Webudvikling Frontend

Intro, HTML, semantics, accessibility & performance

Webudvikling

kea
KØBENHAVNS ERHVERVSAKADEMI

Dagens Formål

- Introducere dig til faget
- Opsætte de vigtigste værktøjer
- Hands-on med moderne semantisk HTML
- Viden om performance og Web Dev Tools,
- samt begreber vi skal arbejde igen og igen

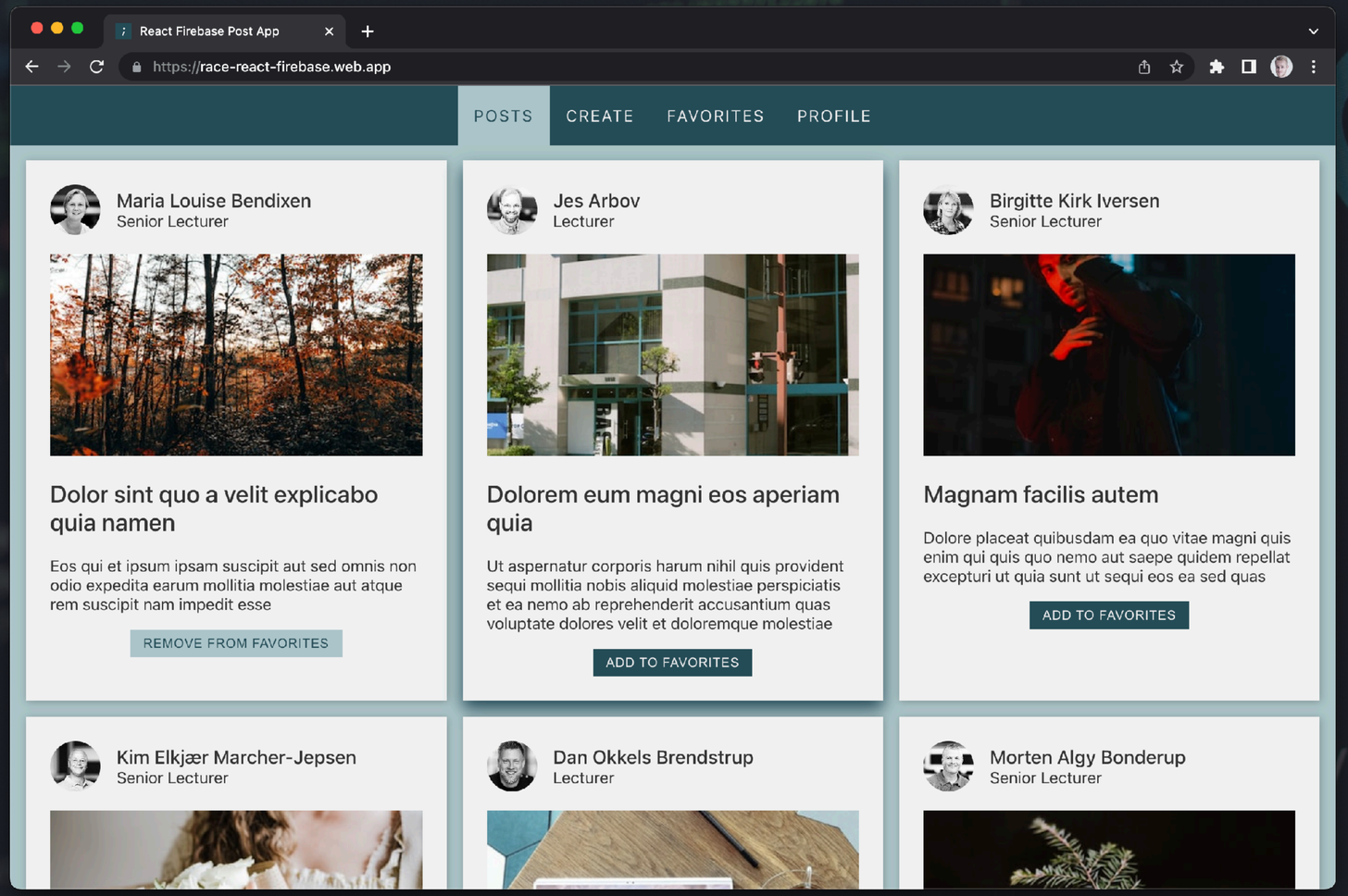
Agenda

- Introduktion til Webudvikling Frontend
- Værktøjer - Frontend Tooling
- Client-server & HTTP
- Moderne & Semantisk HTML
- Source Code Management
- Performance

Fagmodulets Formål

... at gøre dig i stand til at udvikle dynamiske webapplikationer - fokus på client-side. Du vil lære om moderne web- og frontendteknologier.

React CRUD App



https://react-rest-and-auth.web.app/

Indhold

Webudvikling Frontend

- Moderne web og frontend teknologier
- Webapplikationer med teknologier som HTML, CSS, JavaScript og API’er
- Best practices indenfor frontend, design, accessibility og performance
- Et komponent baseret JavaScript Framework - React
- React og Single Page Apps
- Tools til frontend- og webudvikling, herunder NPM, bundlers, VS Code og debugging
- Webprotokoller, HTTP-verber, klient-server-arkitektur og BaaS
- Datakilder, REST og CRUD
- Brugervenlighed og brugertests

1. Intro, HTML, semantics, accessibility & performance
2. CSS, fonts, responsiveness & Design Principles
3. CSS Flexbox & intro to JavaScript
4. CSS Grid, JavaScript, the DOM & UX Laws
5. UI frameworks, JavaScript, forms & Usability Testing
6. JavaScript Modules & debugging
7. Async JavaScript & performance
8. Data Sources, JSON & APIs
9. Frontend Tooling & Intro to JS Frameworks
10. CSS Preprocessing & Intro to Component-Based Frameworks
11. A Component-Based Framework
12. A Component-Based Framework
13. Exam project
14. Exam project

Undervisningsplan

Find den her

Undervisningsform & Materiale

- Holdundervisning
- Kombination af teori, praktiske eksempler, cases og opgaver
- Visuelt materiale der komplimenterer den til tider tørre programmeringsteori
- Materiale vil være på engelsk
- Tekster, videoer, tutorials og programmeringsøvelser som forberedelse

I can teach everyone how to code!

... as long as you are eager to learn

Webudvikling

kea
KØBENHAVNS ERHVERVSAKADEMI

I’m Rasmus Cederdorff

Senior Lecturer

Freelance Web App Developer

Programming, UI & UX

Frontend & Web Development

“I speak JavaScript”

Websites, Webshops, Web Apps

& Mobile Apps

I’m Rasmus Cederdorff

Aarhus —> Copenhagen

2 Girls - Alicia & Ida

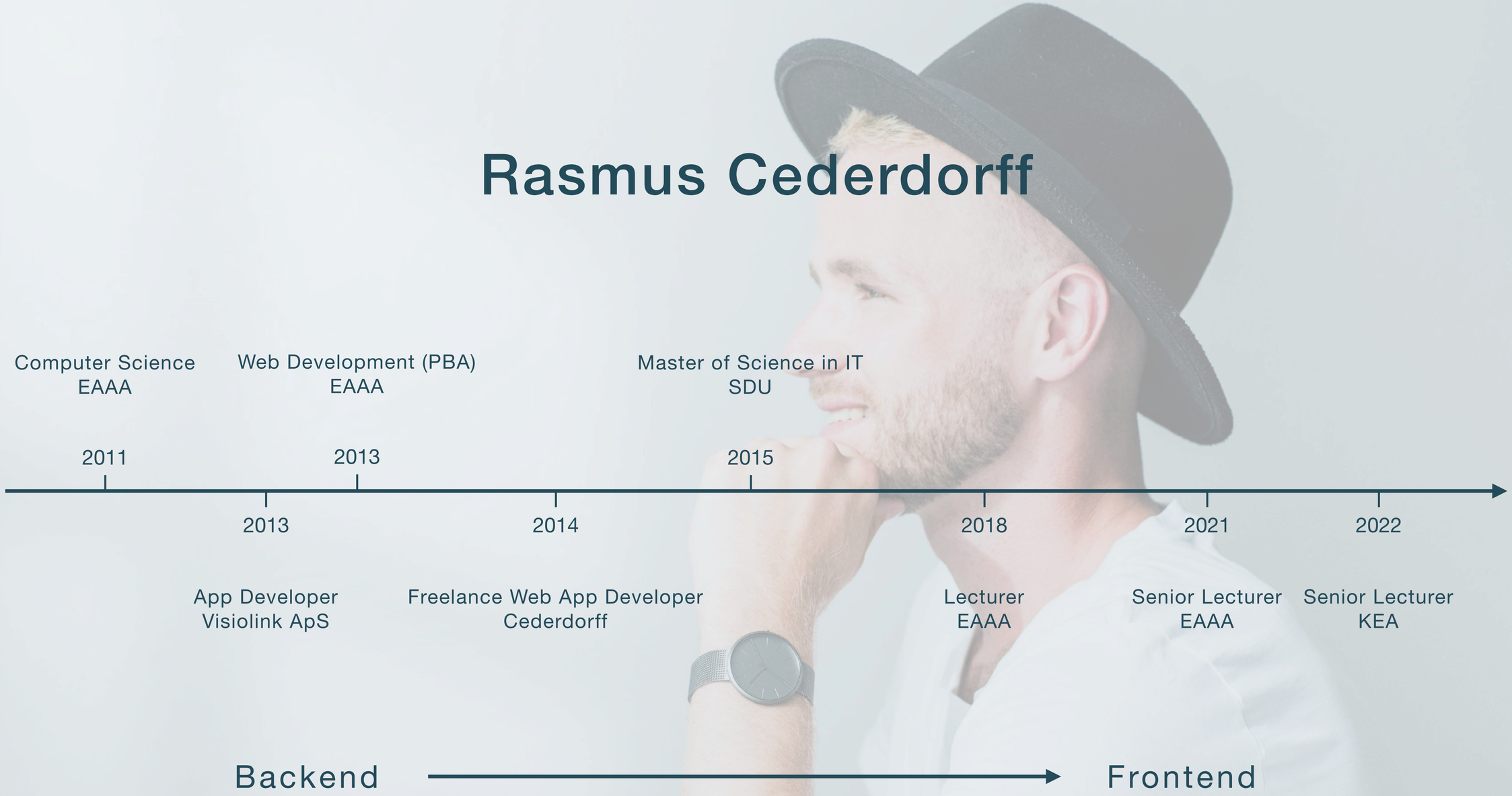
From Holstebro

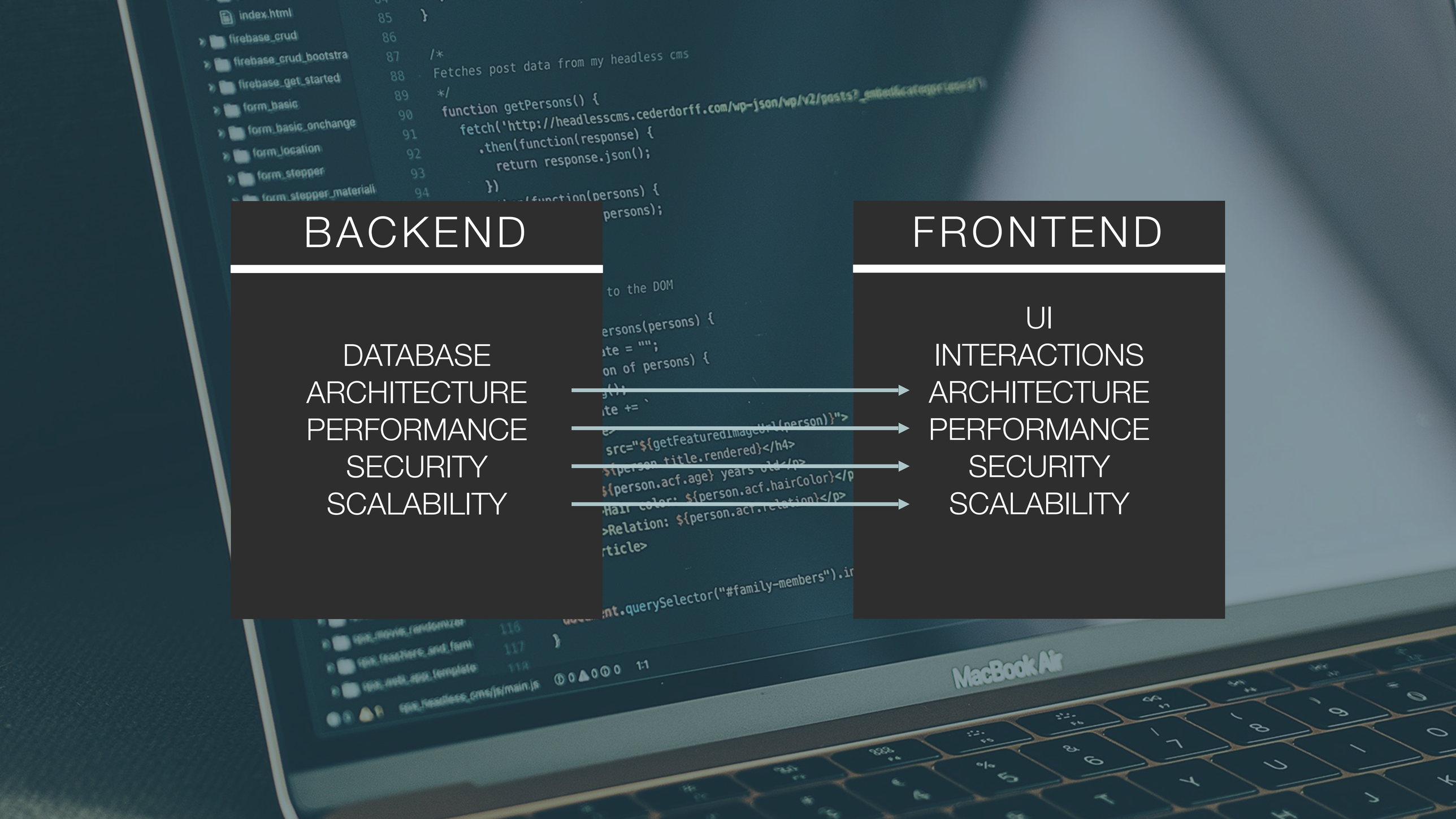
I’m into sports

Love (🍎) gadgets, to take pictures & interior design projects

What’s with my arm?

Rasmus Cederdorff




BACKEND
DATABASE
ARCHITECTURE
PERFORMANCE
SECURITY
SCALABILITY
FRONTEND
UI
INTERACTIONS
ARCHITECTURE
PERFORMANCE
SECURITY
SCALABILITY

CLIENTS

VINCENT

Karolines Hus
galleriet på Fur

sivitas

Nana
Nana Rømer Dorph-Petersen

CEDERDORFF
WEB ARCHITECT

VISIOLINK

nobody is everybody

cph cloud

CAFE'EN VED AAEN
EST.
SIDEWALK
1996
AABOULEVARDEN 54-56

Siden 1969
Merrytime

TROELSTRUP
KØBENHAVN
1908

VIA University College

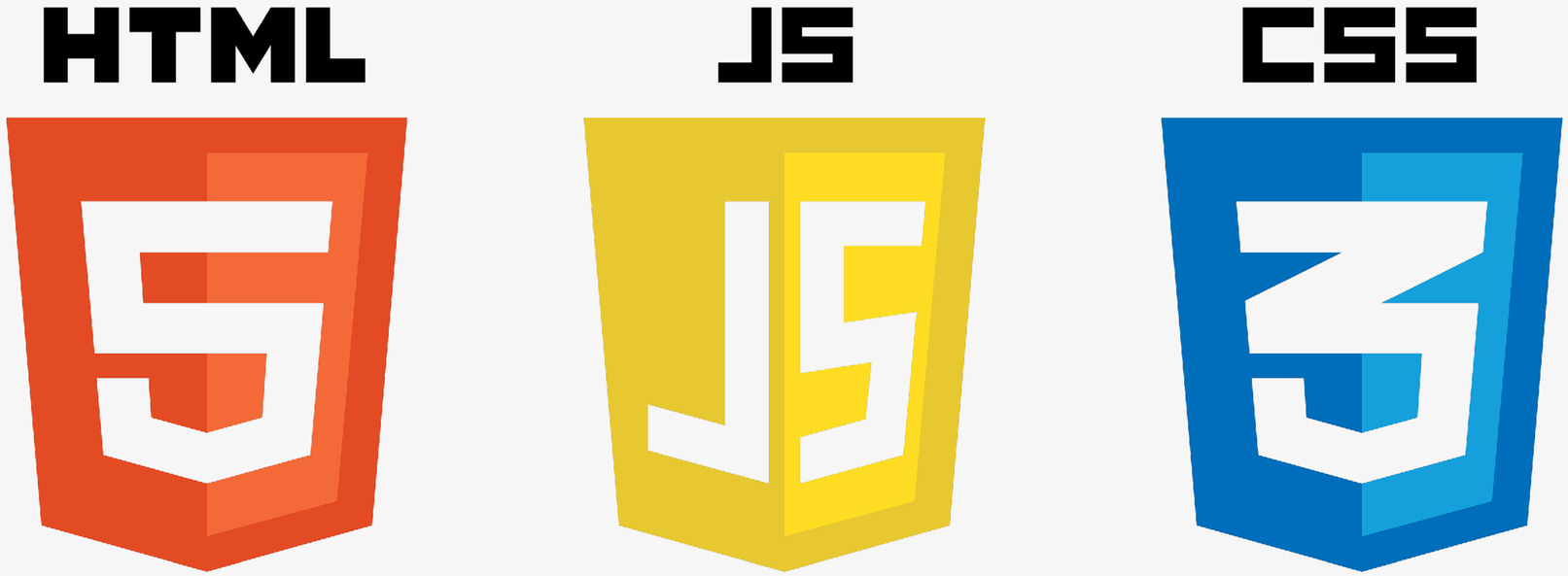
ERHVERVSAKADEMI AARHUS
BUSINESS ACADEMY AARHUS

novo nordisk®

THE BIG FRIDGE

BouMatic®

DANSK RETUR SYSTEM


HTML
JS
CSS

I Love JS

Client-Server Model

CLIENT

SERVER

Web Development

WEB APP

API

FETCH(...)

REQUEST

JSON DATA

RESPONSE

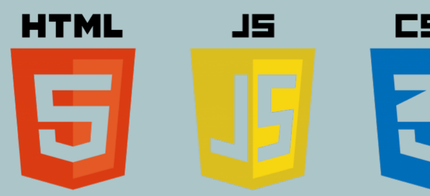
DATA SOURCE

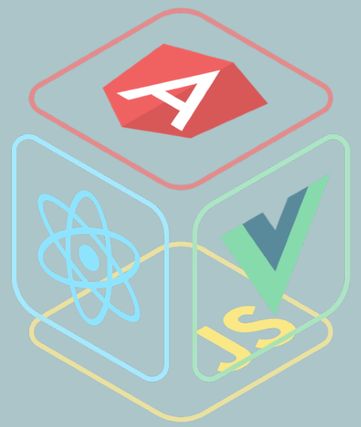
Web Development

FRONTEND

API

BACKEND



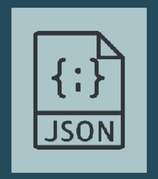


FETCH(...)

