; in-app purchases & digital content on Play Store; Misc revenues.

THE TERM PAPER

You can skip to
video in 5



Ad · 0:43  grammarly.com 



0:01 / 0:43



How important are Ads to Google?

Google Is Testing Its Controversial New Ad Targeting Tech in Millions of Browsers. Here's What We Know.

BY BENNETT CYPHERS | MARCH 30, 2021

**FloC =
Unblockable
cookies. Yay!**



Your browser does not have FloC enabled.

The FloC origin trial only affects Google Chrome versions 89 and above.

<https://www.eff.org/deeplinks/2021/03/google-testing-its-controversial-new-ad-targeting-tech-millions-browsers-heres>

Outfoxing Google with Firefox

gorhill / uBlock

<> Code Issues 47 Pull requests Actions Projects Wiki Security Insights

uBlock Origin works best on Firefox

Raymond Hill edited this page 3 days ago · 5 revisions

This document explains why uBO works best in Firefox.

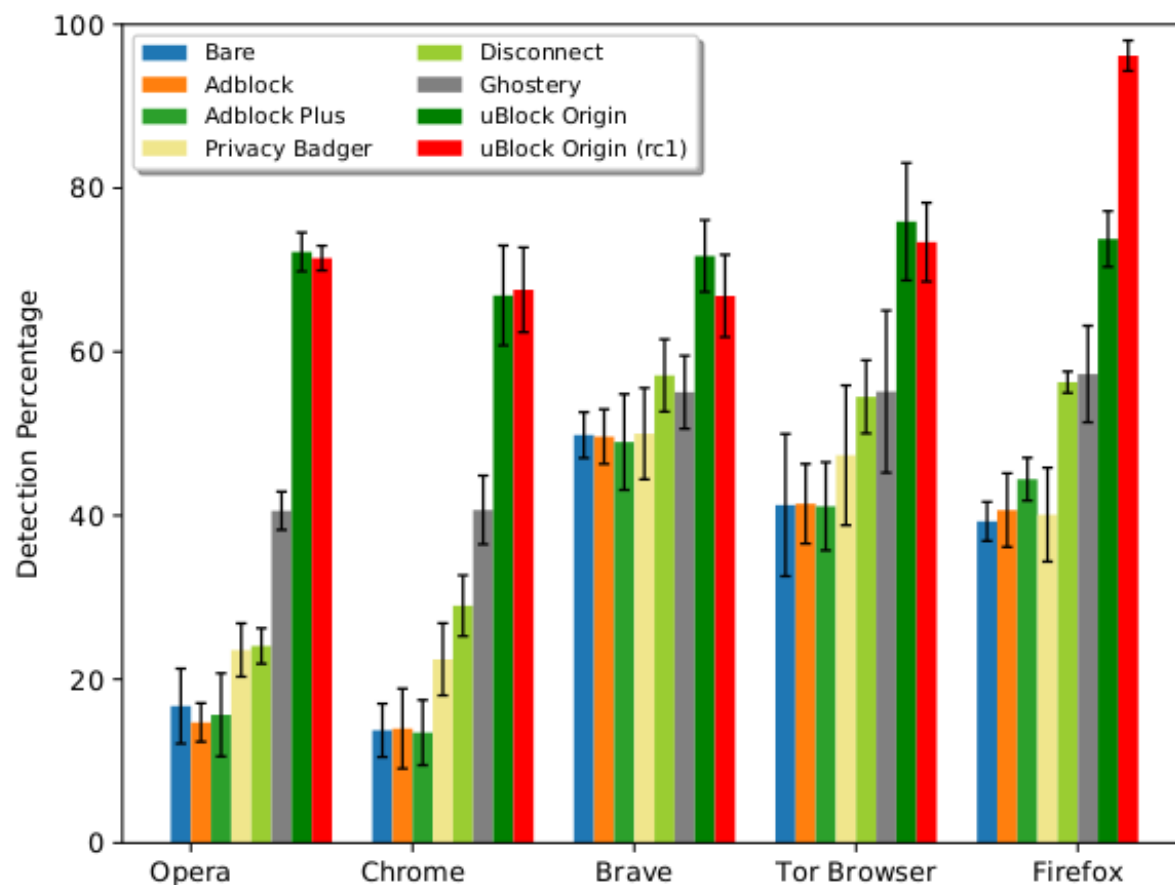
CNAME-uncloaking

Ability to uncloak 3rd-party servers disguised as 1st-party through the use of [CNAME record](#). The effect of this is to make uBO on Firefox the most efficient at blocking 3rd-party trackers relative to other other browser/blocker pairs:

The dark green/red bars are uBO before/after it gained ability to uncloak CNAMEs on Firefox.

Source: "[Characterizing CNAME Cloaking-Based Tracking on the Web](#)" at Asia Pacific Network Information Centre, August 2020.

<https://github.com/gorhill/uBlock/wiki/uBlock-Origin-works-best-on-Firefox>



Google is not alone.

The Observer
Facebook

Another huge data breach, another stony
silence from Facebook
Carole Cadwalladr



Sun 11 Apr 2021 03.45
EDT

The social media giant is still a law unto itself. Can anybody
hold it to account?

Guess who's back?

“Arguing that you don’t care about the right to privacy because you have nothing to hide is no different than saying you don’t care about free speech because you have nothing to say.”

-Edward Snowden

<https://www.mic.com/articles/188563/who-cares-i-have-nothing-to-hide-why-the-popular-response-to-online-privacy-is-so-flawed>



Why is this all important?

