Bringing best practices front and centre

```css
64    .best-practice {
65        z-index: 999999;
66        position: absolute;
67        top: 50%;
68        left: 50%;
69        transform: translate(-50%, -50%);
70    }
```

Chris Heilmann (@codepo8) November 2018

We are a troubled lot…

- We enjoy a lot of **privilege**, but we also feel a lot of **pressure**.

- We're in **high demand**, but the people who want us have **no idea what we do**.

- We're better off than ever in terms of tooling, technology and standards support – yet we feel that if we don't innovate, *someone* will eat our lunch.
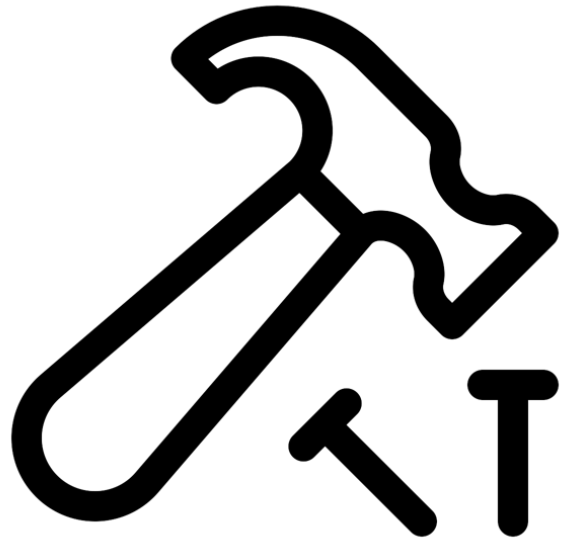
"JavaScript fatigue"

> " JavaScript fatigue: the inability to keep up with the latest tools, the fear of becoming obsolete, the constant change of the ecosystem, and the overwhelming choice.

- Kim Maida/Auth0

@codepo8

"Tools can fix that!"

- Best practice setups

- Boilerplates

- Build tools with automated optimisation

- Replacing JavaScript and the DOM with something better

- Debugging tools

- Generators

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"Full-stack anxiety"

Full Stack Anxiety: A Framework for Learning // Joel Califa, DigitalOcean

7,579 views

"Full-stack anxiety"

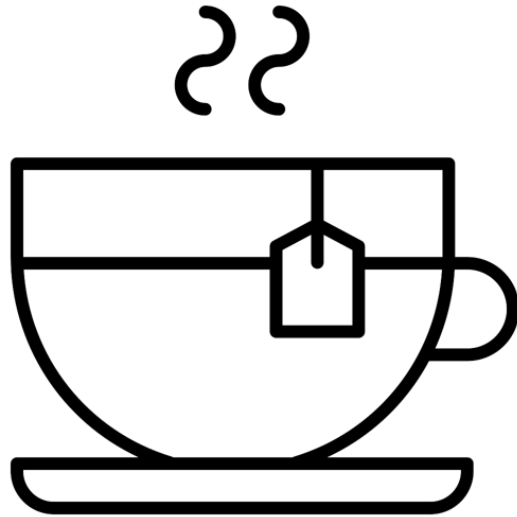> There are now more tools and plugins developed to help aid site creation than there ever has been before.
>
> For graduates starting out these 'helpful' tools and plugins are a double edged sword. Job applications rapidly cite these technologies as prerequisites for winning a position.
>
> As a result, we see more "full stack anxiety", where things are advancing too quickly and the amount of learning required for a fresh graduate is completely overwhelming.
>
> - Paul Spencer

https://humaan.com/blog/the-web-isnt-what-it-used-to-be/

https://medium.com/@FirstMark/are-you-suffering-from-full-stack-anxiety-a315325dd0f9

_(ツ)_/‾

Sure, "graduates are overwhelmed"

Rob Norris
@tpolecat

Follow

me: i have no idea what i'm doing
them: just use poofberry
me: what is that
them: it's like fluffnutz but for hooxup
me: ...
them: it integrates with logbungler

10:10 PM - 21 Aug 2018

2,043 Retweets   7,970 Likes

111   2.0K   8.0K

Wanted: T people

> " Companies have been attracted to T-shaped persons, where the vertical bar of the T represents expertise in a single field and depth of related skills, and the horizontal bar is the ability to collaborate across disciplines and apply knowledge in fields outside one's expertise.

