

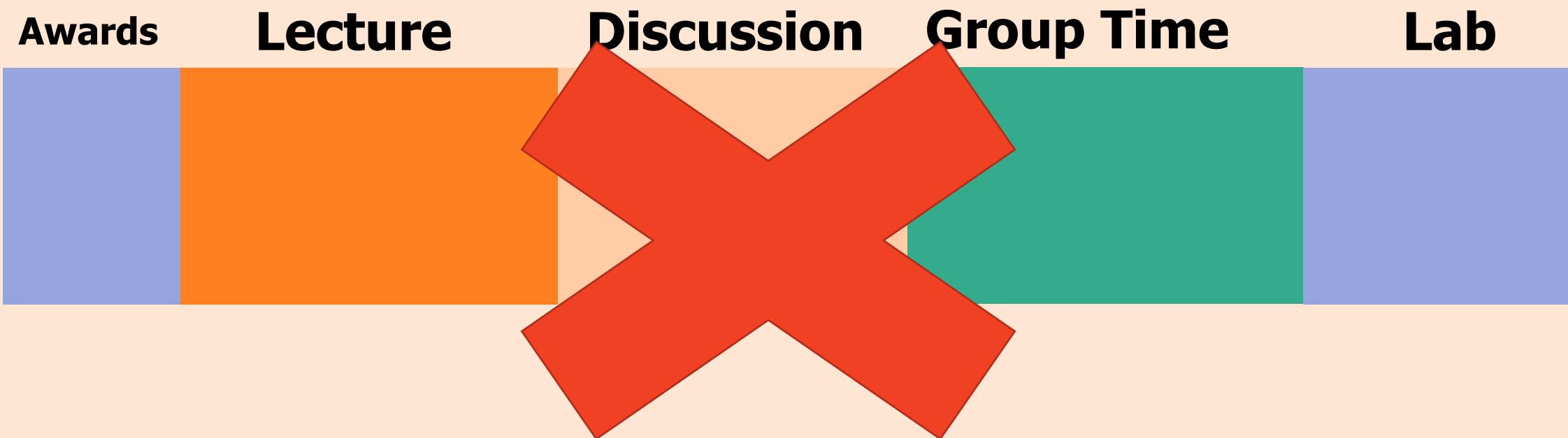


Join at
slido.com
#ucla

Open Source and Web Mapping

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

Today's Agenda

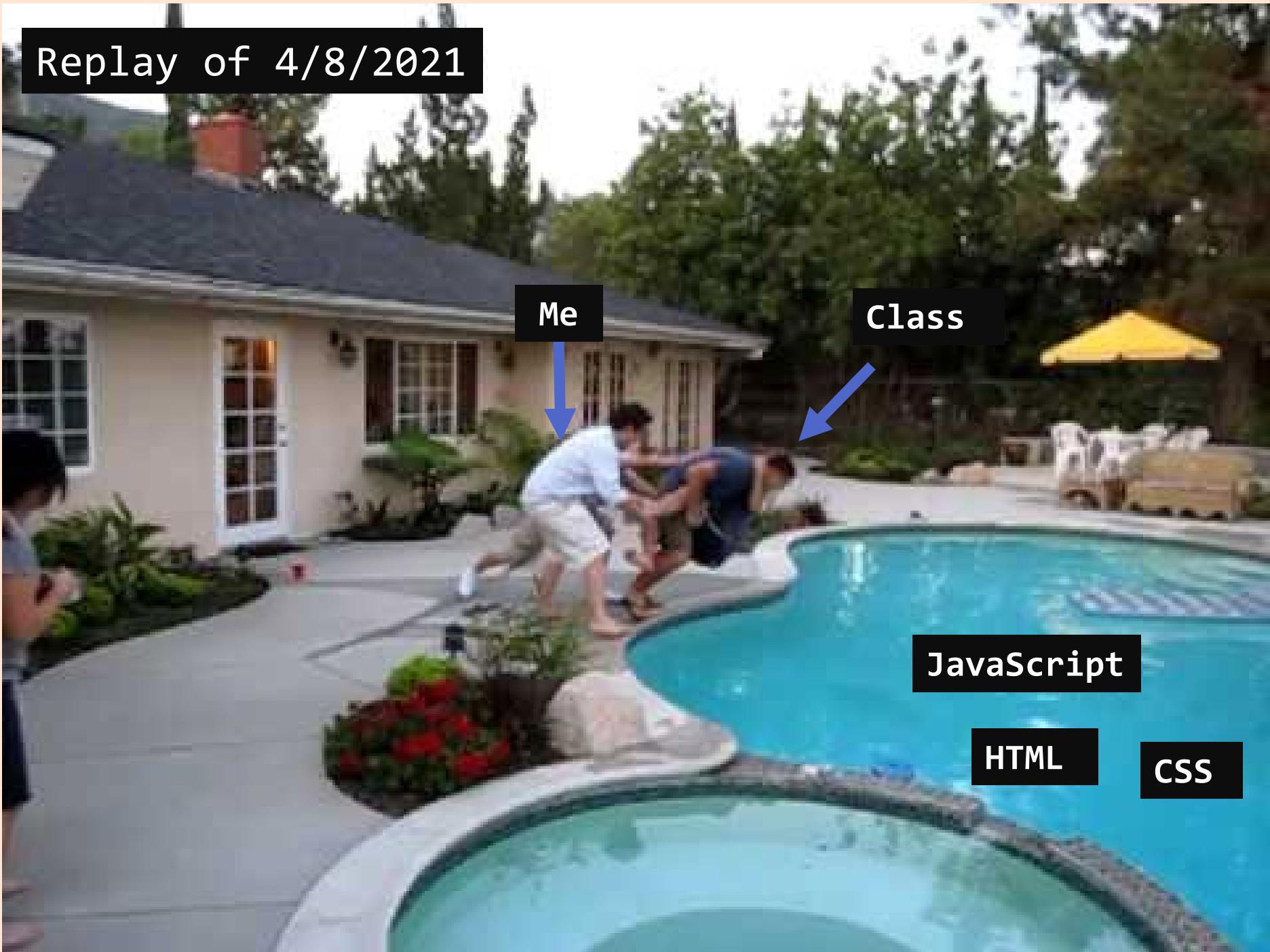


slido

What would you like to focus on today?

