



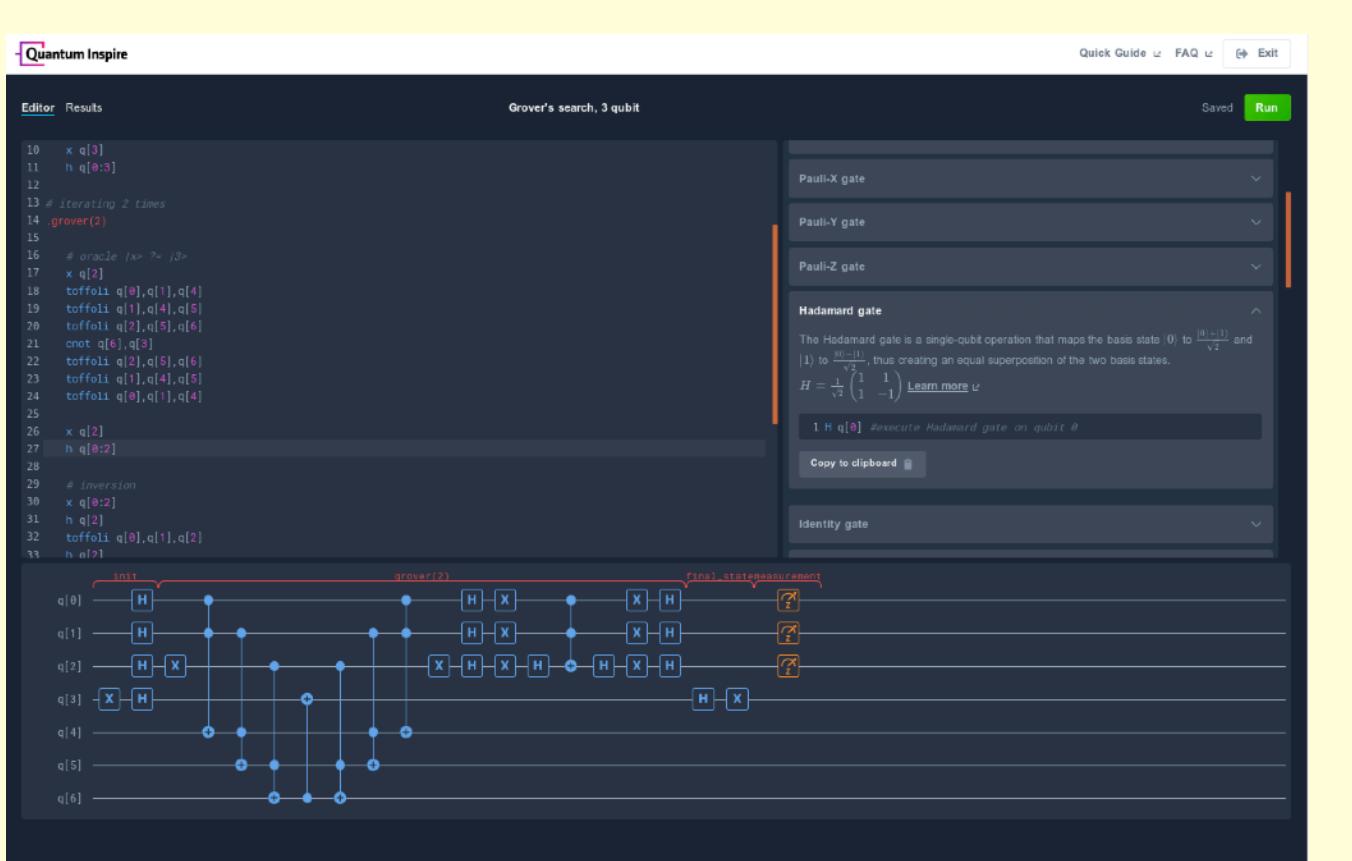
# Serverside Rendering

Declan Rek

# You might know us from



funda

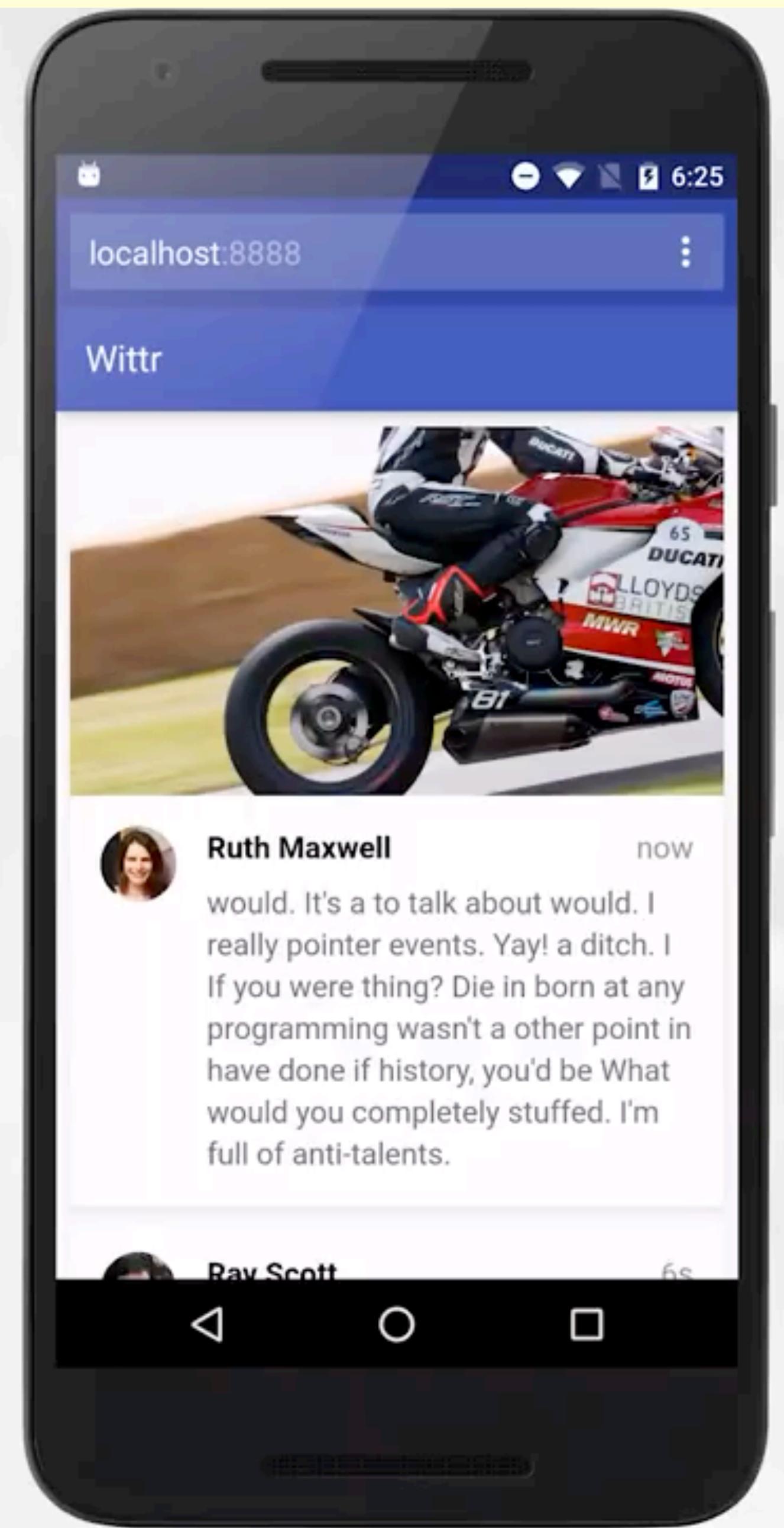


Quantum Inspire



SITA

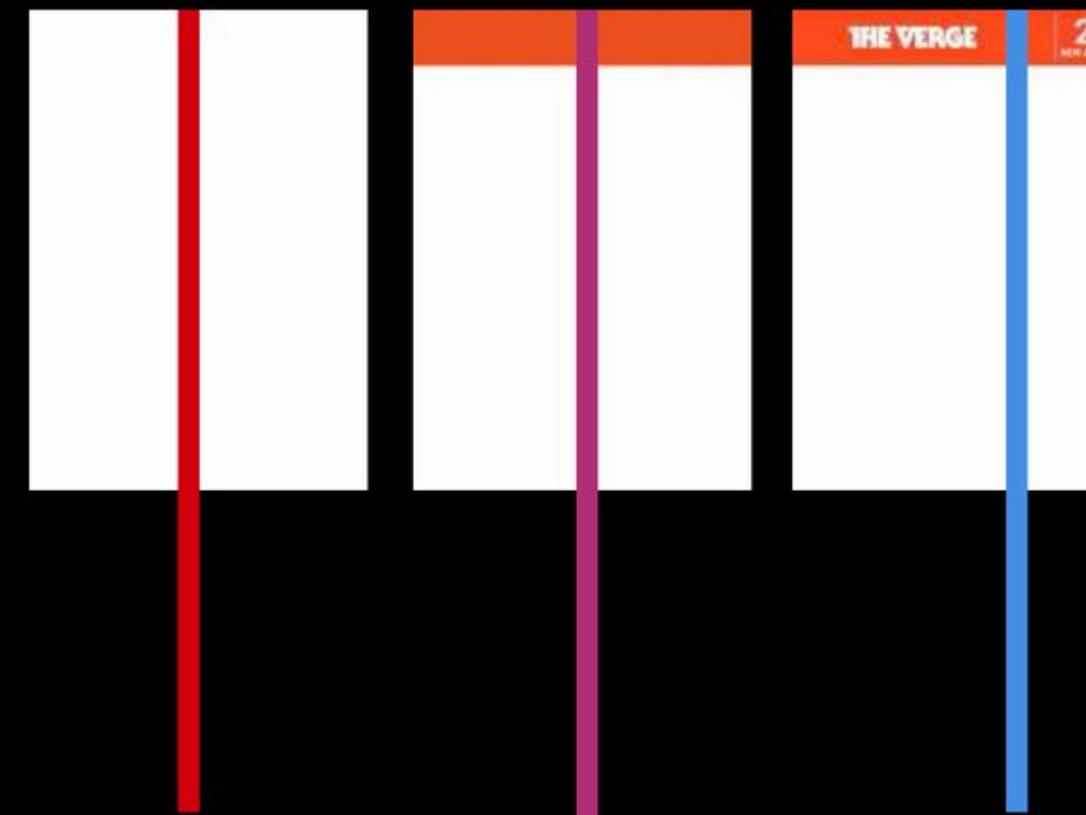
# **Resilience**



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

