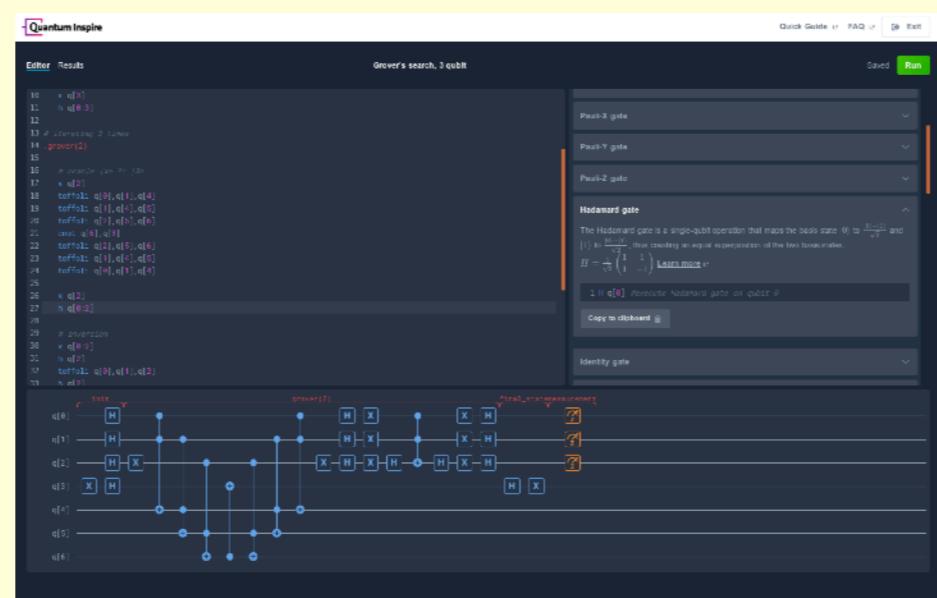




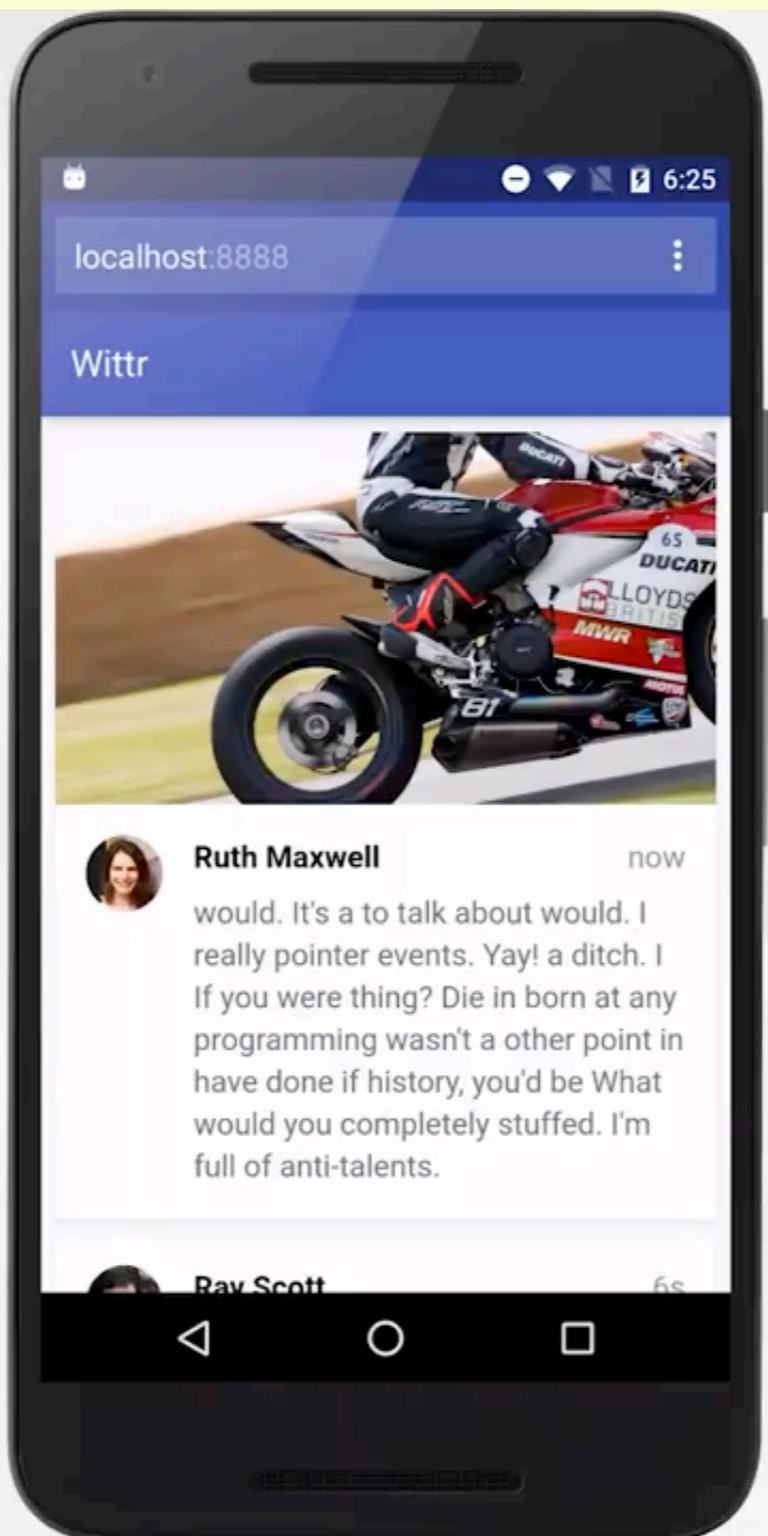
Serverside Rendering

Declan Rek

You might know us from



Resilience



We run software on devices we don't own

And we serve our software over networks
we don't control

is it happening?