- ⓘ Start presenting to display the poll results on this slide.

Replay of 4/8/2021



slido

Please fill in the survey

- ⓘ Start presenting to display the poll results on this slide.

Where we ARRRRRR at

Critical Cartography

Leaflet.js

VS Code

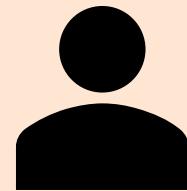
HTML

GitHub

QGIS

Firefox

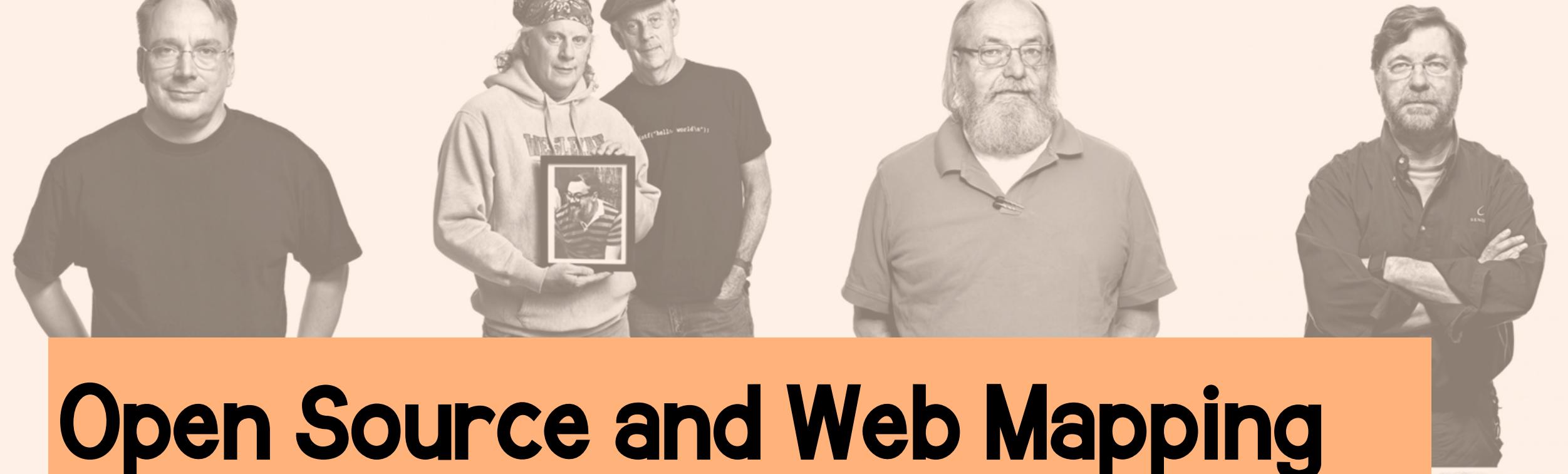
Why?



Theme of the week

How do you decide what technology is right?

First off what “Technology” are we talking about?

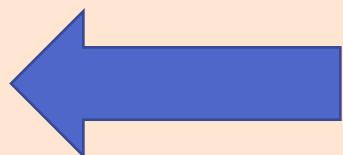


Open Source and Web Mapping

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

The Three Opens

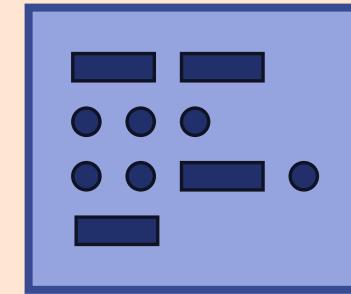
- Open Source
- Open Standards
- Open Data



Open-source vs Closed-Source

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

VS



You can see the code

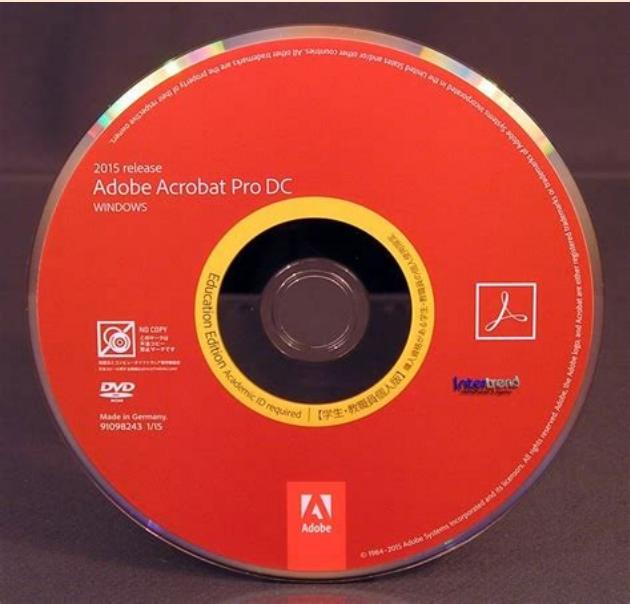
You can never see the code

Why is this important?

Quick History on software...



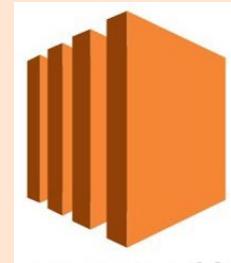
Quick History on software...



How does this play out today?