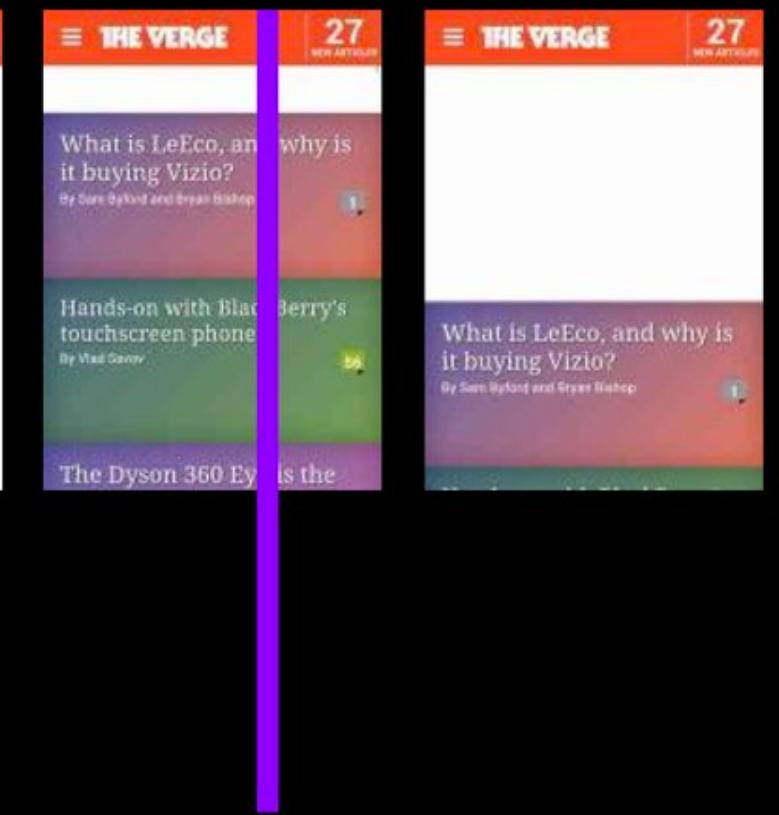
First  
Contentful  
Paint

Navigation has  
successfully started

First Paint

The first non-blank  
paint on screen

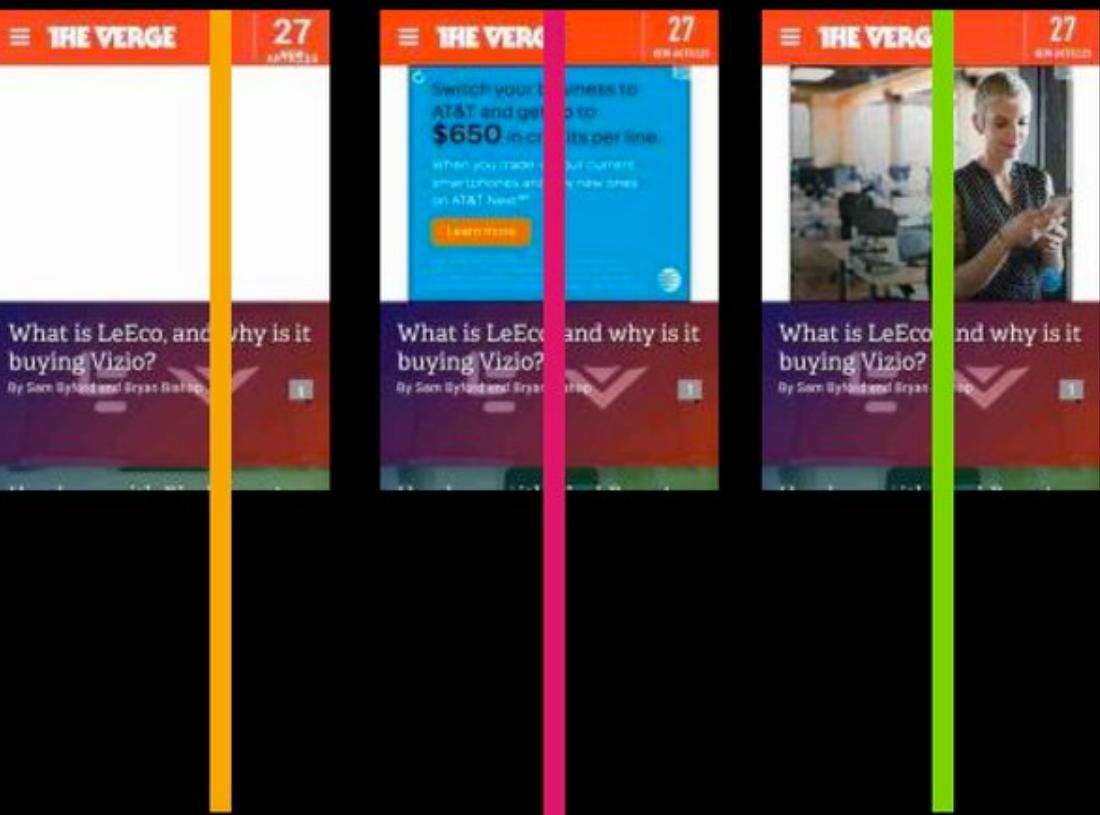
*is it useful?*



First  
Meaningful  
Paint

Page's primary  
content is visible

*is it usable?*



Visually  
ready

Page looks  
nearly done

Fully  
Loaded

End of  
load lifecycle



**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 }		
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>		

[is a get  
request over HTTPS](https://www.cmd-amsterdam.nl/)