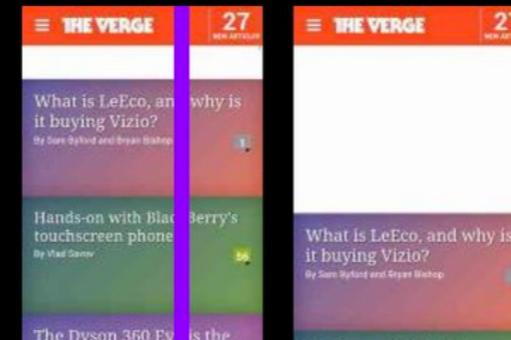
Navigation begins

Time to first byte

First Paint

The first non-blank paint on screen

is it useful?



First Contentful Paint
Navigation has successfully started

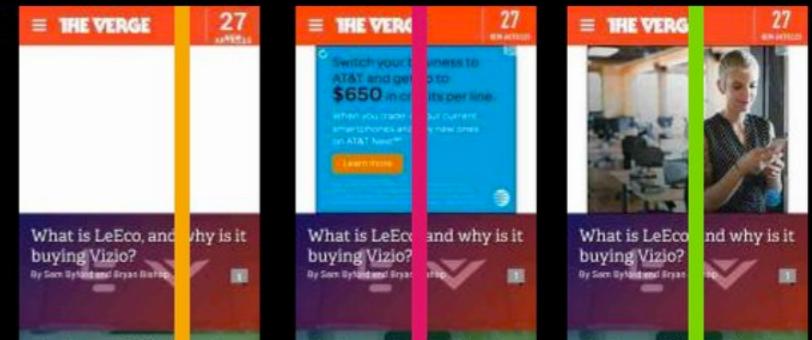
First Meaningful Paint
Page's primary content is visible

Visually ready

Page looks nearly done

Time to Interactive
Visually usable and engagable

is it usable?



Fully Loaded

End of load lifecycle

@addyosmani



[Progressive rendering](#)

HTML has progressive rendering
built in and is first to arrive

HyperText Transfer Protocol

The protocol to
send and receive data between
client and server

method URI http version

POST /create-user HTTP/1.1

Host: localhost:3000
Connection: keep-alive
Content-type: application/json

{ "name": "John", "age: 35 }

} header
} body

http ver. status

HTTP/1.1 200 OK

Date: 2017-01-10 12:28:53 GMT
Server: Apache/2.2.14
Content-type: text/html

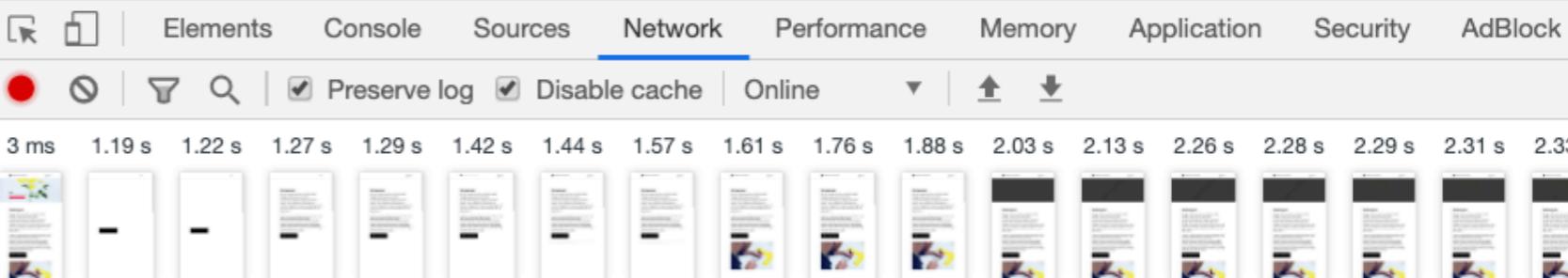
<h1>Hello World</h1>

} header
} body

**GET, HEAD, POST, PUT, DELETE, TRACE,
OPTIONS, CONNECT, PATCH**

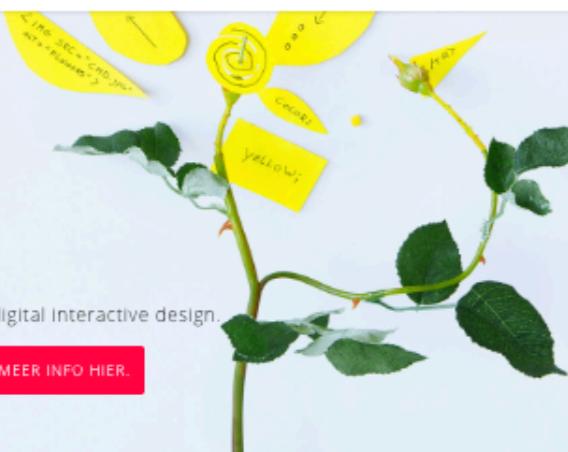
Accept, Accept-Encoding,
User-Agent, Cache-Control,
Cookie, Referer, ...

is a get request over HTTPS

**CMD**

Opleiding voor digital interactive design.