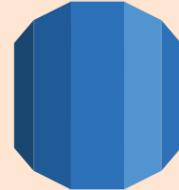
aws value capture

compute



ec2

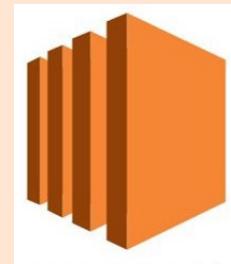
compute + db



rds

aws value capture

compute



ec2 = 9.6 ¢/hr

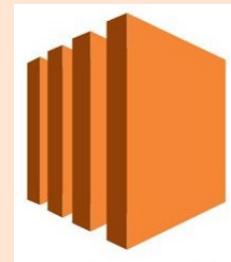
compute + db



rds = 17.8 ¢/hr

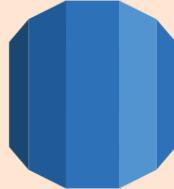
aws value capture

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!



 EDB ENTERPRISE DB	Bruce Momjian		Joe Conway		Alvaro Herrera
 EDB ENTERPRISE DB	Thomas Munro		Tom Lane		Andrew Dunstan
 EDB ENTERPRISE DB	Robert Haas		Stephen Frost		Peter Eisentraut
 EDB ENTERPRISE DB	Amit Kapila		Peter Geoghegan		Tomas Vondra
 EDB ENTERPRISE DB	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

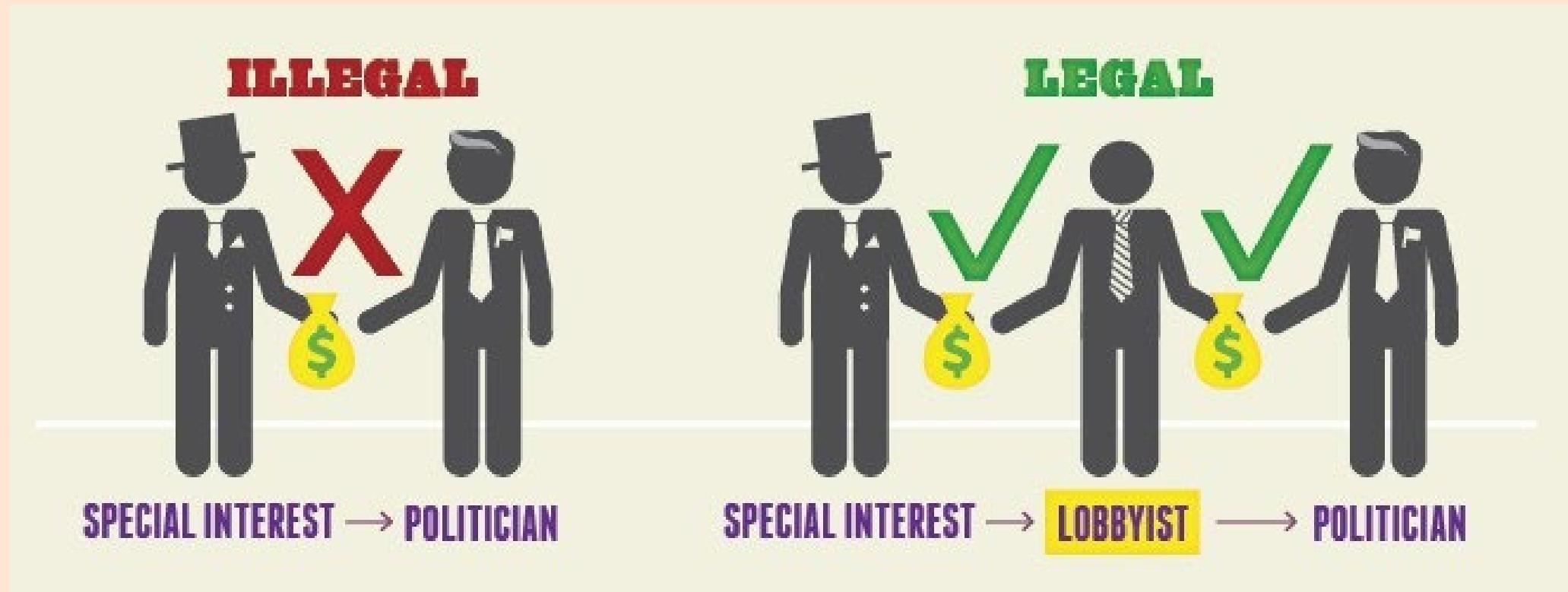
\$25B

Is this fair?

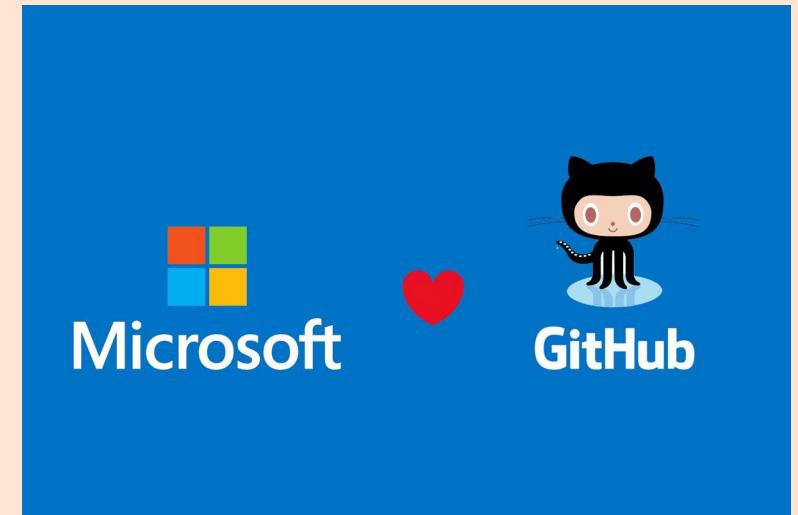
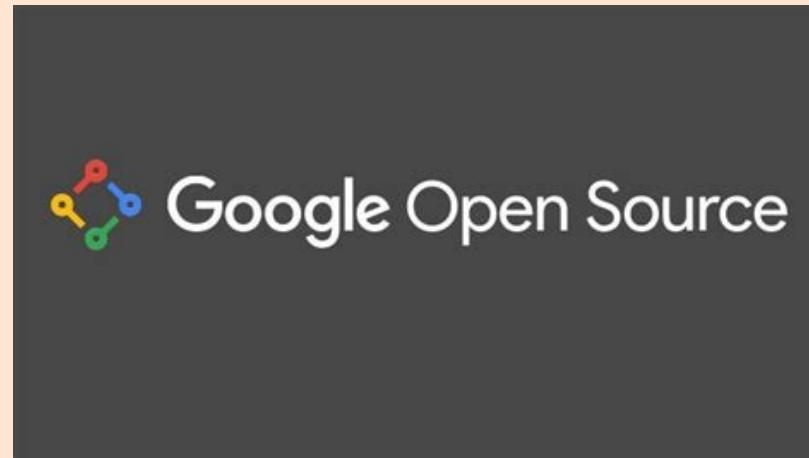
Tragedy of the commons



Have corporations infiltrated open source?