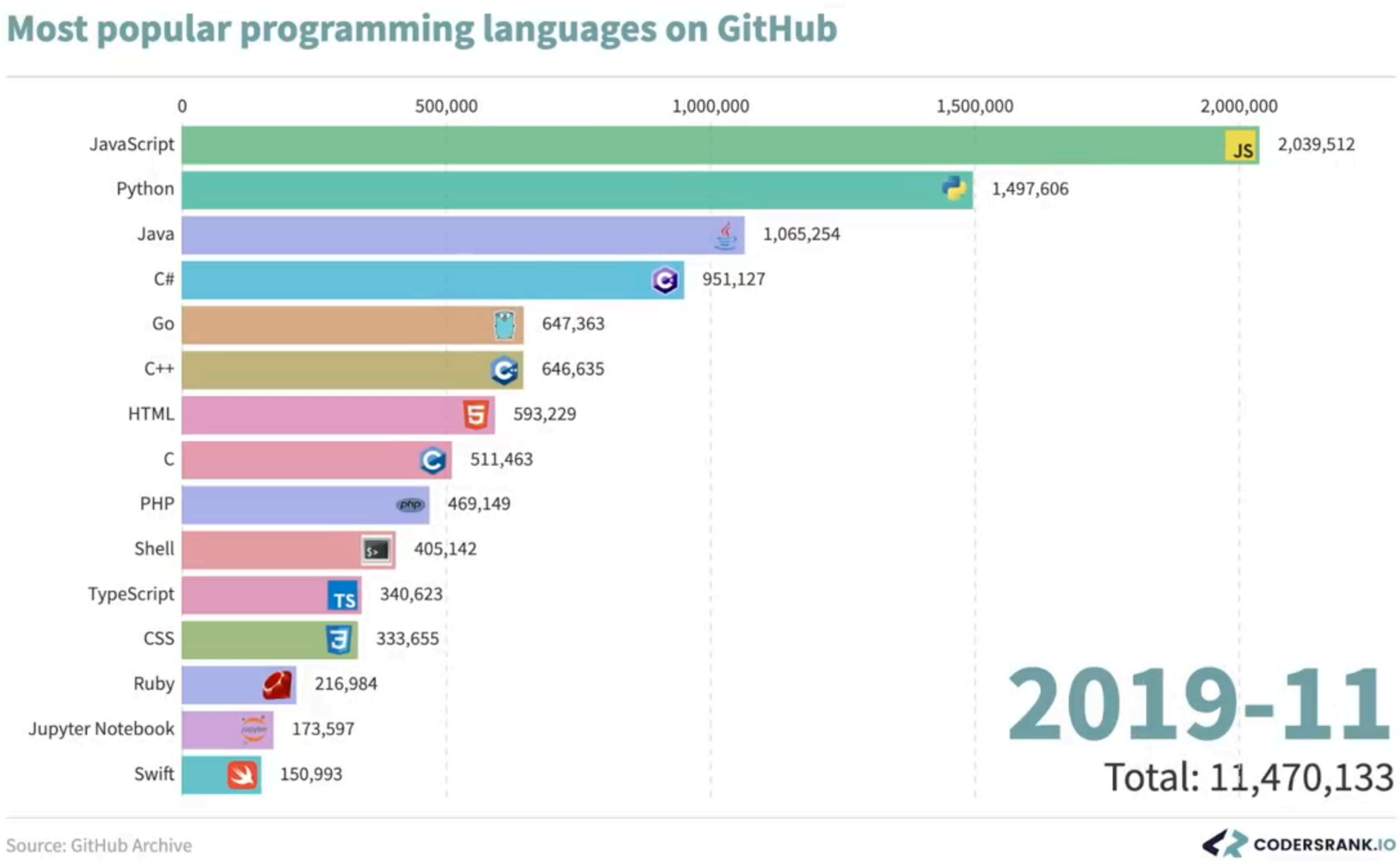
REQUEST

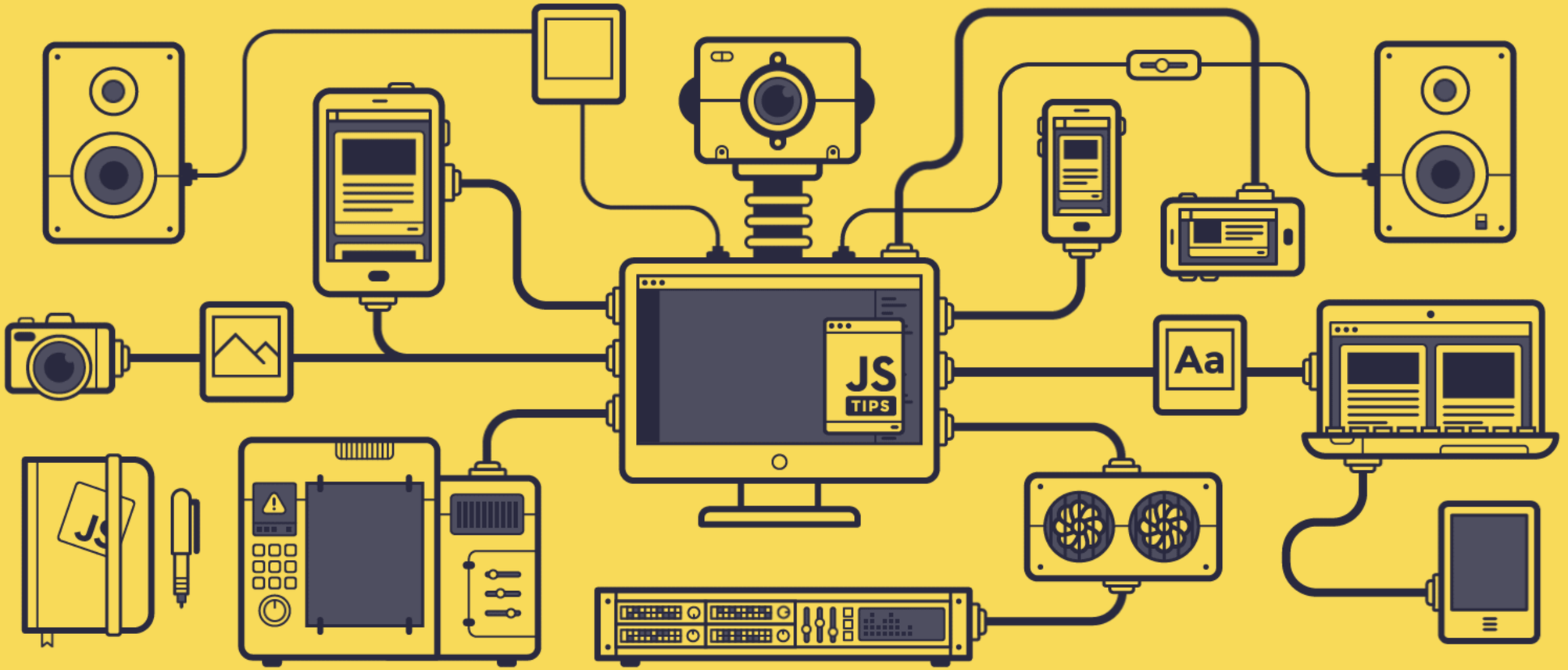
JSON DATA

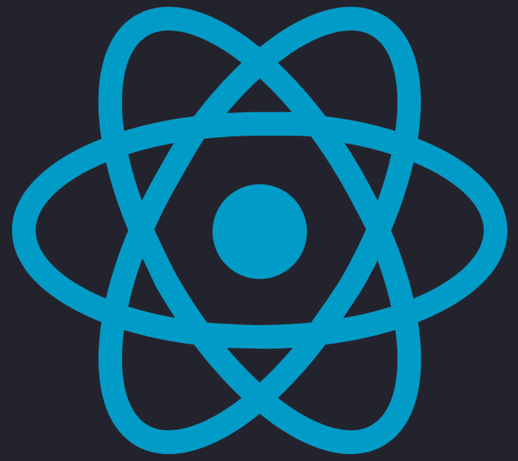
RESPONSE



Hvorfor JavaScript?




JS
TIPS
Aa



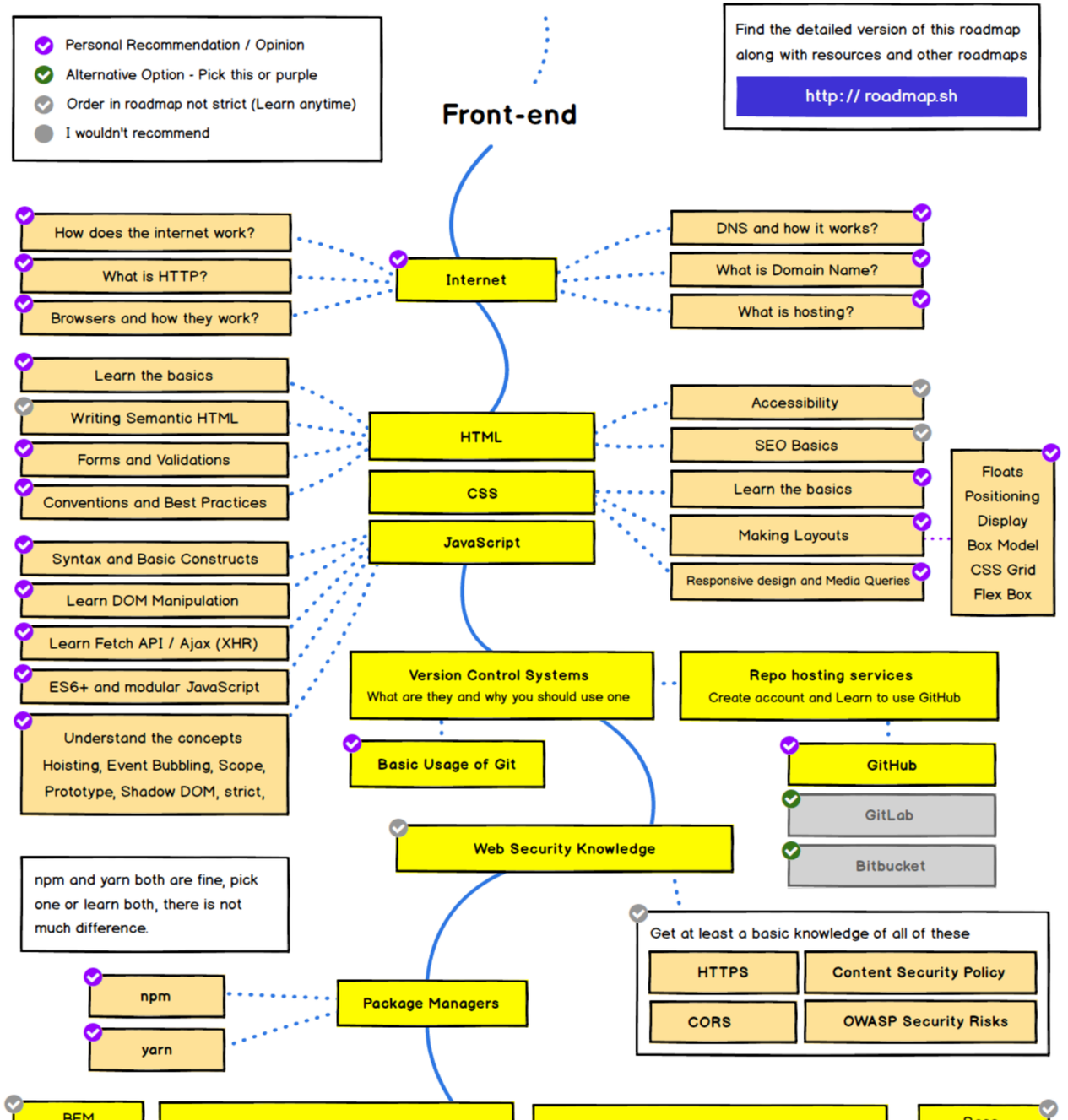
React

A JavaScript library for building User Interfaces

Web App & Single Page App

JavaScript

roadmap.sh/frontend

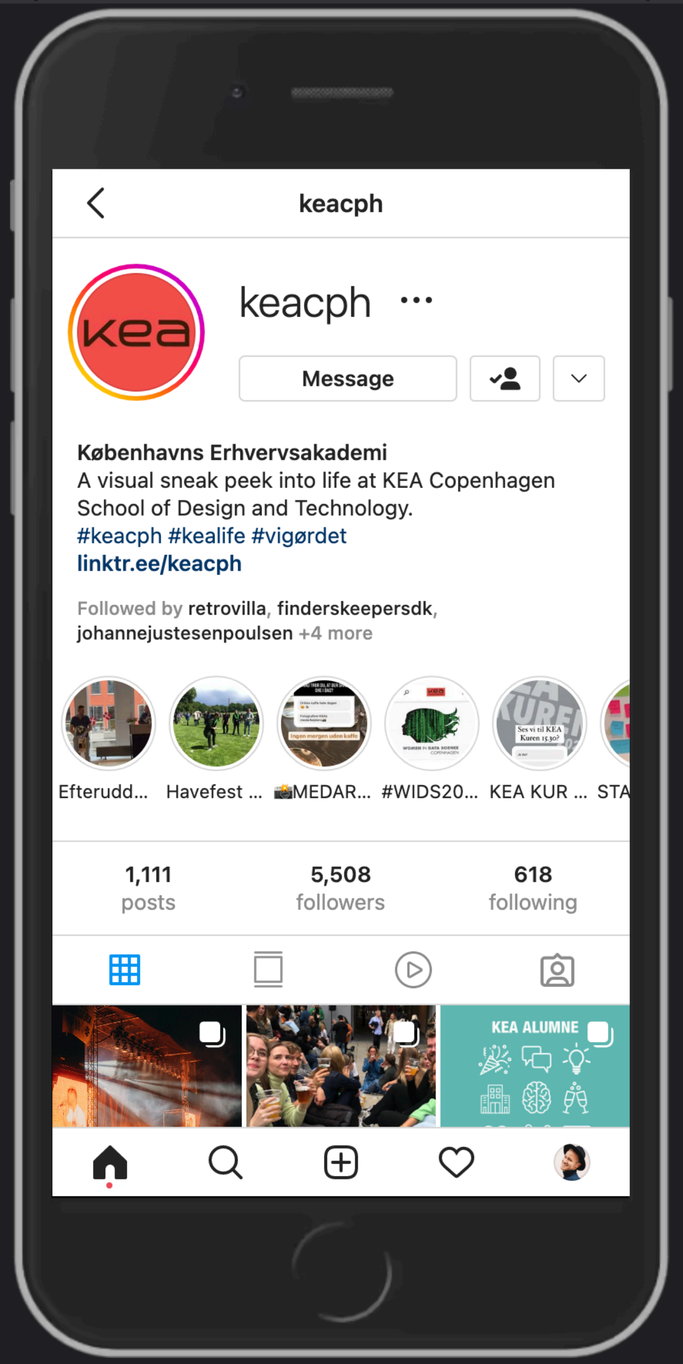


What can you build with Web Technologies (HTML, CSS & Javascript)?

Websites, Webshops, Web Apps, Mobile Apps, Server Apps & Desktop Apps

What else?


Objects & Arrays
Fundamental Programming Knowledge
MacBook Air



Dimensions: iPhone ... 375 x 667 100%

Elements Components Console Performance insights Recorder Sources Network

Preserve log Disable cache No throttling

Invert Hide data URLs All Fetch/XHR JS CSS Img Media Font Doc WS Wasm Manifest Other

Has blocked cookies Blocked Requests 3rd-party requests

2000 ms 4000 ms 6000 ms 8000 ms 10000 ms 12000 ms 14000 ms

Name

?modules=PolarisBD...
?content_type=PROF...
?username=keacph
reels_tray/
timeline/
ig_sso_users/
logging_client_events
bz?__d=dis
falco
bz?__a=1&__ccg=G...
batch_fetch_web/
get_encrypted_crede...
highlights_tray/
?target_user_id=140...
badge/
story/
bulk-route-definitions/
bulk-route-definitions/
?query_hash=69cba4...
bz?__a=1&__ccg=G...
bz?__a=1&__ccg=G...
bulk-route-definitions/
bz?__a=1&__ccg=G...
logging_client_events
bz?__d=dis

26 / 96 requests 257 kB

Headers Payload Preview Response Initiator Timing Cookies

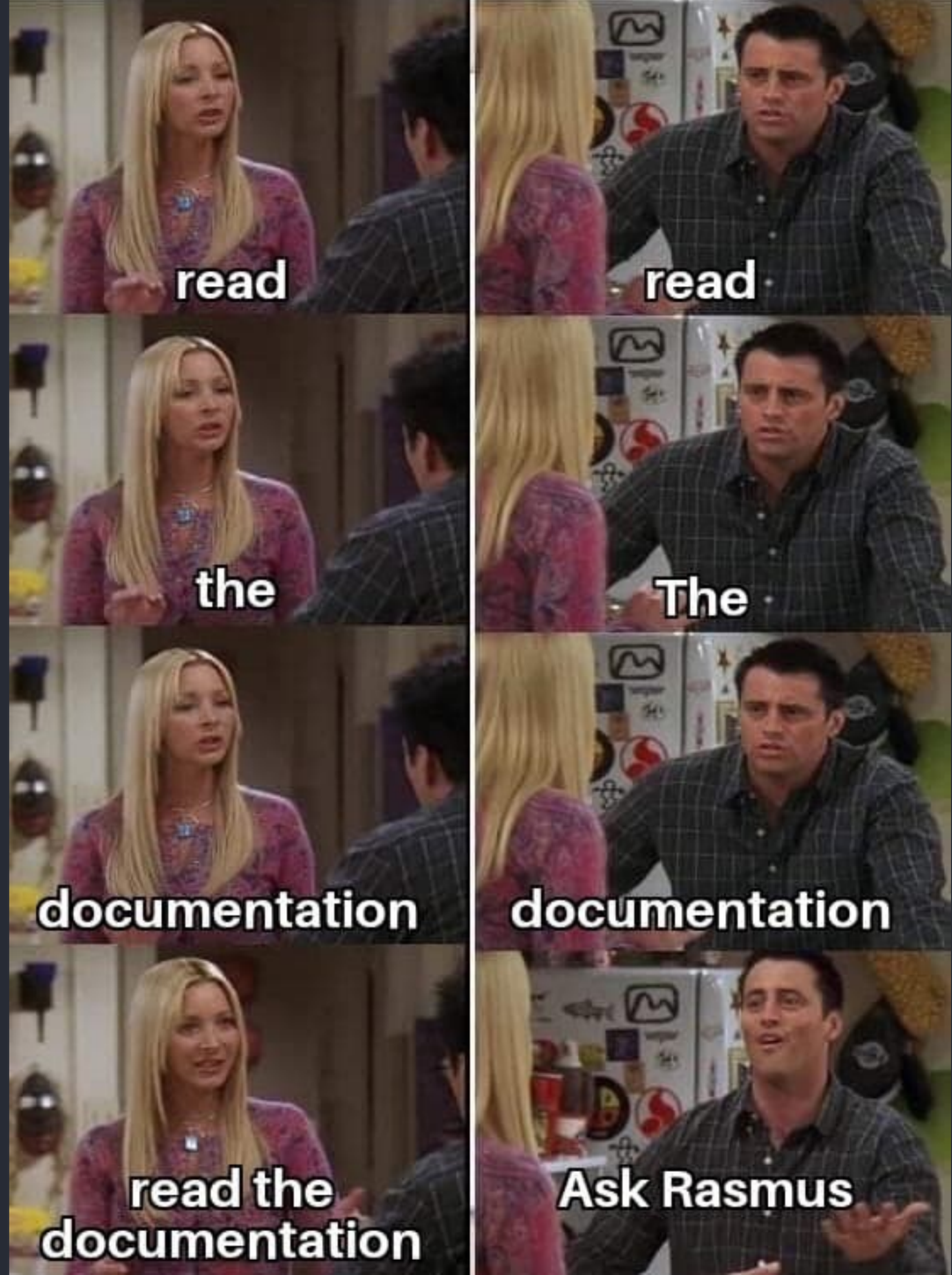
{data: {user: {,…}}, status: "ok"}
data: {user: {,…}}
user: {,…}
bio_links: []
biography: "A visual sneak peek into life at KEA Copenhagen School of Design and Technology. \n#keacph
biography_with_entities: {,…}
blocked_by_viewer: false
business_address_json: null
business_category_name: "Home Services"
business_contact_method: "CALL"
business_email: null
business_phone_number: null
category_enum: "LOCAL"
category_name: null
connected_fb_page: null
country_block: false
edge_felix_video_timeline: {count: 116, page_info: {has_next_page: true,…},…}
edge_follow: {count: 618}
edge_followed_by: {count: 5508}
edge_media_collections: {count: 0, page_info: {has_next_page: false, end_cursor: null}, edges: []}
edge_mutual_followed_by: {count: 7, edges: [{node: {username: "retrovilla"}}, {node: {username: "finde
edge_owner_to_timeline_media: {count: 1111, page_info: {has_next_page: true,…},…}
edge_saved_media: {count: 0, page_info: {has_next_page: false, end_cursor: null}, edges: []}
external_url: "https://linktr.ee/keacph"
external_url_linkshimmed: "https://l.instagram.com/?u=https%3A%2F%2Flinktr.ee%2Fkeacph&e=ATNF7APjyvCLD
fbid: "17841400899781985"
followed_by_viewer: true
follows_viewer: true
full_name: "Københavns Erhvervsakademi"
guardian_id: null
has_ar_effects: false
has_blocked_viewer: false
has_channel: false
has_clips: false

Computer science student

Senior developer, 10+ years experience

https://www.instagram.com/p/BxWAgatgSmn/

How to read the docs?



