Taking Back The Web With Haketilo

Presenter: Nicholas Johnson

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# Project Developers

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Internet Versus Web

What is the internet?
The global network of interconnected computers

What is the Web?
A collection of billions of interlinked websites that can be accessed through a web browser
The World Wide Web Is Born

1991: Tim Berners Lee creates the Web

Request:
GET /myawesomelpage.html

Response:
<html>
This is my awesome webpage!
</html>
The World Wide Web Is Born

1993: The Web gains popularity

1991-1995: The Web quickly gains new features leading to incompatibility

1994: The World Wide Web Consortium is founded
JavaScript Is Born

1995: Netscape Navigator adds a scripting language

1997: JavaScript becomes an official part of the Web

1997-now: JavaScript gains features, becoming a full-fledged programming language

Free Versus Proprietary JavaScript

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<tr>
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<th>Free JavaScript</th>
<th>Proprietary JavaScript</th>
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<tbody>
<tr>
<td>Has the four freedoms</td>
<td>✔</td>
<td>✗</td>
</tr>
<tr>
<td>User controls their browser</td>
<td>✔</td>
<td>✗</td>
</tr>
</tbody>
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![JavaScript logo](image)
How JavaScript Is Used Today

There’s lots of good uses and lots of bad uses

References:
1: https://w3techs.com/technologies/details/cp-javascript
Web Cookies

1994: Cookies are invented

1997: Cookies become an official part of the Web
HollyWeb


Digital restrictions management = digital handcuffs

See: https://www.defectivebydesign.org/drm-in-web-standards
The Bloated Web

Competition pushed the Web to have 1337 specified features with new features being added all the time

There’s such a thing as too many features

Summary of: https://drewdevault.com/2020/03/18/Reckless-limitless-scope.html
Source license: CC-BY-SA 2.0
Source author: Drew Devault
The Insecure Web

- The Web is responsible for over 9,000 vulnerabilities\(^1\)
- The Web brings vulnerabilities, privacy invasion, and inaccessibility to all the applications using it

References:
1: [https://cve.mitre.org](https://cve.mitre.org)
The Privacy-Invading Web

- The Web has so many ways to invade user privacy I can’t list them all
- Privacy invasion on the Web is pervasive. Almost all popular websites track users in some way
Web-Like Protocols:
Watch Amin Bandali’s Talk Tomorrow!
Browser Extensions
GNU LibreJS

Categories:

- Content blocker

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#LibreJS
Source license: CC-BY-SA 4.0 or GFDLv1.3+
Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
NoScript

Categories:

- Content blocker
- Security suite

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#NoScript
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Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
uBlock Origin

Categories:

- Content blocker

Summary of: [https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#uBlock-Origin](https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#uBlock-Origin)

Source license: CC-BY-SA 4.0 or GFDLv1.3+

Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
uMatrix

Categories:

- Content blocker

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#uMatrix
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Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
JShelter

Categories:

• Security suite

• Anti-fingerprinting suite

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#JShelter
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Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
Greasemonkey

Categories:

- User script manager

Link: https://greasyfork.org
Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#Greasemonkey
Source license: CC-BY-SA 4.0 or GFDLv1.3+
Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
Violentmonkey

Categories:

• User script manager

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Comparison_with_other_extensions#ViolentMonkey
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Source authors: Jahoti, Nicholas Johnson, Wojciech Kosior
Haketilo

Categories:

- Content blocker
- User script manager

See: https://hydrillabugs.koszko.org/projects/haketilo/wiki
Haketilo Demo
Haketilo’s Use Cases

Haketilo does two basic things:

- Blocks proprietary JavaScript
- Executes free, user-controlled JavaScript

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Use_cases
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Source authors: Jahoti, Wojciech Kosior
Haketilo’s Social Goals

- Incentivize website owners to design their sites ethically
- Reward volunteer contributions
- Give users ultimate control over their web browsing

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Social_hurdles
Source license: CC-BY-SA 4.0 or GFDLv1.3+
Source authors: Jahoti, Wojciech Kosior
Haketilo’s Challenges – Uncooperative Site Owners

Website contains proprietary JavaScript → custom script incoming

Website owner redesigns their site → initiate cat-and-mouse game

1: See Youtube-dl
Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Social_hurdles
Source license: CC-BY-SA 4.0 or GFDLv1.3+
Source authors: Jahoti, Wojciech Kosior
Haketilo’s Challenges - Funding

- NLnet
- Donations (multiple different interests)
- Users who want a particular custom script can put a bounty on it
- Still mainly volunteer-driven

Summary of: https://hydrillabugs.koszko.org/projects/haketilo/wiki/Social_hurdles
Source license: CC-BY-SA 4.0 or GFDLv1.3+
Source authors: Jahoti, Wojciech Kosior
Haketilo’s Future Plans

• Port to Manifest v3
Haketilo Needs Your Help
Feedback / Bug Reports