

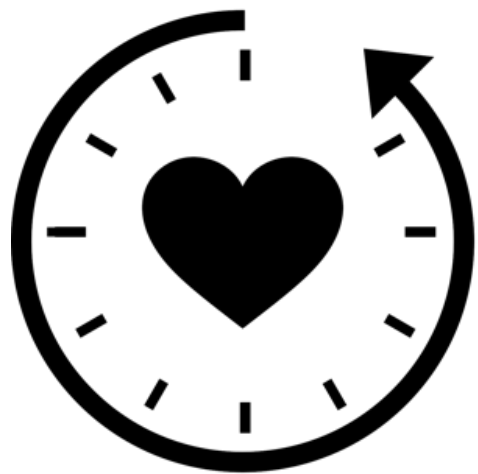
Watch this space...



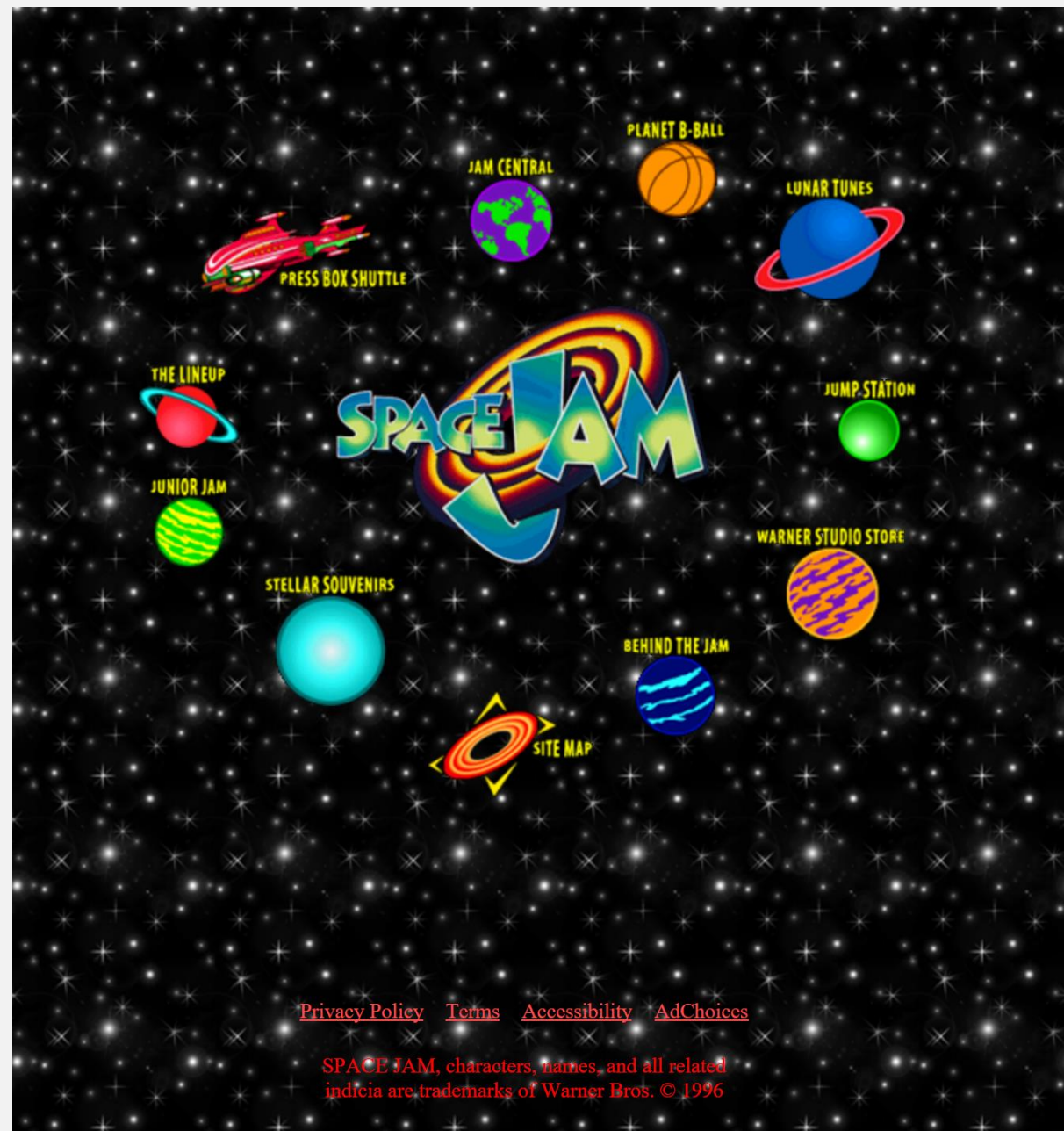
One link to rule them all



bit.ly/space-webu18

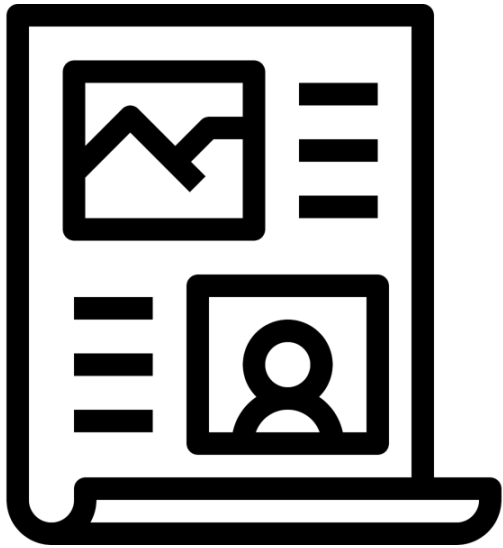


Web development nostalgia...

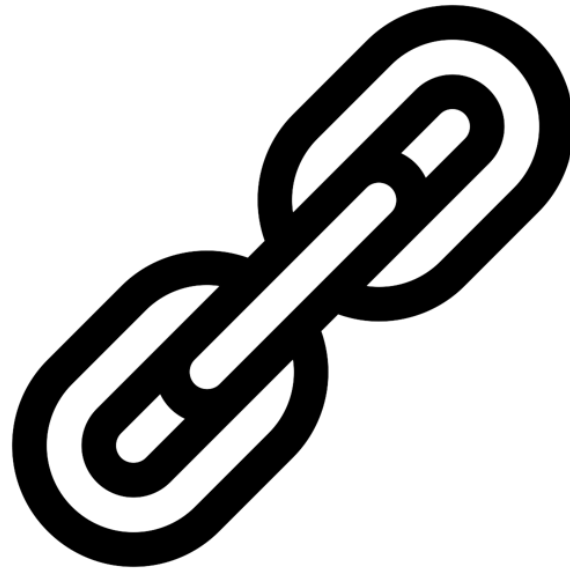


warnerbros.com/archive/spacejam/movie/jam.htm

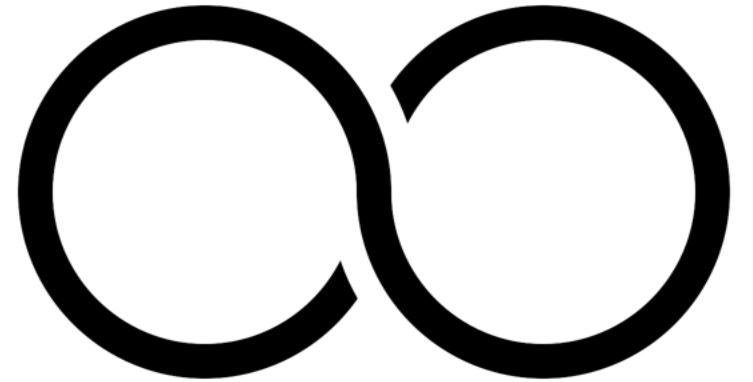
Merits of the good old web.



Content is king



Decentralisation and
interchange

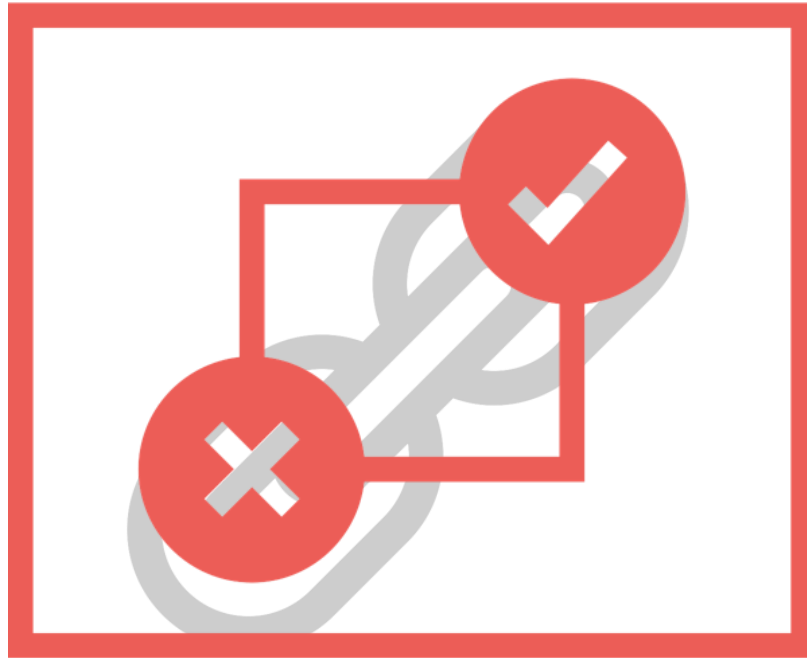


Longevity and
maintainability

People who paid us, however...