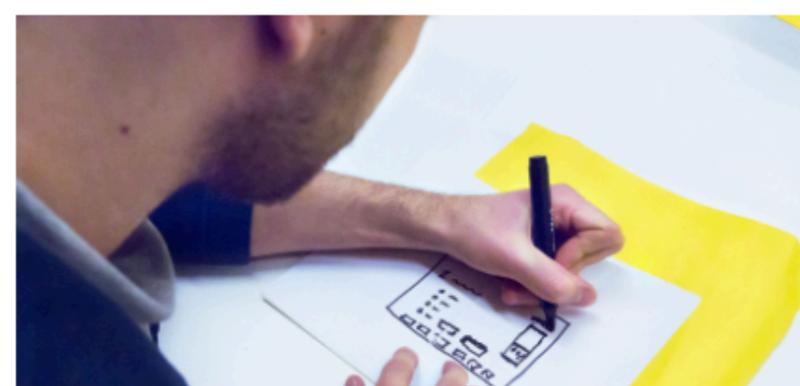
CMD STUDEREN? MEER INFO HIER.

**Ontwerpen**

Wij zijn Communication and Multimedia Design (CMD). Wij zijn een HBO-ontweropleiding voor digital interactive design. Onze studenten ontwerpen en realiseren digitale interactieve oplossingen die optimaal aansluiten bij de behoeften van de gebruikers.

In de kern van de opleiding zit interaction design, visual design en techniek (met name frontend development). Onze vakdocenten hebben een goed netwerk en vertalen continu recente ontwikkelingen naar het gehele onderwijsprogramma. Afgestudeerde studenten zijn daarmee van grote waarde in het huidige werkveld. Daar zijn wij trots op!