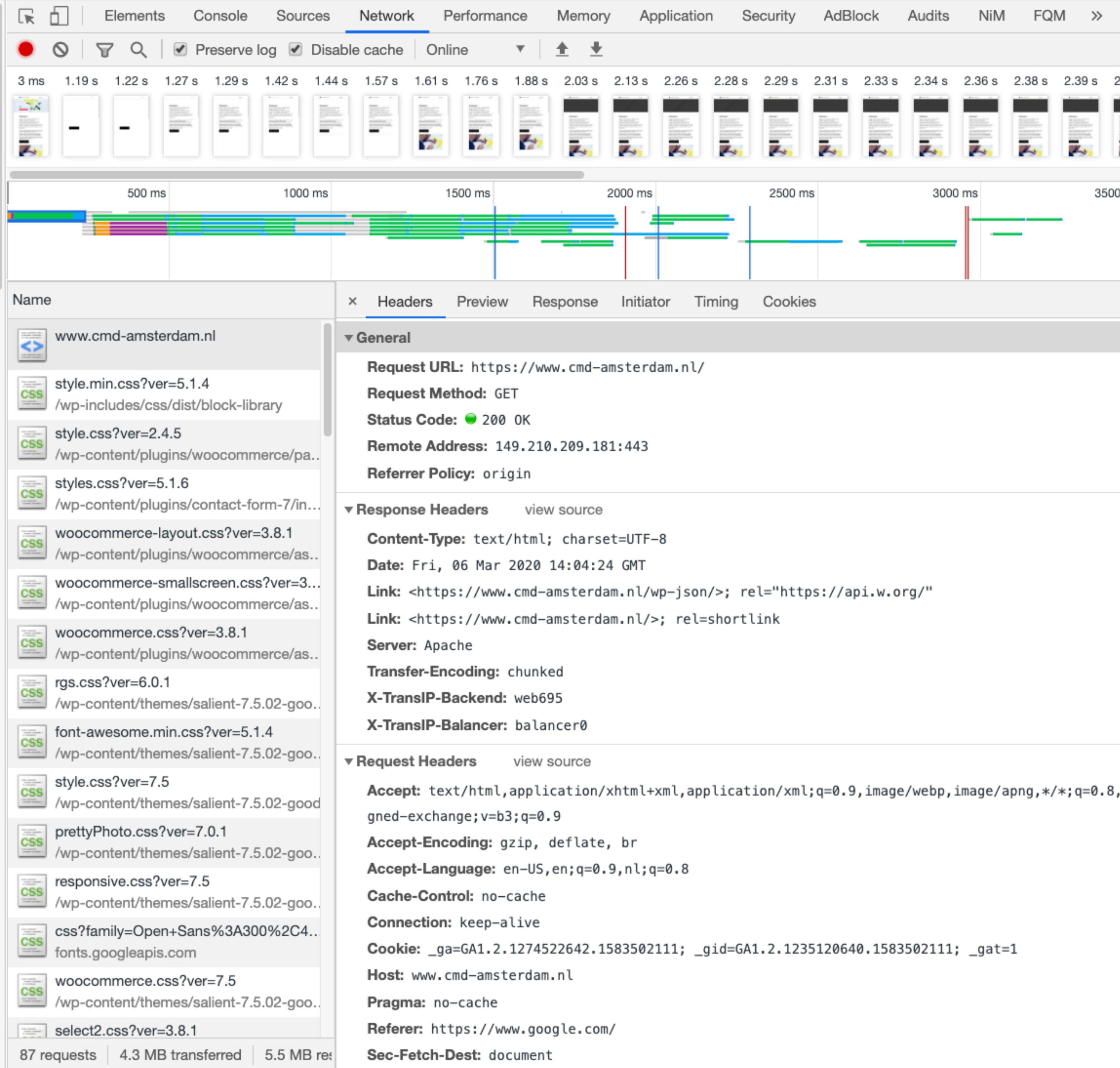
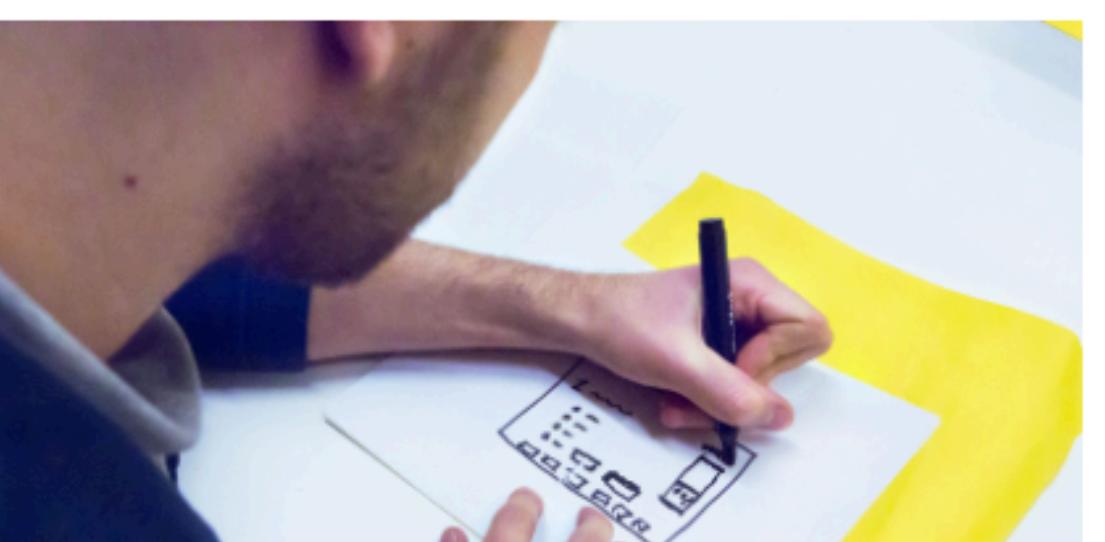