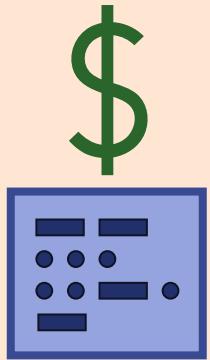


Have corporations infiltrated open source?



Summary:

Proprietary Software

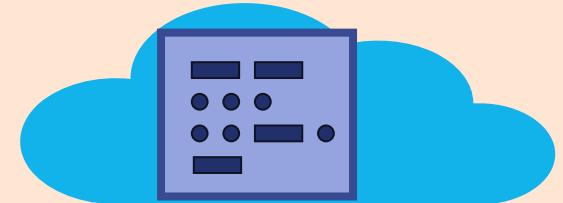


Software as a Service

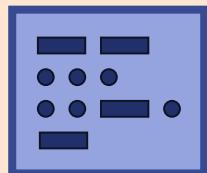
To a point



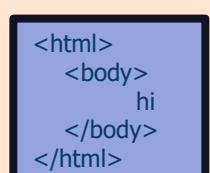
Takes your data



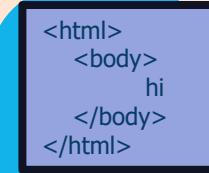
Free software



Open Source Software



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?**

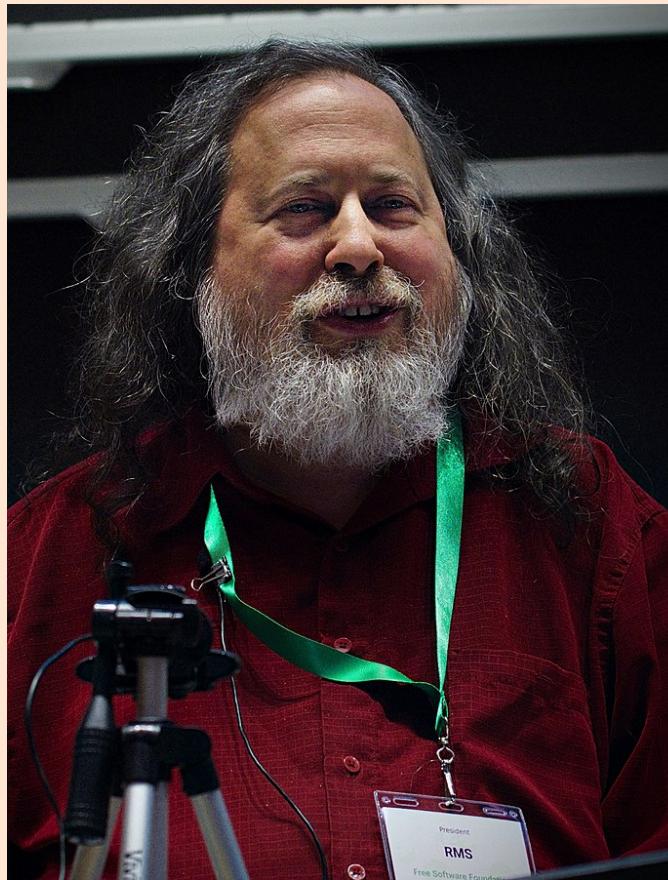
Issues with open source...

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>

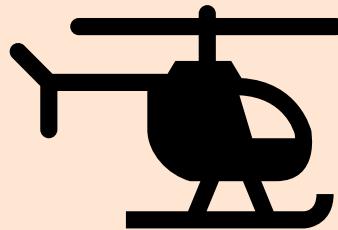
Issues with open source...

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?

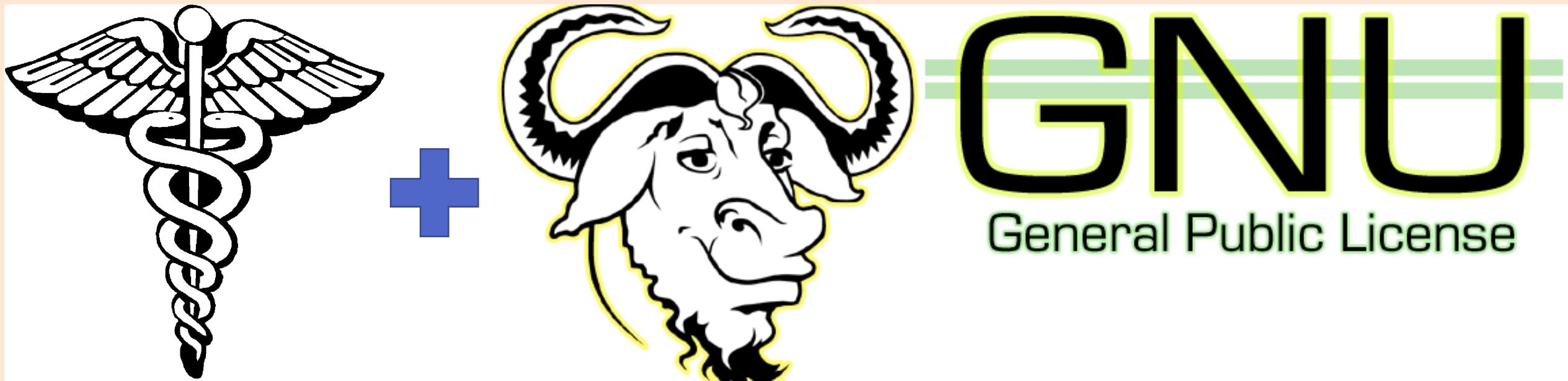


Solution: Ethical Source Licensing?