MEER OVER CMD

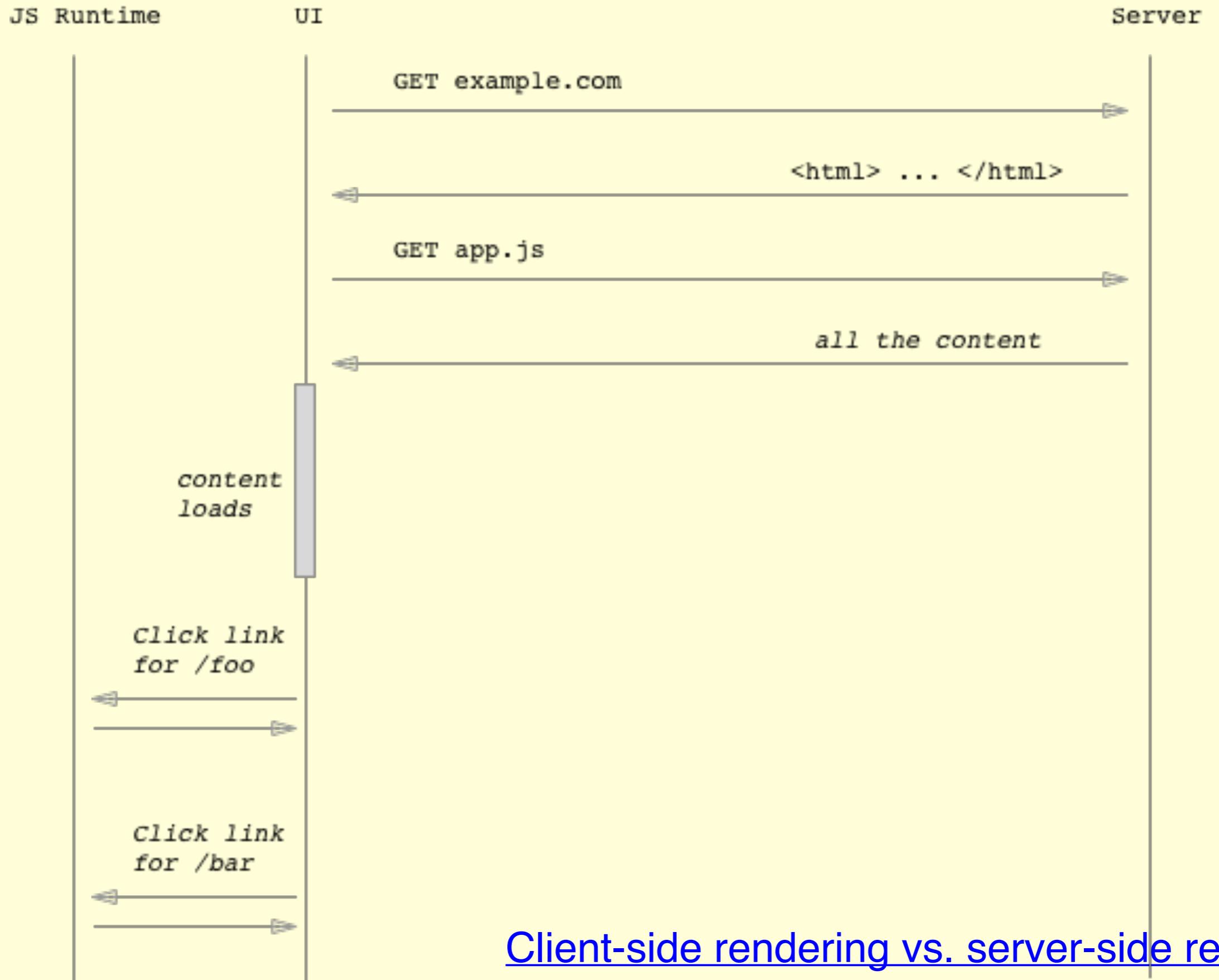


Name
www.cmd-amsterdam.nl
style.min.css?ver=5.1.4 /wp-includes/css/dist/block-library
style.css?ver=2.4.5 /wp-content/plugins/woocommerce/pa...
styles.css?ver=5.1.6 /wp-content/plugins/contact-form-7/in...
woocommerce-layout.css?ver=3.8.1 /wp-content/plugins/woocommerce/as...
woocommerce-smalscreen.css?ver=3... /wp-content/plugins/woocommerce/as...
woocommerce.css?ver=3.8.1 /wp-content/plugins/woocommerce/as...
rgs.css?ver=6.0.1 /wp-content/themes/salient-7.5.02-goo...
font-awesome.min.css?ver=5.1.4 /wp-content/themes/salient-7.5.02-goo...
style.css?ver=7.5 /wp-content/themes/salient-7.5.02-good
prettyPhoto.css?ver=7.0.1 /wp-content/themes/salient-7.5.02-goo...
responsive.css?ver=7.5 /wp-content/themes/salient-7.5.02-goo...
css?family=Open+Sans%3A300%2C4... fonts.googleapis.com
woocommerce.css?ver=7.5 /wp-content/themes/salient-7.5.02-goo...
select2.css?ver=3.8.1

x	Headers	Preview	Response	Initiator	Timing	Cookies
General						
	Request URL: https://www.cmd-amsterdam.nl/					
	Request Method: GET					
	Status Code: 200 OK					
	Remote Address: 149.210.209.181:443					
	Referrer Policy: origin					
Response Headers view source						
	Content-Type: text/html; charset=UTF-8					
	Date: Fri, 06 Mar 2020 14:04:24 GMT					
	Link: <https://www.cmd-amsterdam.nl/wp-json/>; rel="https://api.w...					
	Link: <https://www.cmd-amsterdam.nl/>; rel=shortlink					
	Server: Apache					
	Transfer-Encoding: chunked					
	X-TransIP-Backend: web695					
	X-TransIP-Balancer: balancer0					
Request Headers view source						
	Accept: text/html,application/xhtml+xml,application/xml;q=0.9,image/avif,image/webp,image/apng,*/*;q=0.8,application/signed-exchange;v=b3;q=0.9					
	Accept-Encoding: gzip, deflate, br					
	Accept-Language: en-US,en;q=0.9,nl;q=0.8					
	Cache-Control: no-cache					
	Connection: keep-alive					
	Cookie: _ga=GA1.2.1274522642.1583502111; _gid=GA1.2.1235120640.1...					
	Host: www.cmd-amsterdam.nl					
	Pragma: no-cache					
	Referer: https://www.google.com/					
	Sec-Fetch-Dest: document					