- Joel Califa

https://humaan.com/blog/the-web-isnt-what-it-used-to-be/

https://medium.com/@FirstMark/are-you-suffering-from-full-stack-anxiety-a315325dd0f9

More wanted: W people

"

The new, hip thing is a W-shaped designer. Hiring managers are looking for designers who are experts in not one, but two fields (say both visual design and experience design), while maintaining a foundation in the rest (coding, lettering, etc.).

- Joel Califa

https://humaan.com/blog/the-web-isnt-what-it-used-to-be/

https://medium.com/@FirstMark/are-you-suffering-from-full-stack-anxiety-a315325dd0f9
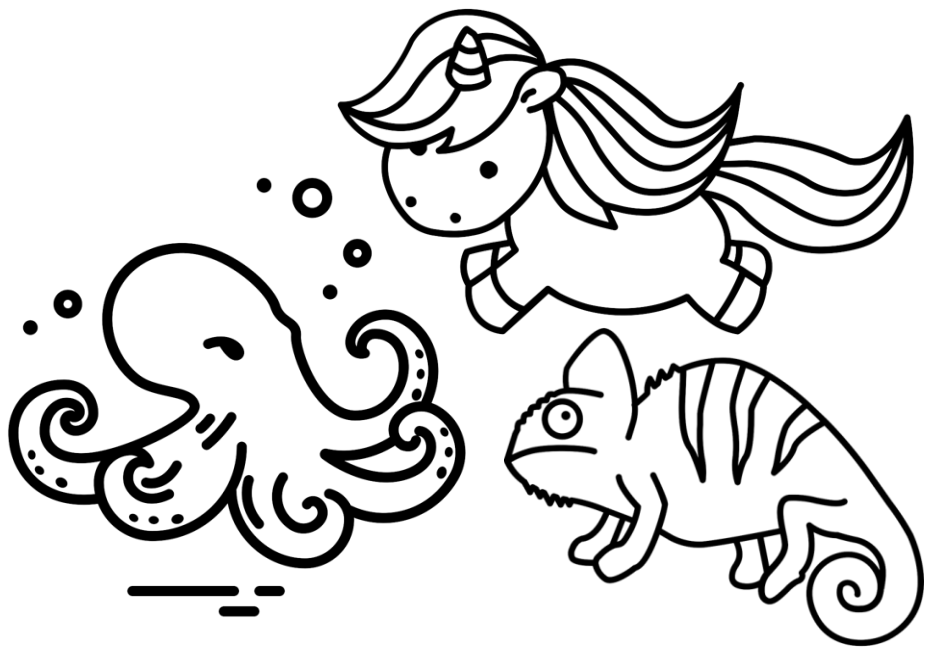
Really wanted: A-Z people, a.k.a.: "Full Stack Devs"

- Know everything without your company having to give you time to learn it

- Be young and independent, so you can enjoy all the overtime you have to put in to reach arbitrary deadlines

- Have years of experience especially applying brand new technologies

- Be quick in your delivery and lenient in your quality – after all the exit strategy of your startup beats customer experience and security. We need to be faster than our imaginary competition - not perfect

@codepo8

All in all, the state of software and the web isn't surprising.
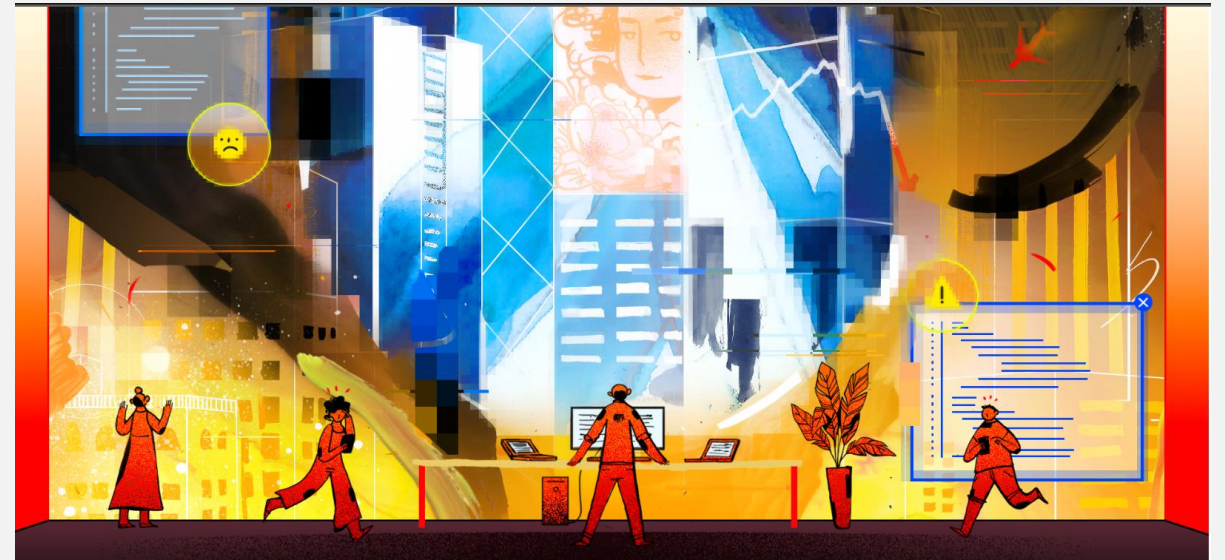
The Coming Software Apocalypse