Established in 2019
<https://ethicalsource.dev/>

Ethical Source License



Open Data

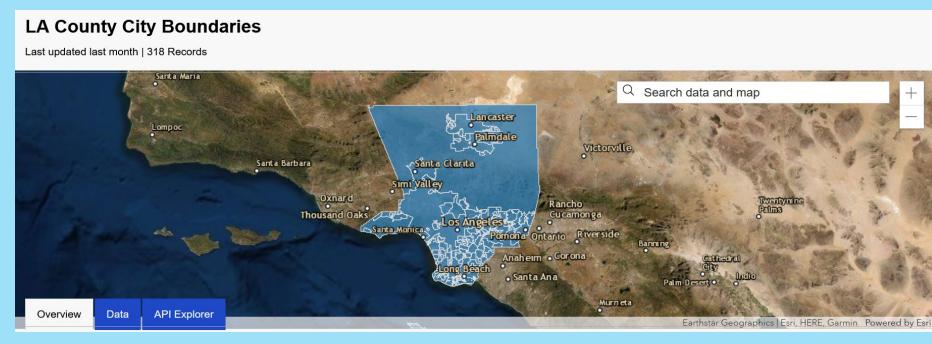
Closed Data

Google Maps



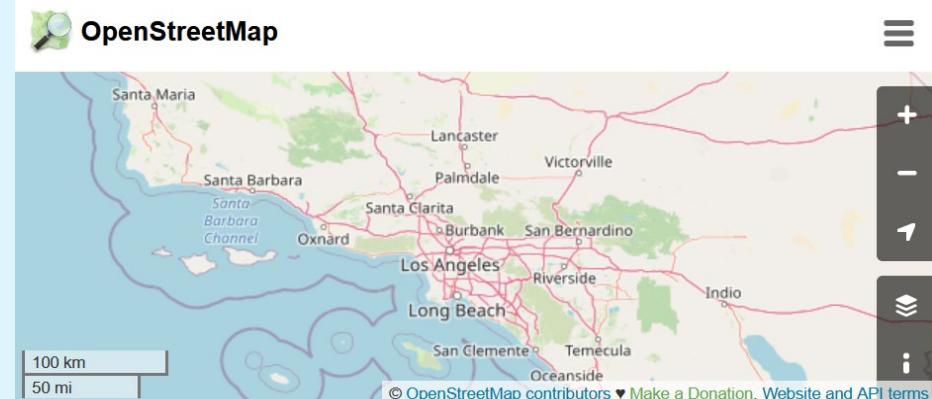
Open Data

LA County GIS Open Data Portal



Crowdsourced Data

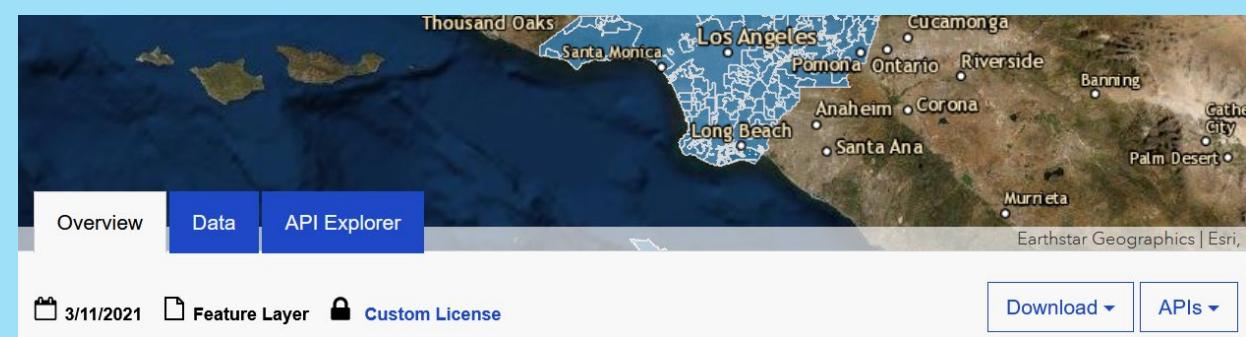
Open Street Map



Closed Data

N/A

Open Data



Crowdsourced Data

GEOFABRIK® [downloads](#)

Download OpenStreetMap data for this region:

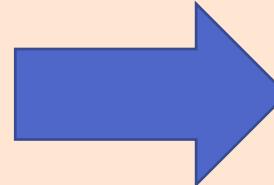
[California](#)