## Ontwerpen

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

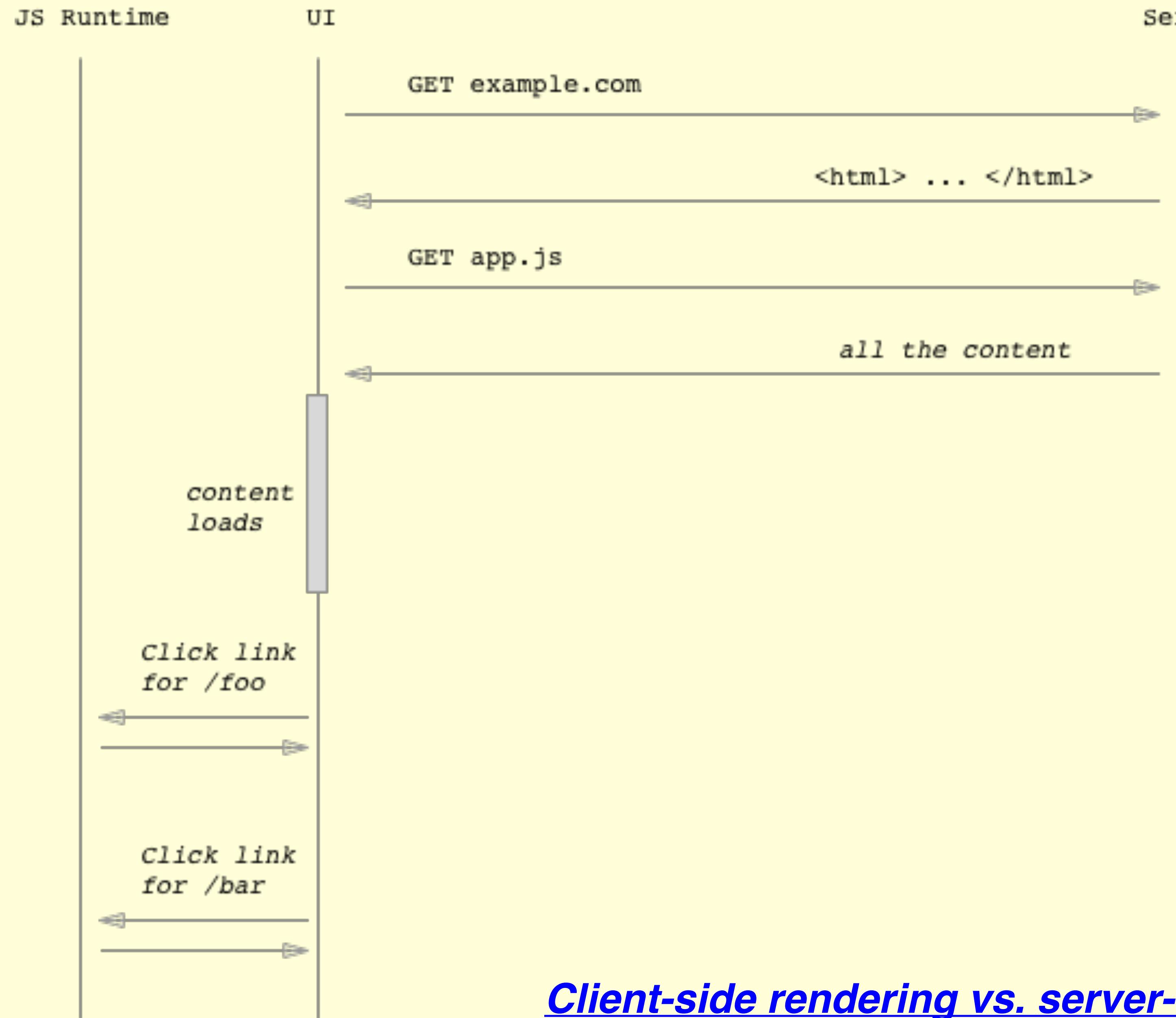
In de kern van de opleiding zit interaction design, visual design en techniek (met name frontend development). Onze vakdocenten hebben een goed netwerk en vertalen continu recente ontwikkelingen naar het gehele onderwijsprogramma. Afgestudeerde studenten zijn daarmee van grote waarde in het huidige werkveld.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

