Gloom, Doom, and the Internet 💀

(and how we fit into this mess)

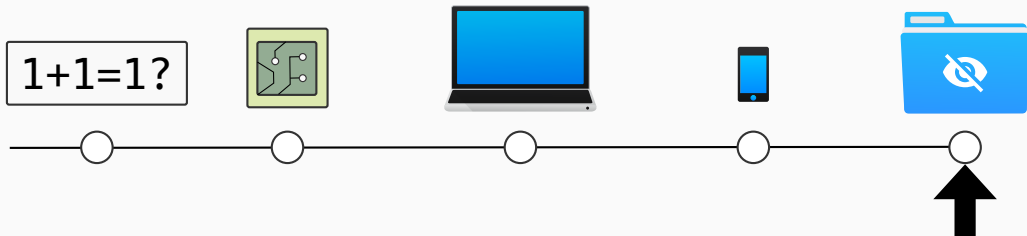Keefer Rourke

06 January 2018

A brief history (or there abouts)

- Logical formalization gives way to Boolean algebra
- Some really clever people invent circuits
- Suddenly we have computers!
- In our pockets!
- ... what is privacy?

Privacy Oriented Design

Long since foreshadowed by the likes of Huxley and Orwell, we are at the point in history where privacy does not practically exist.

- Flood transmitter (broadcast) / one-way receiver
- On a common bandwidth, communication is anonymous
- Like shouting to the void and hoping someone will hear you
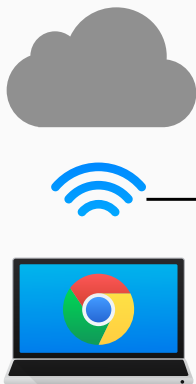- Fun!!
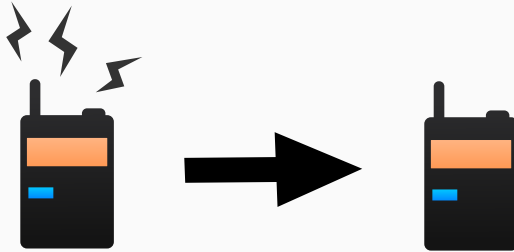
```
Request method: GET
HOST: example.com
Referer: whereicamefrom.com/?query=identifying_info&uid=...
User-agent: Mozilla/5.0 (X11; Fedora; Linux x86_64...

...
```


Browser Characteristic	bits of identifying information	one in x browsers have this value	value
Limited supercookie test	0.39	1.31	DOM localStorage: Yes, DOM sessionStorage: Yes, IE userData: No
Hash of canvas fingerprint	17.16	146358.33	b882a6e2b801c5c47ad6ddd15eb4c1ee
Screen Size and Color Depth	2.39	5.23	1920x1080x24
Browser Plugin Details	1.33	2.52	undefined
Time Zone	3.91	15.06	300
DNT Header Enabled?	0.81	1.76	True
HTTP_ACCEPT Headers	2.16	4.46	text/html, */*; q=0.01 gzip, deflate, br en-US,en;q=0.5
Hash of WebGL fingerprint	9.98	1012.86	e539a33fbebb95281822cc7a6d4f18c0
Language	0.91	1.88	en-US
System Fonts	3.68	12.77	Wingdings 2, Wingdings 3 (via javascript)
Platform	3.24	9.43	Linux x86_64
User Agent	11.35	2605.79	Mozilla/5.0 (X11; Fedora; Linux x86_64; rv:57.0) Gecko/20100101 Firefox/57.0
Touch Support	3.3	9.86	Max touchpoints: 0; TouchEvent supported: true; onTouchStart supported: true
Are Cookies Enabled?	0.19	1.14	Yes

GOOD: Private communication with HTTPS connections

BAD: Like giving a copy of:

1. your fingerprints

2. your home address

3. your passport

... to every server you connect to... ever.

https://panopticlick.eff.org

Datensparsemkeit

"The default attitude at the moment is that any data you generate is not just freely usable by the capturer but furthermore becomes their valuable commercial property." — *Martin Fowler*

https://martinfowler.com/bliki/Datensparsamkeit.html

If you are running a web server you do not have to keep this information.

If you are running a web server you should honour DNT requests.

It's easy!

Example Nginx server block

```
server {
  listen 80;
  server_name example.com;
  return 301 https://$host$request_uri;
  access_log off;
}
```

A hopefully unneeded reminder:

→ Make sure your server logic is in a block with properly configured SSL.

User/Host Power Differential

Causing accidental harm (yikes!)

- 2014 introduced "Your Year in Review"
- Highlights determined by engagement as main proxy
- Users not considered as real people
- People were shown painful memories in a cheery context 😓

Your Year In Review

James, here's what your year looked like!

🔒 Only you can see this

See Your Year

Image credit from Twitter: @BoobsRadley

❌ Lying to your users (real trusting people!)

❌ Aggressive user profiling and tracking

❌ Introducing hidden "anti-features" which do not serve ~~users~~ people

❌ Treating ~~users~~ people as a commodity

War is Peace.

Freedom is Slavery.

Ignorance is Strength.

Free software today... keeps the Thought Police away!

IF I CAN'T DISRESPECT MY USERS…

Why is software different than any other industry?

The Short Answer

No...

But:

- Express your creativity and explore technology

- Remember software's use-cases have real-world repercussions

- Hack! Build! Exploit! (don't abuse your findings)

- Try to make the world a better place for everyone 💖

Closing notes

- Is challenging to get right

- Is rewarding for everyone

- Staves off the tide of evil! 😈

ETHICAL SOFTWARE

SOME EXAMPLES:

- DuckDuckGo — The search engine that doesn't track you.
    - → Revenue model: advertising and affiliate partnerships
- NextCloud — Self-hostable cloud storage and groupware
    - → Revenue model: enterprise support subscriptions
- RedHat Linux — Commercial Linux distribution
    - → Revenue model: commercial support and training, cloud integrations

Questions?

Thanks for listening!

Slides and LATEX Beamer sources will be available at:

https://krourke.org/projects/pres/starcon18

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RESOURCES

LINKS

- https://panopticlick.eff.org/

- https://martinfowler.com/bliki/Datensparsamkeit.html

- https://qz.com/1131515/google-collects-android-users-locations-even-when-location-services-are-disabled/

- https://www.ghacks.net/2013/10/29/facebook-asking-locked-users-provide-government-id/

- http://www.cbc.ca/newsblogs/yourcommunity/2014/12/facebook-apologizes-for-highlighting-painful-memories-with-year-in-review-feature.html

Resources

Third-Party Images

- https:/twitter.com/BoobsRadley/status/549389021554966528

Iconography

- Material Design Icons Project

- Twemoji