

GLOOM, DOOM, AND THE INTERNET 🦴

(AND HOW WE FIT INTO THIS MESS)

Keefer Rourke

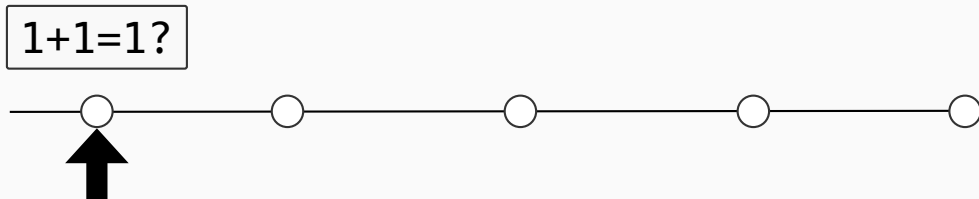
06 January 2018

Prepared for StarCon 2018 💡

A BRIEF HISTORY (OR THEREABOUTS)

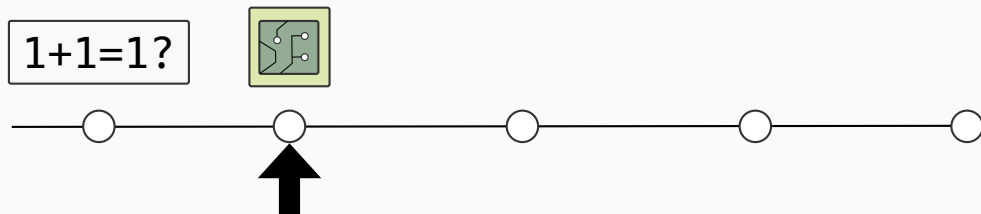
A BRIEF HISTORY (OR THERE ABOUTS)

- Logical formalization gives way to Boolean algebra



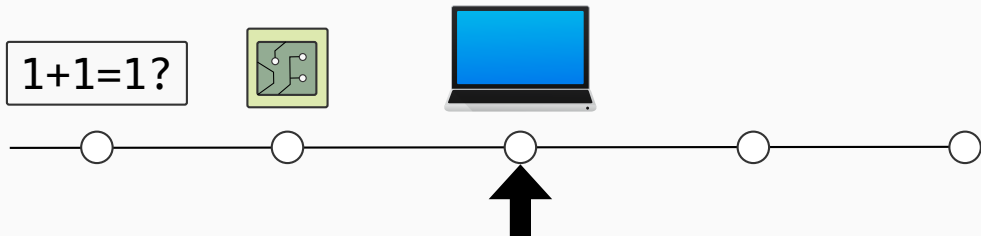
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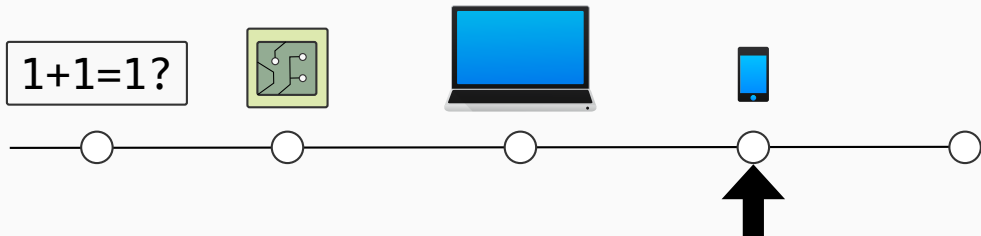
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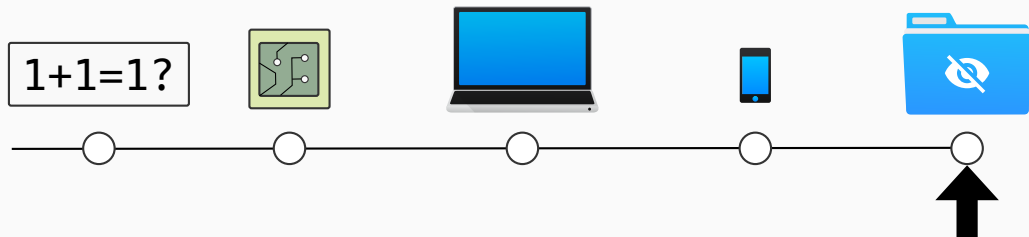
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- Suddenly we have computers!
- In our pockets!
- ... what is privacy?