“Learning to code requires a HUGE investment of time and energy.”

https://medium.com/martinsoft/learn-javascript-c1cca9db9015


Code
Every
Day

Eksamen

Individuelt skal du udvikle en single page app (web app), der interagerer med en eller flere datakilder. Baserer sig på det du har lært gennem kurset: HTML, CSS, JavaScript, React, etc.

Mundtlig prøve med baggrund i en individuel synopsis samt programmeret produkt.

Eksempel på eksamensopgave

Mere info

Website: https://kompetence.kea.dk/kurser-fag/webudvikling-frontend

Studieordning: https://kompetence.kea.dk/studieordninger/Diplom_Webudvikling_Studieordning_2018_05.pdf

Undervisningsplan

Hvem er I?

https://eaaa.padlet.org/race/web_diplom_hvem_er_i

- Navn
- By - hvor er du fra?
- Baggrund - uddannelse & job?
- Baggrund - HTML, CSS, JavaScript mm?
- Hvorfor Webudvikling Frontend-modulet?
- Forventninger til kurset?
- Hvad kan du særligt godt lide at arbejde med?
- Drømmejob?
- Meget gerne et profil billede.

Tools

Setup Tools & Dev Environment

Client-Server Model

Communication between web **clients** and web **servers**.

CLIENT

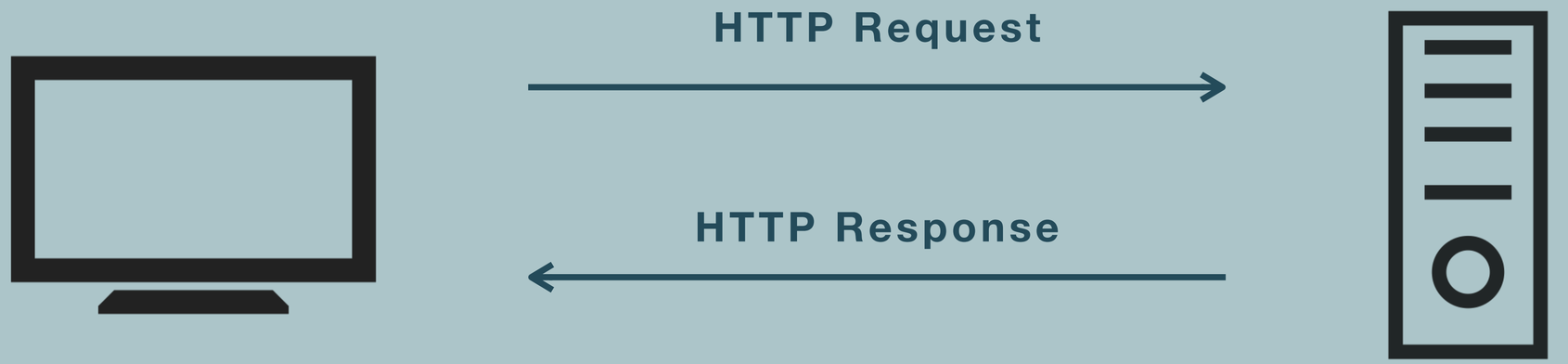
SERVER

Client-Server Model

Communication between web **clients** and web **servers**.

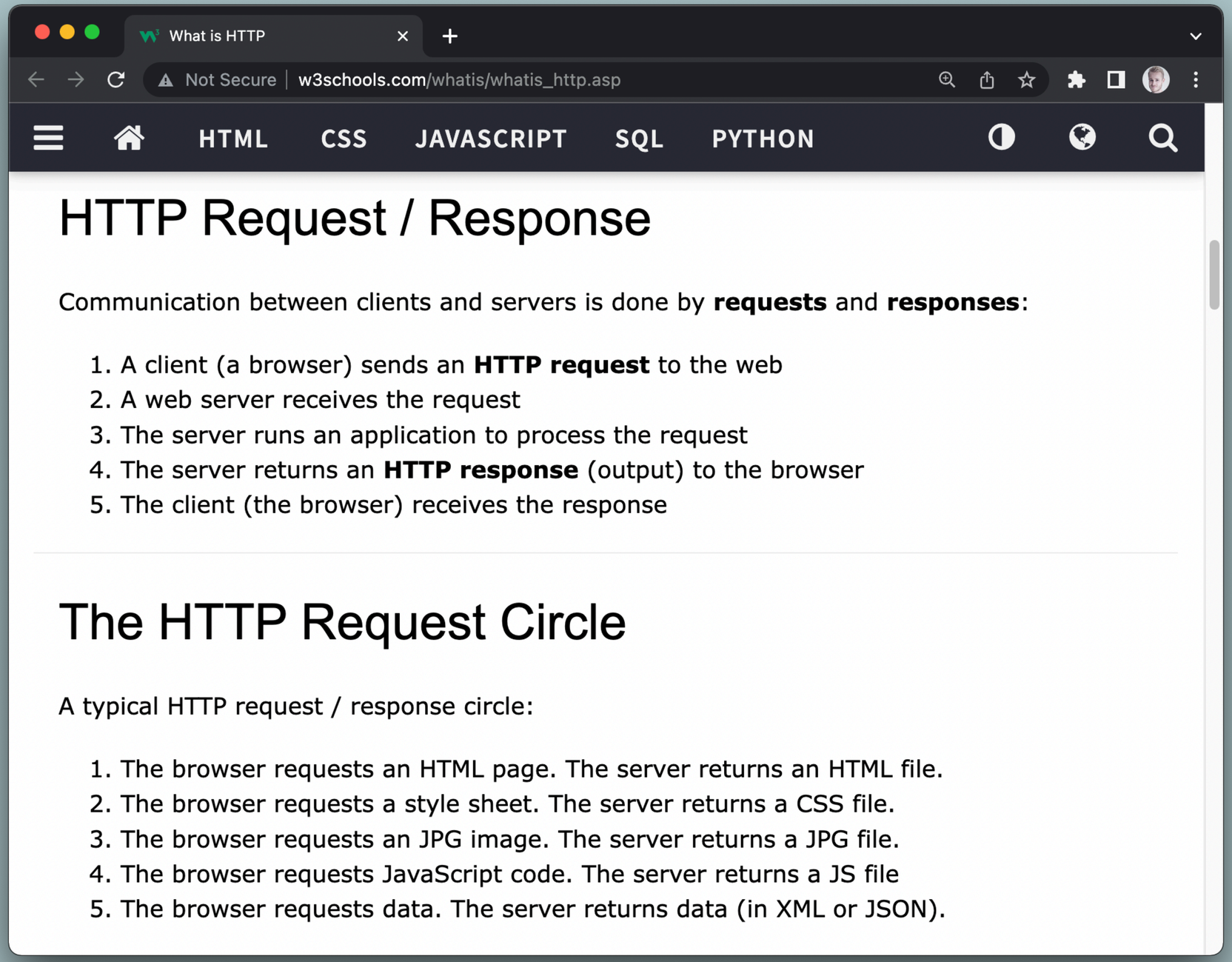
Client-Server Model

Communication between web **clients** and web **servers**.



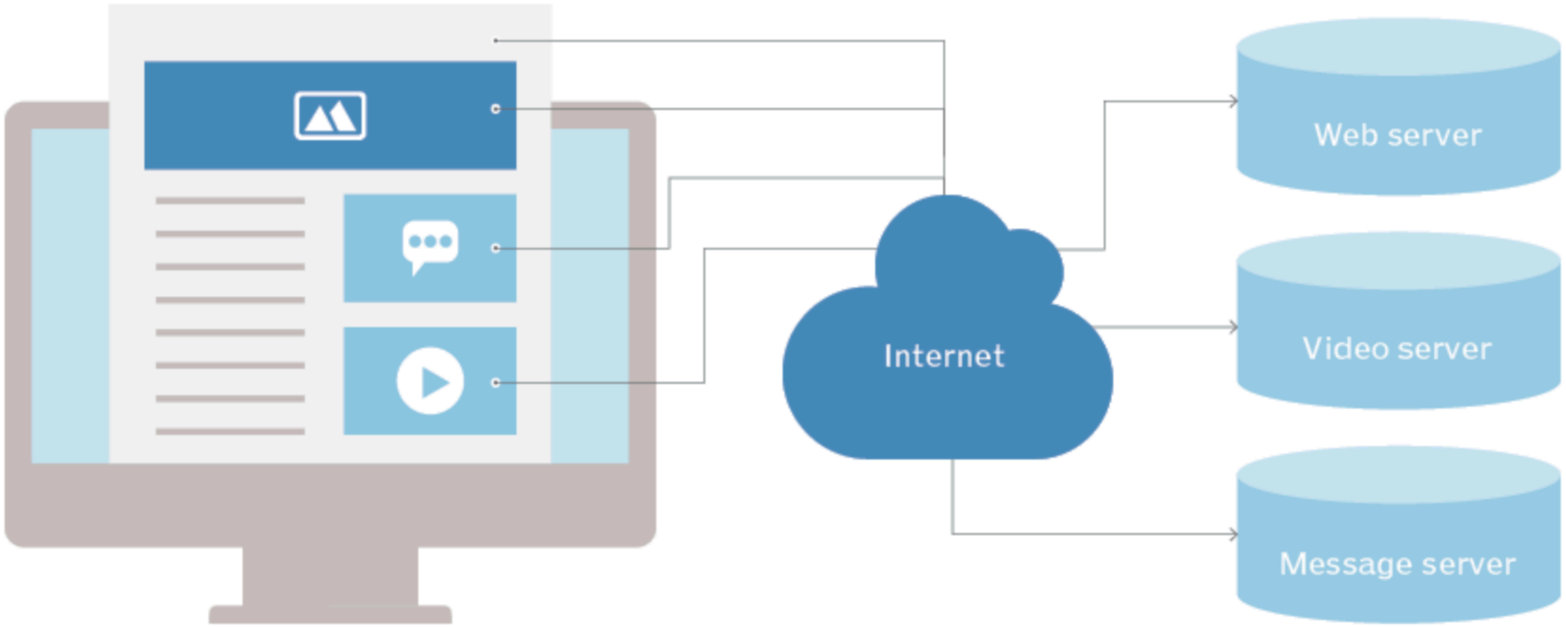
Hyper Text Transfer Protocol

- A protocol and standard for fetching data, HTML and other resources (text, images, videos, scripts, JSON).
- The foundation of the web.



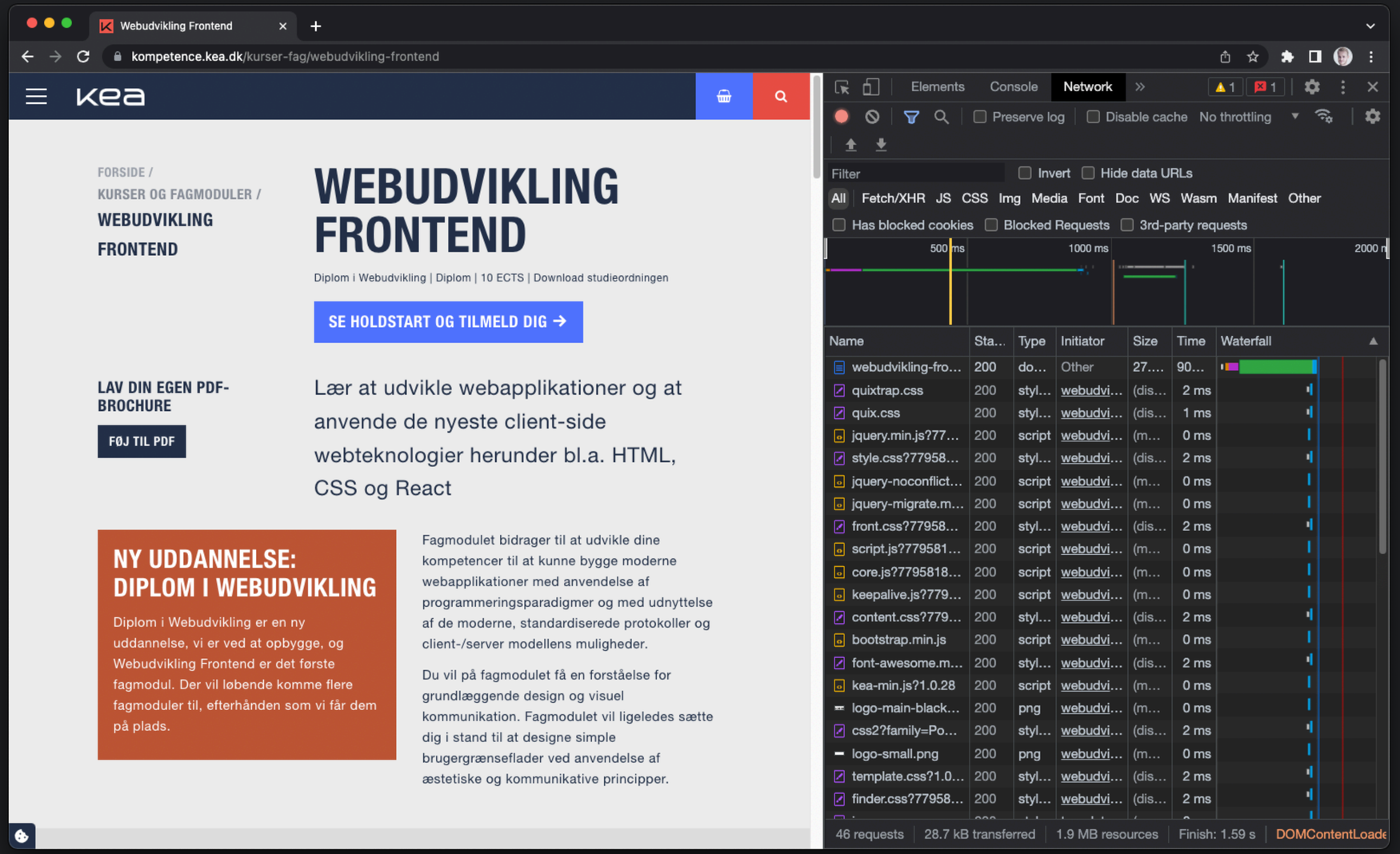
https://www.w3schools.com/whatis/whatis_http.asp

How HTTP Works



https://www.techtarget.com/whatis/definition/HTTP-Hypertext-Transfer-Protocol

Network Tab


Webudvikling Frontend
kompetence.kea.dk/kurser-fag/webudvikling-frontend
kea
FORSIDE /
KURSER OG FAGMODULER /
WEBUDVIKLING
FRONTEND
WEBUDVIKLING FRONTEND
Diplom i Webudvikling | Diplom | 10 ECTS | Download studieordningen
SE HOLDSTART OG TILMELD DIG →
LAV DIN EGEN PDF-BROCHURE
FØJ TIL PDF
Lær at udvikle webapplikationer og at anvende de nyeste client-side webteknologier herunder bl.a. HTML, CSS og React
NY UDDANNELSE: DIPLOM I WEBUDVIKLING
Diplom i Webudvikling er en ny uddannelse, vi er ved at opbygge, og Webudvikling Frontend er det første fagmodul. Der vil løbende komme flere fagmoduler til, efterhånden som vi får dem på plads.
Fagmodulet bidrager til at udvikle dine kompetencer til at kunne bygge moderne webapplikationer med anvendelse af programmeringsparadigmer og med udnyttelse af de moderne, standardiserede protokoller og client-/server modellens muligheder.
Du vil på fagmodulet få en forståelse for grundlæggende design og visuel kommunikation. Fagmodulet vil ligeledes sætte dig i stand til at designe simple brugergrænseflader ved anvendelse af æstetiske og kommunikative principper.
Elements
Console
Network
Preserve log
Disable cache
No throttling
Filter
Invert
Hide data URLs
All
Fetch/XHR
JS
CSS
Img
Media
Font
Doc
WS
Wasm
Manifest
Other
Has blocked cookies
Blocked Requests
3rd-party requests
500 ms
1000 ms
1500 ms
2000 ms
Name
Sta...
Type
Initiator
Size
Time
Waterfall
webudvikling-fro... 200 do... Other 27.... 90...
quixtrap.css 200 styl... webudvi... (dis... 2 ms
quix.css 200 styl... webudvi... (dis... 1 ms
jquery.min.js?77... 200 script webudvi... (m... 0 ms
style.css?77958... 200 styl... webudvi... (dis... 2 ms
jquery-noconflict... 200 script webudvi... (m... 0 ms
jquery-migrate.m... 200 script webudvi... (m... 0 ms
front.css?77958... 200 styl... webudvi... (dis... 2 ms
script.js?7795581... 200 script webudvi... (m... 0 ms
core.js?77958818... 200 script webudvi... (m... 0 ms
keepalive.js?779... 200 script webudvi... (m... 0 ms
content.css?779... 200 styl... webudvi... (dis... 2 ms
bootstrap.min.js 200 script webudvi... (m... 0 ms
font-awesome.m... 200 styl... webudvi... (dis... 2 ms
kea-min.js?1.0.28 200 script webudvi... (m... 0 ms
logo-main-black... 200 png webudvi... (m... 0 ms
css2?family=Po... 200 styl... webudvi... (dis... 2 ms
logo-small.png 200 png webudvi... (m... 0 ms
template.css?1.0... 200 styl... webudvi... (dis... 2 ms
finder.css?77958... 200 styl... webudvi... (dis... 2 ms
46 requests
28.7 kB transferred
1.9 MB resources
Finish: 1.59 s
DOMContentLoade

Web Development

WEB APP

API

DATA SOURCE

FETCH(...)

REQUEST

JSON DATA

RESPONSE

JSON

CLIENT

SERVER

Network-tabben

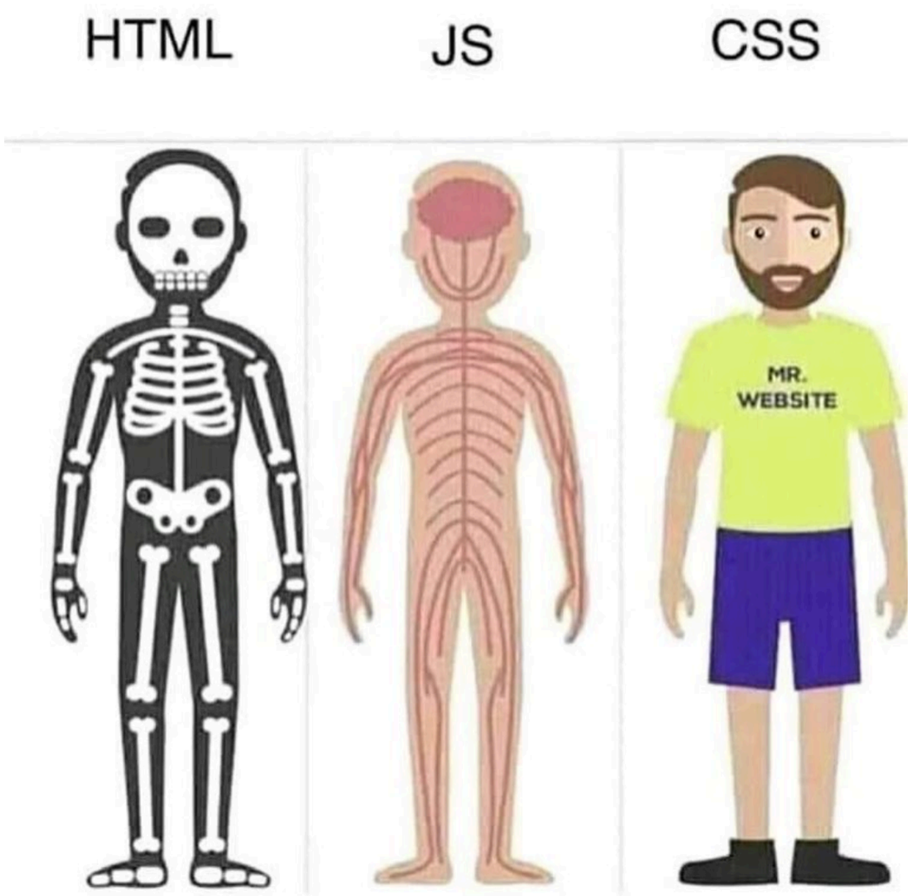
- Brug Network-tabben til at undersøge et website (fx kea.dk, dr.dk, google.dk, react-rest-and-auth.web.app eller et helt andet).
- Åben websitet i Chrome (eller en anden browser).
- Åben Developer Tool (se: How to open the dev tool in your browser) og gå til Network/Netværk.
- Genindlæs siden imens du står i Network-tabben og undersøg hvilke ressourcer, der bliver hentet.
- Hvilke(n) type ressourcer er der tale om?
- Overvej hvordan ressourcerne hentes.