[MEER OVER CMD](#)



# **Client side rendering**

# Client side rendering



**Client-side rendering vs. server-side rendering**

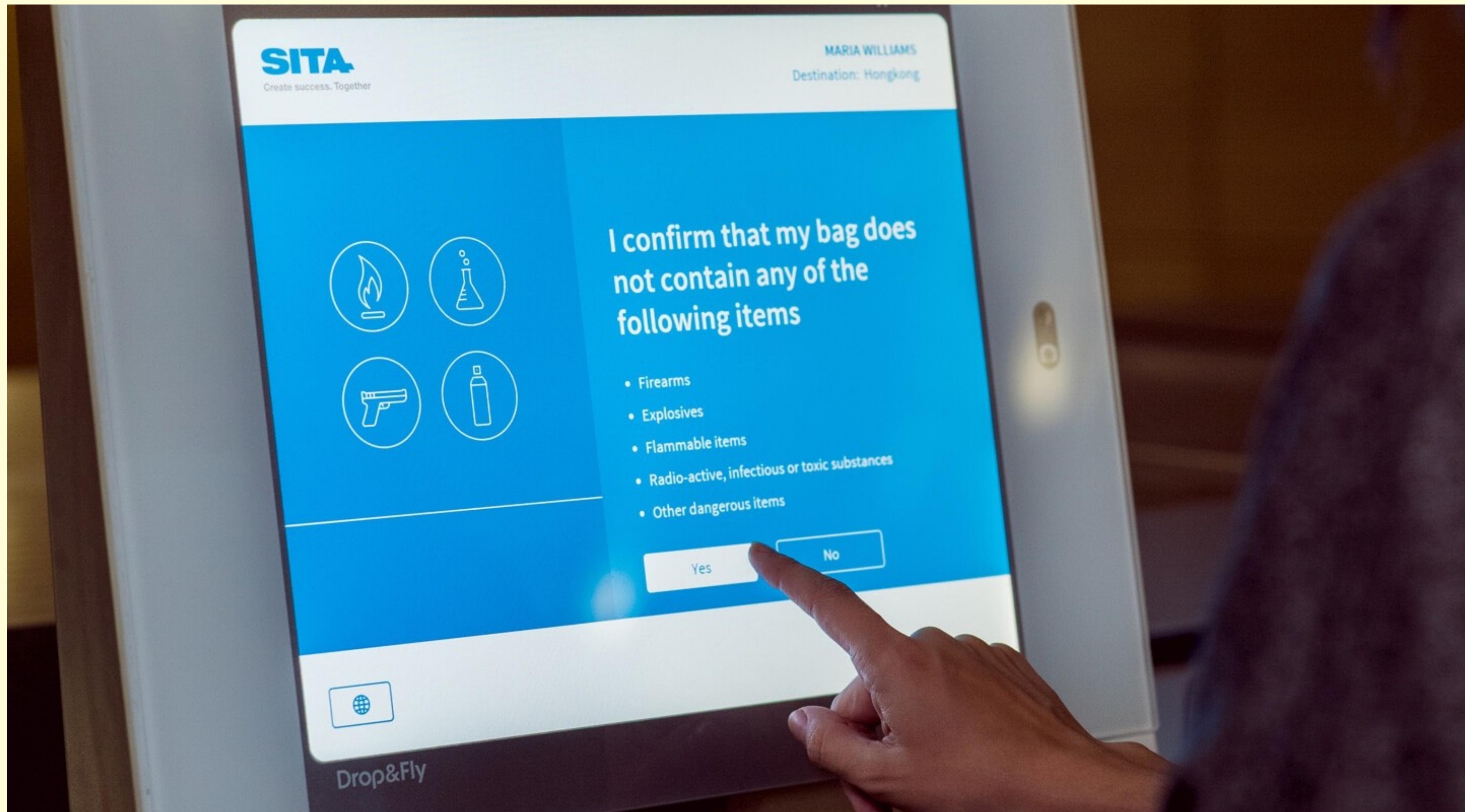
+

Faster when app is loaded  
“Appy” experience  
Static files

-

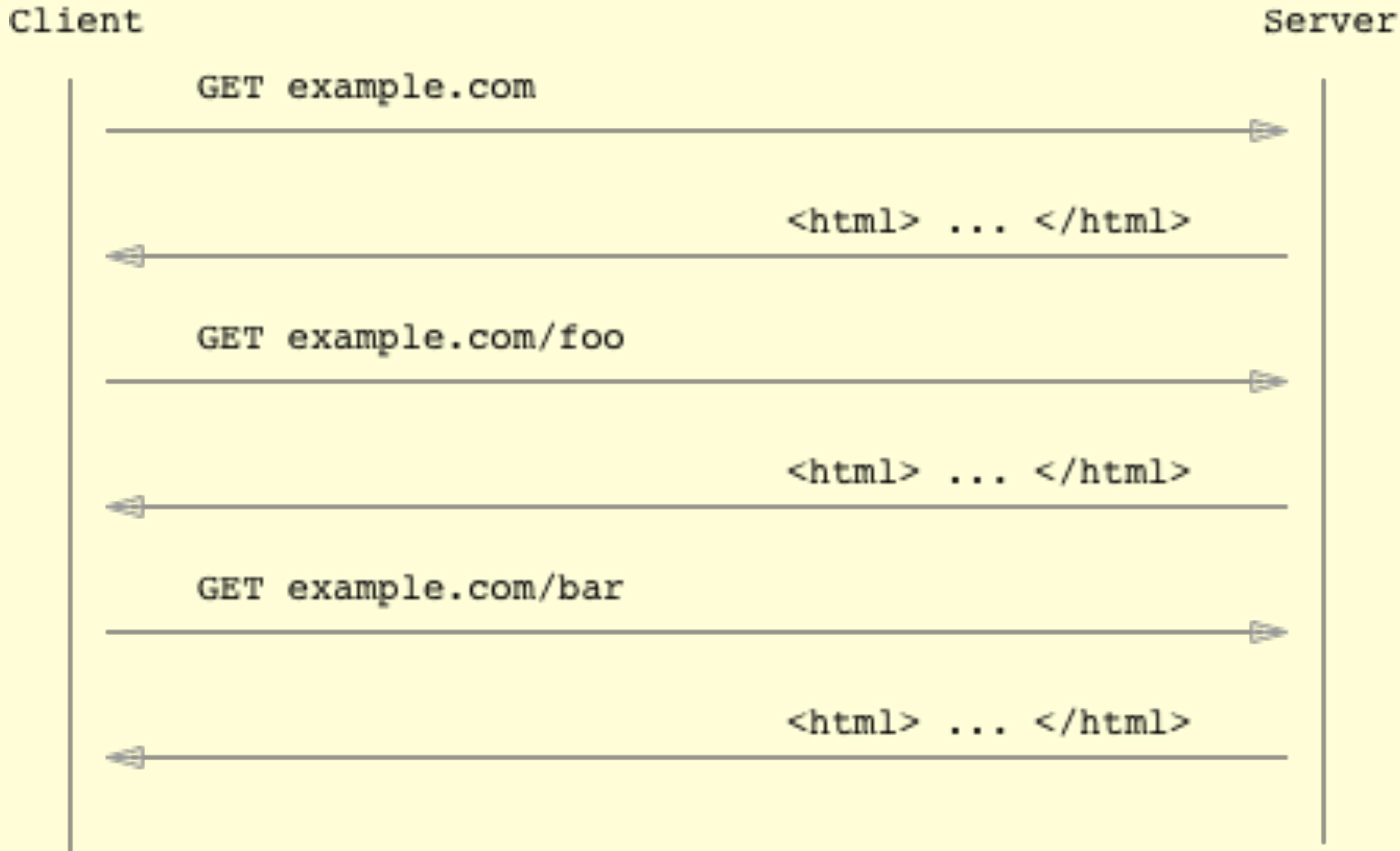
Long initial load  
Prone to JS errors  
Big difference between high and low end  
device

# Example: Internal known environment



# **Server-side rendering**

# Server side rendering



[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 Dutch real estate website funda.nl. The top navigation bar is orange with the funda logo, a menu icon, 'Inloggen' (Log in) button, and a language switcher for 'NL'. The main banner features a woman pushing a stroller with two children, with the text 'Eindelijk weer met je groene vingers in de aarde' (Finally back with your green fingers in the earth). To the right is a colorful illustration of a yellow house with blue trim and green trees. Below the banner is a search bar with tabs for 'Koop' (Buy), 'Huur' (Rent), 'Nieuwbouw' (New build), 'Recreatie' (Recreation), and 'Europa'. The search fields include 'Plaats, buurt, adres, etc.' (Place, neighborhood, address, etc.), distance filters ('+ 0 km'), price filters ('Van € 0' to 'Tot Geen maximum'), and a 'Zoek' (Search) button. Below the search bar is a link 'Laatste zoekopdracht: Amsterdam >'. At the bottom of the page, there are two sections: 'Woning in beeld' (Property in image) showing two thumbnail photos of houses, and 'Heb je een vraag?' (Do you have a question?) with the text 'Geen stress. Wij helpen je met het koop- en verkoopproces.' (No stress. We help you with the buying and selling process.) and an illustration of a yellow house with a 'TE KOOP' (For sale) sign.

Eindelijk weer met je groene vingers in de aarde

Koop   Huur   Nieuwbouw   Recreatie   Europa

Plaats, buurt, adres, etc. + 0 km Van € 0 Tot Geen maximum Zoek

Laatste zoekopdracht: Amsterdam >

Woning in beeld

Heb je een vraag?