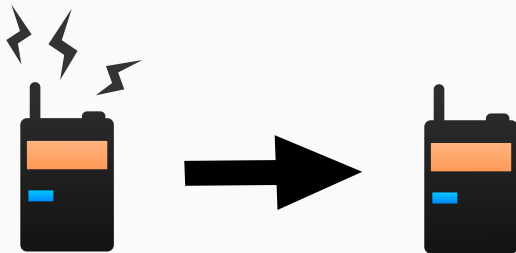
A BRAVE NEW WORLD

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

PRIVACY ORIENTED DESIGN

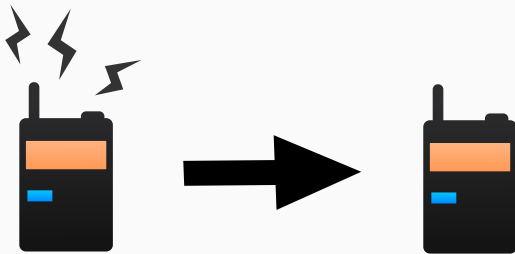
WHAT'S A RADIO? ANONYMOUS BROADCAST COMMUNICATION

- Flood transmitter (broadcast) / one-way receiver



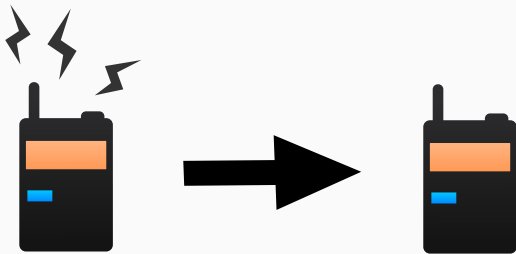
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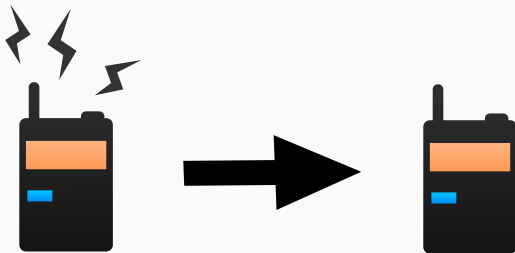
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- Like shouting to the void and hoping someone will hear you
- Fun!!



HOW DOES THE INTERNET WORK? AGGRESSIVE HANDSHAKING

Request method: GET

HOST: example.com

Referer: whereicamefrom.com/?query=identifying_info&uid=...

User-agent: Mozilla/5.0 (X11; Fedora; Linux x86_64...

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```

• • •



Browser Characteristic	browsers identifying information	one or more browsers have this value	value
Limited screenshot test	0.38	1.3	localStorage; sessionStorage; IE userData: No
Hash of canvas fingerprint	96.95	1020405.0	7d7e0f0cfebfefebaf8be319309ccfa54
Screen Size and Color depth	2.4	-	1020x1080x24
Browser Plugin Details	13.83	14577.21	PageObject Chromium PDF PlugIn; WebContentFormat; Internal-pdf-viewer; (Portable Document Format) application/pdf; Page1; Chrome Content Decryption Module; Enable Widevine license for playback of HTML mediaValues content: (version: ScreenshotHelper, BaseDriverWebDriver, WDCM Content Decryption Module); application/javascript;
Time Zone	3.73	13.29	300
DNT Header Enabled?	1.23	2.34	False
HTTP_ACCEPT Headers	0.41	340.7	text/html,*/*;q=0.01,gzip,d deflate;br;q=0.6,application/xml;q=0.9,application/xhtml+xml;q=0.9,application/json;q=0.8,application/javascript;q=0.7,*/*;*
Hash of WebGL Fingerprint	16.26	78492.69	a96bc038cf57da2cfce5981421339ee1c
Language	4.1	17.15	en-US
System Fonts	18.38	340139.35	Arial, Bitstream Vera Sans Mono, Bookman Old Style, Calibri, Cambria, Century Serif, Courier, Courier New, Helvetica, Palatino Linotype, Times, Times New Roman, Wingdings 2, Wingdings 3, Windows Common-Font Family Name
Platform	3.24	9.42	Linux x86_64
User Agent	10.67	1630.04	Mozilla/5.0 (X11; Linux x86_64; rv:52.0) Gecko/20100101 Firefox/52.0
Touch Support	14.43	1377.06	Max touchpoints: 15; TouchEvent supported: true; onTouchStart supported: true
Are Cookies Enabled?	0.19	1.14	Yes

THE GOOD AND THE BAD

GOOD: Private communication with HTTPS connections

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BAD: Like giving a copy of:

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BAD: Like giving a copy of:

1. your fingerprints

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<https://panoptickick.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>



Example Nginx server block

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

USER/HOST POWER DIFFERENTIAL

IT'S DANGEROUS TO GO
ALONE! TAKE THIS.



CAUSING ACCIDENTAL HARM (YIKES!)

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Image credit from Twitter: @BoobsRadley

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- ✗ 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.

THE CENSORSHIP MACHINE

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

IF I CAN'T DISRESPECT MY USERS...

HOW DO I MAKE MONEY?

HOW DO I MAKE MONEY?

Why is software different than any other industry?

SHOULDN'T I BE ALLOWED TO DO WHATEVER I WANT?

The Short Answer

No...

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But:

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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! 🐱

QUESTIONS?

THANKS FOR LISTENING!

Slides and \LaTeX Beamer sources will be available at:

<https://krouke.org/projects/pres/starcon18>

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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>

THIRD-PARTY IMAGES

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

ICONOGRAPHY

- [Material Design Icons Project](#)
- [Twemoji](#)