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

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

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

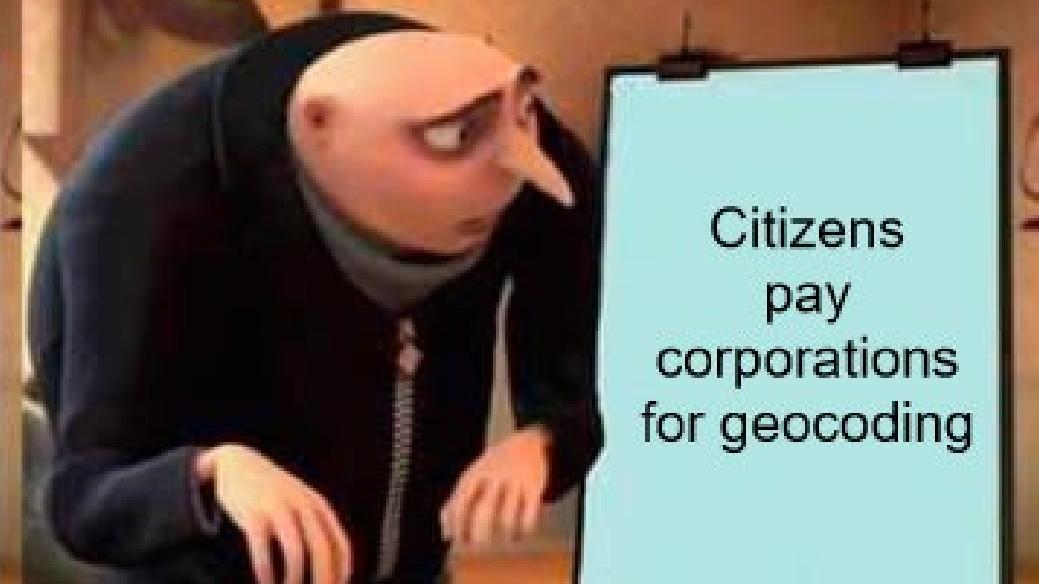
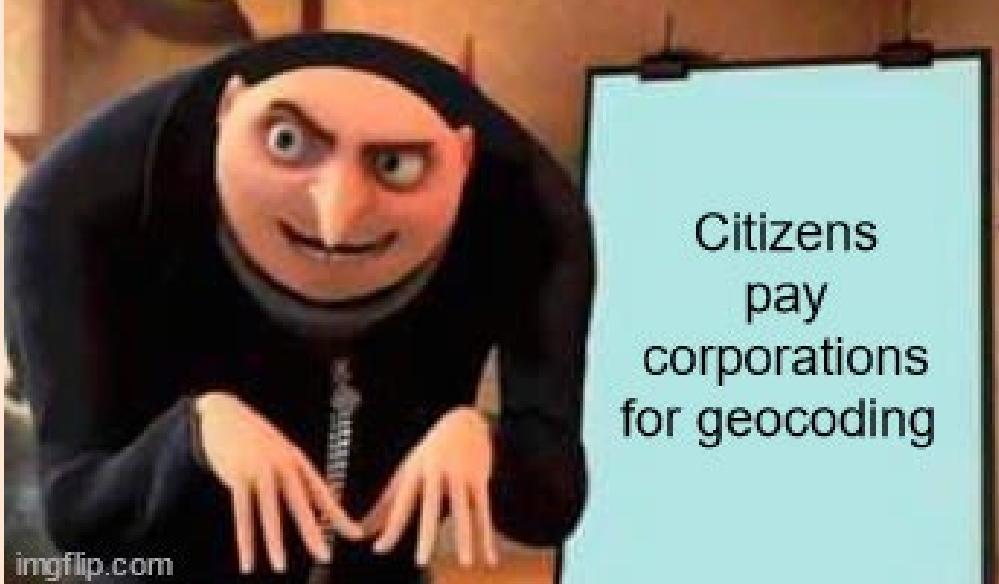
Leaflet Control Geocoder npm v2.2.0 Leaflet 1.0.0 ✓

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



Public data is now the commodity



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Welcome to iCloud

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I. REQUIREMENTS FOR USE OF THE SERVICE

Your data is now the commodity





“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?

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>

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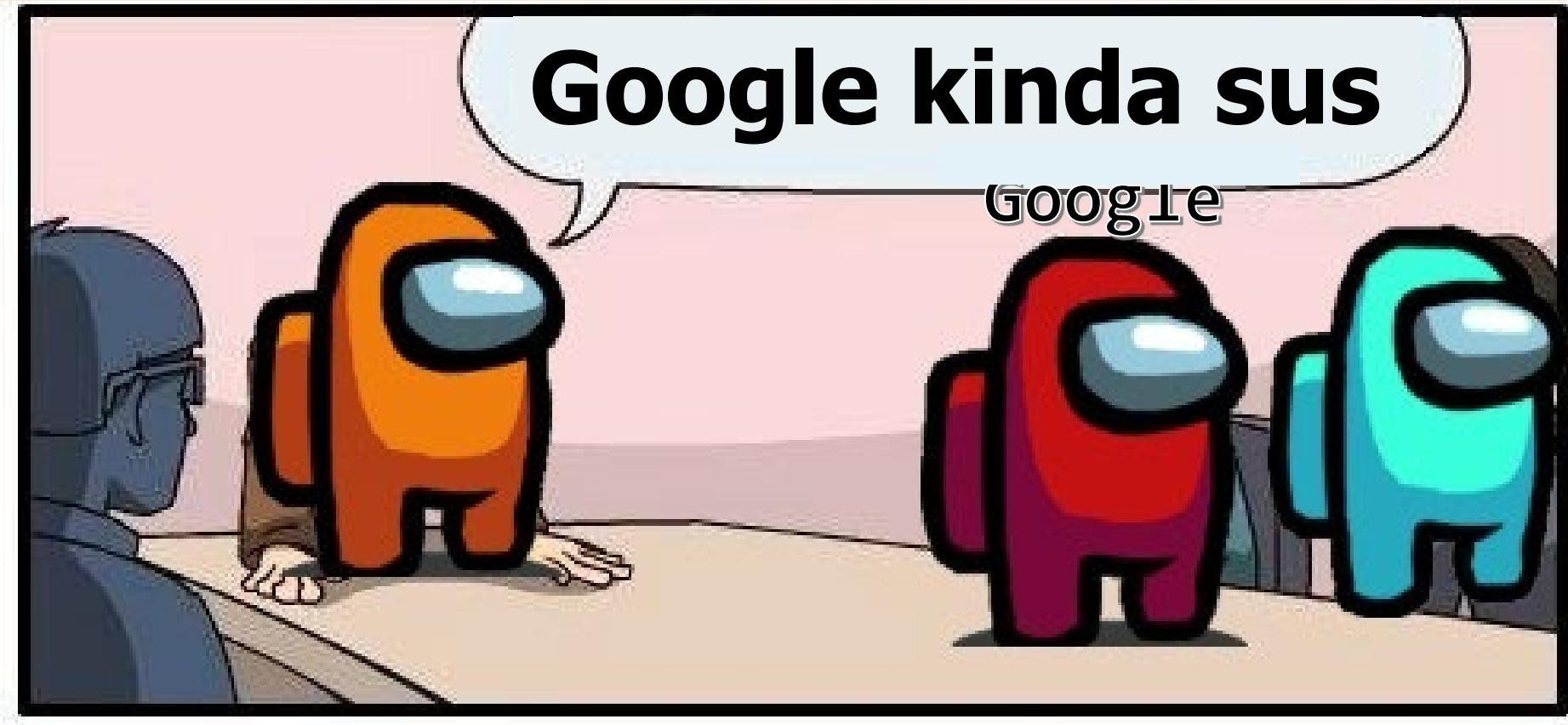
Google fails to end 'private browsing' snooping lawsuit