A small group of programmers wants to change how we code—before catastrophe strikes.

Lynn Scurfield

T HERE WERE six hours during the night of April 10, 2014, when the entire population of Washington State had no 911 service. People who called for help got a busy signal. One Seattle woman dialed 911 at least 37 times while a stranger was trying to break into her house. When he finally crawled into her living room through a window, she picked up a kitchen knife. The man fled.

https://www.theatlantic.com/technology/archive/2017/09/saving-the-world-from-code/540393/

@codepo8

All in all, the state of software and the web isn't surprising.

@codepo8

Software disenchantment

Translations: *French Italian Portuguese Russian Spanish*

I've been programming for 15 years now. Recently our industry's lack of care for efficiency, simplicity, and excellence started really getting to me, to the point of me getting depressed by my own career and the IT in general.

Nikita Prokopov
http://tonsky.me/blog/disenchantment/

But, why is that?

We don't lack resources:

- **Platform:** Excellent browsers, mature OSes

- **Information**: MDN, caniuse.com

- **Tools**: developer tools, highly customisable editors, collaboration suites

- **News**: news channels, conferences, AMAs, podcasts

- **Hands-on training**: video courses, training courses on GitHub, workshops

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.

@codepo8

What is "best practice"?

- What is considered a best practice is dependent on the goal

- The problem is that the business goals of the product don't necessarily mesh with our goals as developers

- Even worse – often what we defined as a best practice years ago isn't quite as important to new developers

- Often we only learn their value once we messed up

$ cd ..
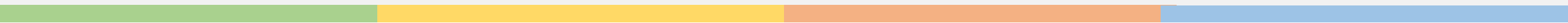
Things that matter and you should know...
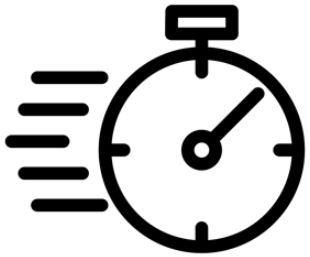
Performance

Accessibility

PWA
Readiness
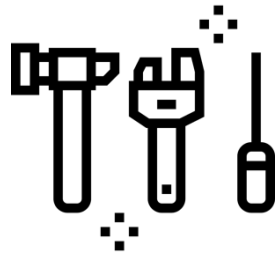
Development
environment
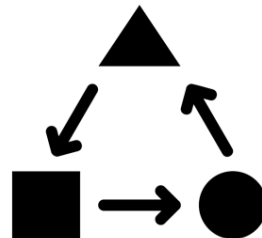
Interoperability

Security
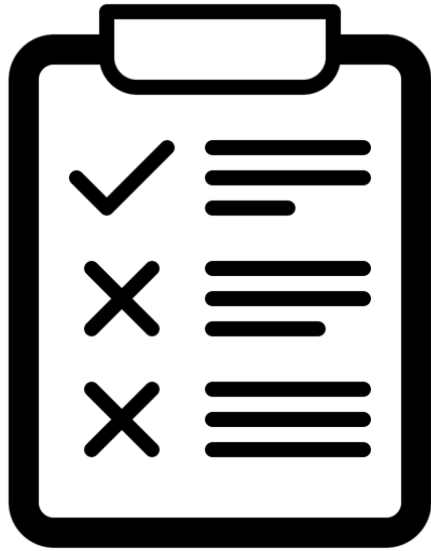
There are tools and services for this...