Content is king

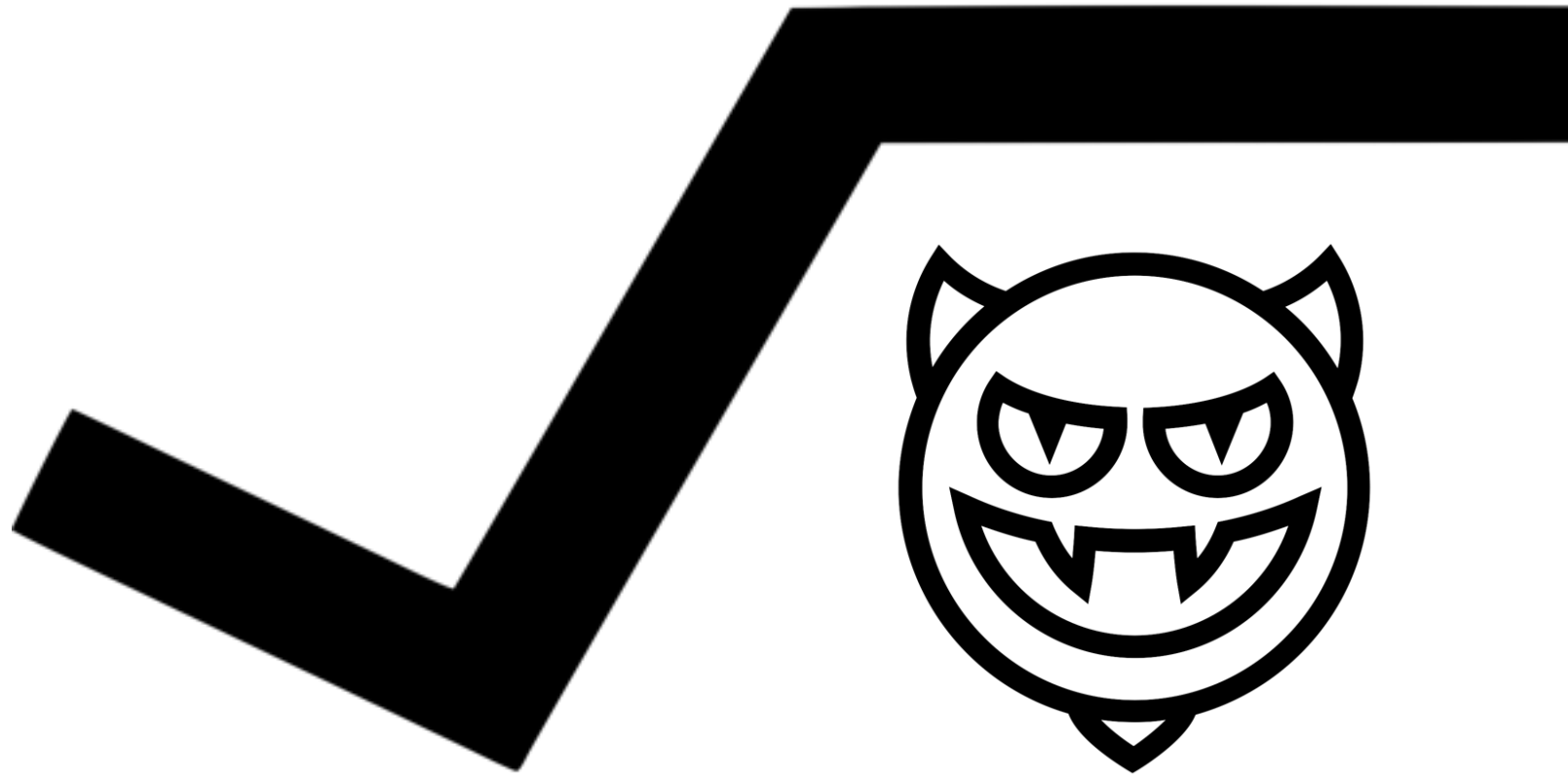


Decentralisation and interchange



Longevity and maintainability

Once money is the goal...



...the hustlers barge in.



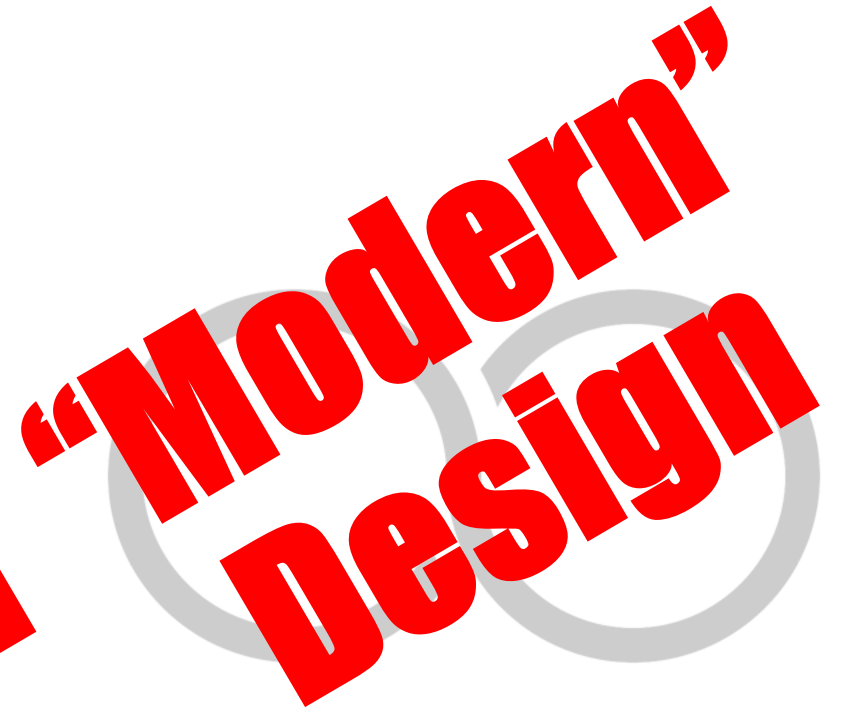
SEO

Content is king



SEO + SPAM

Decentralisation and
interchange



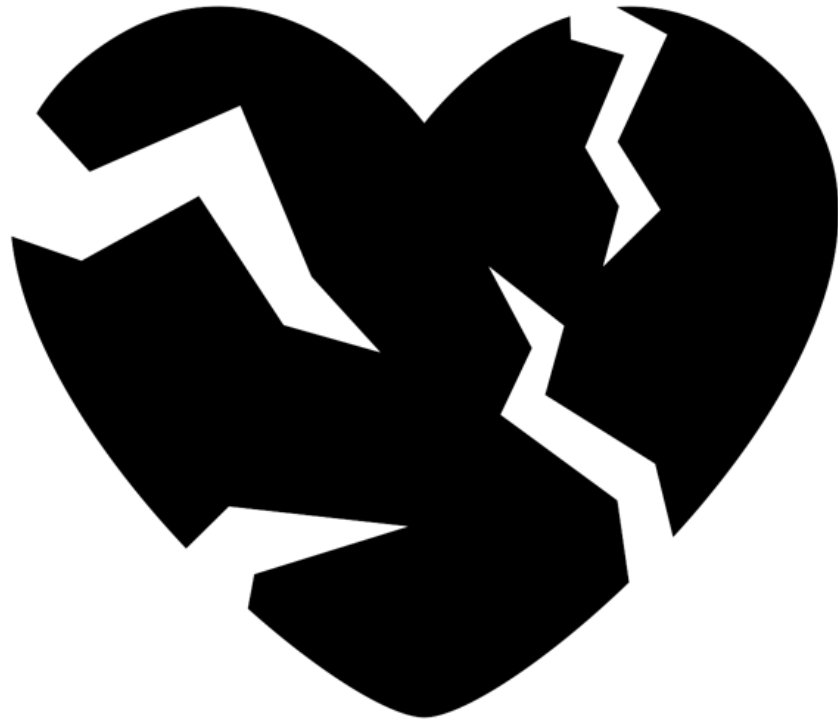
**“Modern”
Design**

Longevity and
maintainability

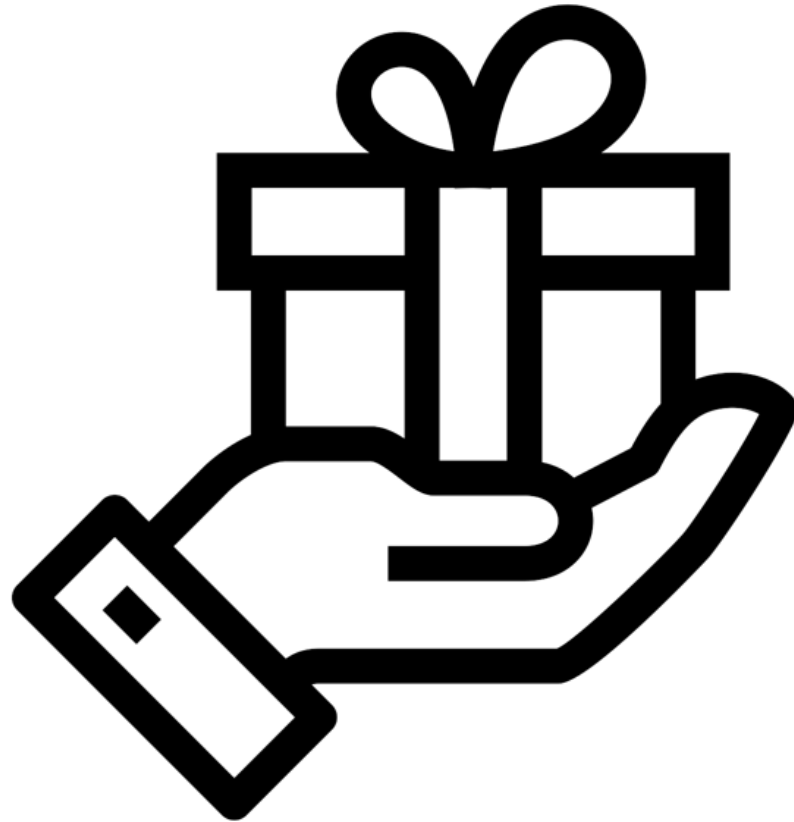
The open web is an
amazing idea and a gift