Would you trade in all your passwords in order to use Facebook?

How about handing your phone off to a stranger?

How does the government decide what is “right” and “wrong”?

Why is this important?

We will be working with information from people.

How do you take back control of data to community ownership?

Why is this important?

Think what is being collected and how it could be misused:

- **Images**
- **Video**
- **Words**
- **Names**
- **Addresses**

Open Source and Open Data in Summary

Open Source and Open Data

- ✓ **Think about what information can be helpful for community members/local organizations**
- ✓ **Teach and give ownership to local people**
- ⊘ **Extract information and leave**
- ⊘ **Use any tool available because it's "easy"**

Open Source and Open Data

Use tools and data that empowers instead of commodifies people.



slido

Audience Q&A Session

 Start presenting to display the audience questions on this slide.

Discussion

Discussion #2

- 1. Random breakout rooms of 4 people each**
- 2. Click on your breakout room in this Google Doc:**
<https://tinyurl.com/453eb3z4>
- 3. Discuss the questions together**
- 4. Take notes**
- 5. Pick 1-2 representatives to share back to the larger group**

Q1. How does critical cartography and PM relate to opensource technologies?

Q2. Should “ethical software licensing” be applied to participatory mapping projects?

Q3. How can you balance participatory mapping with data privacy?

Thinking Cap for the week:

How are closed source tools harmful for civil society? What about open source tools?

Assignments

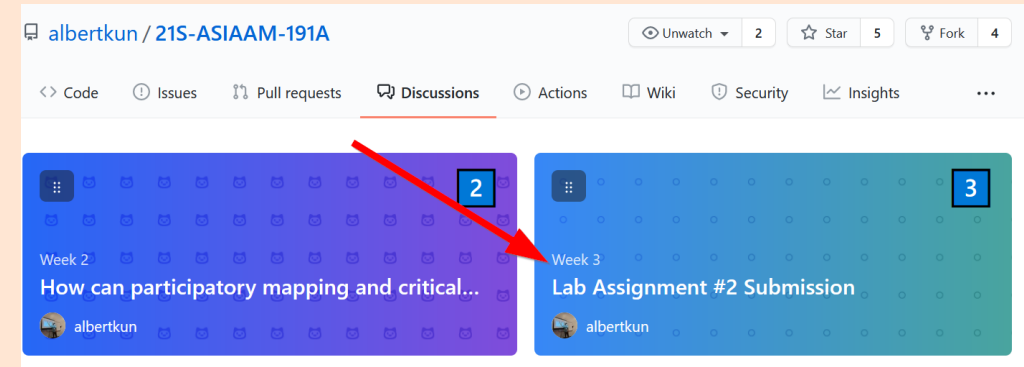
Due Thursday 4/15:

- 1. Lab Assignment #2**
- 2. Optional: Pre-Lab reading**

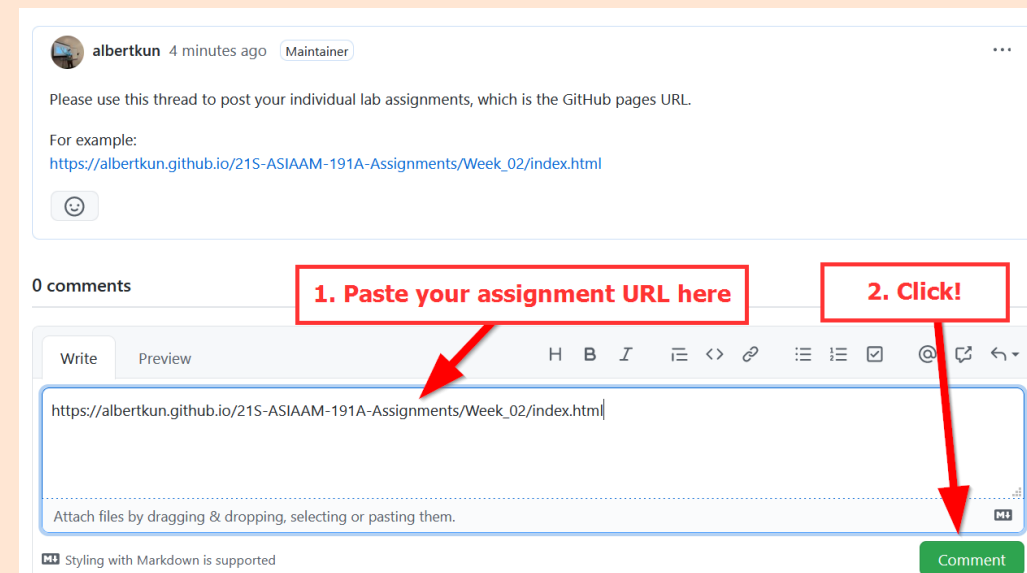
New Way to Submit Assignments

1. Go to Discussions

1. Click on the pinned assignment post:



2. Paste your link as a comment:



Group Time

Group Time

- **Current Groups:**
 - <https://tinyurl.com/wbsvmr53>
- **Explain the Group Assignment #2:**
 - <https://tinyurl.com/5d9f3snb>
- **Optional demo: Creating a repo and inviting others**
 - Those who do not need the demo, please go to your breakout room and work on Group Assignment #1

Group Assignment #2

Memo

- Background on the social issue/campaign
- Goals
- Community/organization description
- At least 2 user stories
- 3 Ideas of questions to be included on the survey
- Future plans
- Template:
 - <https://tinyurl.com/eaxj27hx>



Feedback

<https://tinyurl.com/21S191Feedback>