- Axe-Core for accessibility testing https://www.deque.com/axe/

- Snyk for security testing https://snyk.io/

- SSL scanner https://www.ssllabs.com/ssltest/

- In-browser devtools audit with Lighthouse (and since two days ago also as https://web.dev)

- webhint.io for an all-in-one solution

HINTS

428

URL: https://halfstackconf.com/

YOUR SCAN RESULT LINK: https://webhint.io/scanner/be1909f3-116f-4f91-87fe-282f954a0272

DATE: 2018-11-14 15:57

webhint version: 3.4.13   Configuration JSON

Hints

Accessibility 🔗

⊕ expand all

⊕ axe: 84 hints

Interoperability 🔗

⊕ expand all

⊕ content-type: 44 hints

⊕ meta-charset-utf-8: 1 hints

⊕ meta-viewport: 1 hints

ACCESSIBILITY	HINTS 84	PASSED 0 / 1
INTEROPERABILITY	HINTS 47	PASSED 5 / 9
PWA	HINTS 1	PASSED 4 / 5
PERFORMANCE	HINTS 205	PASSED 3 / 8
SECURITY	HINTS 91	PASSED 1 / 9

@codepo8

https://halfstackconf.com/

Nov 14, 2018, 4:00 PM GMT+1

Emulated Nexus 5X, Unknown
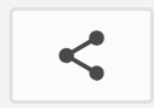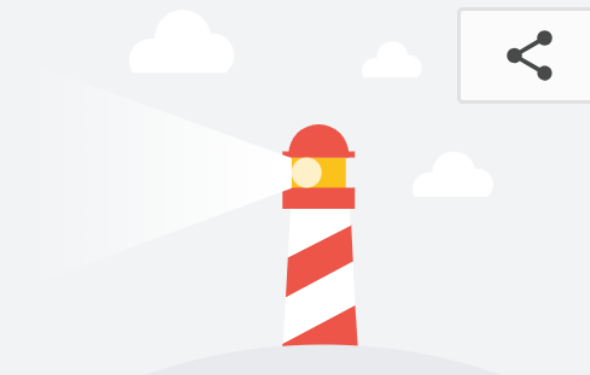
92	57	50	42	100
Performance	Best Practices	Progressive Web App	Accessibility	SEO

Score scale: ● 90-100 ● 50-89 ● 0-49

Performance

92

🕐 **Metrics**

First Contentful Paint	1.6 s ✓	First Meaningful Paint	3.1 s ⓘ
Speed Index	2.4 s ✓	First CPU Idle	3.6 s ✓

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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

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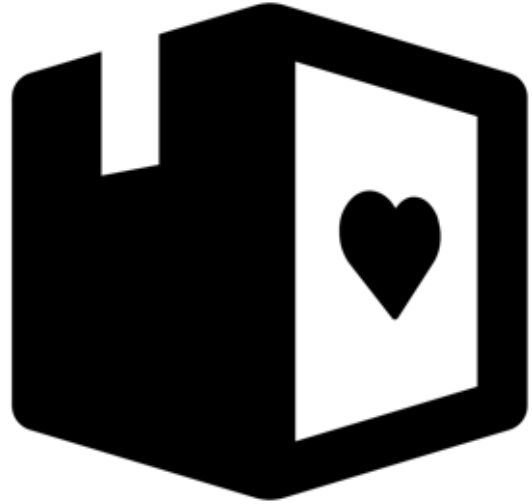
Customisable best practices in context

- 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
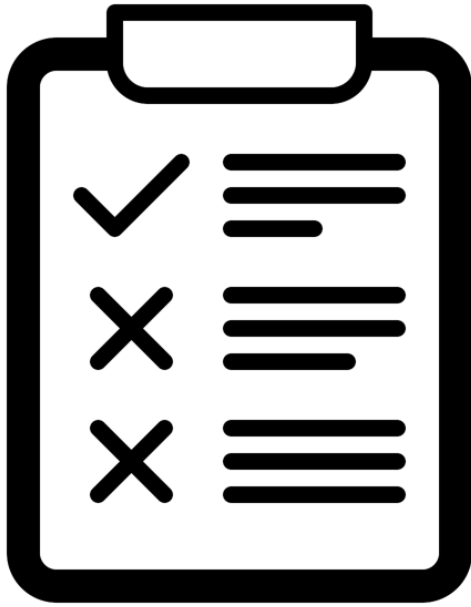
Linting and inline insights in editors