Frontend stack

STRUCTURE
CONTENT

FUNCTIONALITY
BEHAVIOR

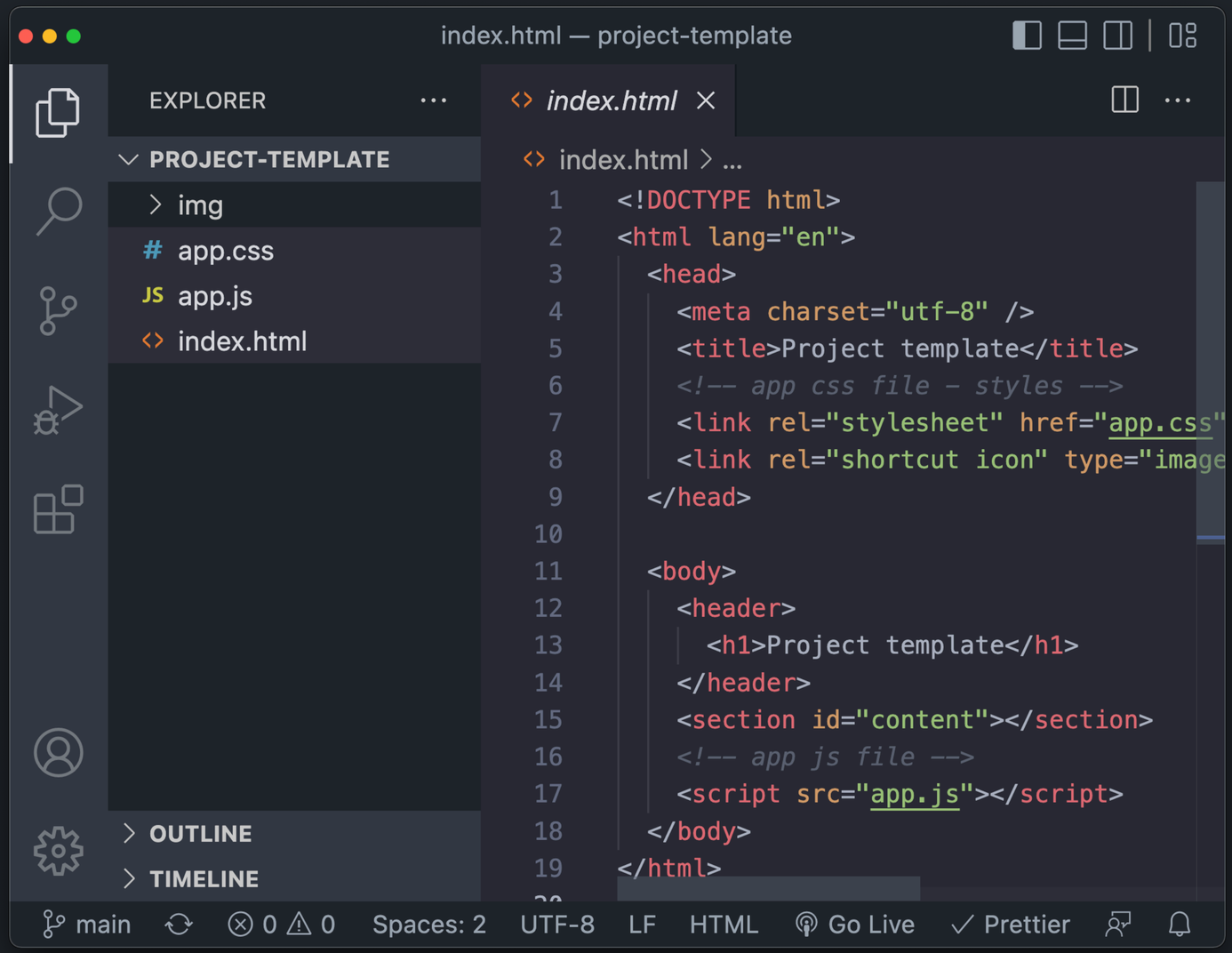
LAYOUT/STYLING
PRESENTATION



https://www.instagram.com/p/Bw90x2Ojo4g/

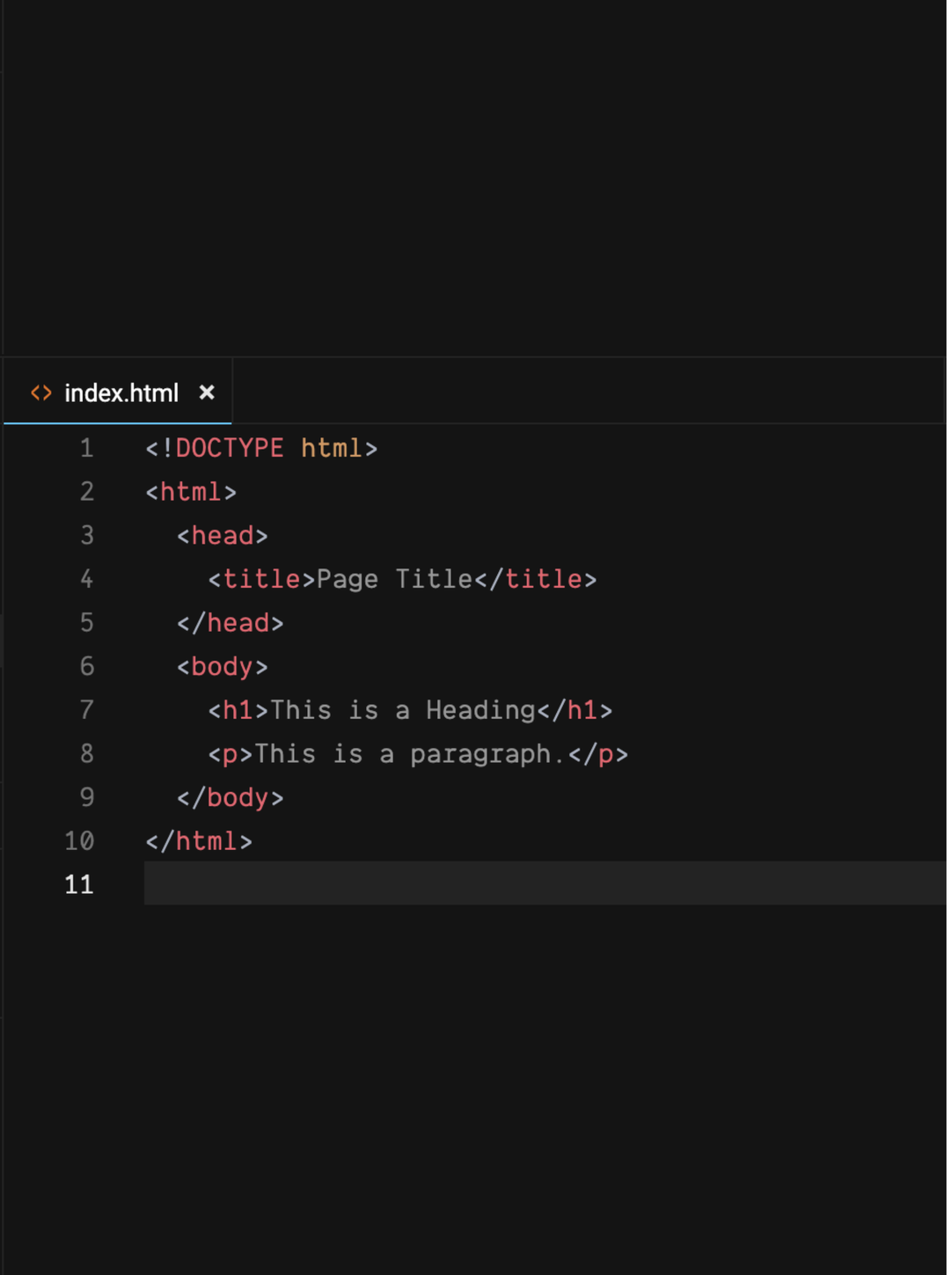
Frontend Project Structure

- Project structure
  - HTML
  - CSS
  - JavaScript
- Keep a good structure & strive for consistency
- Separation of concerns



HTML, CSS & JavaScript

You can literally build anything with it!



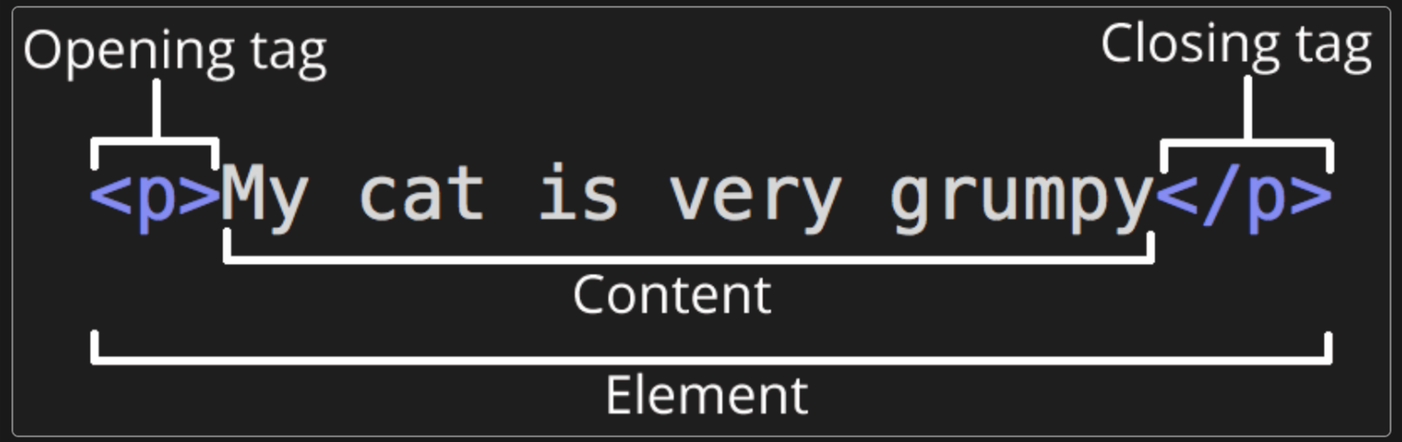
What is HTML?

- Hyper Text Markup Language
- Standard markup language for creating Web pages
- Describes the structure of a Web page
- Consists of a series of elements (tags)
- HTML elements tell the browser how to display the content

https://www.w3schools.com/html/html_intro.asp

Anatomy of an HTML element

Element: opening and closing tag + content



https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Getting_started#anatomy_of_an_html_element

Void elements

Element: single tag, usually to insert or embed something in a HTML

```
<img src="https://kompetence.kea.dk/images/resources/logo-main-black-single.png" alt="KEA logo" />
```

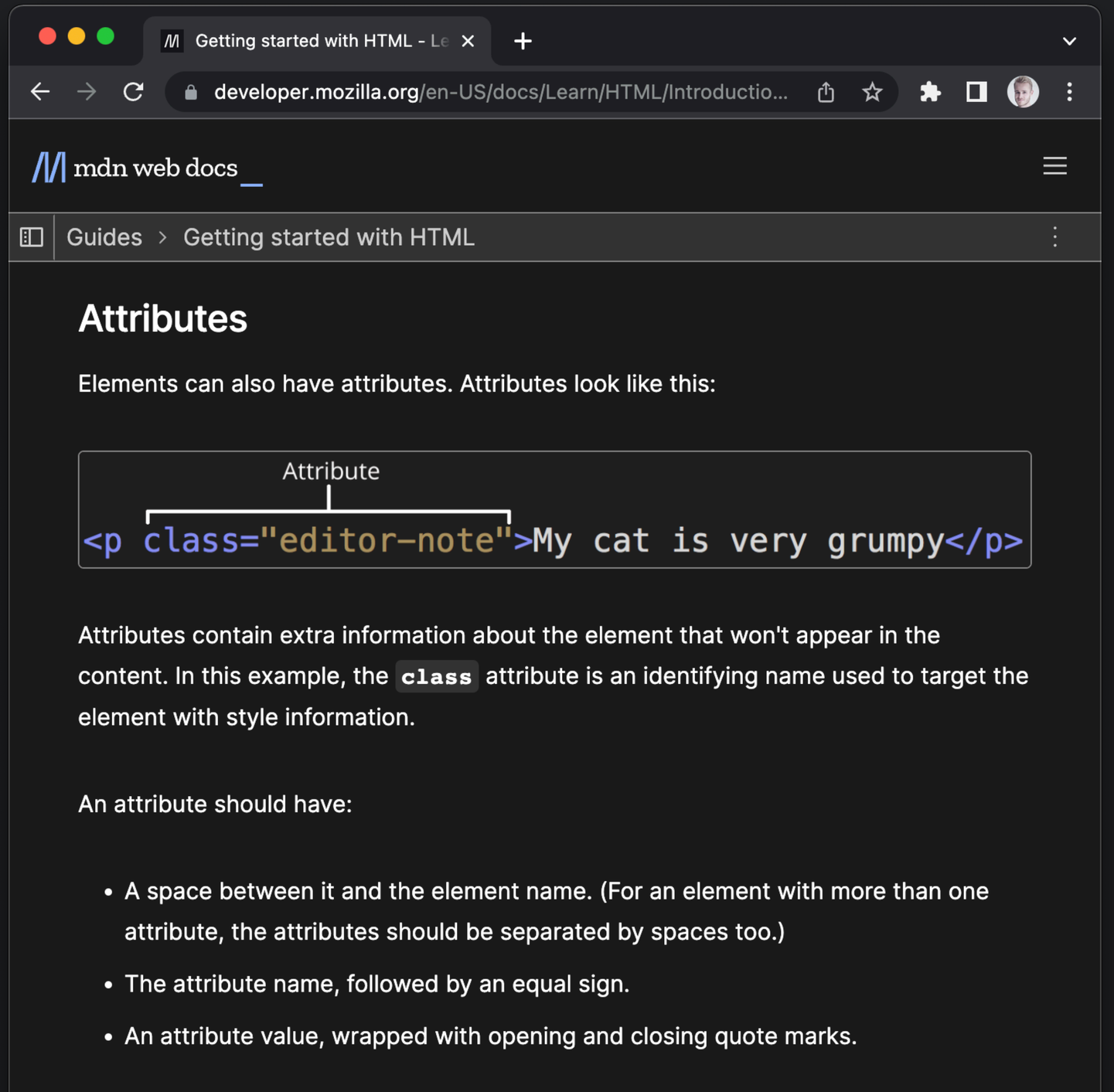
https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Getting_started#void_elements

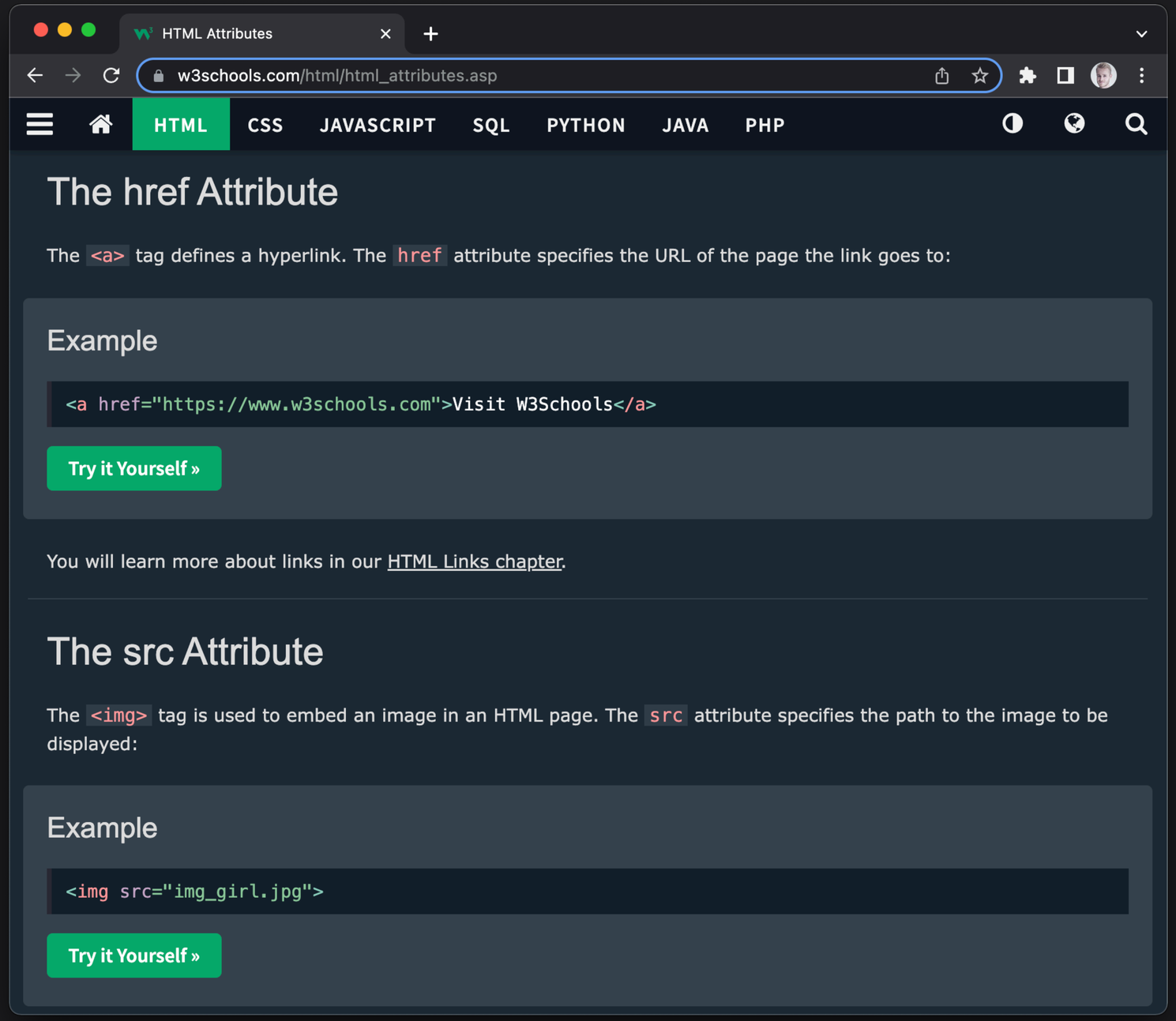
Attributes

- Provides additional information and all element can have them.
- Are specified in the start tag
- name/value pairs: `name="value"`

Attributes - mdn

HTML Attributes - W3Schools





https://www.w3schools.com/html/html_attributes.asp

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>This is a Heading</h1>
    <p>This is a paragraph.</p>
  </body>
</html>

```

Browser Tests

https://9nypo.csb.app/

This is a Heading

This is a paragraph.

Anatomy of an HTML document

index.html