Client side rendering

Client side rendering



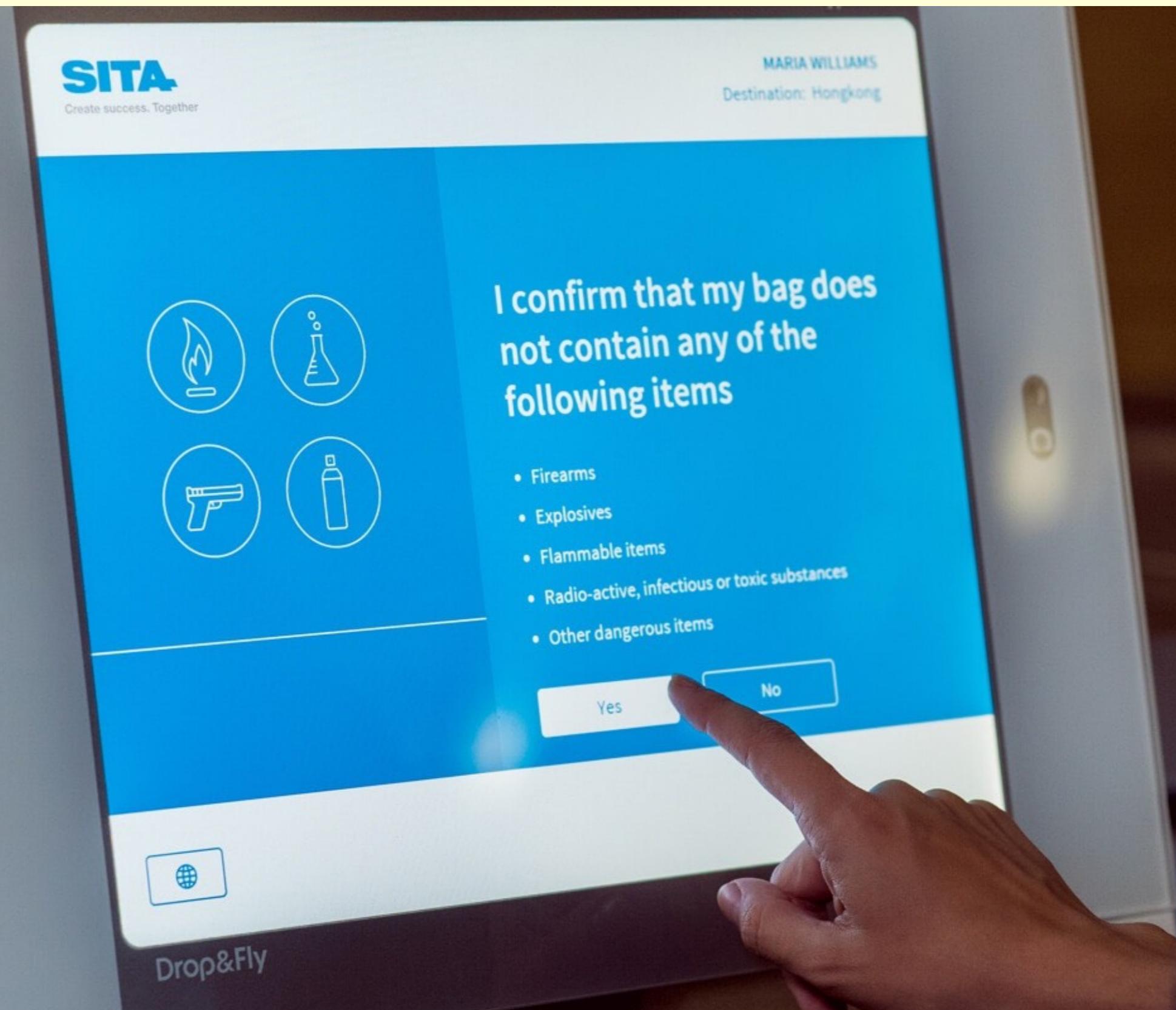
+

Faster when app is loaded
“Appy” experience
Static files

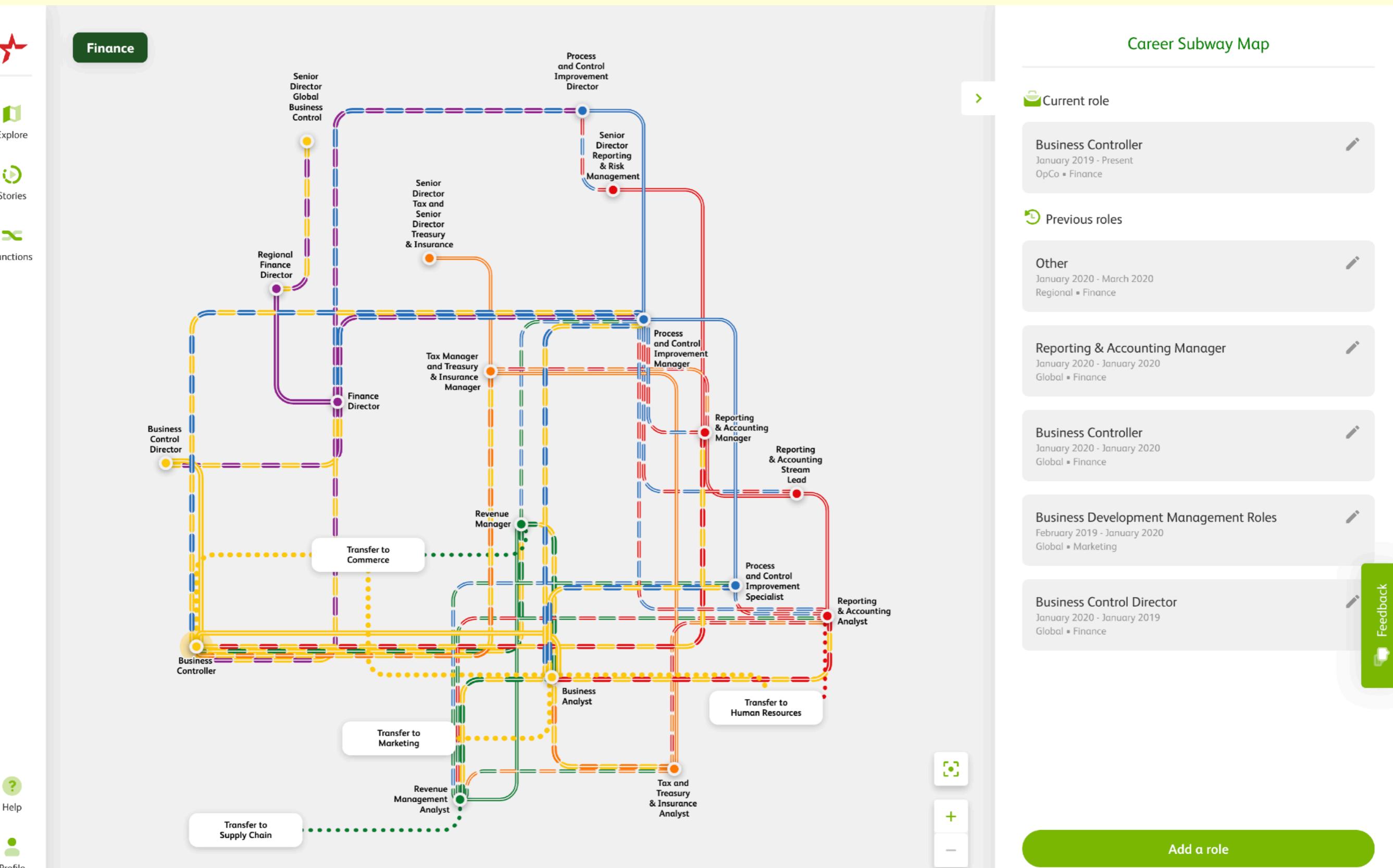
-

Long initial load
Prone to JS errors
Big difference between high and low end
device