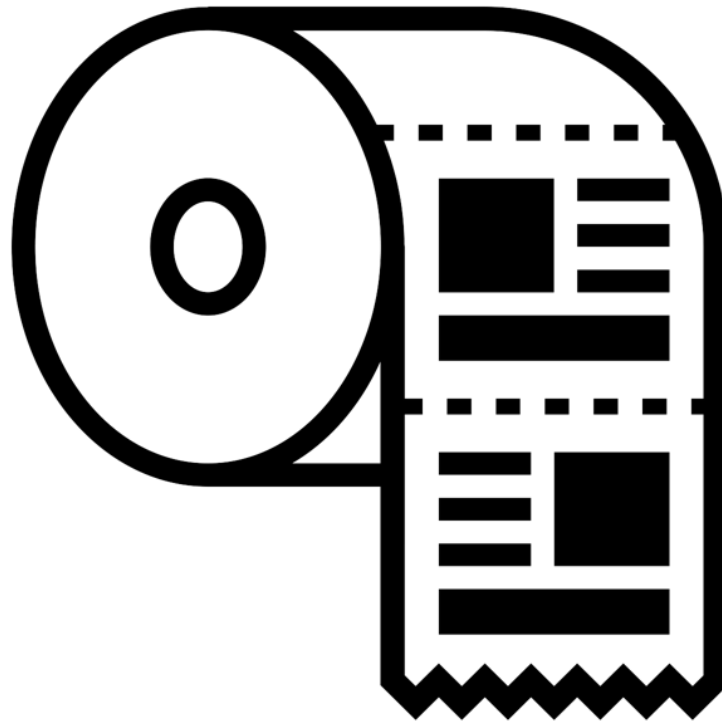
The problem is that it still
doesn't fit current ideals



Great web products start
with great content...



Instead of focusing on content, we got distracted.





Things clients heard
louder than our
messages...



- “Pop-up windows make sure visitors remember you”
- “Everybody needs a DHTML multi-level dropdown”
- “Newsletters and feeds bring repeat visitors”
- “Flash tunnels are what makes a modern web site”
- “You need a mobile version – WML or IMODE, and a m.*.com version”



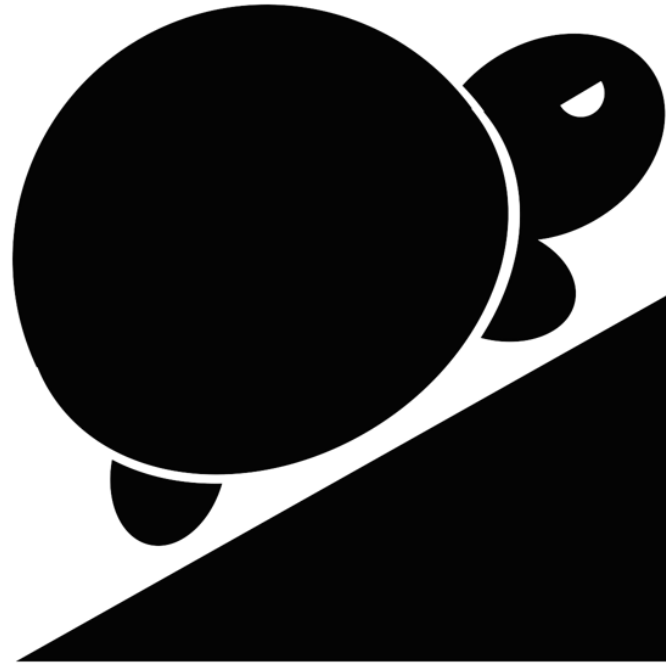
Things clients heard
louder than our
messages...

- “Carousels make for great conversion numbers”
- “Parallax scrolling is pure delight”
- “Autoplaying videos give you eyeballs”
- “Interstitials allow you to monetise”
- “You should have an app, a web site is a great way to advertise it”
- “Notifications are a great way to keep users up-to-date about offers and get them to come back”

Whilst we reveled in
nostalgia, things went to pot



The mainstream web right now is just not fun to use...

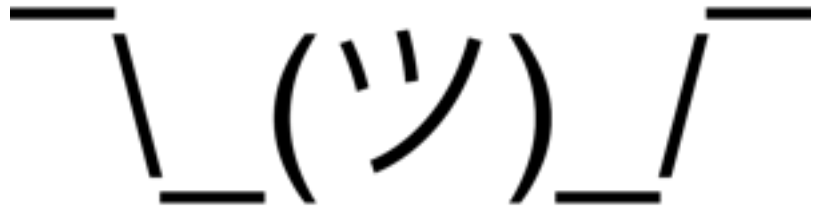




The mess we
created...



- The web has become a render target amongst many others
- Releasing often and developer convenience trumps semantics and performance of the final product
- Web sites are slow and huge because we work on fast computers and good connections
- Being a web expert is less exciting than being a full stack developer



The need to be
forgiving...



- Anyone is allowed to write code for the web – or use whatever they want to create that code.
- Whatever goes wrong, it is not the fault of the developer
- Users shouldn't suffer from developer errors
- Legacy products will never get fixed
- You can't break the web

Years of technical debt...



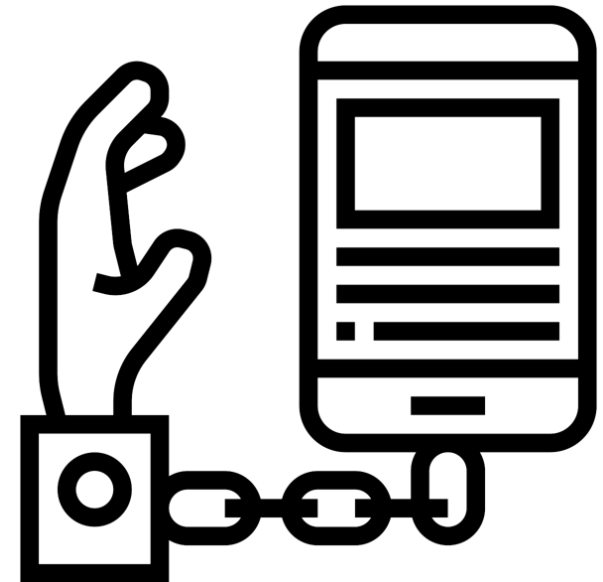
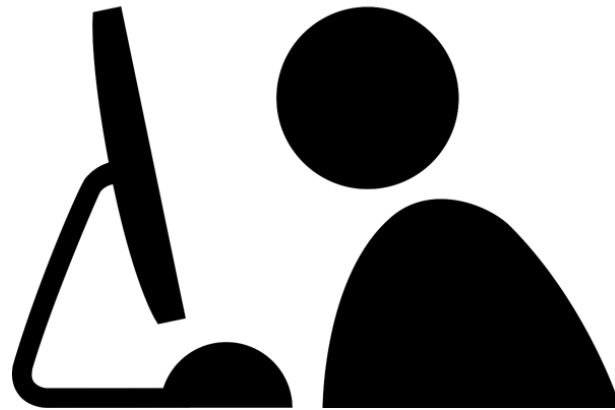
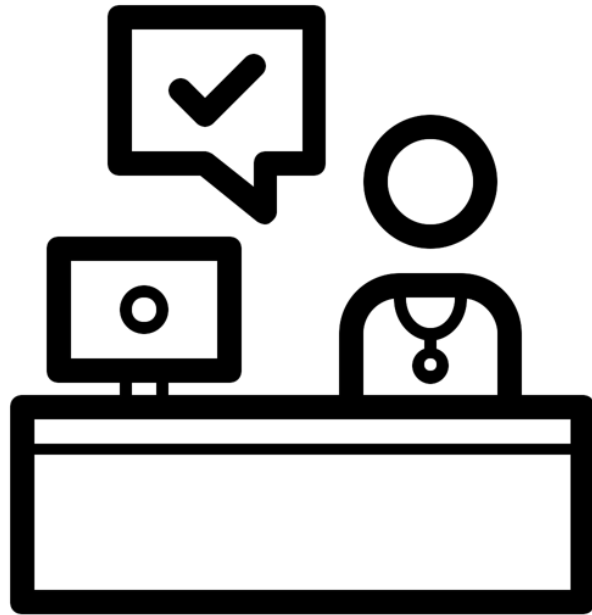
So, is the open web still a thing to care about?



Very much - because of
sinister reasons...



Visitors → Users → Addicts



The open web is under attack..





The open web is
under attack...



Parliament adopts its position on digital copyright rules

Press Releases [PLENARY SESSION](#) 12-09-2018 - 13:27

- Tech giants must pay for work of artists and journalists which they use
- Small and micro platforms excluded from directive's scope
- Hyperlinks, "accompanied by "individual words" can be shared freely
- Journalists must get a share of any copyright-related remuneration obtained by their publishing house



Copyright rules need updating for the digital age © AP Images/European Union-EP

<http://www.europarl.europa.eu/news/en/press-room/20180906IPR12103/parliament-adopts-its-position-on-digital-copyright-rules>



The open web is
under attack...



Federal Communications Commission

Browse by CATEGORY

Browse by BUREAUS & OFFICES

Search

About the FCC | Proceedings & Actions | Licensing & Databases | Reports & Research | News & Events | For Consumers

Home / EDOCS / Commission Documents /

FCC Takes Action to Restore Internet Freedom

Full Title: FCC Acts To Restore Internet Freedom
Document Type(s): News Release
Bureau(s): Wireline Competition, Media Relations, Wireless Telecommunications

Description:
Reverses Title II Framework, Increases Transparency to Protect Consumers, Spur Investment, Innovation, and Competition

Related Document(s):
[Declaratory Ruling - FCC Releases Restoring Internet Freedom Order](#)
[Order - FCC Releases Restoring Internet Freedom Order](#)
[Report and Order - FCC Releases Restoring Internet Freedom Order](#)

Document Dates
Released On: Dec 14, 2017
Adopted On: Dec 14, 2017
Issued On: Dec 14, 2017

Tags:
[Contributions - Universal Service](#)

Files

- News Release: [Docx](#) [Pdf](#) [Txt](#)
- Pai Statement: [Docx](#) [Pdf](#) [Txt](#)
- Rosenworcel Statement: [Docx](#) [Pdf](#) [Txt](#)
- Carr Statement: [Docx](#) [Pdf](#) [Txt](#)
- O'Rielly Statement: [Docx](#) [Pdf](#) [Txt](#)
- Clyburn Statement: [Docx](#) [Pdf](#) [Txt](#)

<https://www.fcc.gov/document/fcc-takes-action-restore-internet-freedom>



The open web is
under attack...