```html
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>This is a Heading</h1>
    <p>This is a paragraph.</p>
  </body>
</html>
```

The `<!DOCTYPE html>` declaration defines that this document is an HTML5 document

The `<html>` element is the root element of an HTML page

The `<head>` element contains meta information about the HTML page

The `<title>` element specifies a title for the HTML page (which is shown in the browser's title bar or in the page's tab)

The `<body>` element defines the document's body, and is a container for all the visible contents, such as headings, paragraphs, images, hyperlinks, tables, lists, etc.

The `<h1>` element defines a large heading

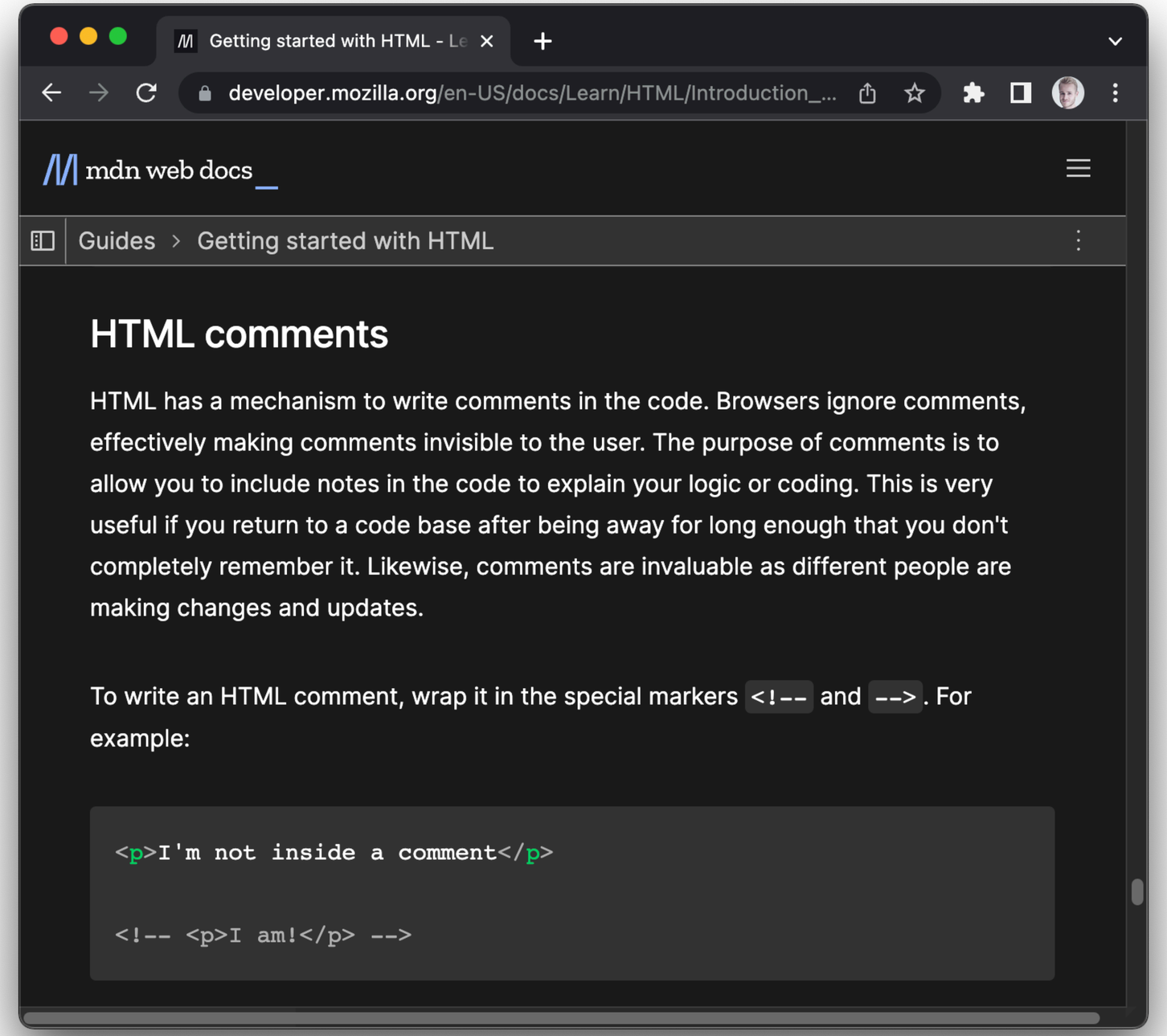
The `<p>` element defines a paragraph

https://www.w3schools.com/html/html_intro.asp

index.html

```
<!DOCTYPE html>
<html>
  <head>
    <title>Page Title</title>
  </head>
  <body>
    <h1>This is a Heading</h1>
    <p>This is a paragraph.</p>
  </body>
</html>
```

https://www.w3schools.com/html/html_intro.asp



https://developer.mozilla.org/en-US/docs/Learn/HTML/Introduction_to_HTML/Getting_started#anatomy_of_an_html_document

HTML Quiz & Exercises

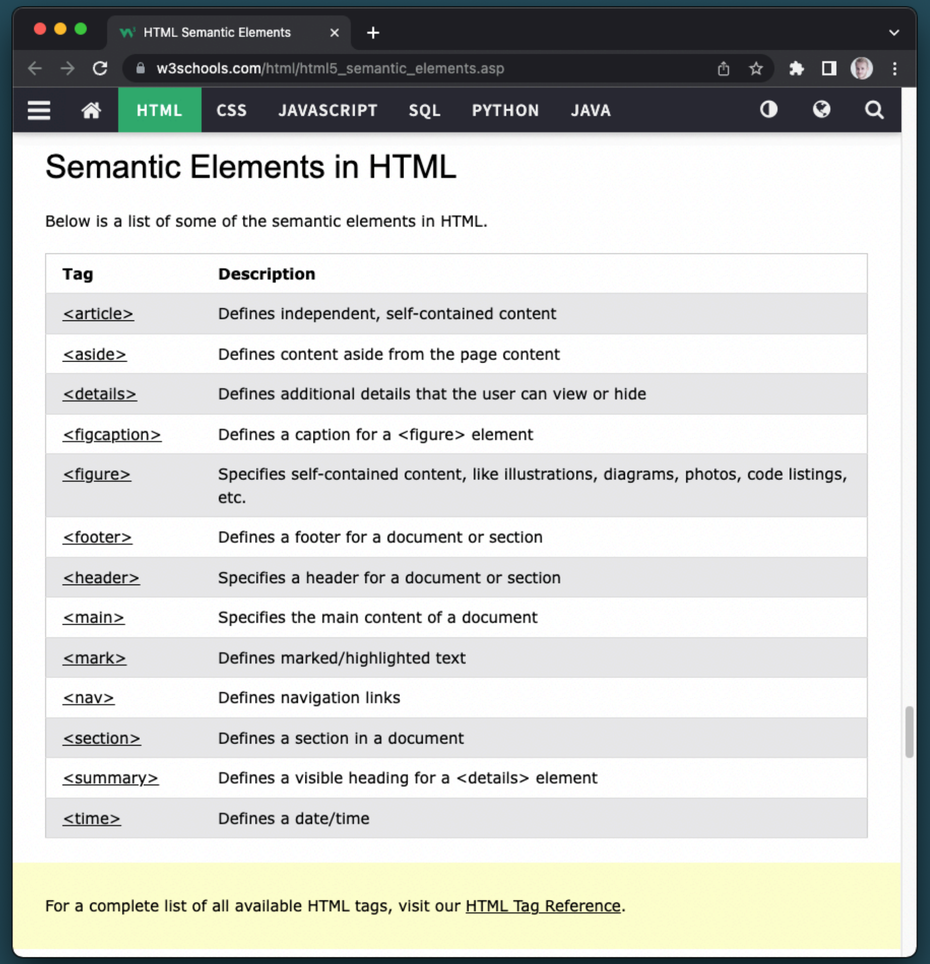
HTML Quiz

HTML Exercises

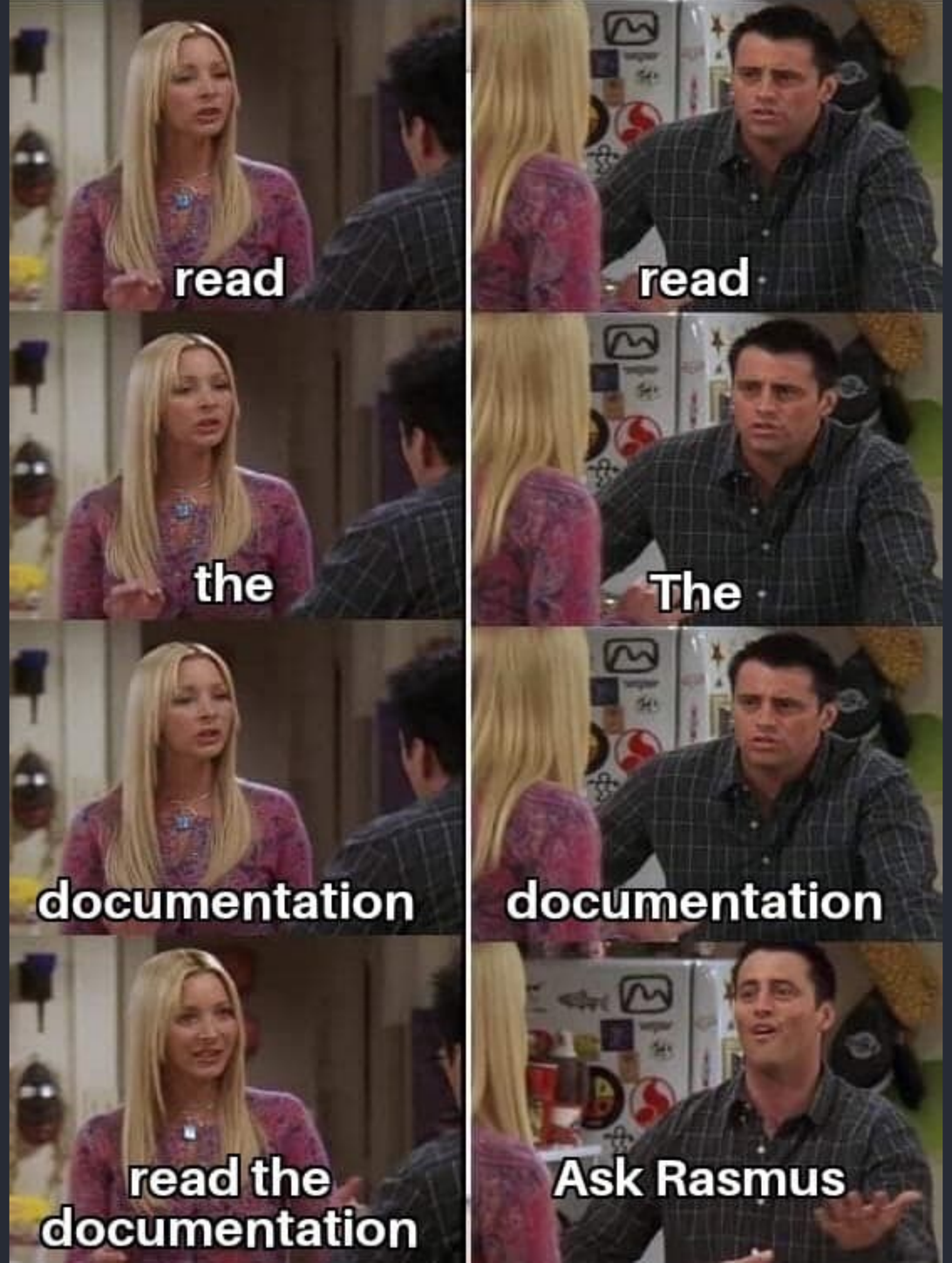
HTML Semantic Elements

Clearly describes the meaning to both the browser and the developer.

Semantic elements = elements with a meaning



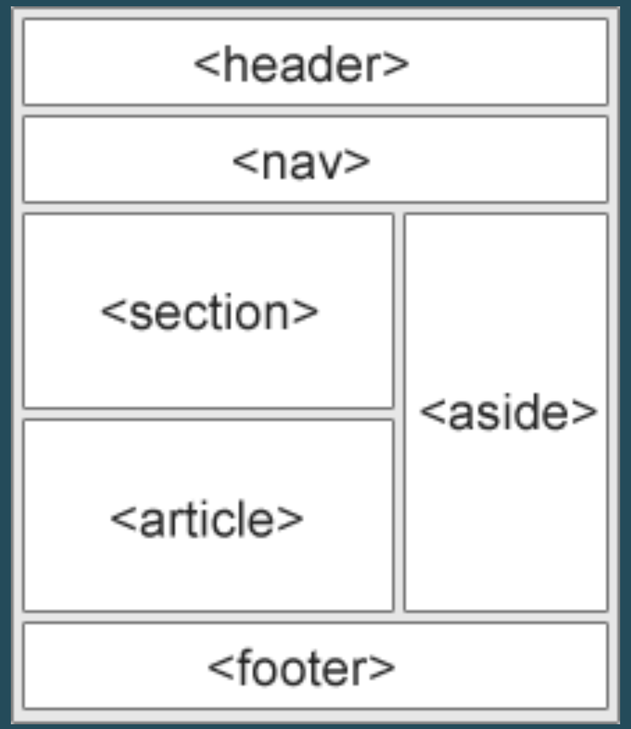
https://www.w3schools.com/html/html5_semantic_elements.asp


read
read
the
The
documentation
documentation
read the documentation
Ask Rasmus

HTML Semantic Elements

Semantic elements that can be used to define different parts of a website

- <article>
- <aside>
- <details>
- <figcaption>
- <figure>
- <footer>
- <header>
- <main>
- <mark>
- <nav>
- <section>
- <summary>
- <time>

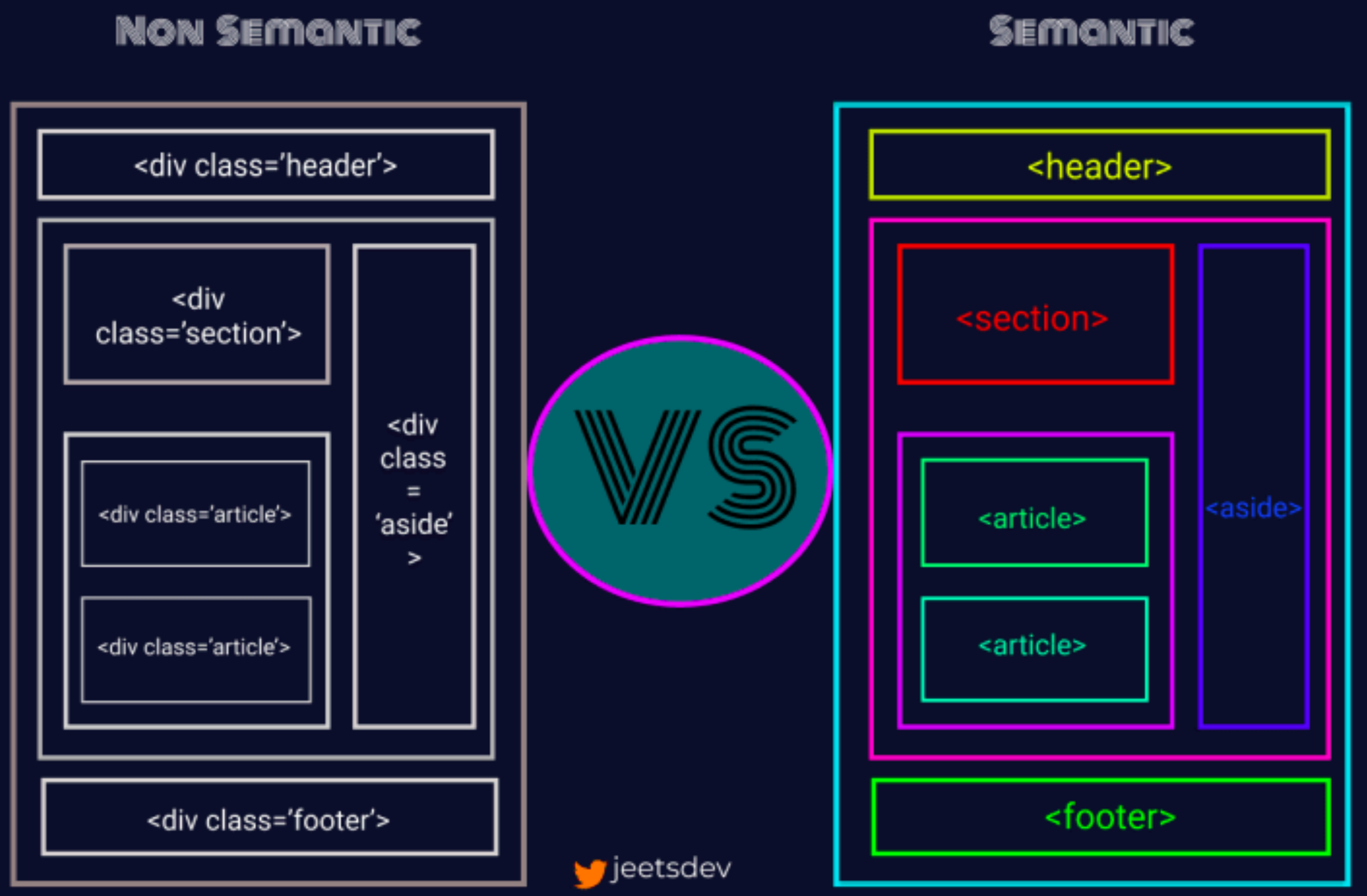


https://www.w3schools.com/html/html5_semantic_elements.asp

Why use semantic elements?

```
<body>
  <div id="header">
    <h1>PROJECT TEMPLATE</h1>
  </div>
  <div class="sections">
    <div class="article">
      <div class="figure">
        <img>
        <div class="figcaption"></div>
      </div>
    </div>
  </div>
  <div id="footer"></div>
  <!-- main js file -->
  <script src="js/main.js"></script>
</body>
```

```
<body>
  <header>
    <h1>PROJECT TEMPLATE</h1>
  </header>
  <section>
    <article>
      <figure>
        <img>
        <figcaption></figcaption>
      </figure>
    </article>
  </section>
  <footer></footer>
  <!-- main js file -->
  <script src="js/main.js"></script>
</body>
```


Non Semantic

VS
jeetsdev
Semantic
<header>
<section>
<article>
<article>
<aside>
<footer>

`<div>` tags?

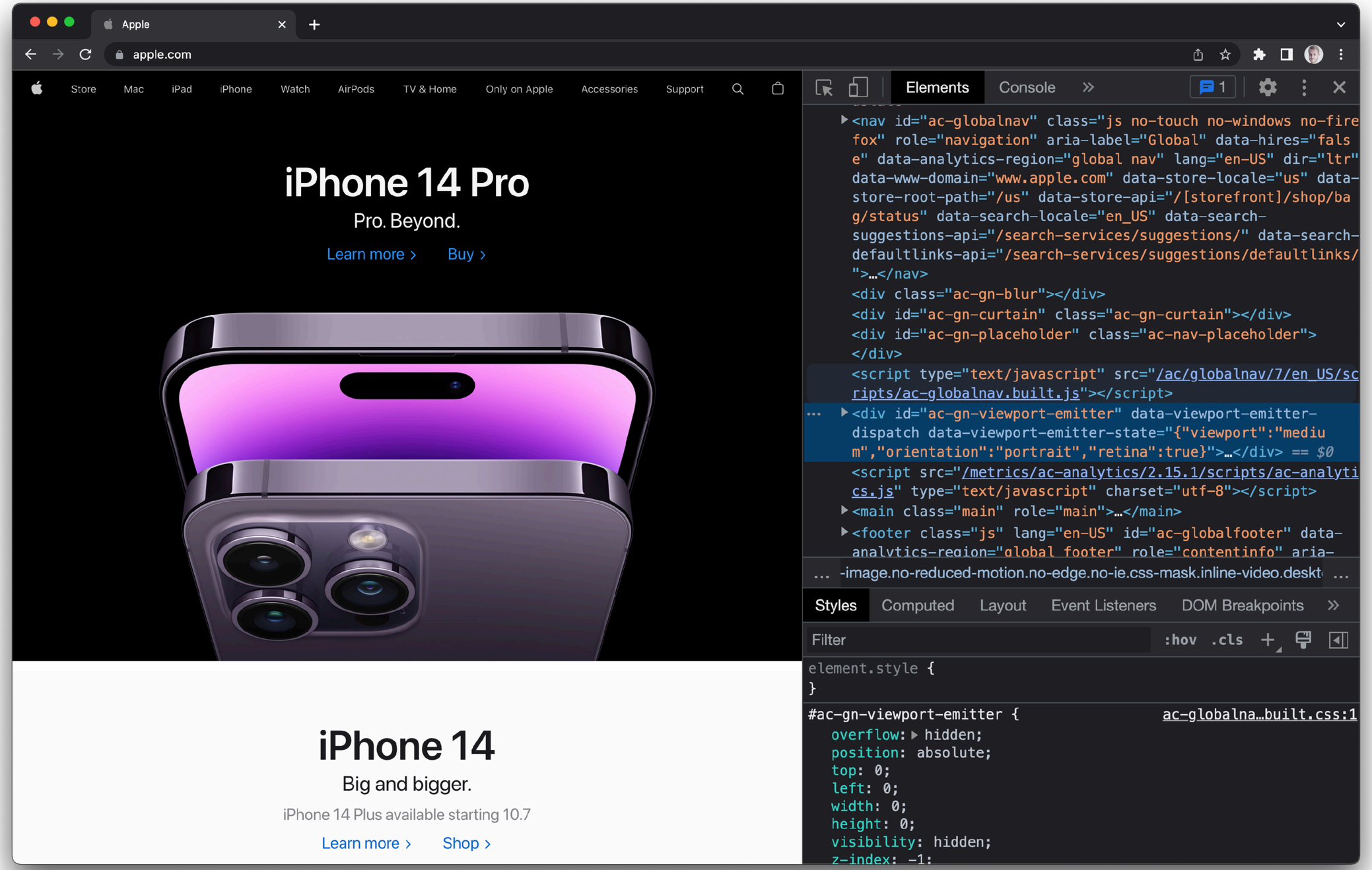
Many websites contain HTML code like:

```
<div id=“nav">
<div class=“header">
<div id="footer">
```

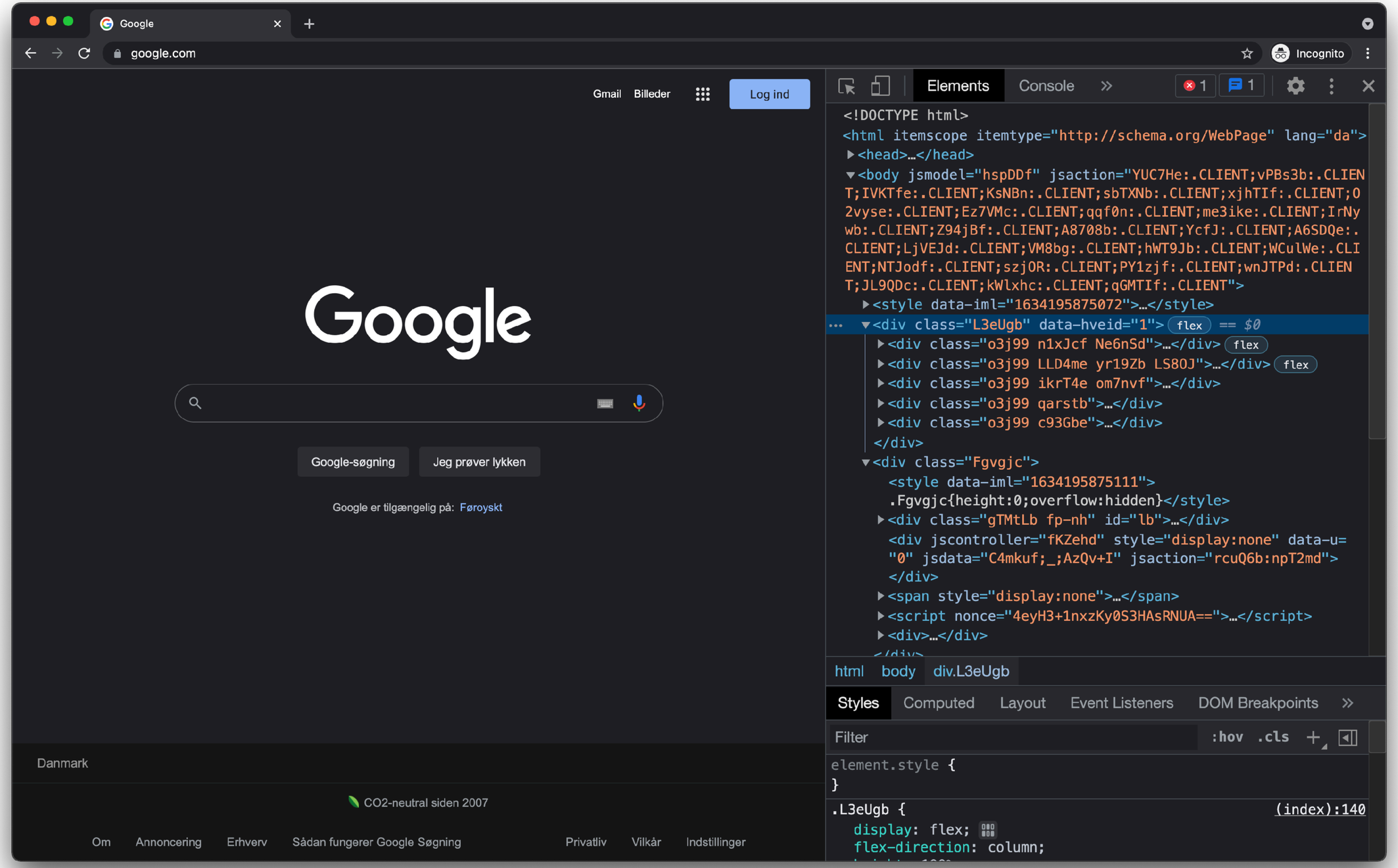
to indicate navigation, header, and footer.

Can we still use `div` tags?

https://www.w3schools.com/html/html5_semantic_elements.asp


Apple
apple.com
Store
Mac
iPad
iPhone
Watch
AirPods
TV & Home
Only on Apple
Accessories
Support
iPhone 14 Pro
Pro. Beyond.
Learn more ›
Buy ›
iPhone 14
Big and bigger.
iPhone 14 Plus available starting 10.7
Learn more ›
Shop ›
Elements
Console
<nav id="ac-globalnav" class="js no-touch no-windows no-firefox" role="navigation" aria-label="Global" data-hires="false" data-analytics-region="global nav" lang="en-US" dir="ltr" data-www-domain="www.apple.com" data-store-locale="us" data-store-root-path="/us" data-store-api="/[storefront]/shop/bag/status" data-search-locale="en_US" data-search-suggestions-api="/search-services/suggestions/" data-search-defaultlinks-api="/search-services/suggestions/defaultlinks/">…</nav>

<script type="text/javascript" src="/ac/globalnav/7/en_US/scripts/ac-globalnav.built.js"></script>
<div id="ac-gn-viewport-emitter" data-viewport-emitter-dispatch data-viewport-emitter-state="{"viewport":"medium","orientation":"portrait","retina":true}">… == $0
<script src="/metrics/ac-analytics/2.15.1/scripts/ac-analytics.js" type="text/javascript" charset="utf-8"></script>
<main class="main" role="main">…</main>
<footer class="js" lang="en-US" id="ac-globalfooter" data-analytics-region="global footer" role="contentinfo" aria-
-image.no-reduced-motion.no-edge.no-ie.css-mask.inline-video.deskt
Styles
Computed
Layout
Event Listeners
DOM Breakpoints
Filter
:hov .cls
element.style {
}
#ac-gn-viewport-emitter {
ac-globalna…built.css:1
overflow: hidden;
position: absolute;
top: 0;
left: 0;
width: 0;
height: 0;
visibility: hidden;
z-index: -1;


Google
google.com
Incognito
Gmail
Billeder
Log ind
Google
Google-søgning
Jeg prøver lykken
Google er tilgængelig på: Føroyskt
Danmark
CO2-neutral siden 2007
Om
Annoncering
Erhverv
Sådan fungerer Google Søgning
Privatliv
Vilkår
Indstillinger
Elements
Console
<!DOCTYPE html>
<html itemscope itemtype="http://schema.org/WebPage" lang="da">
<head>…</head>
<body jsmodel="hspDDf" jsaction="YUC7He:.CLIENT;vPBs3b:.CLIENT;IVKTfe:.CLIENT;KsNBn:.CLIENT;sbTXNb:.CLIENT;xjhTIf:.CLIENT;O2vyse:.CLIENT;Ez7VMc:.CLIENT;qqf0n:.CLIENT;me3ike:.CLIENT;IrNywb:.CLIENT;Z94jBf:.CLIENT;A8708b:.CLIENT;YcfJ:.CLIENT;A6SDQe:.CLIENT;LjVEJd:.CLIENT;VM8bg:.CLIENT;hWT9Jb:.CLIENT;WCulWe:.CLIENT;NTJodf:.CLIENT;szjOR:.CLIENT;PY1zjf:.CLIENT;wnJTPd:.CLIENT;JL9QDc:.CLIENT;kWlxhc:.CLIENT;qGMTIf:.CLIENT">
<style data-iml="1634195875072">…</style>

…
…
…
…
…

<style data-iml="1634195875111">
.Fgvgjc{height:0;overflow:hidden}</style>
…

…
<script nonce="4eyH3+1nxzKy0S3HAsRNUA==">…</script>
…
html
body
div.L3eUgb
Styles
Computed
Layout
Event Listeners
DOM Breakpoints
Filter
:hov
.cls
element.style {
}
.L3eUgb {
(index):140
display: flex;
flex-direction: column;

HTML Semantic Elements

w3schools.com/html/html5_semantic_elements.asp

Incognito

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HTML CSS JAVASCRIPT SQL PYTHON PHP BOOTSTRAP

HTML Semantic Elements

❮ Previous Next ❯

Semantic elements = elements with a meaning.

What are Semantic Elements?

A semantic element clearly describes its meaning to both the browser and the developer.

Examples of **non-semantic** elements: `<div>` and `<span>` - Tells nothing about its content.

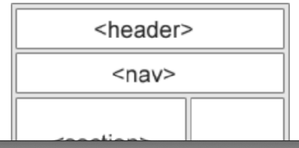
Examples of **semantic** elements: `<form>`, `<table>`, and `<article>` - Clearly defines its content.

Semantic Elements in HTML

Many web sites contain HTML code like: to indicate navigation, header, and footer.

In HTML there are some semantic elements that can be used to define different parts of a web page:

- <article>
- <aside>
- <details>
- <figcaption>



Elements Console 2 2 28

```
<body> == $0
  <div class="w3-bar w3-card-2 notranslate" style="position: relative;z-index: 4;font-size: 18px;background-color: white;color:#282A35;padding-left:12px;padding-right:16px;font-family: 'Source Sans Pro', sans-serif;">…</div>
  <div style="display:none;position:absolute;z-index:4;right:52px;height:44px;background-color:#282A35;letter-spacing:normal;" id="googleSearch">…</div>
  <div style="display:none;position:absolute;z-index:3;right:111px;height:44px;background-color:#282A35;text-align:right;padding-top:9px;" id="google_translate_element"></div>
  <div class="w3-card-2 topnav notranslate" id="topnav" style="position: relative;">…</div>
  <div id="myAccordion" class="w3-card-2 w3-center w3-hide-large w3-hide-medium" style="width: 100%; position: absolute; display: none; background-color: rgb(231, 233, 235); padding-top: 0px;">…</div>
  <script> </script>
  <div class="w3-sidebar w3-collapse" id="sidenav" style="top: 118px; display: none;">…</div>
  <div class="w3-main w3-light-grey" id="belowtopnav" style="margin-left: 220px; padding-top: 0px;">
    <div class="w3-row w3-white">
      ::before
      <div class="w3-col l10 m12" id="main">
        <div id="mainLeaderboard" style="overflow:hidden;">…</div>
        <h1>…</h1>
        <div class="w3-clear nextprev"> </div>
```

html body

Styles Computed Layout Event Listeners DOM Breakpoints

Filter :hov .cls

```
element.style {
}
html, body {                                    w3schools28.css:27
  font-family: Verdana,sans-serif;
  font-size: 15px;
```

tags?

Use semantic elements as much as possible (!)

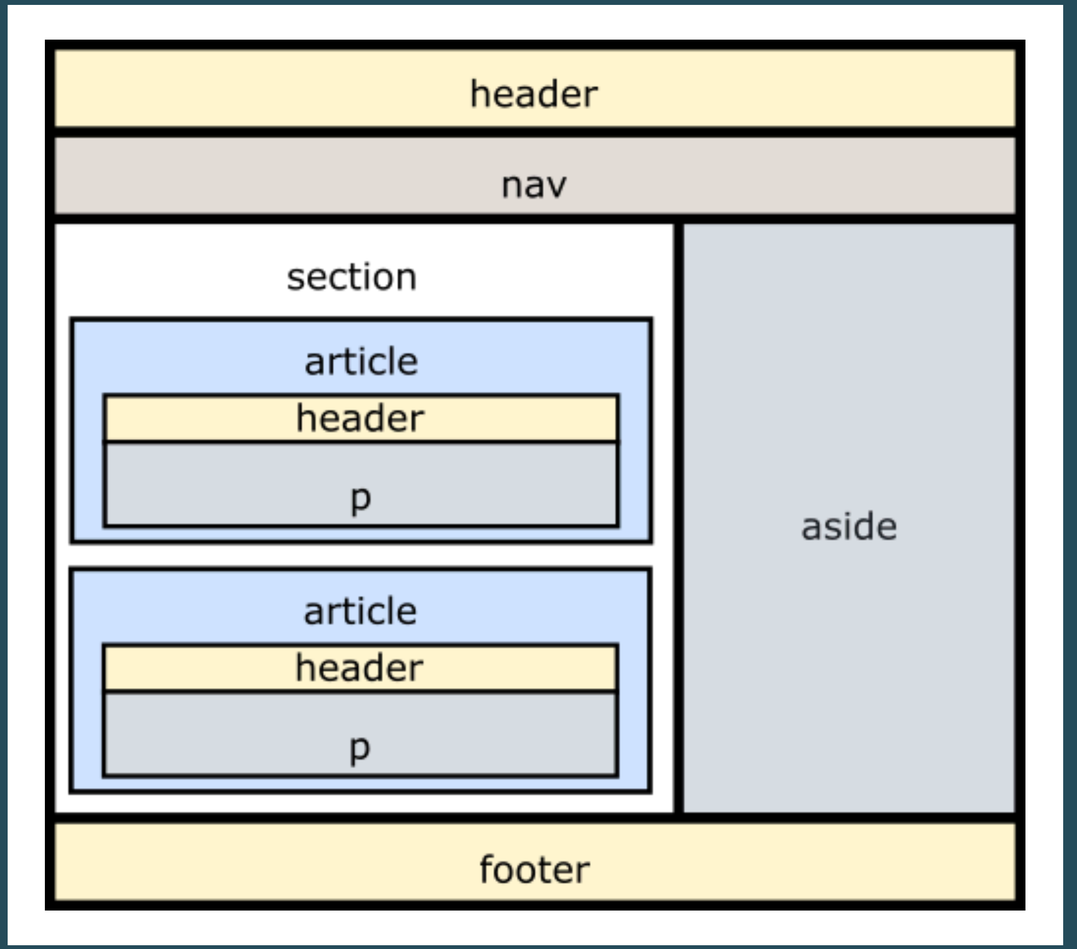
... but don't let it stop you from building something amazing 🎉

- RACE

https://www.w3schools.com/html/html5_semantic_elements.asp

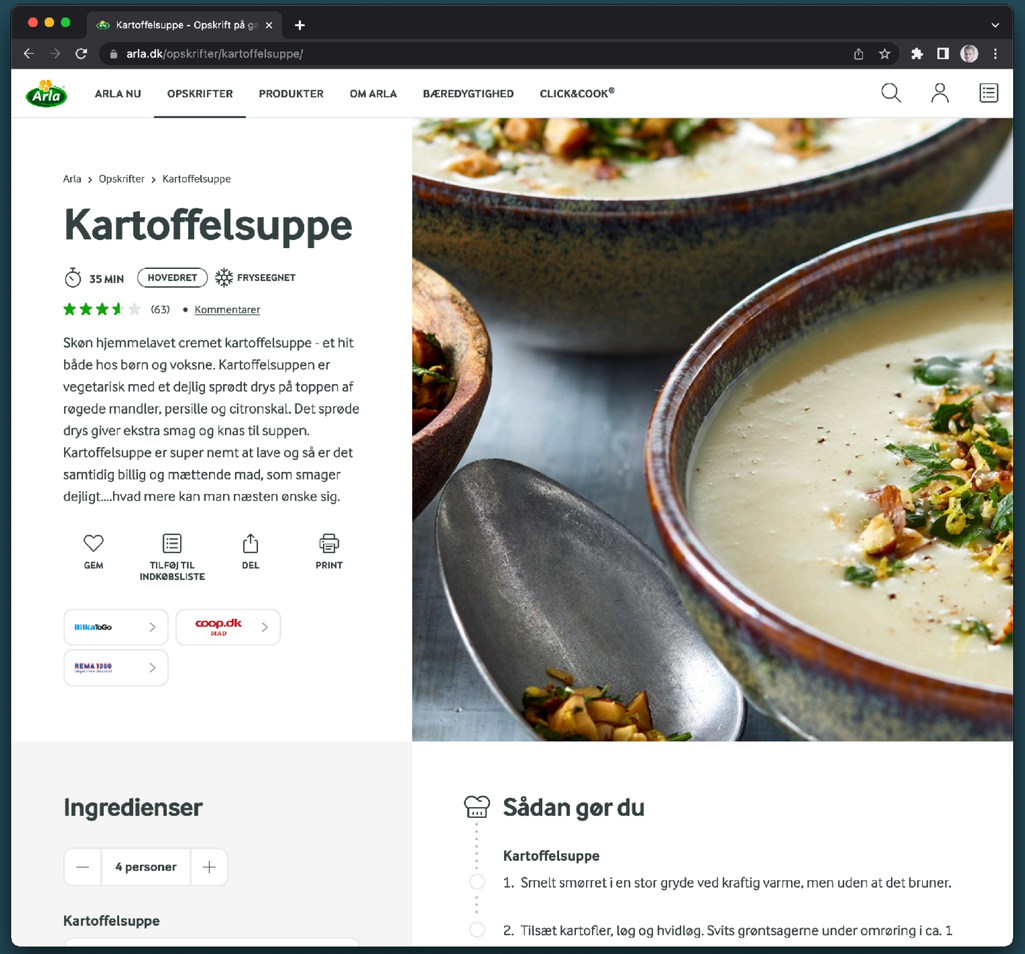
HTML Semantics Exercise

1. Use the `project-template` from GitHub. Make a copy of the project and paste the project folder into your own local dev folder.
2. Create a structure matching the image to the right. Use HTML Semantic tags.
3. Add content to the structure, like headings, links, text (paragraphs), images and contact info. Explore and use HTML Element Reference & HTML Semantics.
4. Extra: Add some styling (CSS).



HTML Recipe Exercise

- Tag udgangspunkt i dit projekt fra foregående opgave (tag eventuelt en kopi)
- Strukturér en opskriftsside med elementer som overskrift(er), beskrivelse(r), billede(r), liste af ingredienser og fremgangsmåde. Du skal bruge HTML elementer og semantiske tags.
- Fokus er struktur i HTML'en - ikke styling og layout.
- Du kan bruge elementer som h1, h2, h3, p, section, article, aside, main, ul, li og mange andre. Gå på opdagelse i "dokumentationen".
- Brug indhold fra websitet til venstre eller en anden opskrift efter eget ønske.



Semantic HTML & SEO (indexability)

Why tell the browser what the HTML elements represents?

... to improve

Search Engine Optimization

Tell what your content is about and

by hierarchy, tell what’s important

Why Semantic HTML?

“Because semantic HTML uses elements for their given purpose, it’s easier for both people and machines to read and understand it.”

5 Ways to Write Semantic HTML and Improve Webpage SEO and Accessibility

“Semantic HTML means using correct HTML elements for their correct purpose as much as possible. Semantic elements are elements with a meaning; if you need a button, use the `<button>` element (and not a `<div>` element).”

Semantic