@codepo8

code.visualstudio.com

$ cd ..

https://github.com/webhintio

https://webhint.io

https://www.npmjs.com/package/hint
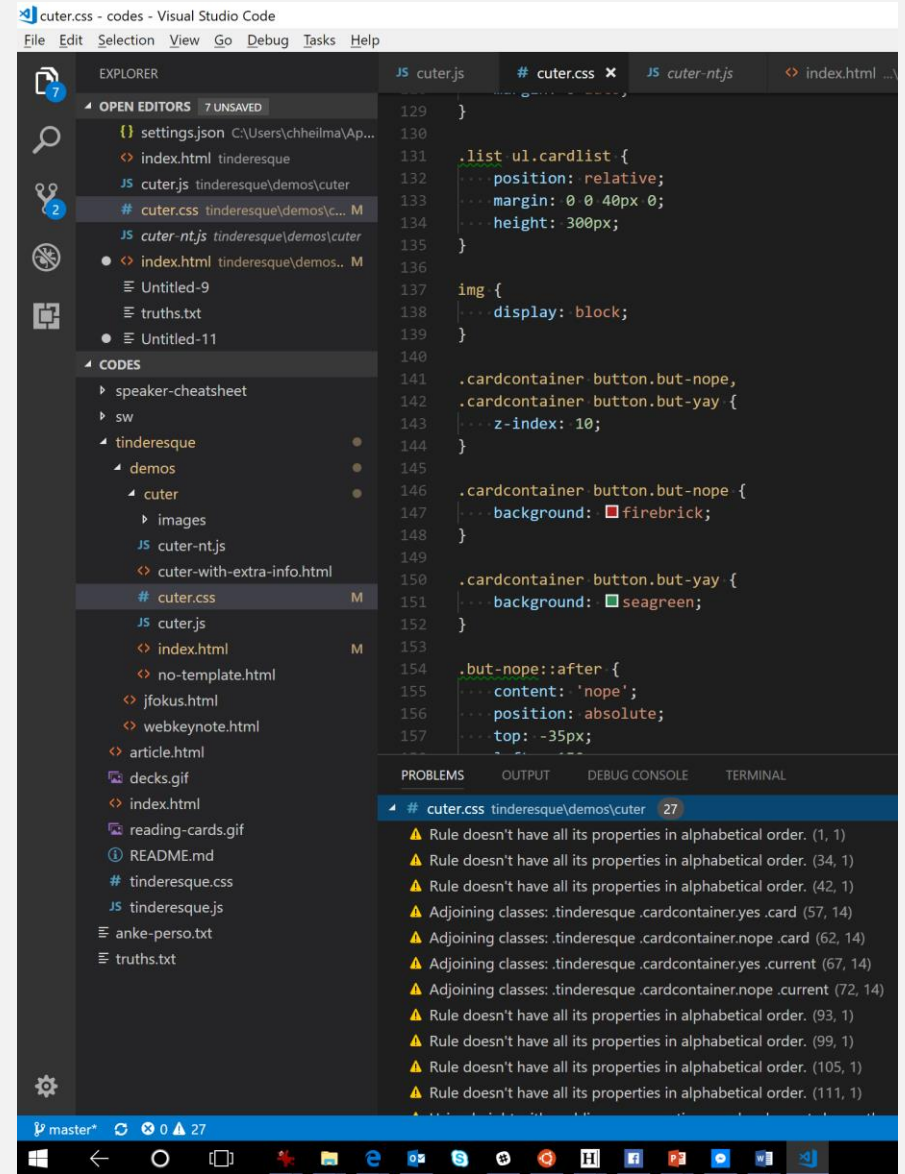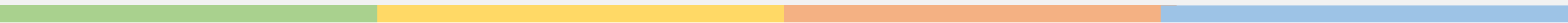
Adding experience to build processes…

@codepo8

- A web interface or browser dev tools to get reports doesn't scale to production

- Why not add best practices as part of your build/deployment process?