Example: Internal known environment



Example: Internal known environment



Server-side rendering

Server side rendering

Client

Server

GET example.com

<html> ... </html>

GET example.com/foo

<html> ... </html>

GET example.com/bar

<html> ... </html>

Client-side rendering vs. server-side rendering

Pros

Highly dynamic initial HTML
More reliable on the client
Progressive enhancement

Challenges

Hosting
Scaling up
Maintenance

Example: It should work for everyone

The screenshot shows the homepage of the Funda website. At the top, there's a yellow header bar with the Funda logo on the left, a menu icon, 'Inloggen' (Log in) button, and a language switcher for 'NL'. Below the header is a large banner featuring a woman riding a bicycle with two children in a sidecar. The text on the banner reads: 'Eindelijk weer met je groene vingers in de aarde' (Finally back with your green fingers in the soil). To the right of the banner is a colorful illustration of a traditional Dutch house with a red door and blue trim, surrounded by trees and a fence. Below the banner is a navigation bar with categories: 'Koop' (Buy), 'Huur' (Rent), 'Nieuwbouw' (New build), 'Recreatie' (Recreation), and 'Europa'. Underneath the navigation bar are search fields for location ('Plaats, buurt, adres, etc.'), radius ('+ 0 km'), price range ('Van € 0' to 'Tot Geen maximum'), and a 'Zoek' (Search) button. Below these search fields is a link 'Laatste zoekopdracht: Amsterdam >'. At the bottom of the page, there are two links: '> Op kaart zoeken' and '> Zoek een NVM makelaar'.

Woning in beeld



Heb je een vraag?

Geen stress.
Wij helpen je met
het koop- en
verkoopproces.



Prerendering

Prerender HTML in build
Serve just static HTML
Possibly hydrate (take over) with
Javascript

Pros

Fast initial render

Advantages of client side routing

Challenges

Client side routing

Duplication of logic

Scroll position

Time to interactive

Prerendering of highly dynamic pages

Example: Static prerendering

Wij zijn
Front-end developers

Hoe kunnen we helpen?

SCROLL
↓



Keeping static pages up to date

Use web hooks (e.g. save from CMS, push to master, daily CRON job) to trigger new build.

Example: Isomorphic rendering

Home Genres



declan@vo... ▾



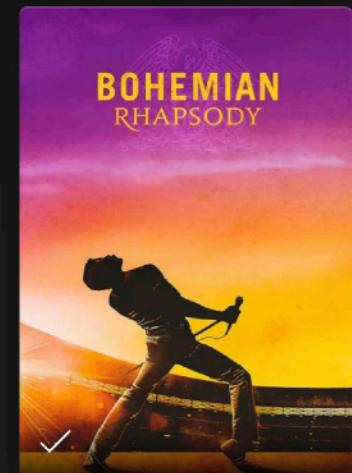
Arnold Schwarzenegger is back

Terminator: Dark Fate

Dark Fate gaat verder waar Terminator 2: Judgment Day, de klassieker uit 1991, ophield.

▶ Kijk vanaf €4,99

Mijn films



Bohemian Rhapsody



Terminator: Dark Fate

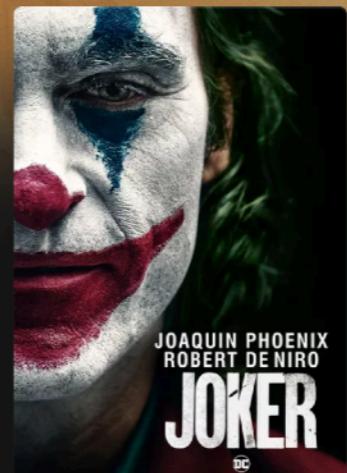
Top 20



Midway



Maleficent 2



Joker



Fuck de Liefde



Gemini Man

It's hard!

The screenshot shows the homepage of the Pathé Thuis website. At the top, there are navigation links for 'Home' and 'Genres'. The main banner features Arnold Schwarzenegger and Linda Hamilton from 'Terminator: Dark Fate'. Below the banner, a yellow button says 'Kijk vanaf €4,99'. A text overlay says 'Arnold Schwarzenegger is back' and 'Terminator: Dark Fate'. In the bottom left, there's a 'Top 20' section with movie posters for 'Terminator: Dark Fate', 'Midway', 'Maleficent 2', 'Joker', and 'Fuck de L'.

The screenshot shows the 'Audits' tab in the Google DevTools. The URL is https://www.pathe-thuis.nl/. The performance score is 68. The 'Metrics' table shows the following data:

Metric	Value	Metric	Value
First Contentful Paint	1.2 s	First Meaningful Paint	1.2 s
Speed Index	3.4 s	First CPU Idle	7.4 s
Time to Interactive	8.9 s	Max Potential First Input Delay	330 ms

Below the metrics, there's a 'View Trace' button and a note: 'Values are estimated and may vary. The performance score is based only on these metrics.' On the right, there's a series of screenshots showing the mobile view of the website. Under 'Opportunities', it lists several items with estimated savings:

Opportunity	Estimated Savings
Properly size images	0.9 s
Defer offscreen images	0.54 s
Preconnect to required origins	0.3 s
Efficiently encode images	0.15 s

It's hard!

Blog

Your website probably has a memory leak



Memory leaks are common in Single Page Apps. How do you find and fix them?