The Switch

The Trump administration is suing California to quash its new net neutrality law



DOJ sues after California moves to reinstate 'net neutrality'

The Justice Department filed suit after California Gov. Jerry Brown signed a law to restore net neutrality laws in the state, despite a federal repeal. (Reuters)



<https://www.washingtonpost.com/technology/2018/10/01/trump-administration-is-suing-california-quash-its-new-net-neutrality-law/>



The open web is
under attack...



The Global Internet Is Being Attacked by Sharks, Google Confirms

By Will Oremus



Sharks' attraction to undersea fiber-optic cables has been well-documented over the years.

Screenshot / YouTube



The open web is
under attack...



The Switch

Former Google chief predicts the Internet will split by 2028: A Chinese Web and an American one



<https://www.washingtonpost.com/technology/2018/09/21/former-google-chief-predicts-internet-will-split-by-chinese-web-an-american-one/>



The open web is
under attack...



REUTERS World Business Markets Politics TV

Imprisoned In Myanmar Energy & Environment Brexit North Korea Charged: The Future of Autos Future of Money Breakingviews

TECHNOLOGY NEWS SEPTEMBER 23, 2018 / 5:26 AM / 9 DAYS AGO

China shuts thousands of websites in clean-up campaign: Xinhua

2 MIN READ

SHANGHAI (Reuters) - China has shut down more than 4,000 websites and online accounts in a three-month campaign against “harmful” online information, the official Xinhua news agency said on Saturday, citing the country’s illegal publication watchdog.

China keeps the internet under tight control and has been cracking down on a range of illegal online activities including pornography, gambling, religious proselytizing and even “spreading rumors”.

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Yon-Joon Choo (MBAN '16)
Senior Consultant, Omnia AI,
Deloitte Canada's Artificial Intelligence Practice

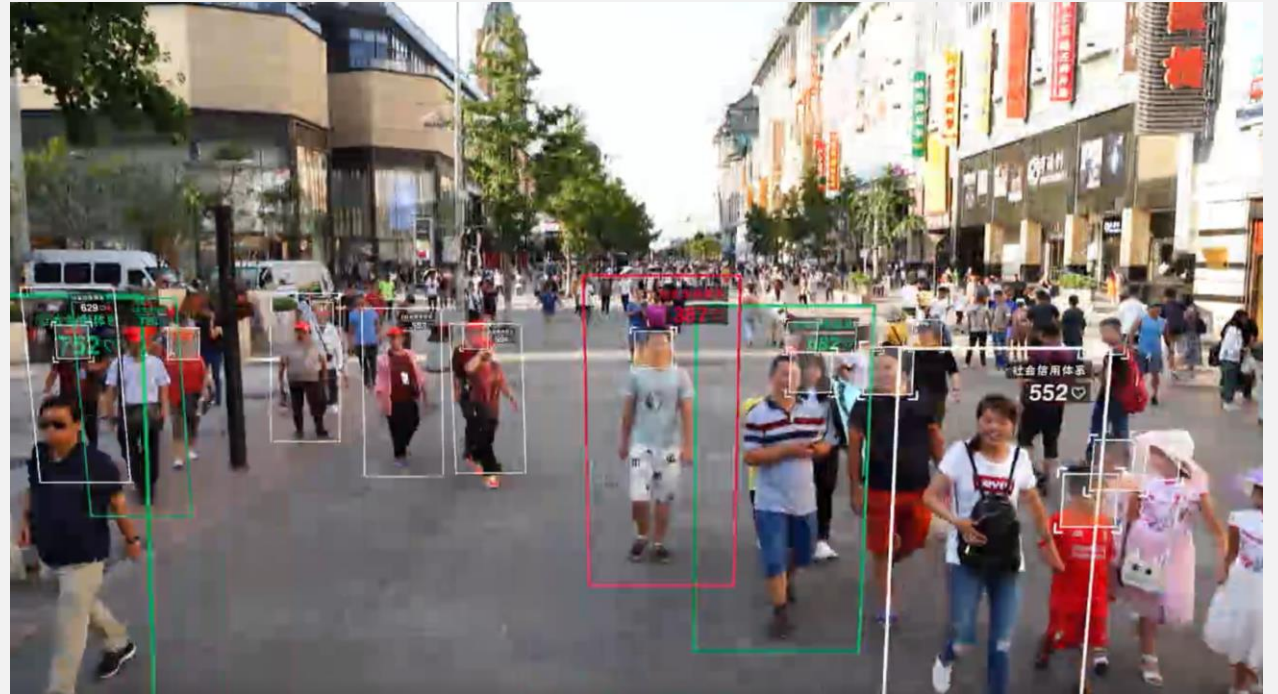
LEARN MORE

Schulich YORK U

<https://www.reuters.com/article/us-china-internet/china-shuts-thousands-of-websites-in-clean-up-campaign-xinhua-idUSKCN1M302F>



1984 + Brave New World...



<http://www.abc.net.au/news/2018-09-18/china-social-credit-a-model-citizen-in-a-digital-dictatorship/10200278>

There are some interesting attempts to re-boot the web





dat and beaker browser



A distributed **data** community

Dat is a nonprofit-backed data sharing protocol for applications of the future.

[Install Now](#)

Dat Base

DAT FOR RESEARCHERS

Open Data: archive, catalogue, and share data pipelines.

Dat Protocol

BUILD CUSTOM DAT APPS

Live Syncing: easy file transfers, distributed databases, p2p streams.

Decentralized Web

PEER-TO-PEER WEBSITES

Beaker Browser: browse, create, and host websites over Dat.

Beaker [About](#) [Documentation](#) [Install Beaker](#)

JULY 31 Decentralized Web Summit, San Francisco

A browser for the next-generation Web

Beaker is an experimental browser for exploring and building the peer-to-peer Web.

[Install Beaker](#) [Take a tour](#)

File	Size	Timestamp
./	60.47 kB	
fonts		Apr 23, 2018, 2:55pm
images		Apr 23, 2018, 2:55pm
.datignore	10 B	May 8, 2018, 12:58pm
dat-links.js	138 B	Apr 23, 2018, 2:52pm
dat.json	111 B	Jul 6, 2018, 4:10pm
index.html	4.47 kB	Apr 23, 2018, 3:04pm

<https://beakerbrowser.com/>
<https://datproject.org/>



Solid / Inrupt



Chris Heilmann

@codepo8



Tim Berners-Lee unveils Solid, an open source project to decentralize the web and give users control of their data, and Inrupt, a startup to guide the project (Tim Berners-Lee)



One Small Step for the Web... – Tim Berners-Lee – Medium

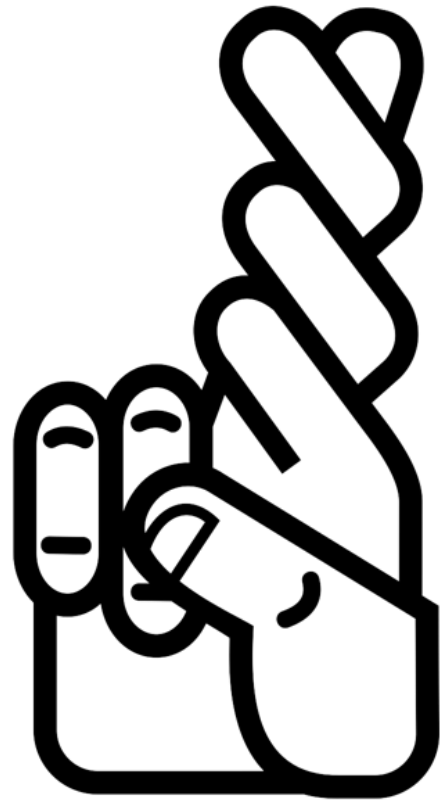
I've always believed the web is for everyone. That's why I and others fight fiercely to protect it.

<https://www.fastcompany.com/90243936/exclusive-tim-berners-lee-tells-us-his-radical-new-plan-to-upend-the-world-wide-web>

https://medium.com/@timberners_lee/one-small-step-for-the-web-87f92217d085

@codepo8

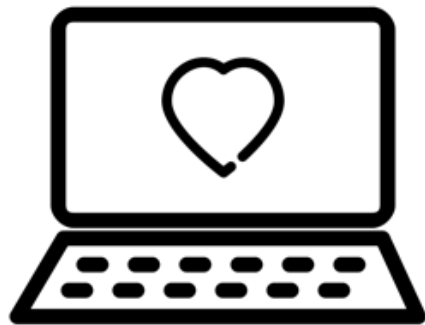
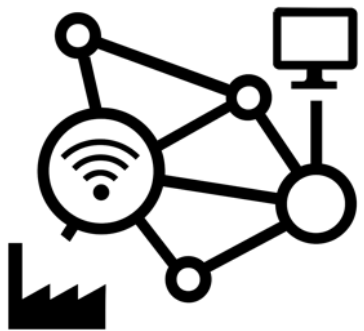
However, I don't want to believe all is lost yet...

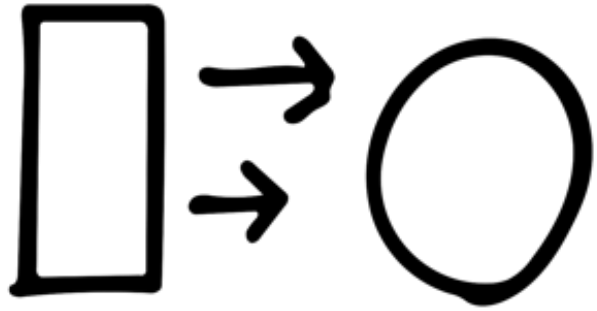


But we need to change our
approach to web quality



A changed, ubiquitous web.