```
<button>Report an Error</button>
```

Non-semantic

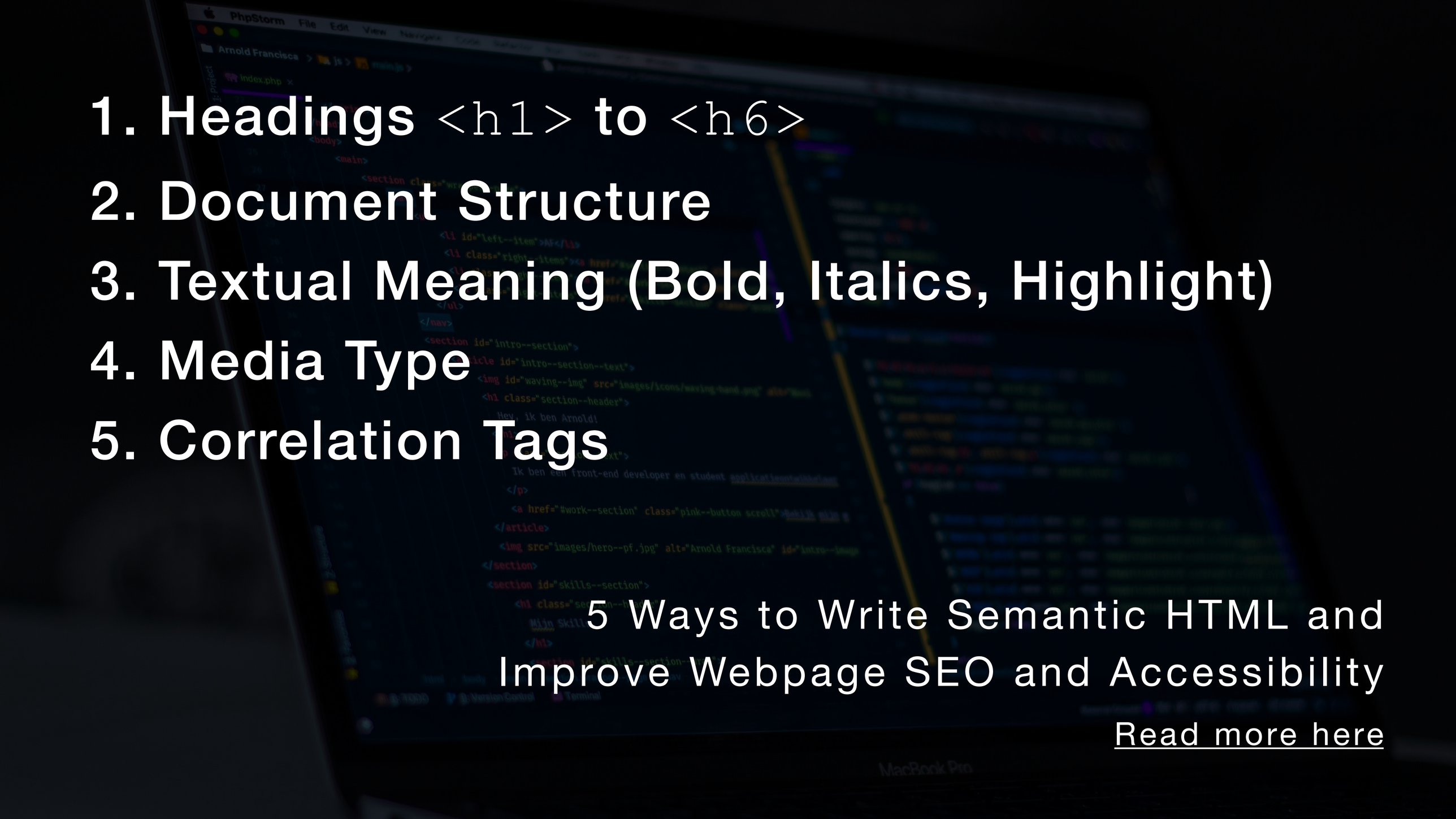
```
<div>Report an Error</div>
```

https://www.w3schools.com/html/html_accessibility.asp

Examples of non-semantic elements: `<div>` and `<span>`
- Tells nothing about its content.

Examples of semantic elements: `<form>`, `<table>`, and `<article>`
- Clearly defines its content.

https://www.w3schools.com/html/html_accessibility.asp



1. Headings `<h1>` to `<h6>`
2. Document Structure
3. Textual Meaning (Bold, Italics, Highlight)
4. Media Type
5. Correlation Tags

5 Ways to Write Semantic HTML and Improve Webpage SEO and Accessibility

Read more here

What’s Accessibility?

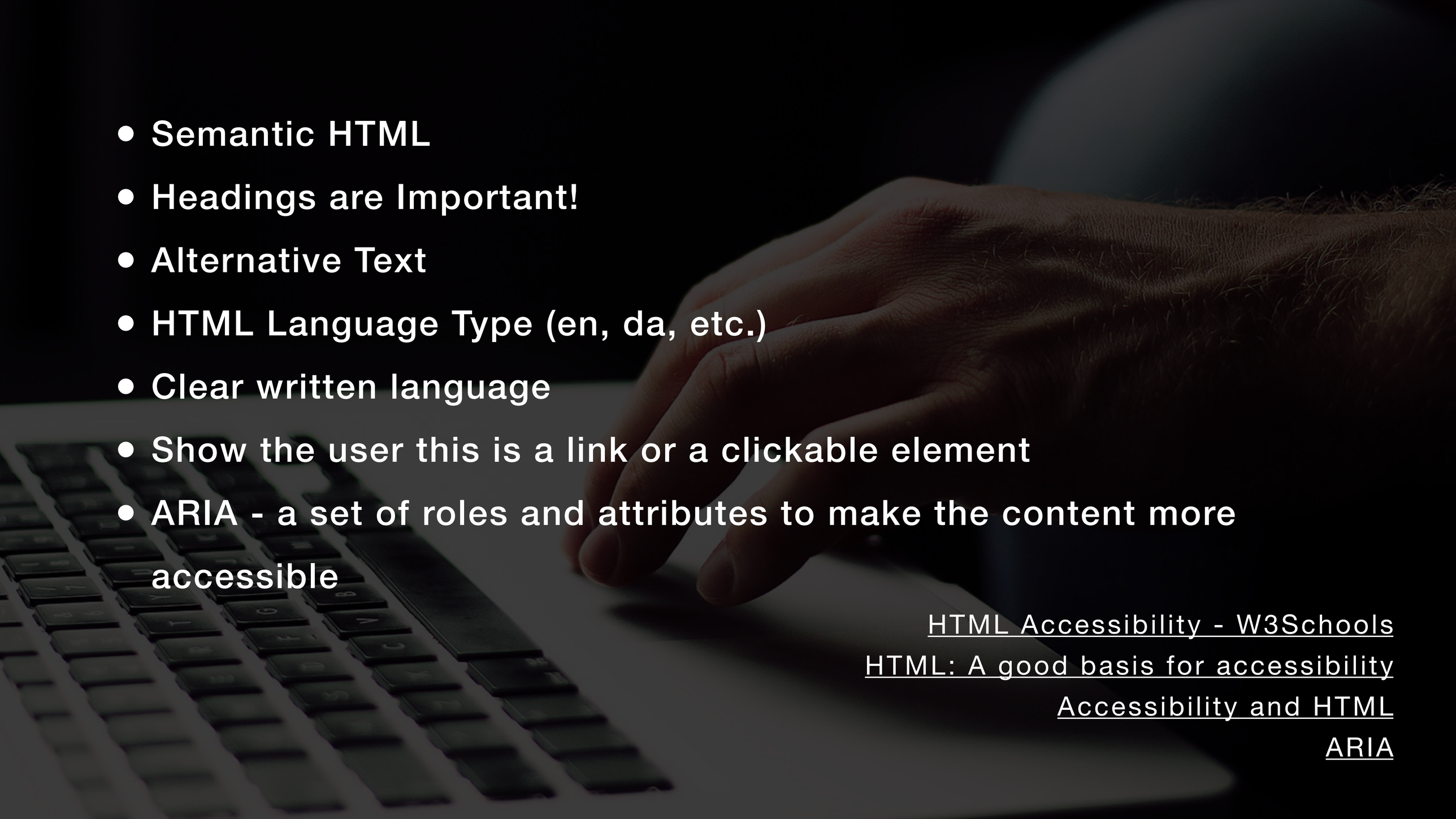
“[...] the practice of making your websites usable by as many people as possible.”

- and machines, programs and devices.

What is accessibility?

“Web accessibility means that people with disabilities can use the Web.”

Why Web Accessibility Is Important and How You Can Accomplish It



- Semantic HTML
- Headings are Important!
- Alternative Text
- HTML Language Type (en, da, etc.)
- Clear written language
- Show the user this is a link or a clickable element
- ARIA - a set of roles and attributes to make the content more accessible

HTML Accessibility - W3Schools

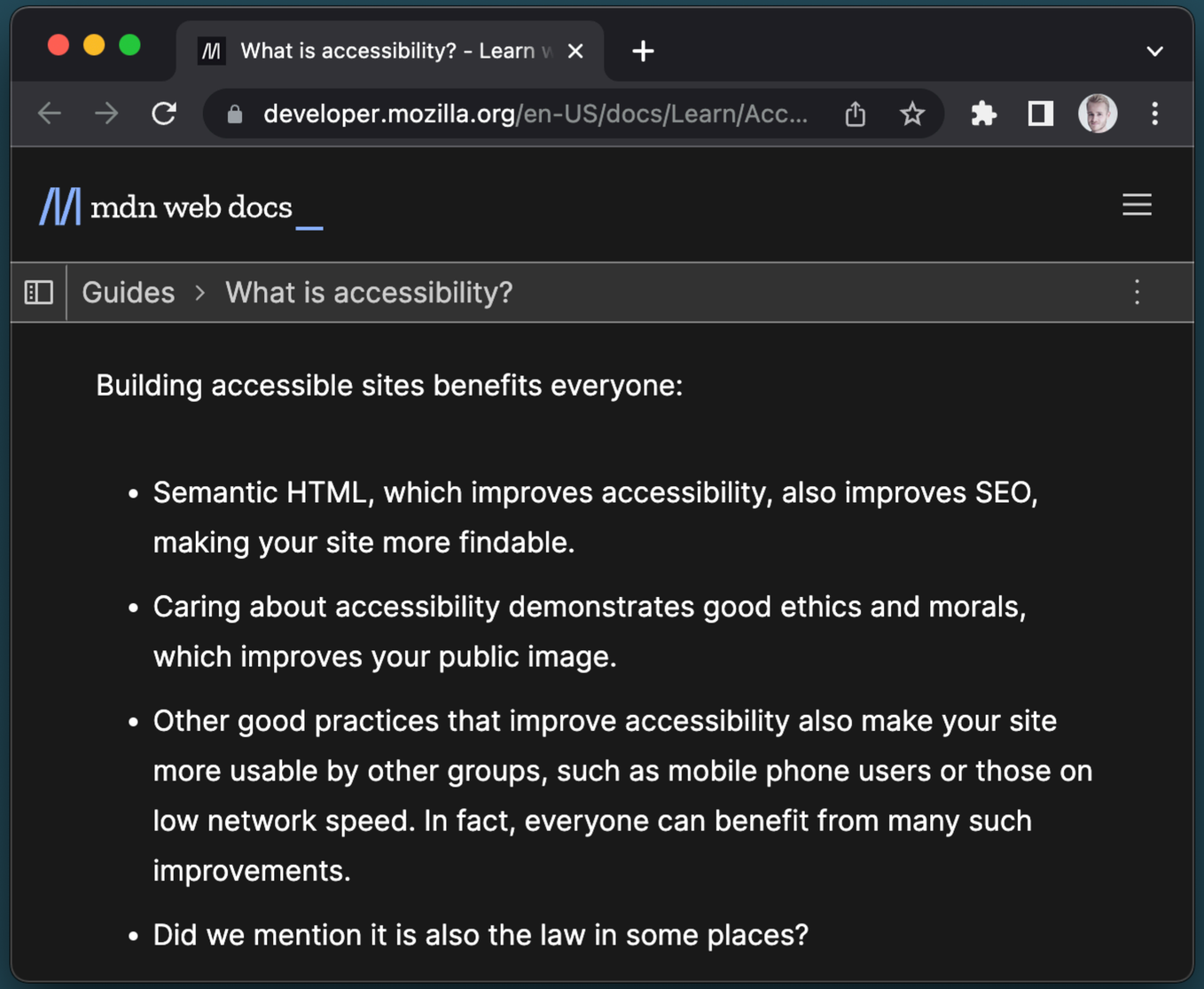
HTML: A good basis for accessibility

Accessibility and HTML

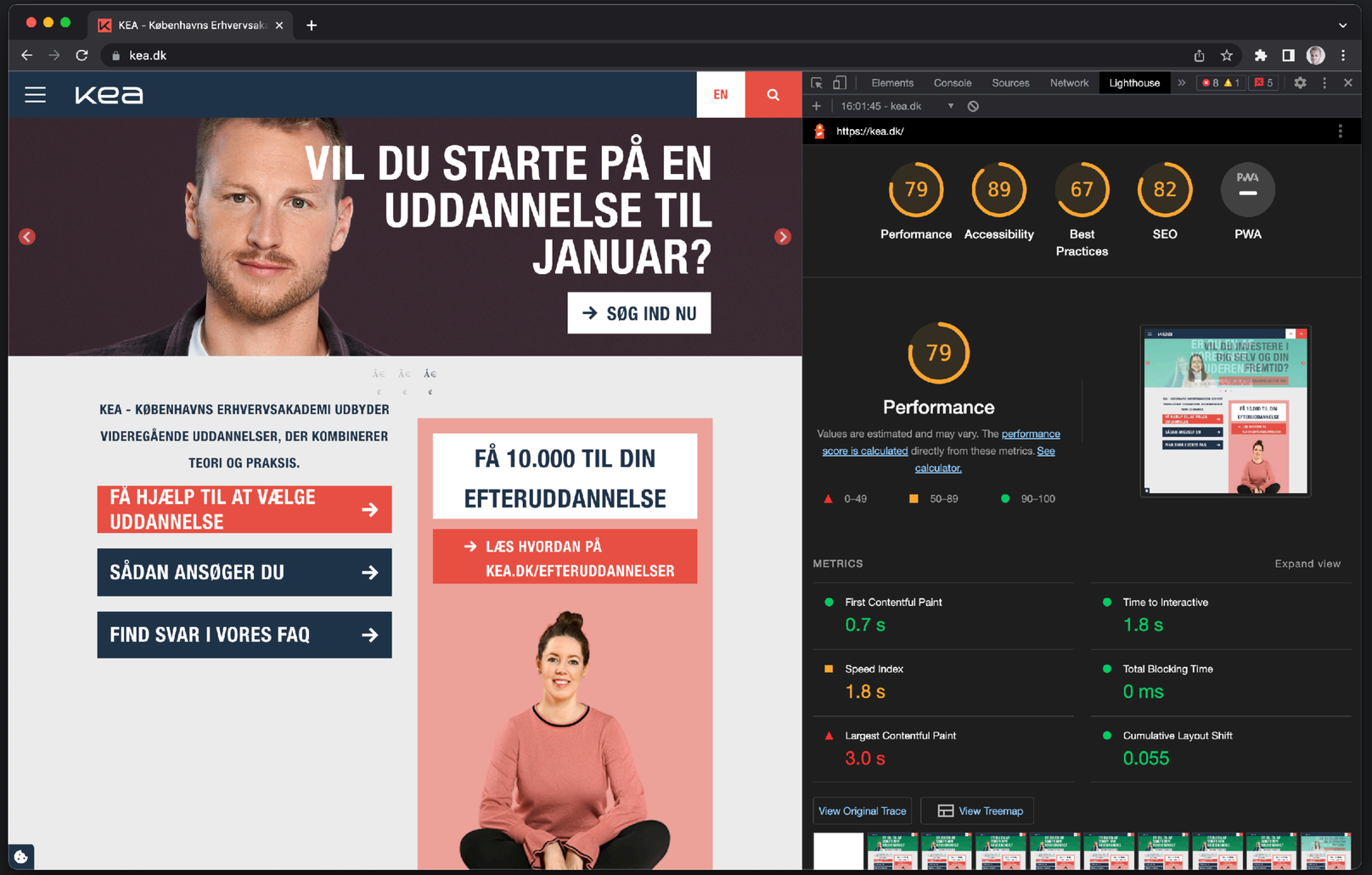
ARIA

The benefits of accessibility?

What is accessibility?



Lighthouse in Chrome




Git, GitHub & GitHub Desktop
Version Control, Collaboration & how to manage your code projects

Git

VERSION CONTROL - SOFTWARE

A system that tracks all changes in your code

GitHub

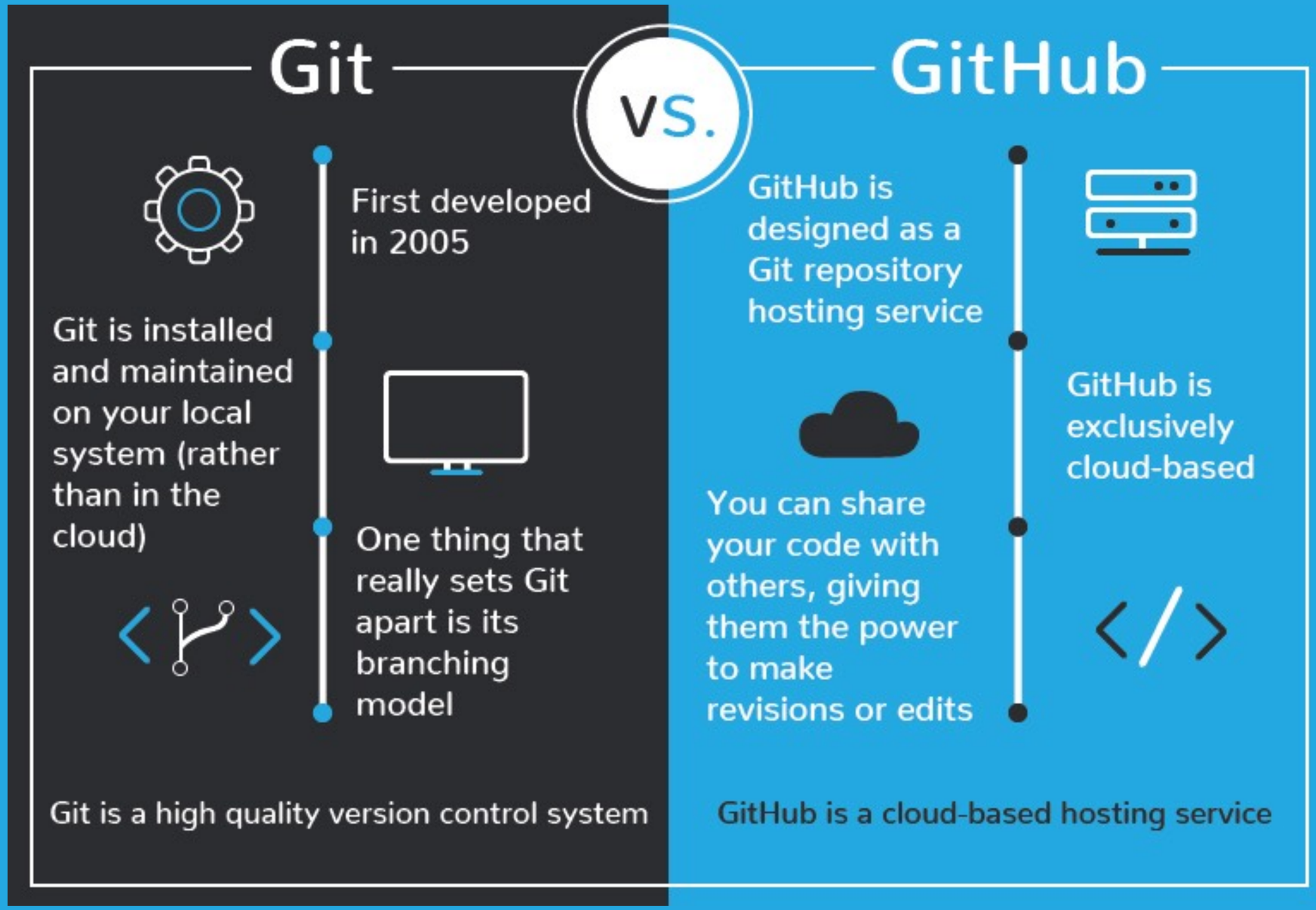
CLOUD-BASED HOSTING SERVICE

The interface that uses git and helps people like you and me collaborate on projects

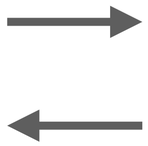
GitHub Desktop

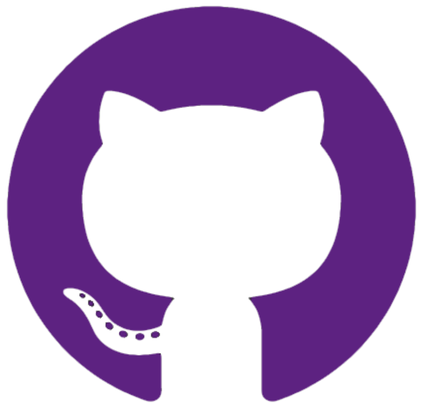
AN APPLICATION ON YOUR COMPUTER

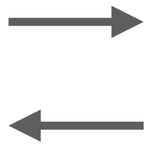
A GUI to manage your project with Git and GitHub


Git
vs.
GitHub
First developed in 2005
Git is installed and maintained on your local system (rather than in the cloud)
One thing that really sets Git apart is its branching model
Git is a high quality version control system
GitHub is designed as a Git repository hosting service
GitHub is exclusively cloud-based
You can share your code with others, giving them the power to make revisions or edits
GitHub is a cloud-based hosting service

Git