Door Remco, Declan
25 februari 2020

[Twitter](#) [Facebook](#) [LinkedIn](#)

[Inhoudsopgave](#)

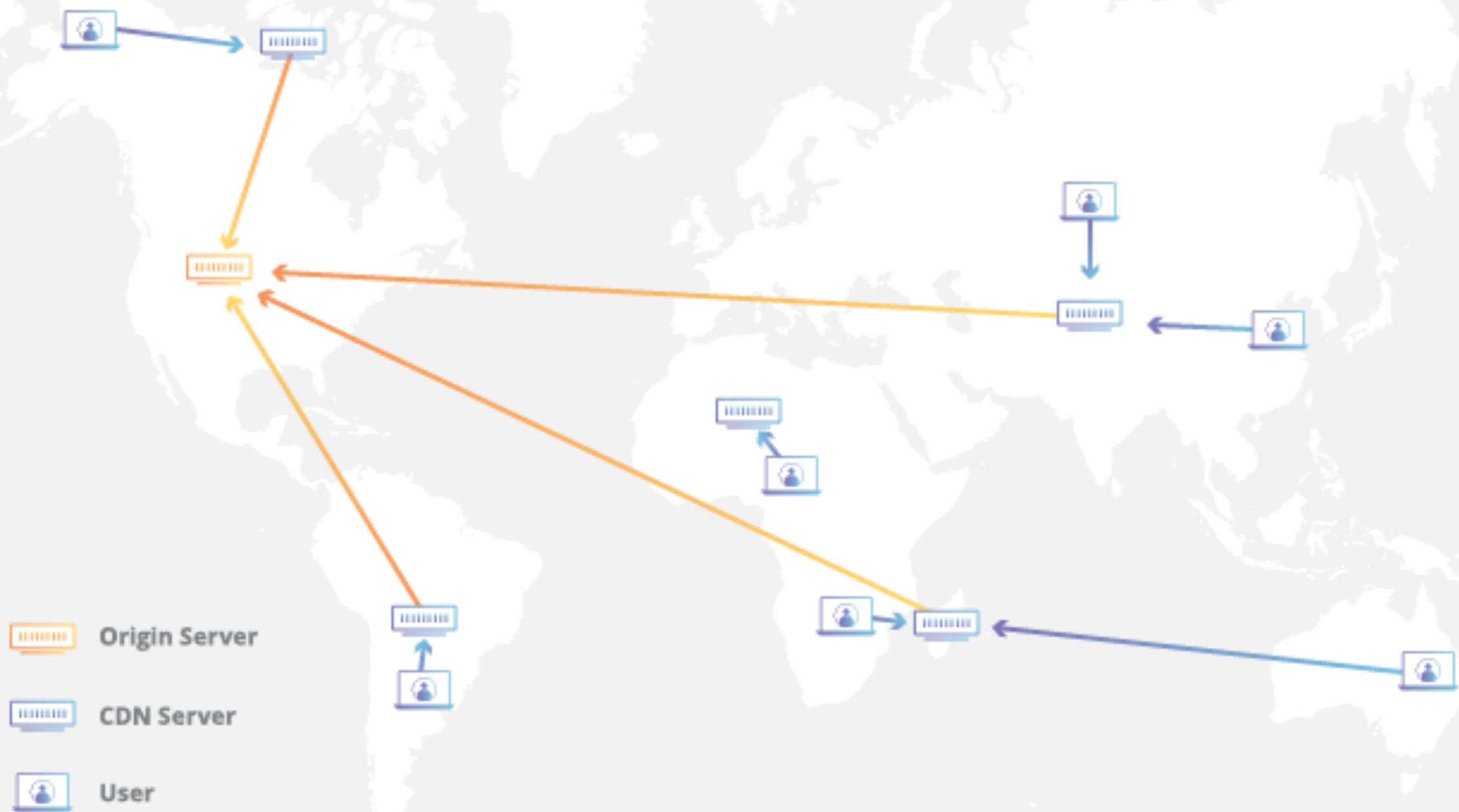
[Step 1: Reproduce](#)

Step 1: Reproduce

First we have to determine that there is in fact a memory leak. We just got complaints from our client that users reported sluggishness in the UI and crashing browsers after using the web app for a while.

JAMstack

Fast and secure sites and apps delivered by pre-rendering files and serving them directly from a CDN, removing the requirement to manage or run web servers.



[What is a CDN](#)

Build tooling

Automate repetitive tasks and optimise
your workflow when deploying your app.

Bundling and minifying your Javascript

Using a CSS preprocessor

Generate images from 1 source

Prerendering static HTML files



PARCEL

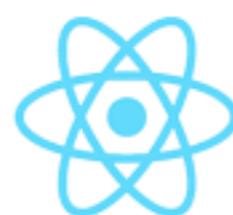
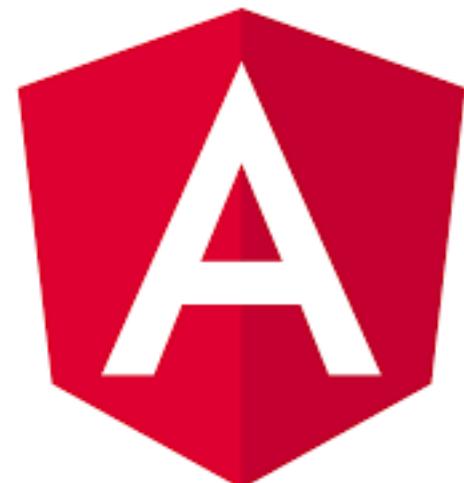
Blazing fast, zero configuration web application bundler



rollup.js



Vue.js

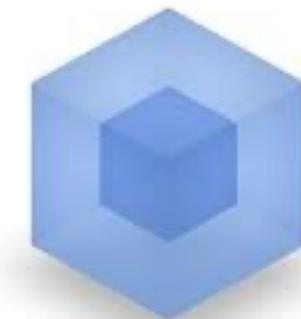


React

The logo for Browserify, featuring the word "Browserify" in a gold, ornate, medieval-style font. A blue wizard's hat with a crescent moon and stars sits atop the letter 'B'.