By [Malcolm Owen](#) | Mar 13, 2021

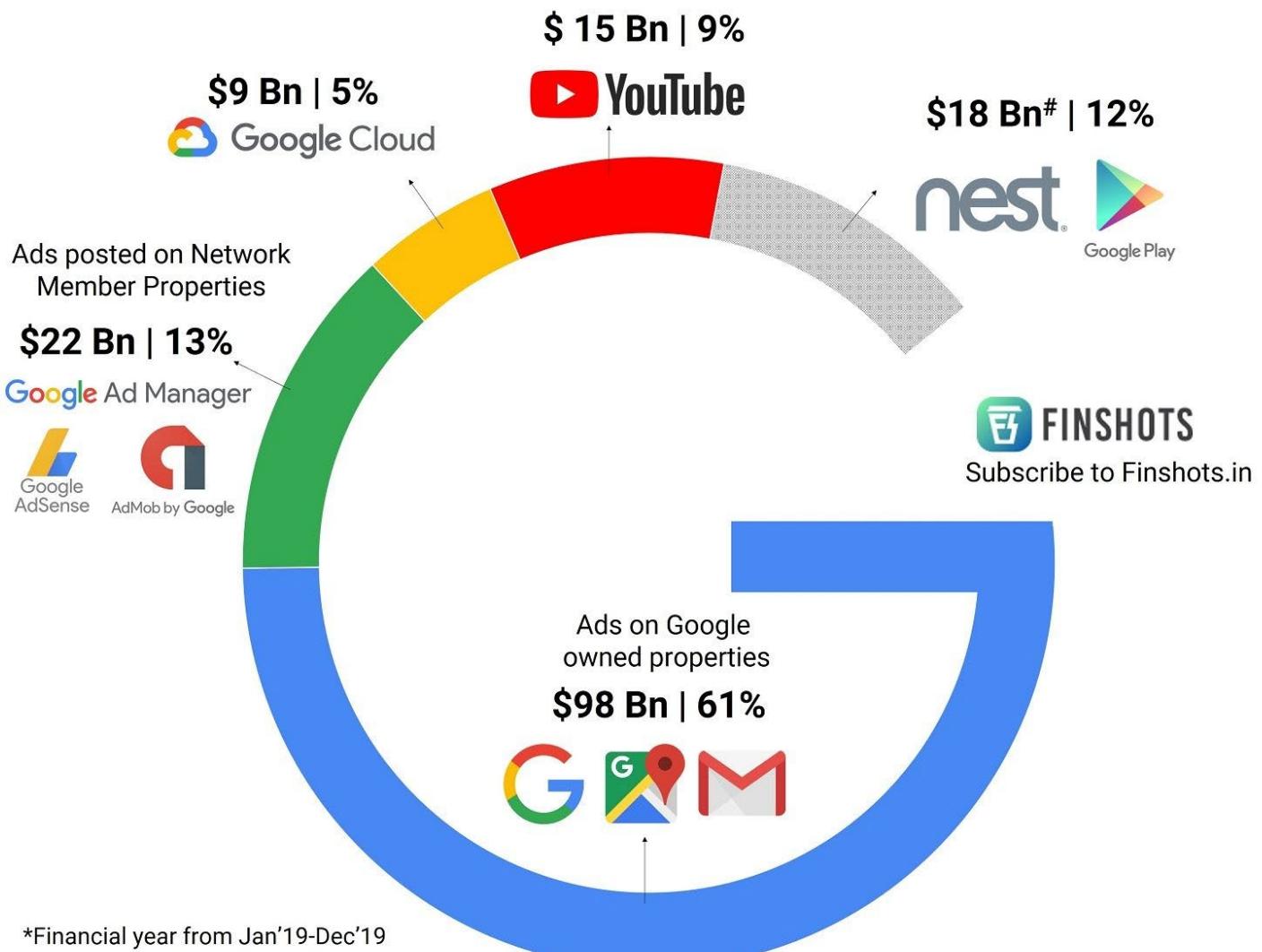
<https://appleinsider.com/articles/21/03/13/google-fails-to-end-private-browsing-snooping-lawsuit>

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.



FINSHOTS

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THE TERM PAPER

Ad · 0:43  grammarly.com

You can skip to
video in 5



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!**



<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.