The job of a browser
changed drastically...

- Show web and multimedia content fast and reliably
- Give access to the web regardless of ability
- Keep users safe by blocking unsafe content and patch attack vectors
- Remember users' history and access credentials – or remember nothing
- Allow for detailed customisation (including extensibility)
- Sync content across a range of devices



Web Developers
need to know a lot...



- Performance
 - Accessibility
 - Interoperability
 - Security
 - Maintainability
-
- Browser Quirks
 - Developer toolchains
 - Browser developer tools
 - Abstractions
 - CLI
 - Editors



Where to learn
all that?



- Standards documentation?
- Browser vendor docs?
- Conferences?
- Books?
- Workshops?
- Developer tools?
- News channels?



Learning obstacles



- Resources with upvoting options favour the how over the why
- We're not paid to learn, we're paid to deliver
- Peer pressure makes developers who don't know things afraid to admit it
- There's always a "good enough" way to create a lot in a short amount of time.

We already have great resources - what's the issue?

The screenshot shows the MDN web docs homepage. At the top, there's a navigation bar with "MDN web docs" and "mozilla" logos, and links for "Technologies", "References & Guides", and "Feedback". Below this is a large blue banner with the text "Resources for developers, by developers." and a search bar labeled "Search the docs". At the bottom of the banner, there are links for "Web Technologies", "Learn web development", and "Developer Tools".

The screenshot shows the Fetch API compatibility table on caniuse.com. The table lists various browsers and their support for the Fetch API. The overall support is 78.35% + 0.06% = 78.41%.

Browser	Support
IE	11
Edge	15, 16, 17, 18
Firefox	52, 55, 56, 57, 58, 59, 60
Chrome	49, 60, 61, 62, 63, 64, 65
Safari	10.1, TP
iOS Safari	10.2, 10.3
Opera Mini	all
Chrome for Android	62
UC Browser for Android	11.4
Samsung Internet	4, 5, 6.3

The screenshot shows the Front-End Checklist application. It features a dark blue header with the "FRONT-END checklist" logo. Below the header, there's a section for "The Front-End Checklist" with a description and social media links. The main content area has a form for "Project Name", "Page title or URL", and "Developer's name or team". There are also filters for "HEAD", "HTML", "WEBFONTS", "CSS", "JAVASCRIPT", "IMAGES", "ACCESSIBILITY", and "PERFORMANCE". A "Generate report" button is visible.

developer.mozilla.org

caniuse.com

frontendchecklist.io

Issues with current tools...





Too many
promises...



- “This tool makes \$x easy. No need to look it up.”
- “\$HUGE_CORP_APP uses this configuration and toolchain – if it works for their needs, it should rock for you, too”
- “Using this configuration optimises for the *modern* web”



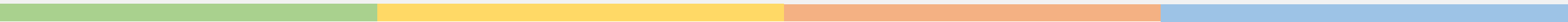
Too many rules and barriers

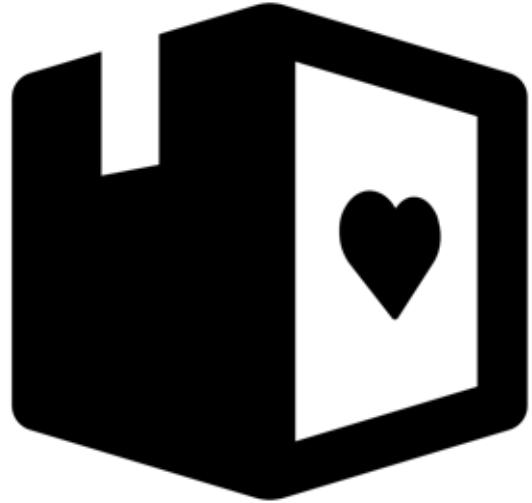


- Opinionated tools demand you to fix things that don't apply to your product
- Dependencies and complex toolchains can be daunting
- "Best practices" often don't get updates, and are contextual
- Having to follow strict rules without understanding them is not fun



We also had these issues, and we took action...





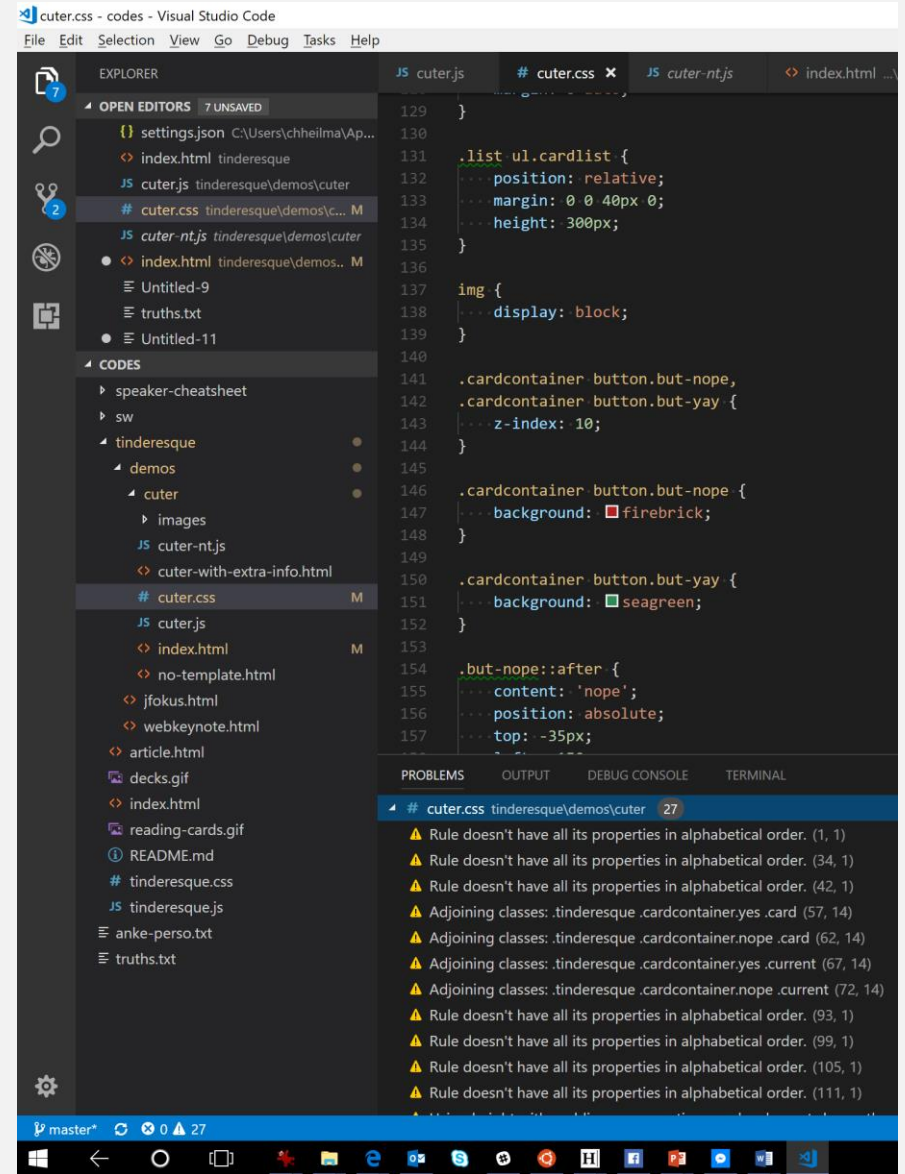
Customisable best practices in context



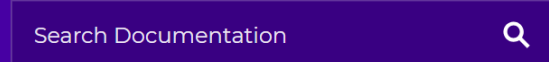
- Having information isn't enough when people don't go there
- We need to prevent mistakes before they happen
- We need to allow people to customize these experiences. An intranet site needs different settings than a marketing site
- So, let's target editors and build processes



Linting and inline insights in editors

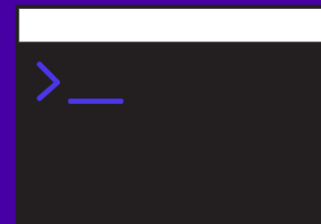


webhint.io

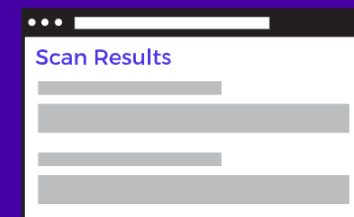


Use webhint to improve your website

webhint is a linting tool that will help you with your site's accessibility, speed, security and more, by checking your code for best practices and common errors. Use the online scanner or the CLI to start checking your site for errors.



GET STARTED WITH THE CLI



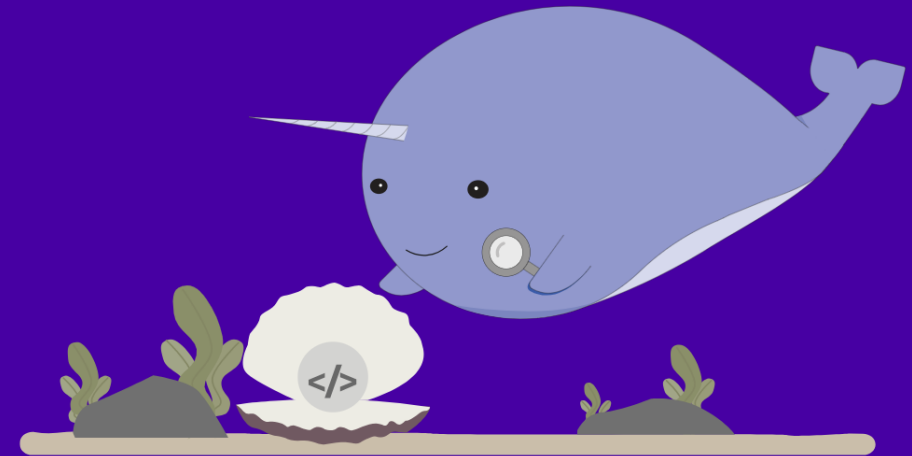
TRY THE ONLINE SCANNER

Enter a URL...