WEB PROJECT

GITHUB DESKTOP
APP / GUI

GITHUB
SERVER WITH REPOSITORIES

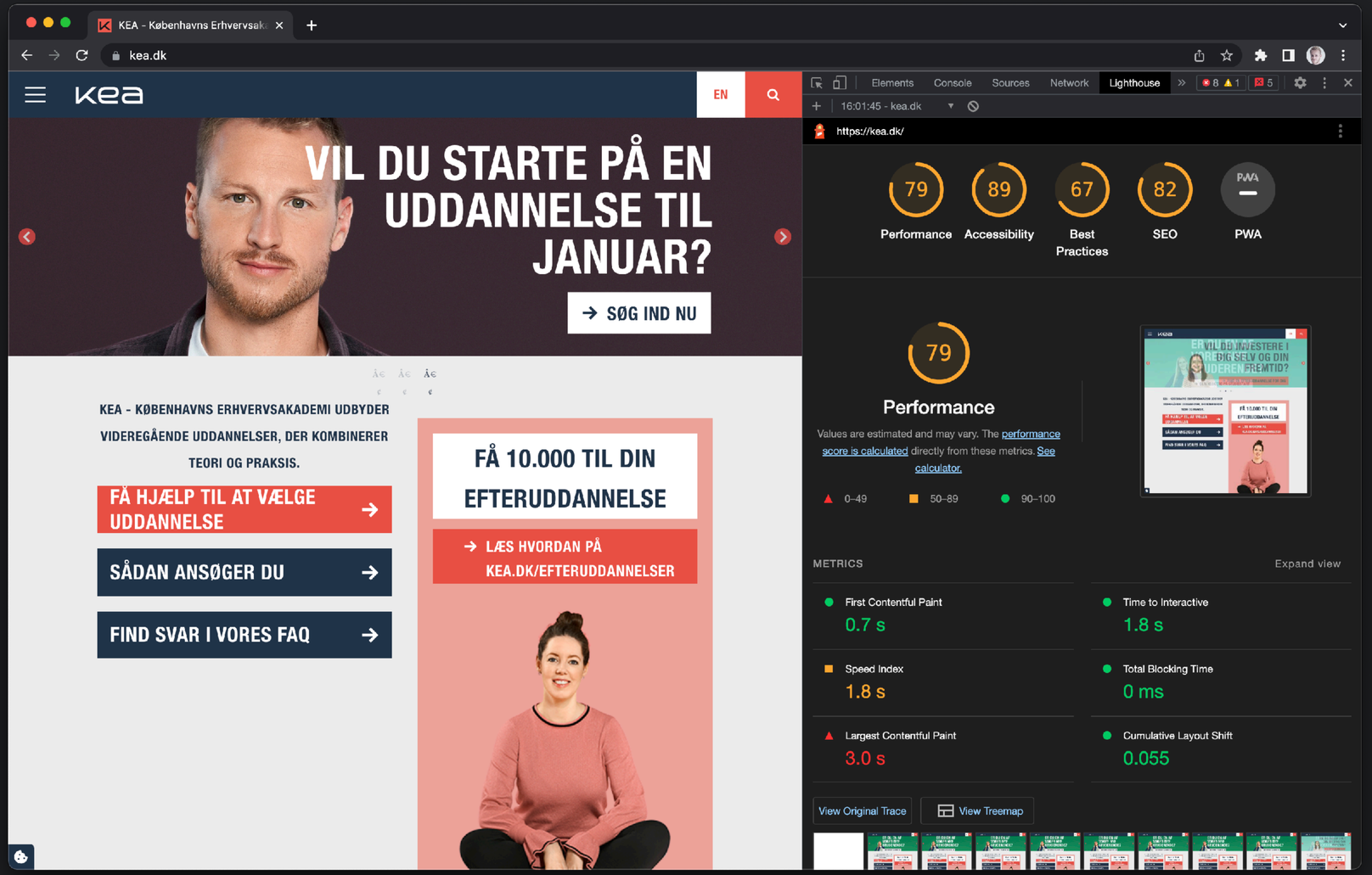
Performance is about...

- Load time of your website
- Is your site usable while loading resources? (Lazy loading)
- Smoothness and interactivity
- Does your site seem fast to the user? (Perceived performance)
- Measuring performance

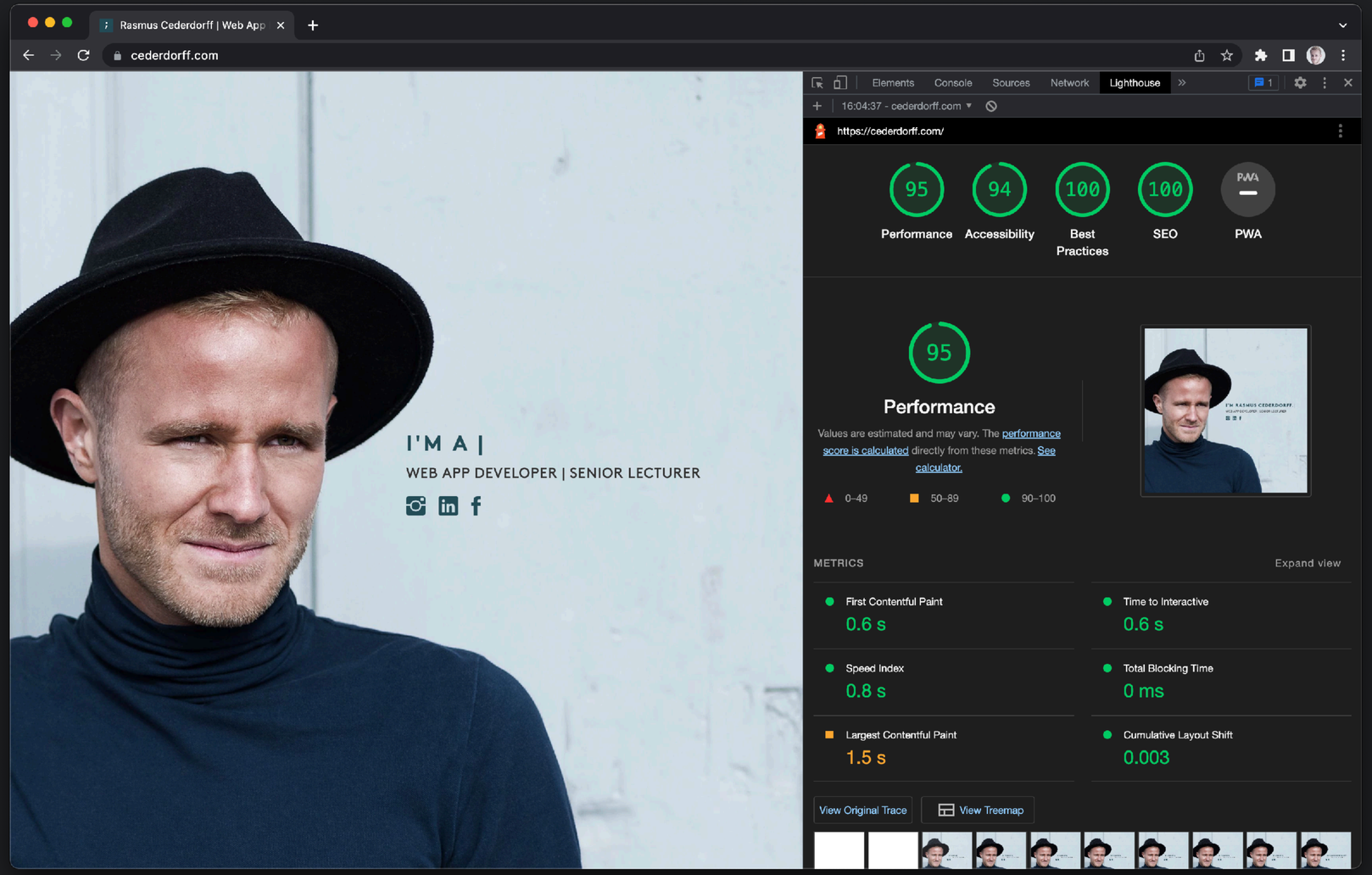
Reduce and minimise size (ex images), loading and response time

What is web performance?

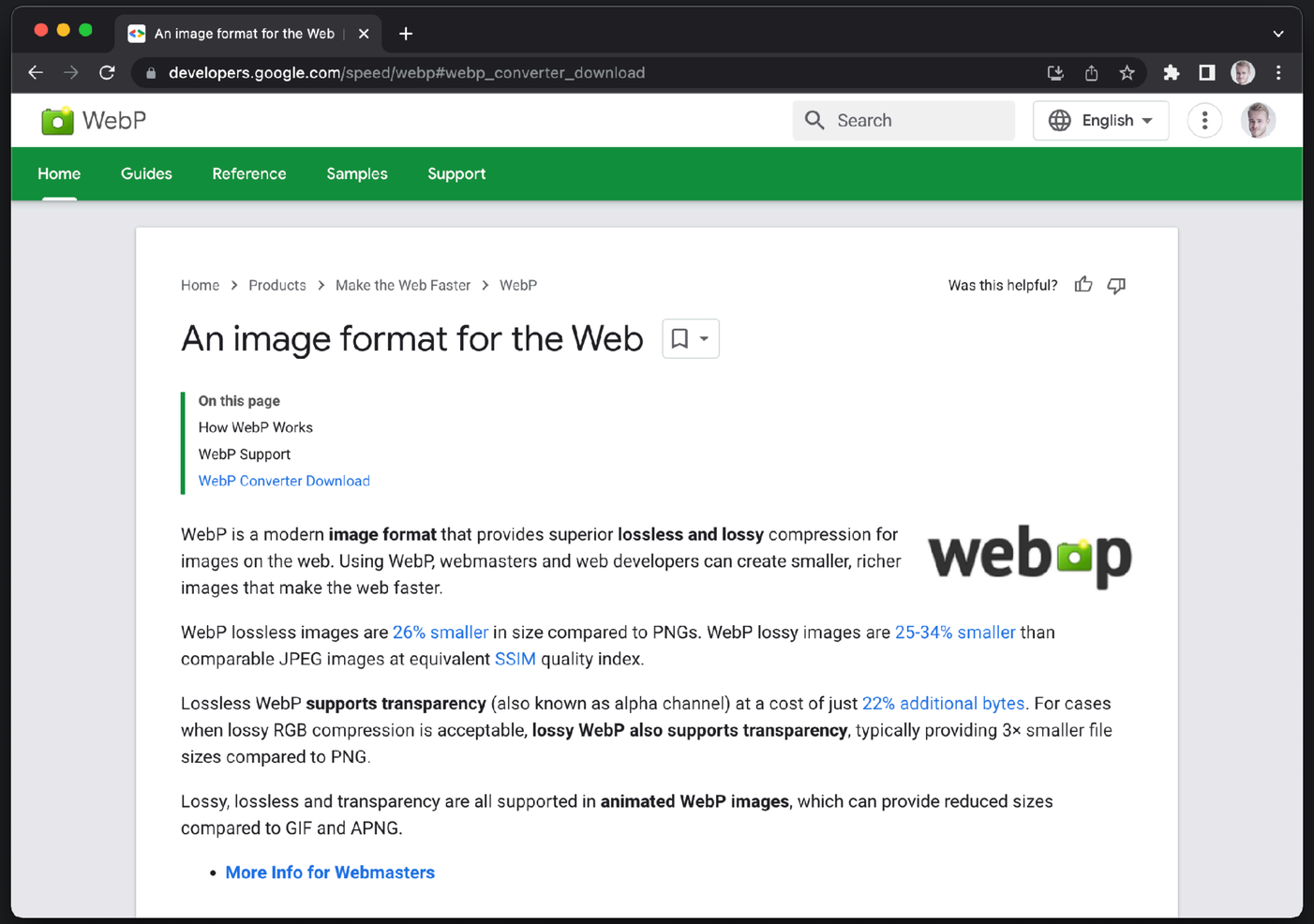
Lighthouse in Chrome



Not bragging 🤷

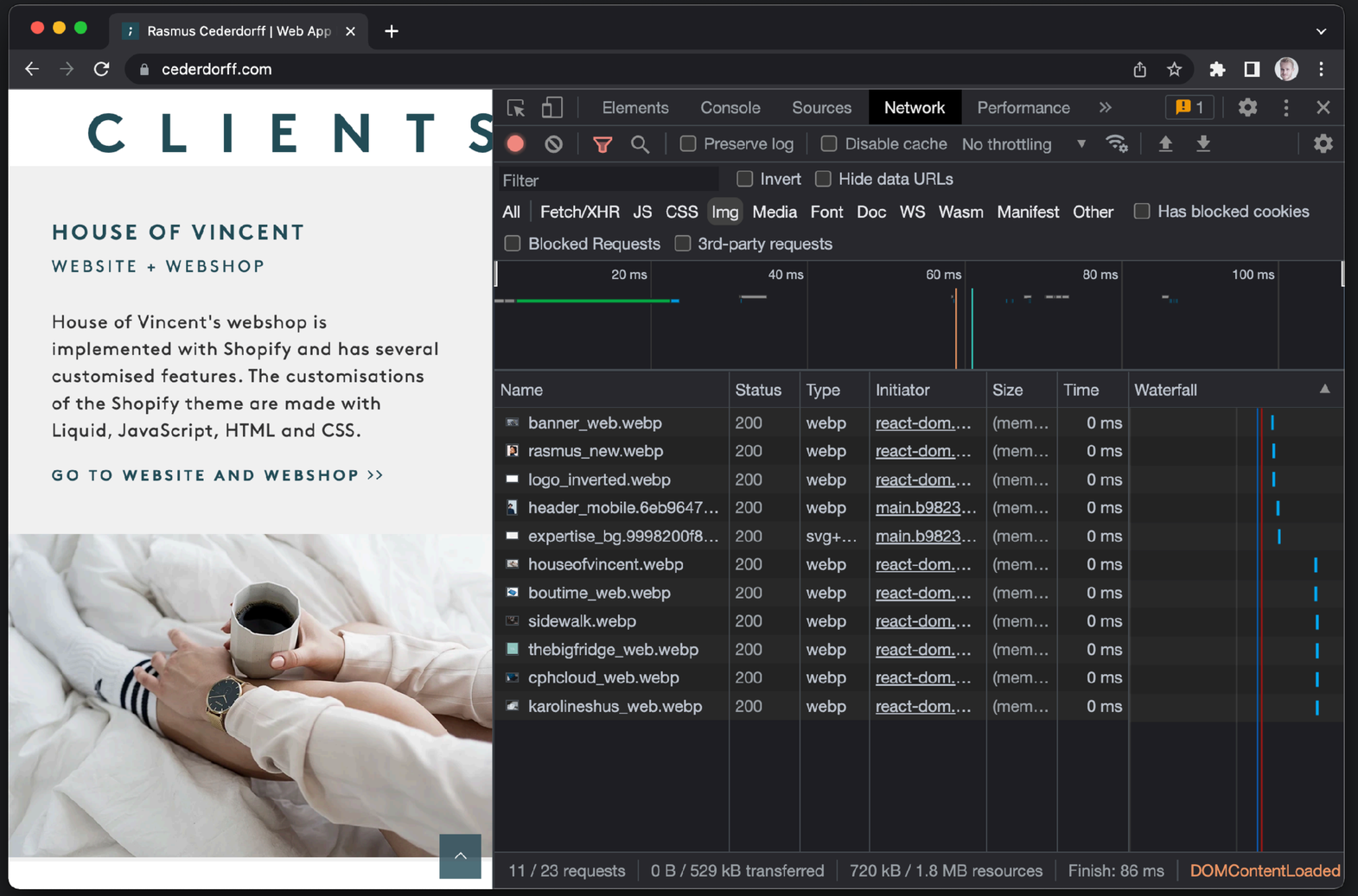


Images, sizes & formats



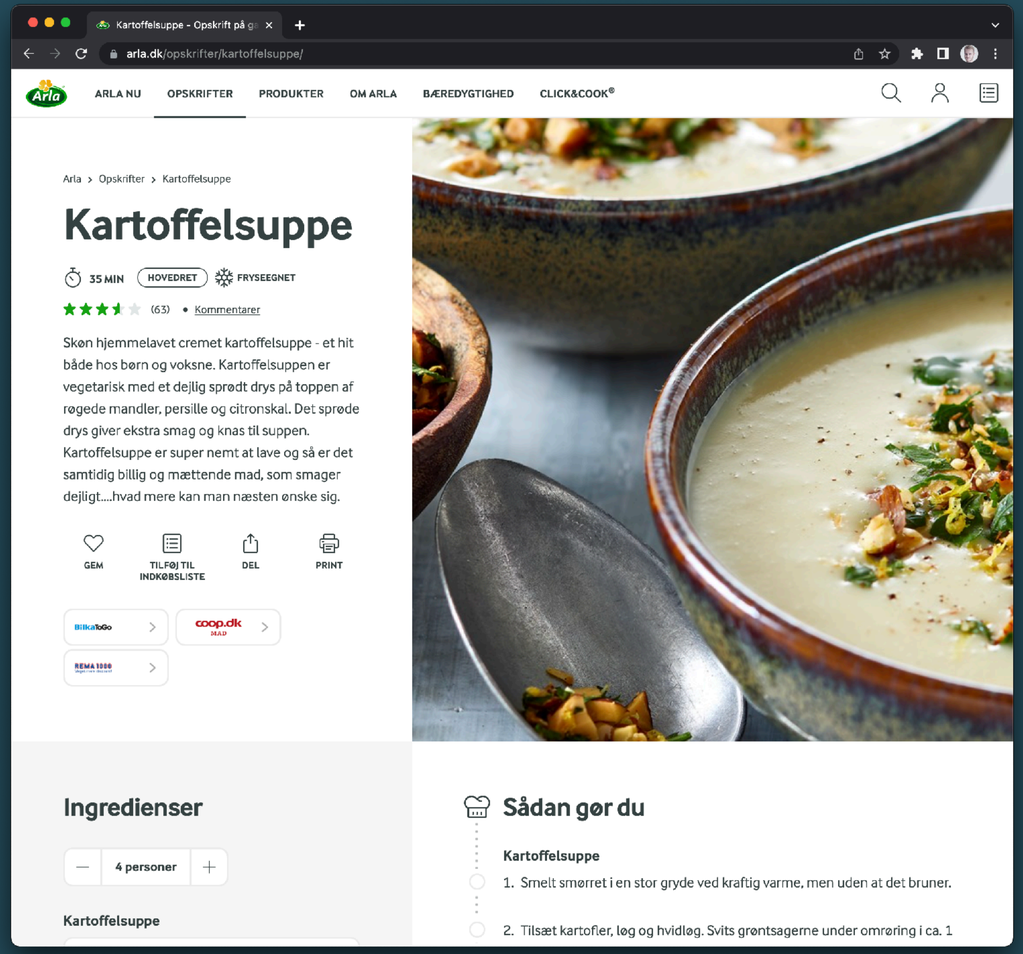
https://developers.google.com/speed/webp

.webp


Rasmus Cederdorff | Web App
cederdorff.com
CLIENTS
HOUSE OF VINCENT
WEBSITE + WEBSHOP
House of Vincent's webshop is implemented with Shopify and has several customised features. The customisations of the Shopify theme are made with Liquid, JavaScript, HTML and CSS.
GO TO WEBSITE AND WEBSHOP >>
Elements Console Sources Network Performance
Preserve log Disable cache No throttling
Filter Invert Hide data URLs
All Fetch/XHR JS CSS Img Media Font Doc WS Wasm Manifest Other Has blocked cookies
Blocked Requests 3rd-party requests
20 ms 40 ms 60 ms 80 ms 100 ms
Name Status Type Initiator Size Time Waterfall
banner_web.webp 200 webp react-dom.... (mem... 0 ms
rasmus_new.webp 200 webp react-dom.... (mem... 0 ms
logo_inverted.webp 200 webp react-dom.... (mem... 0 ms
header_mobile.6eb9647... 200 webp main.b9823... (mem... 0 ms
expertise_bg.9998200f8... 200 svg+... main.b9823... (mem... 0 ms
houseofvincent.webp 200 webp react-dom.... (mem... 0 ms
boutime_web.webp 200 webp react-dom.... (mem... 0 ms
sidewalk.webp 200 webp react-dom.... (mem... 0 ms
thebigfridge_web.webp 200 webp react-dom.... (mem... 0 ms
cphcloud_web.webp 200 webp react-dom.... (mem... 0 ms
karolineshus_web.webp 200 webp react-dom.... (mem... 0 ms
11 / 23 requests 0 B / 529 kB transferred 720 kB / 1.8 MB resources Finish: 86 ms DOMContentLoaded

Webp Exercise

1. Find og download et par billeder du kan bruge på din opskriftsside.
2. Sørg for at billeder ikke er større end nødvendigt (opløsning, height og width).
3. Test med Lighthouse. Tag et screenshot af resultatet.
4. Konverter dine billeder til .wepb (brug fx en online converter).
5. Bruge webp-filerne i stedet for dine tidligere billedfiler.
6. Test med Lighthouse igen og sammenlign resultatet med tidligere



Hvordan er “formen”?

Tak for i dag

Webudvikling

kea
KØBENHAVNS ERHVERVSAKADEMI