- That way you can also test the setup of your bundler/preprocessor to avoid huge release sizes
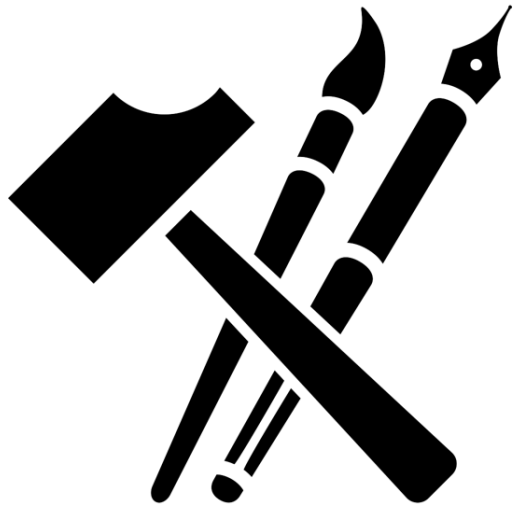
Customise the tests to your needs...

- Once you know what your product's needs are, you can turn different tests on and off
- You can also write your own tests to become part of the scan – like "make sure every footer has a picture of a leprechaun" – just one example
- You can create these with a cli wizard:

```
$ npm create hintrc
```

Webhint is open, and needs your help...
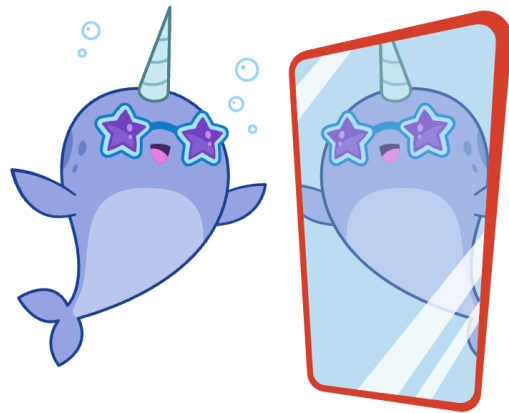
FULLY CUSTOMIZABLE

Every site is different. webhint adapts its feedback when you give it more information: ignore 3rd-party code, prioritize *your* users' browsers, and control the results with minimal setup.

USER GUIDE

CREATE YOUR OWN HINTS

With the help of our contributor guide, you can create new hints to suit *your* needs. You can help webhint help even more people like you by contributing your hints back!

HINT DOCUMENTATION

COMMUNITY DRIVEN
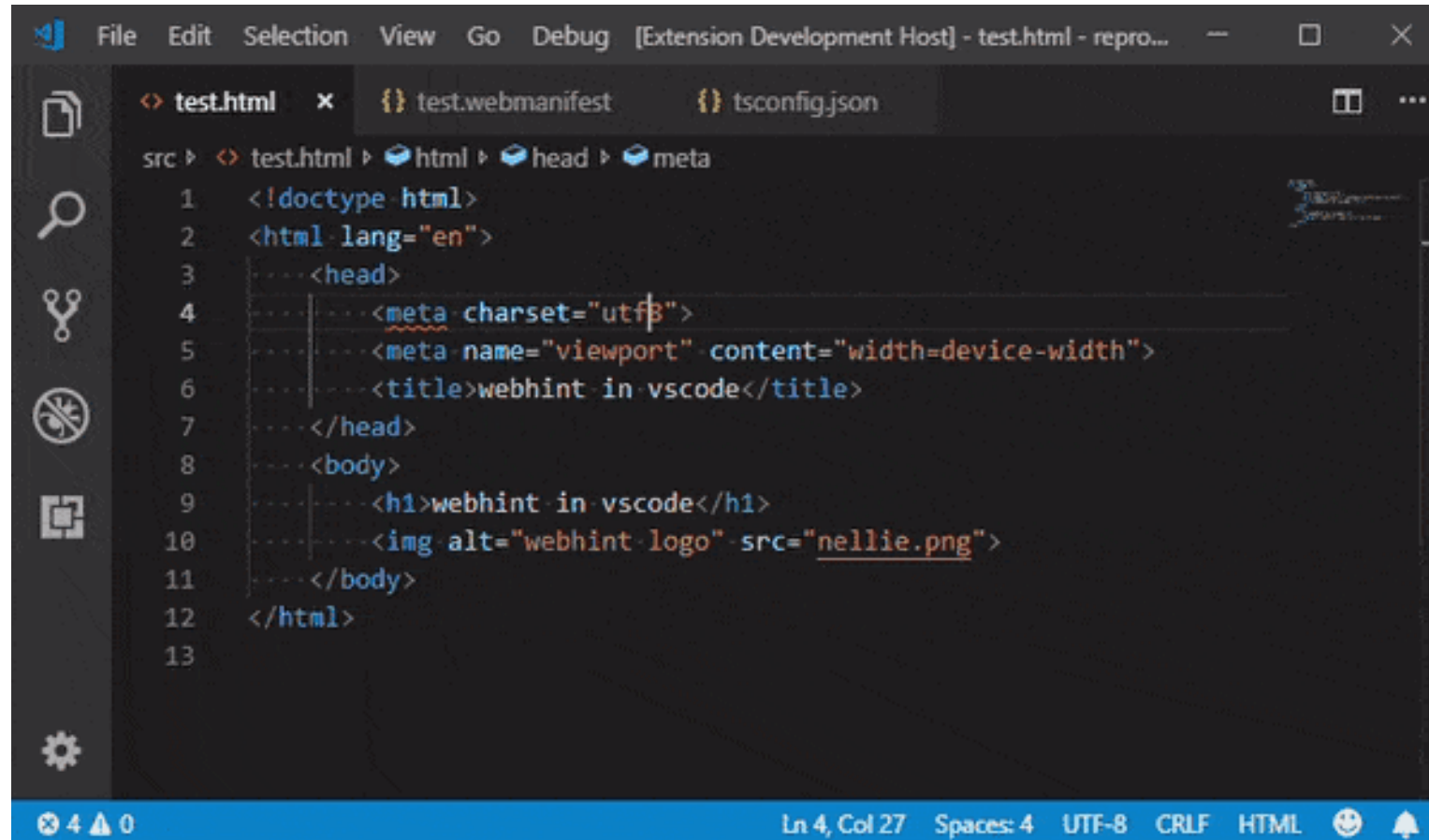
webhint welcomes anyone who wants to make the web a better place. Testing, filing issues and feature requests, contributing code, and improving the documentation are just the start!