Use the online scanner

Not sure what you want to configure the CLI to check? Use the online scanner for a pre-configured set of rule checks to cover the basics.

RUN SCAN



Get a report on issues...

SCANNED URL: <http://example.com>

Finished

WARNINGS

1

ERRORS

9

SCAN TIME

00:14


VERSION

3.0.1

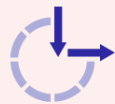
SCAN CONFIGURATION

[View JSON file](#)

PERMALINK

<https://webhint.io/scanner/bc3ec732-afde-4cde-b762-ee8ba6102288> 

ACCESSIBILITY



1 ERROR
0 WARNINGS

INTEROPERABILITY



4 ERRORS
0 WARNINGS

PERFORMANCE



2 ERRORS
0 WARNINGS

PWA



0 ERRORS
1 WARNING

SECURITY



2 ERRORS
0 WARNINGS

Get explanations why these are issues & how to fix them

Interoperability - CLOSE ALL

content-type: 2 errors DOCUMENTATION - CLOSE DETAILS

✗ ERROR
'content-type' header charset value should be 'utf-8'.
<http://example.com/>

✗ ERROR
'content-type' header media type value should be 'image/x-icon', not 'text/html'.
<http://example.com/favicon.ico>

meta-charset-utf-8: 2 errors DOCUMENTATION - CLOSE DETAILS

✗ ERROR
'charset' meta element should be the first thing in '<head>'.
<http://example.com/:4:5>

```
<meta charset="utf-8">
```

Get in-depth explanation on the issues...



Home \ Documentation \ User guide \ Require `Content-Type` HTTP response header with appropriate value

Require `Content-Type` HTTP Response Header With Appropriate Value

[Edit](#) | [Signal Issue](#)

CONCEPTS >

FURTHER CONFIGURATION >

HINTS ▾

- [AMP HTML Validator](#)
- [Accessibility assessment with aXe](#)
- [Avoid HTTP redirects in requests](#)
- [Avoid exceeding CSS stylesheet limits](#)
- [Babel configuration hint set](#)
- [Babel configuration is valid](#)
- [Check `devtool` property in webpack configuration](#)
- [Check for broken links](#)
- [Check if the TypeScript target is appropriate](#)
- [Check if webpack configuration file](#)

`content-type` warns against not serving resources with the `Content-Type` HTTP response header with a value containing the appropriate media type and charset for the response.

Why is this important? [🔗](#)

Even though browsers sometimes [ignore](#) the value of the `Content-Type` header and try to [sniff the content](#), it's indicated to always send the appropriate media type and charset for the response as, among other:

- resources served with the wrong media type may be blocked (see also: [X-Content-Type-Options](#) hint), or the official media type may be required
- not sending the appropriate `charset`, where appropriate, may prevent things from being rendered correctly thus creating a bad user experience (see also: [meta-charset-utf-8](#) hint)

What does the hint check? [🔗](#)



Hinting during deployment

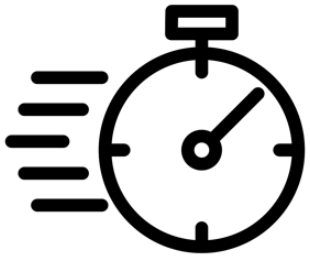


- Web resources are fun but not always accessible or applicable to your product
- Webhint is Node based, so you can also install it as part of your build/deployment process
- That way Webhint can also give detailed information about the setup of your bundler/preprocessor to avoid huge release sizes

hint on npm/yarn/whatever...

```
$ hint example.com
```

Out of the box hints...



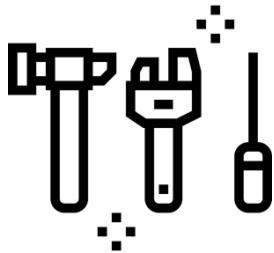
Performance



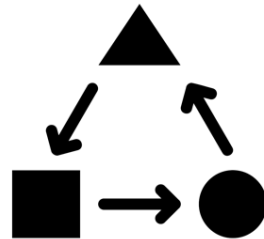
Accessibility



PWA
Readiness



Development
environment

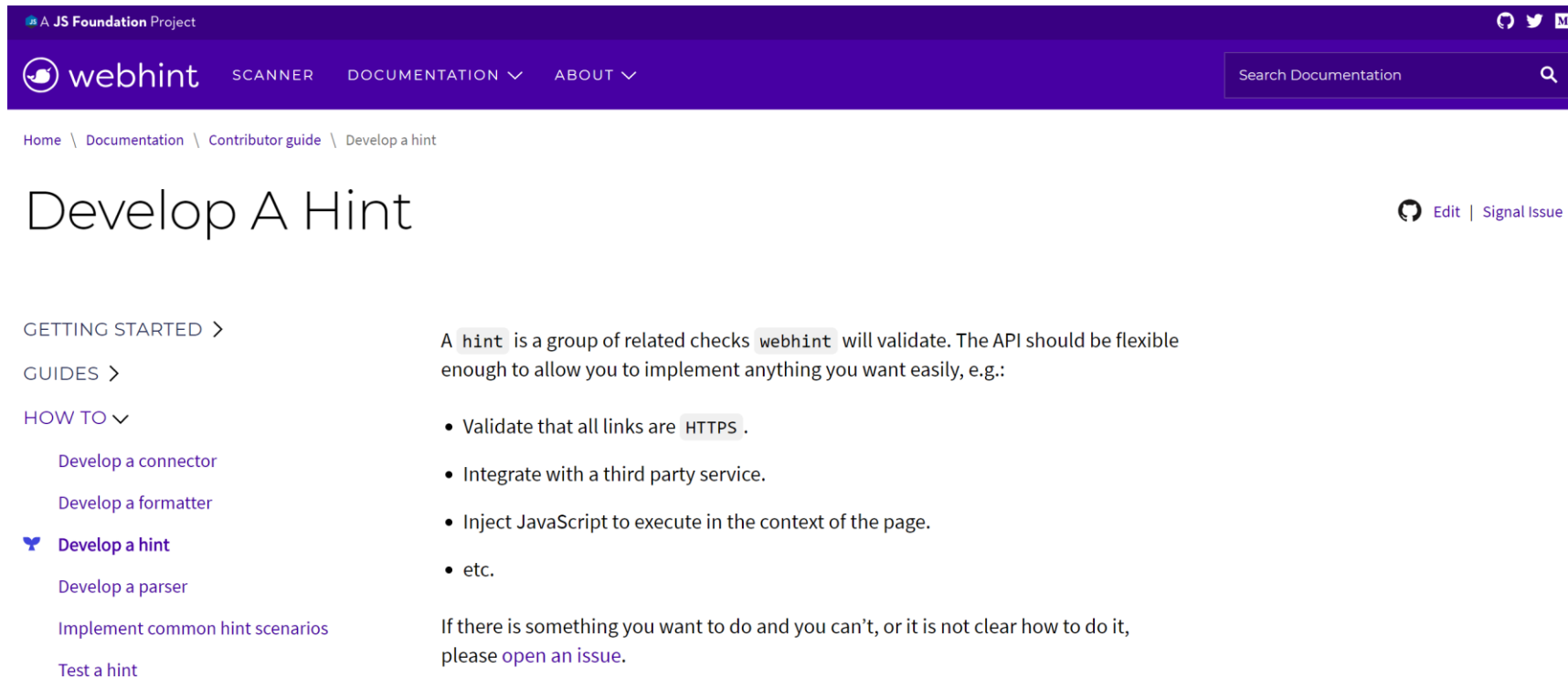


Interoperability



Security

Customising hints...



The screenshot shows the webhint documentation page for 'Develop A Hint'. The page has a purple header with the webhint logo and navigation links: SCANNER, DOCUMENTATION (with a dropdown arrow), and ABOUT (with a dropdown arrow). A search bar for 'Search Documentation' is on the right. Below the header, a breadcrumb trail reads 'Home \ Documentation \ Contributor guide \ Develop a hint'. The main heading is 'Develop A Hint' with 'Edit' and 'Signal Issue' links. A left sidebar contains a table of contents with sections: GETTING STARTED >, GUIDES >, HOW TO (with a dropdown arrow), and 'Develop a hint' (which is active and highlighted in purple). Under 'Develop a hint', there are sub-links: 'Develop a connector', 'Develop a formatter', 'Develop a parser', 'Implement common hint scenarios', and 'Test a hint'. The main content area explains that a hint is a group of related checks webhint will validate and lists three examples: validating all links are HTTPS, integrating with a third party service, and injecting JavaScript. It concludes by asking users to open an issue if they have suggestions or questions.

A JS Foundation Project

webhint SCANNER DOCUMENTATION ▾ ABOUT ▾

Search Documentation

Home \ Documentation \ Contributor guide \ Develop a hint

Develop A Hint

Edit | Signal Issue

GETTING STARTED >

GUIDES >

HOW TO ▾

- Develop a connector
- Develop a formatter
- Develop a hint**
- Develop a parser
- Implement common hint scenarios
- Test a hint

A `hint` is a group of related checks `webhint` will validate. The API should be flexible enough to allow you to implement anything you want easily, e.g.:

- Validate that all links are `HTTPS`.
- Integrate with a third party service.
- Inject JavaScript to execute in the context of the page.
- etc.

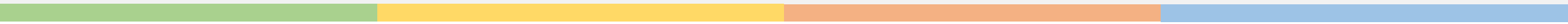
If there is something you want to do and you can't, or it is not clear how to do it, please [open an issue](#).

Defining & adding own hints...