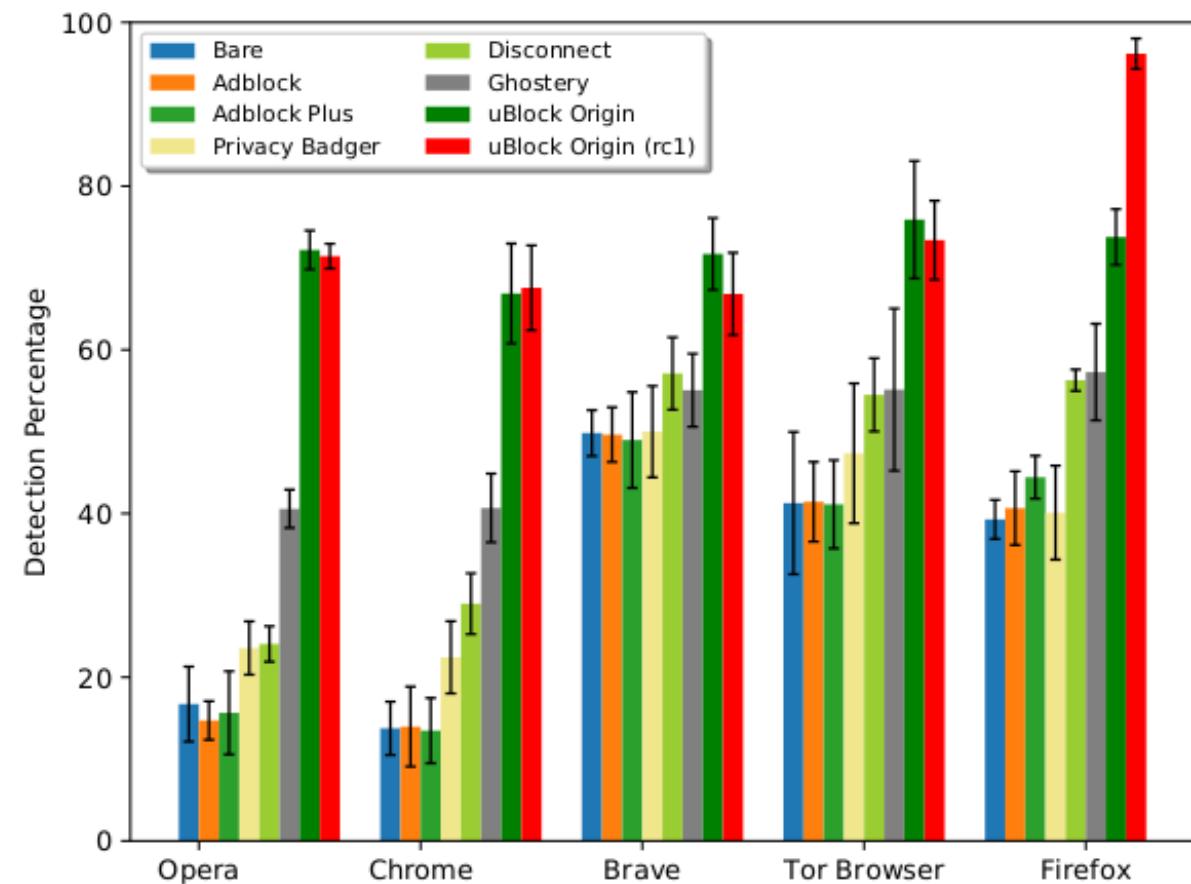
CNAME-uncloaking

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.**



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:

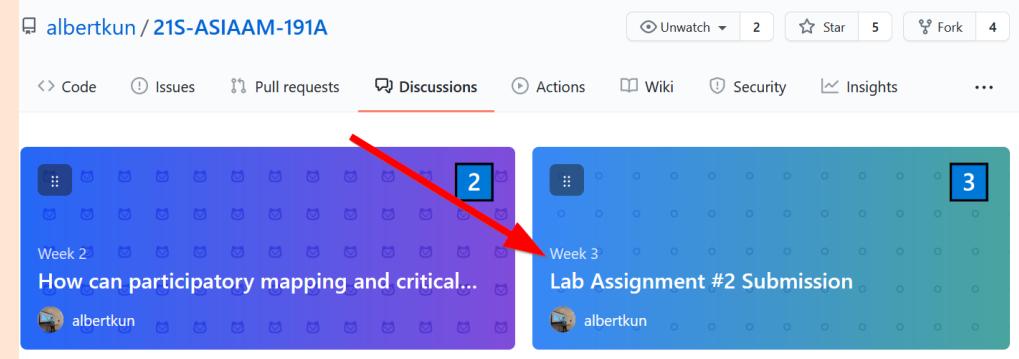
- 1. Lab Assignment #2**

- 2. Optional: Pre-Lab reading**

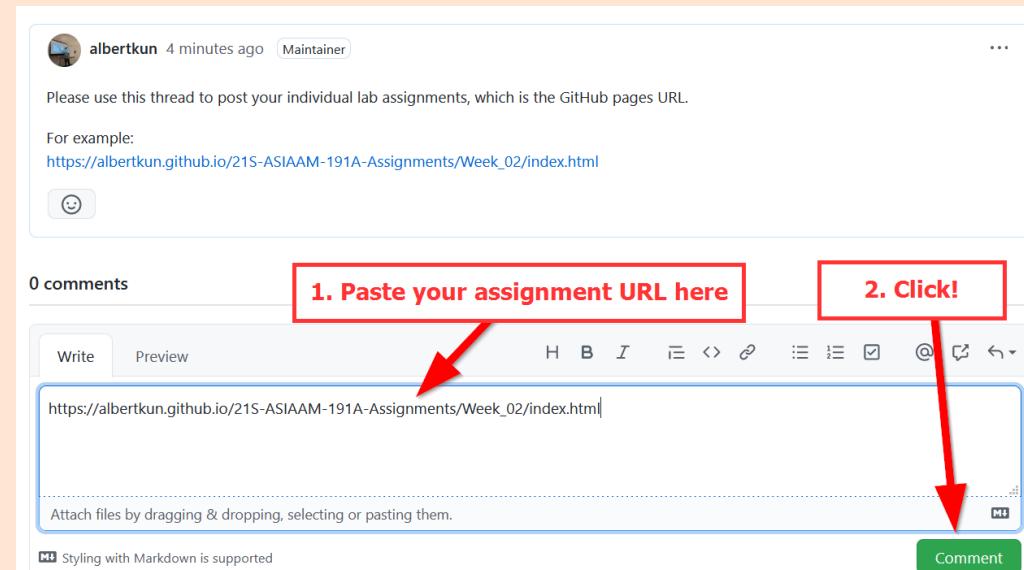
New Way to Submit Assignments

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 no 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>