WEBHINT GITHUB

$ cd ..
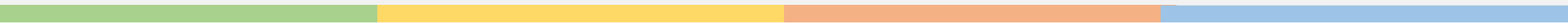
webhint @code extension

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

Create valid app manifests…

webhint.io

Fixing your tooling setup...

webhint.io

Are you creating inaccessible content?

webhint.io
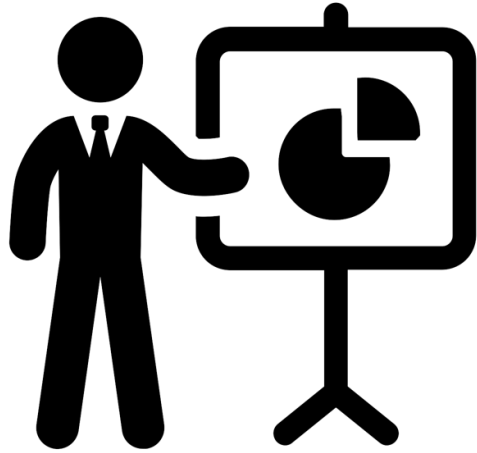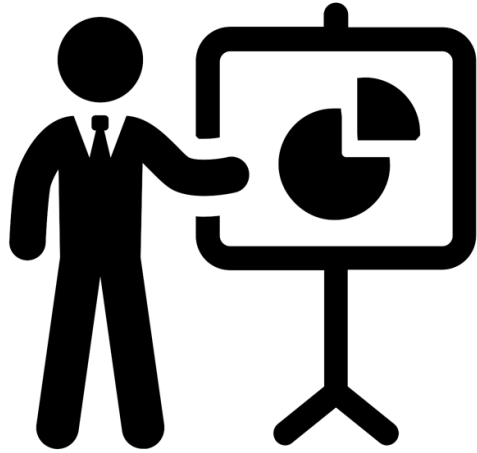
In summary...

- We accumulated a lot of knowledge over the years what software should do for users and how to make sure it does

- We suck at making sure busy and new developers learn about it

- We know, however, that people are happy to use open editors, and node as a platform

- Instead of whining that people don't follow best practices, let's make them part of the build process

In summary...

- We're past a stage where developers have the chance to learn the trade before applying it

- Our editors are much more than dumb text writing tools and not as overwhelming as huge IDEs.

- We tend to build products using a toolchain we customise to the need of the product

- Both are an opportunity to instill a sense of ownership to developers and to learn about our mistakes before our users suffer from them.

@codepo8

Thanks!

Chris Heilmann
@codepo8