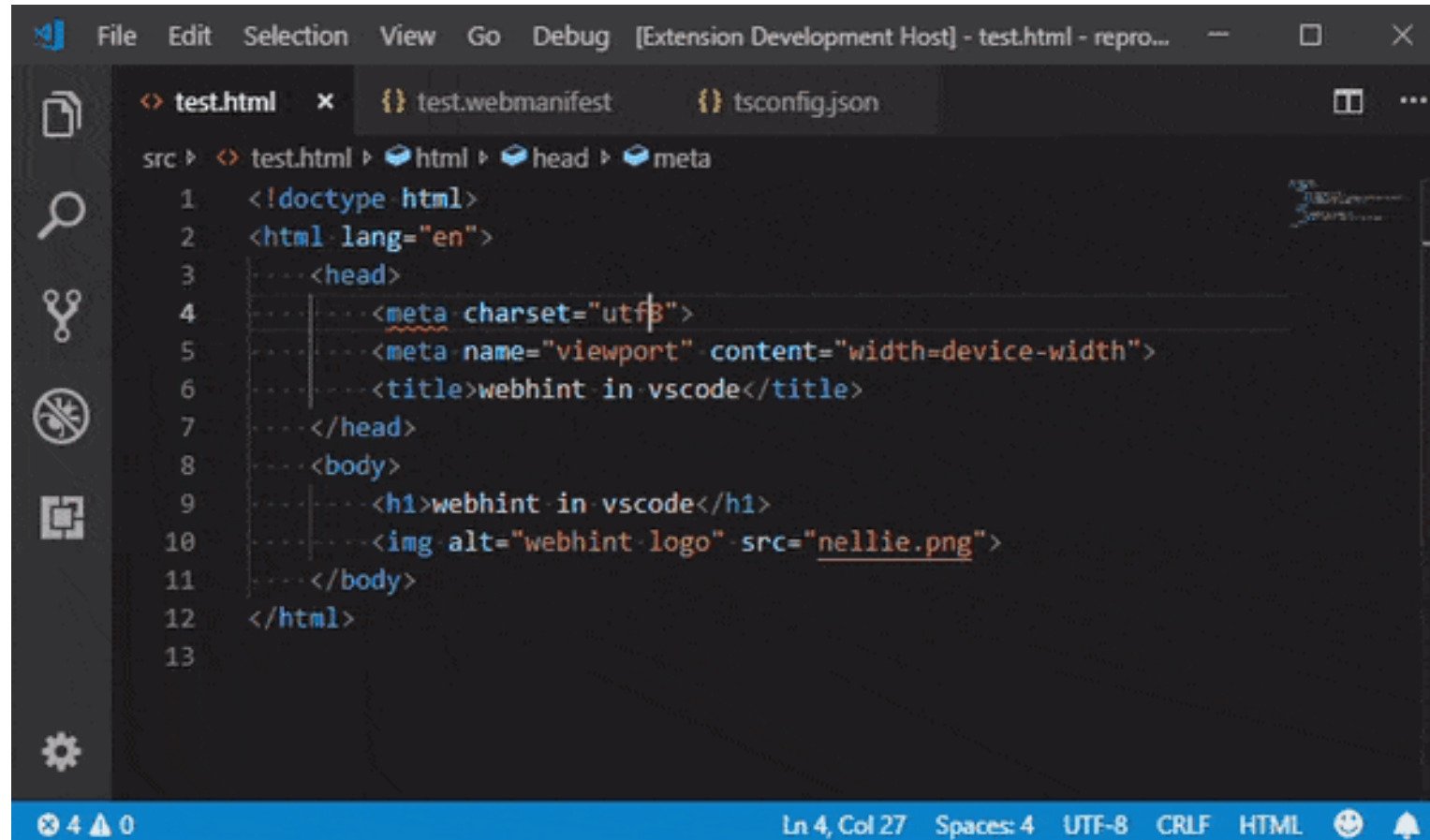
A dark-themed terminal window titled "Hyper" with standard window controls. The prompt "C:\projects\demo>" is visible at the top left of the terminal area.



How about
preventing people
to make errors?



webhint @code extension



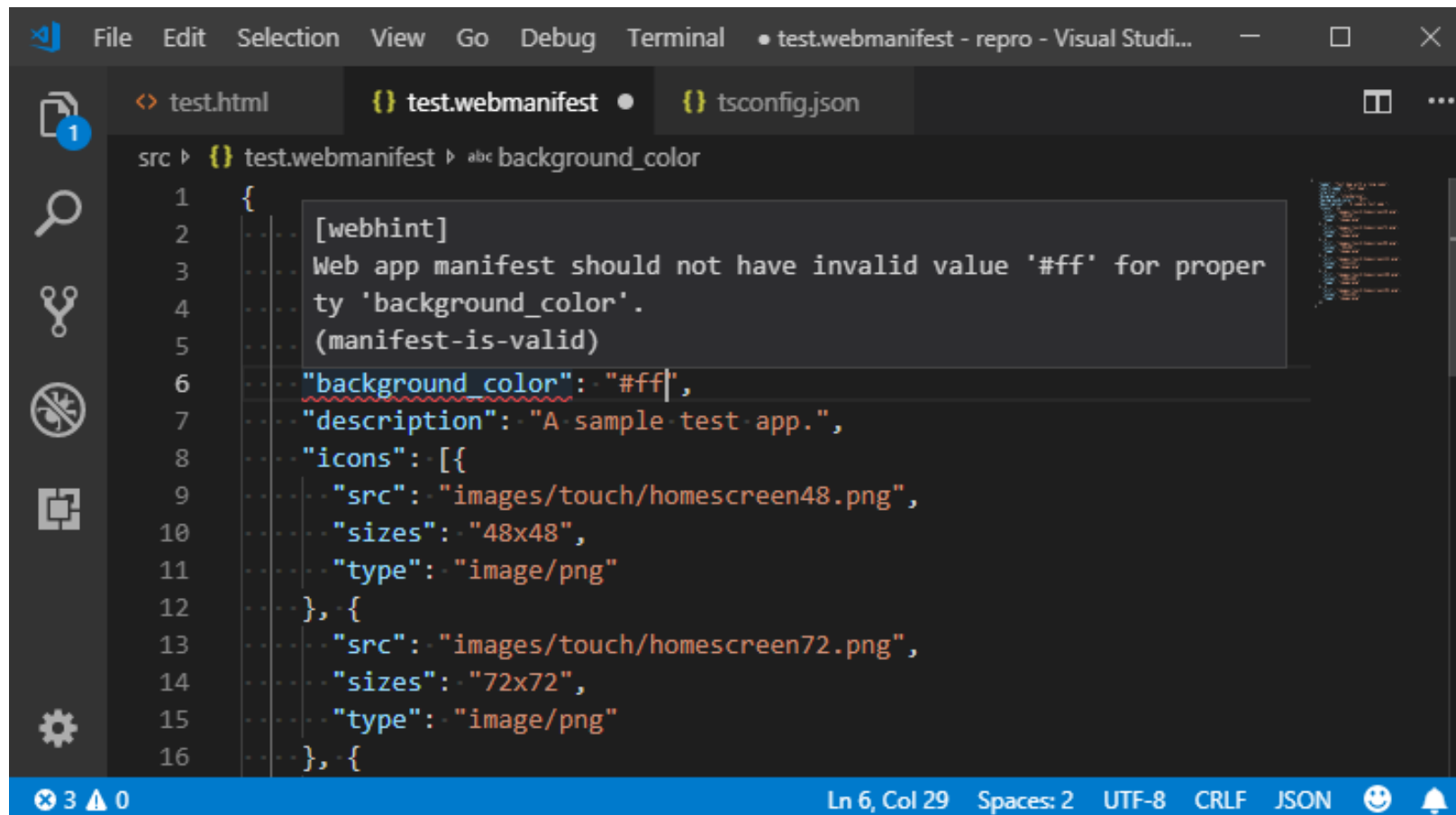
The screenshot shows the Visual Studio Code editor interface. The top menu bar includes File, Edit, Selection, View, Go, and Debug. The title bar indicates the current file is 'test.html' in an 'Extension Development Host'. The editor has three tabs open: 'test.html', 'test.webmanifest', and 'tsconfig.json'. The left sidebar shows the Explorer, Search, Source Control, Run and Debug, and Settings views. The main editor area displays the following HTML code:

```
src > <> test.html > html > head > meta
1 <!doctype html>
2 <html lang="en">
3   <head>
4     <meta charset="utf8">
5     <meta name="viewport" content="width=device-width">
6     <title>webhint in vscode</title>
7   </head>
8   <body>
9     <h1>webhint in vscode</h1>
10    
11  </body>
12 </html>
13
```

The status bar at the bottom shows 'Ln 4, Col 27', 'Spaces: 4', 'UTF-8', 'CRLF', 'HTML', and a notification bell icon.

<https://medium.com/webhint/getting-hints-from-visual-studio-code-69118e48de1b>

Create valid app manifests...



The screenshot shows the Visual Studio Code editor interface. The active file is `test.webmanifest`. The code in the editor is as follows:

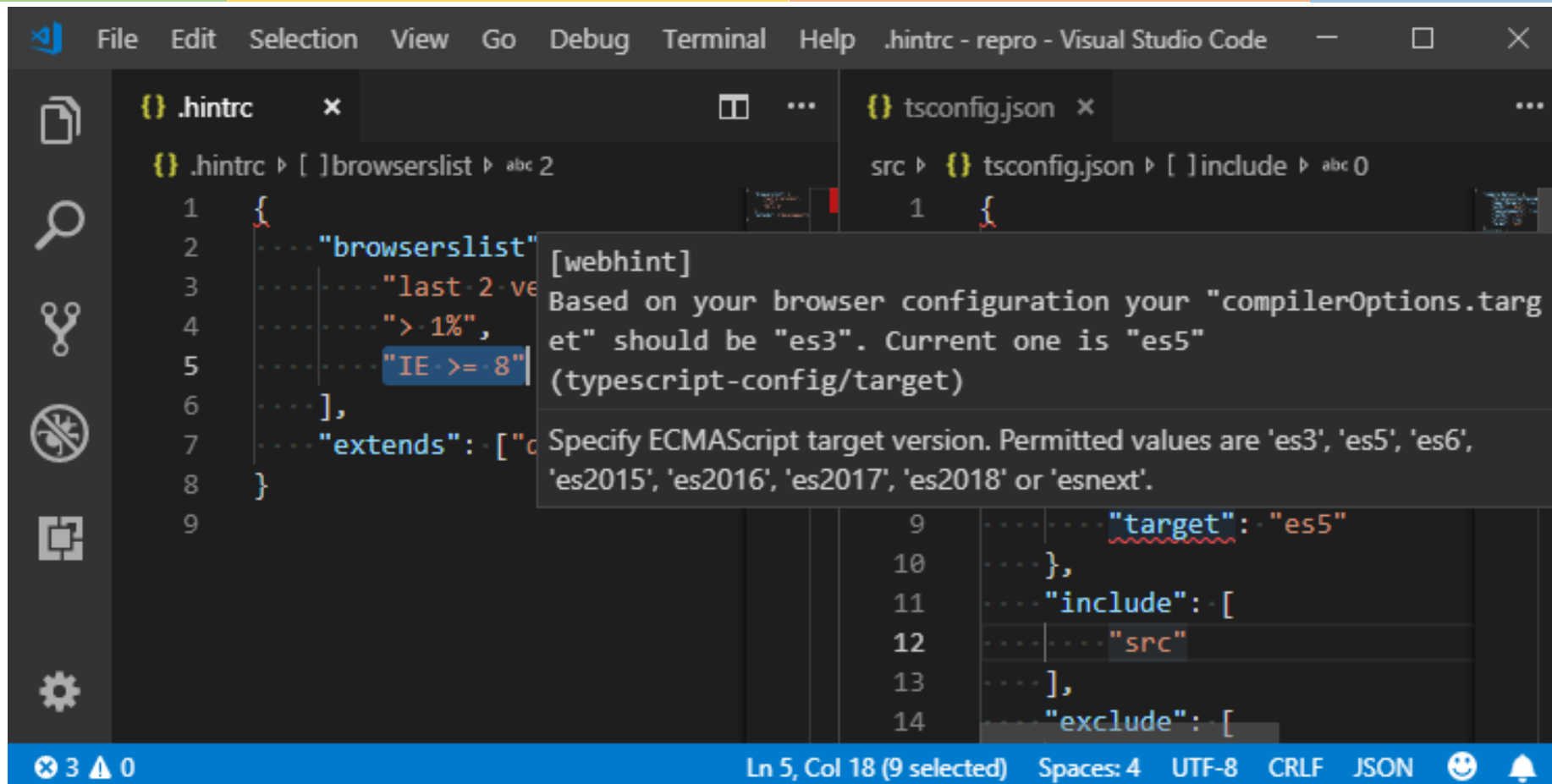
```
1 {
2   [webhint]
3   Web app manifest should not have invalid value '#ff' for proper
4   ty 'background_color'.
5   (manifest-is-valid)
6   "background_color": "#ff",
7   "description": "A sample test app.",
8   "icons": [{
9     "src": "images/touch/homescreen48.png",
10    "sizes": "48x48",
11    "type": "image/png"
12  }, {
13    "src": "images/touch/homescreen72.png",
14    "sizes": "72x72",
15    "type": "image/png"
16  }, {
```

A tooltip is displayed over the error, providing the following details:

- Source: [webhint]
- Message: Web app manifest should not have invalid value '#ff' for property 'background_color'.
- Code: (manifest-is-valid)

The status bar at the bottom indicates the current cursor position: Ln 6, Col 29, Spaces: 2, UTF-8, CRLF, JSON.

Fixing your tooling setup...



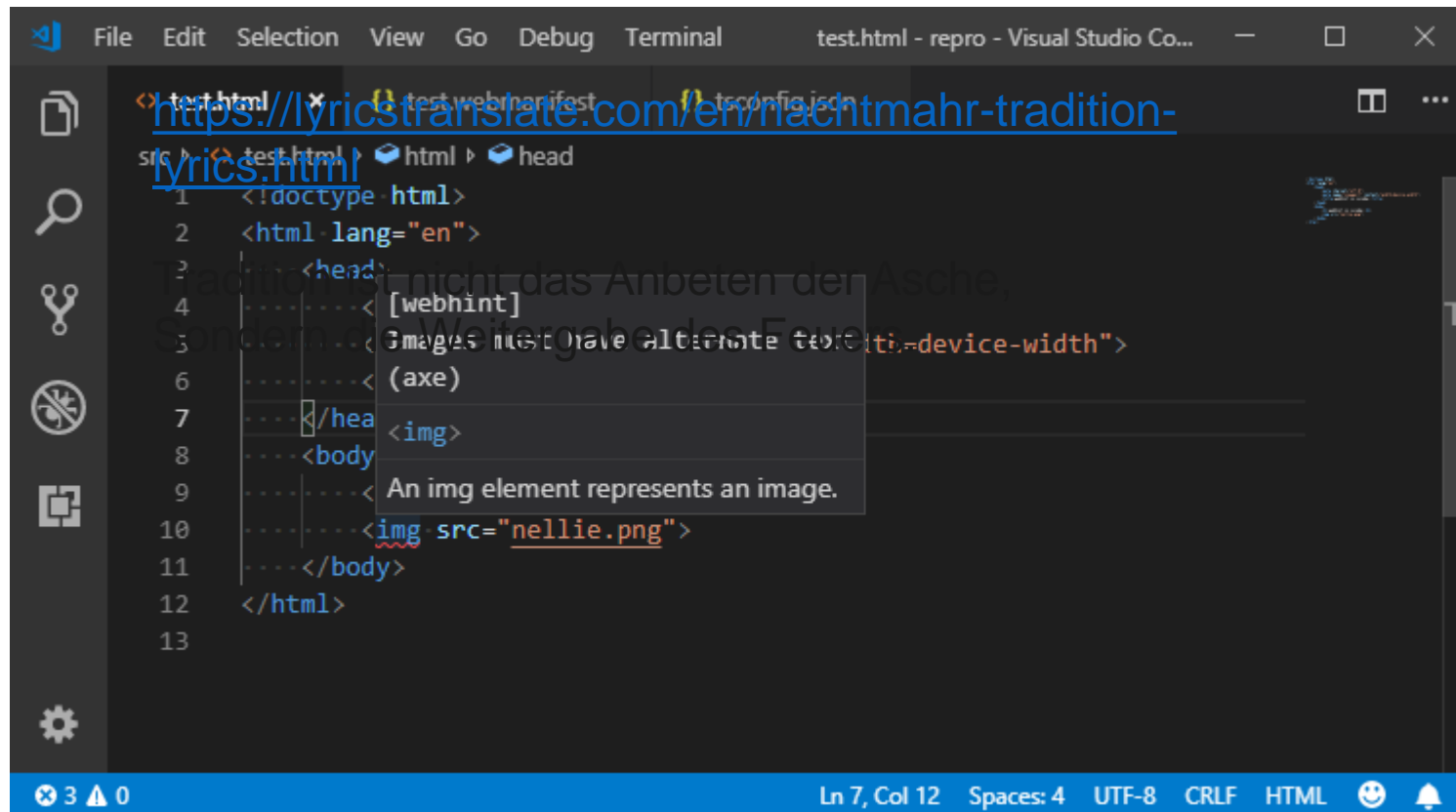
The screenshot shows the Visual Studio Code interface with two files open: `.hintrc` and `tsconfig.json`. The `.hintrc` file contains a browser configuration with `"IE >= 8"` selected. The `tsconfig.json` file has `"target": "es5"` on line 9. A webhint tooltip is displayed over the `target` property, providing the following information:

```
[webhint]
Based on your browser configuration your "compilerOptions.target"
should be "es3". Current one is "es5"
(typescript-config/target)

Specify ECMAScript target version. Permitted values are 'es3', 'es5', 'es6',
'es2015', 'es2016', 'es2017', 'es2018' or 'esnext'.
```

The status bar at the bottom indicates the current cursor position is at line 5, column 18 (9 characters selected), with 4 spaces, UTF-8 encoding, CRLF line endings, and JSON language mode.

Are you creating inaccessible content?



```
test.html x test.webmanifest testconfig.json  
https://lyricstranslate.com/en/nachtmahr-tradition-lyrics.html  
src > test.html > html > head  
1 <!doctype html>  
2 <html lang="en">  
3 <head>  
4 [webhint]  
5   
6 (axe)  
7 </head>  
8 <body>  
9   
10   
11 </body>  
12 </html>  
13
```

Ln 7, Col 12 Spaces: 4 UTF-8 CRLF HTML

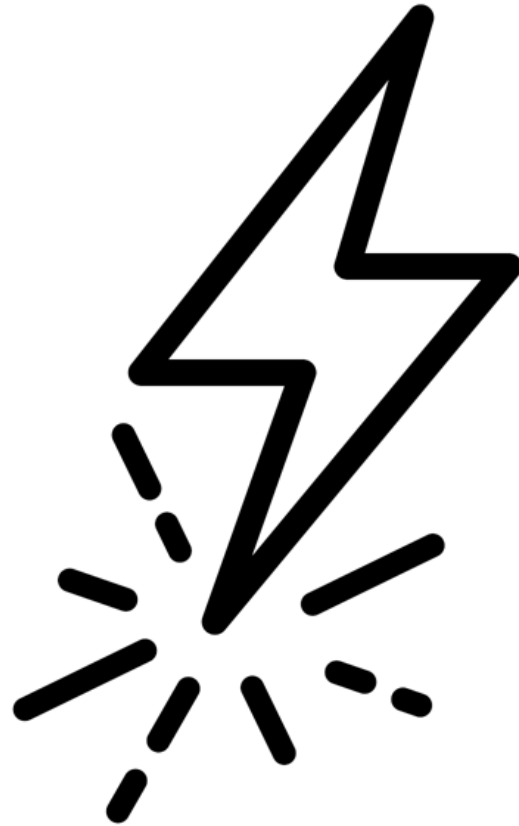


Our insights should
be a great start



- We accumulated a lot of great knowledge on how to do web the right way.
- Instead of re-iterating this knowledge and hope people get it, let's use this as a base to start from
- Our technology stack has evolved from a text editor and a terrible browser to amazing, open tools.
- Let's introduce new people of the web to them early on - as part of the development setup.

Let's not mourn the ashes, but
hand over the spark.



Thanks!

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