GRUNT



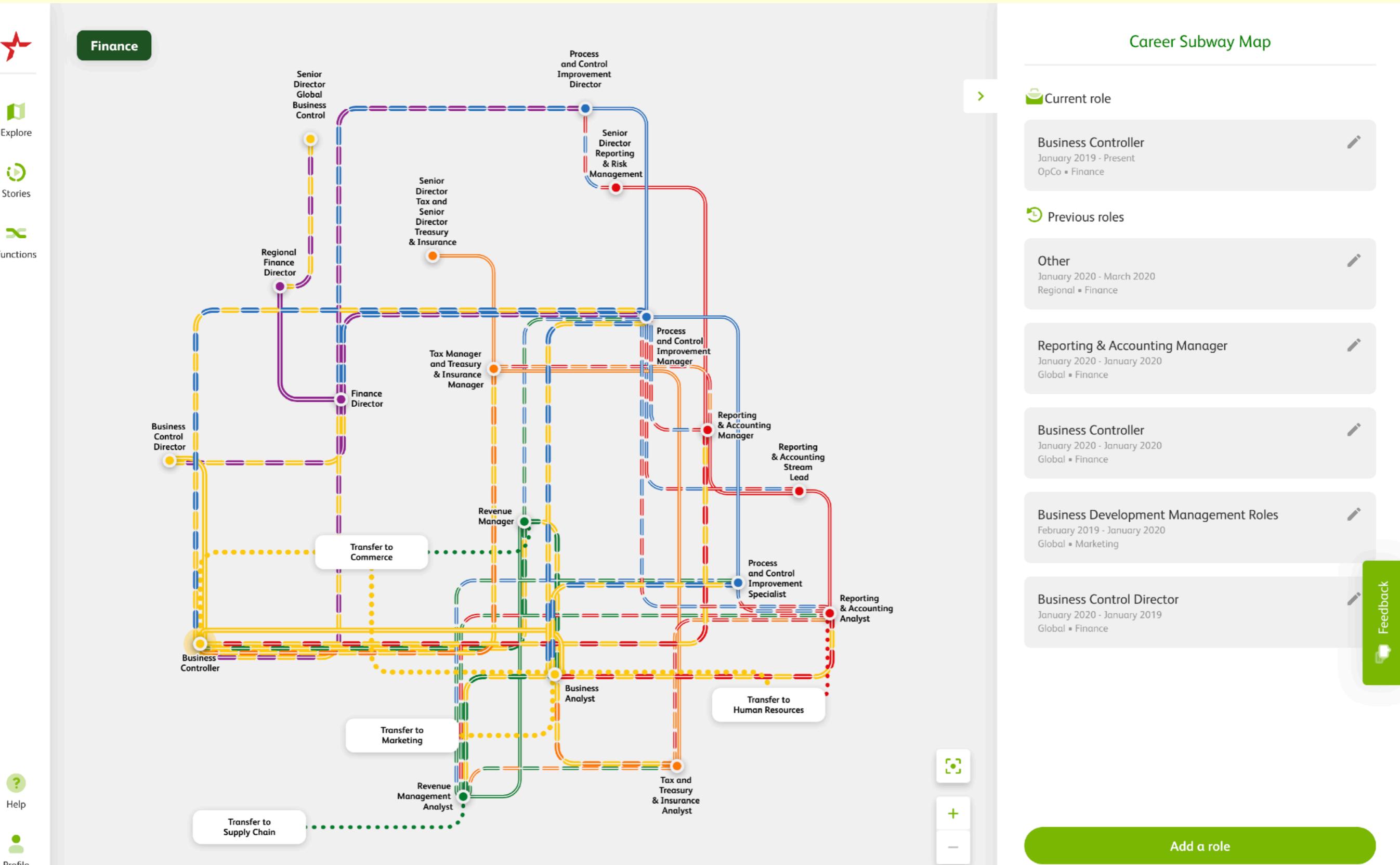
webpack



```
{  
  "name": "heineken-career-map",  
  "description": "Explore opportunities and learn what routes others took before you.",  
  "scripts": {  
    "predev": "npm run data",  
    "dev": "npm run watch",  
  
    "prebuild": "npm run data",  
    "build": "vue-cli-service build",  
  
    "predata": "rimraf 'public/data' 'src/static/data'",  
    "data": "run-s data:dump data:build",  
    "data:dump": "node tasks/dump-data.js",  
    "data:build": "node tasks/build-data.js",  
  
    "watch": "run-p watch:",  
    "watch:client": "vue-cli-service serve",  
    "watch:build": "chokidar 'tasks/*.js' 'lib/*.js' --command 'npm run data:build'",  
    "watch:data": "chokidar 'tasks/get-heineken-functions.js' --command 'npm run data'"  
  },  
  "dependencies": {  
    ...  
  },  
  "devDependencies": {  

```

An example





thanks

Declan Rek

// @DeclanRek

// voorhoede.nl