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

# Prerendering

Prerender HTML in build

Serve static HTML

Possibly hydrate (take over) with

Javascript

## **Pros**

Fast initial render  
Simple to host

## **Challenges**

Prerendering of highly dynamic pages  
Enhancements need js  
Build process

# Example: Static prerendering

De Voorhoede

Services Cases Blog Vacatures Over Ons Contact EN | NL

Wij zijn  
Front-end developers

# Hoe kunnen we helpen?

SCROLL ↓

The image shows a website layout with a yellow header containing the logo 'De Voorhoede' and navigation links. The main content area has a yellow background. It features text about being front-end developers and a large, bold question 'Hoe kunnen we helpen?'. At the bottom, there's a scroll-down arrow icon.

## Keeping static pages up to date

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

# Example: Isomorphic rendering

The screenshot shows a movie streaming interface. At the top, there are navigation links for "Home" and "Genres". The top right corner features a user account with the email "declan@vo... ▾" and a search icon. The main title "Terminator: Dark Fate" is prominently displayed with the tagline "Arnold Schwarzenegger is back". Below the title, a brief description reads: "Dark Fate gaat verder waar Terminator 2: Judgment Day, de klassieker uit 1991, ophield." A yellow button with the text "▶ Kijk vanaf €4,99" invites users to start watching. The background of the page is a large, dramatic image from the movie, featuring Arnold Schwarzenegger's T-800 character and Linda Hamilton's Sarah Connor character. In the bottom left, there's a section titled "Mijn films" with a thumbnail for "Bohemian Rhapsody". In the bottom center, there's a "Top 20" section displaying thumbnails for several movies: "TERMINATOR DARK FATE", "MIDWAY", "MALEFICENT 2", "JOKER", "Fuck de Liefde", and "GEMINI MAN".

Home Genres

PATHÉ THUIS

declan@vo... ▾

Q

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

Top 20

BOHEMIAN RHAPSODY

TERMINATOR DARK FATE

MIDWAY

MALEFICENT 2

JOKER

Fuck de Liefde

GEMINI MAN

Bohemian Rhapsody

Terminator: Dark Fate

Midway

Maleficent 2

Joker

Fuck de Liefde

Gemini Man

# It's hard!

Home Genres  Inloggen 

Arnold Schwarzenegger is back  
**Terminator: Dark Fate**

 Kijk vanaf €4,99

Top 20 >

  
Terminator: Dark Fate

  
Midway

  
Maleficent 2

  
Joker

  
Fuck de L

Nieuw >

  
LUCE

Elements Console Sources Network Performance **Audits** » ⚠ 2 | ⋮ X

+ 15:37:27 - www.pathe-thuis.nl ▾

Clear storage  Simulated throttling [Learn more](#)

https://www.pathe-thuis.nl/

**68**

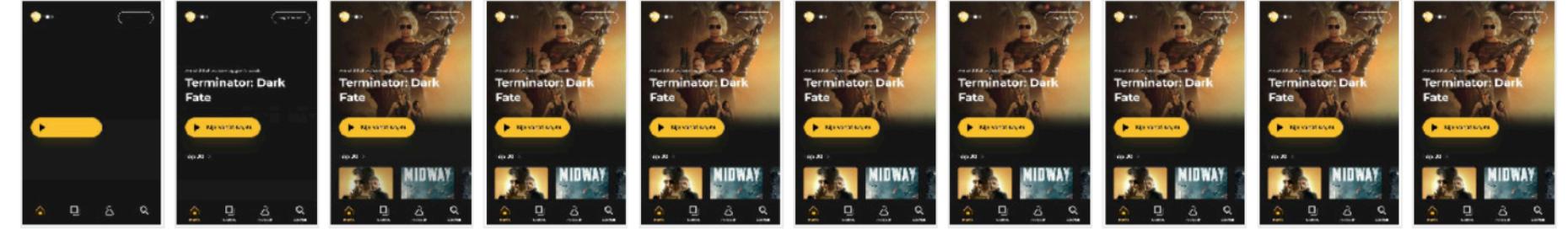
Performance

Metrics 

 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

[View Trace](#)

Values are estimated and may vary. The performance score is based only on these metrics.



**Opportunities** — These suggestions can help your page load faster. They don't directly affect the Performance score.

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

# **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**

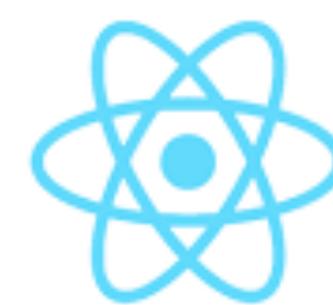
Blazing fast, zero configuration web application bundler



rollup.js



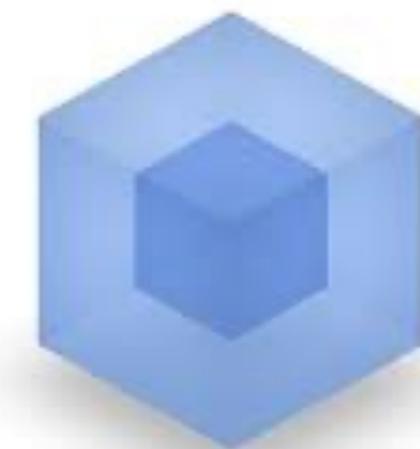
 Vue.js



React



GRUNT



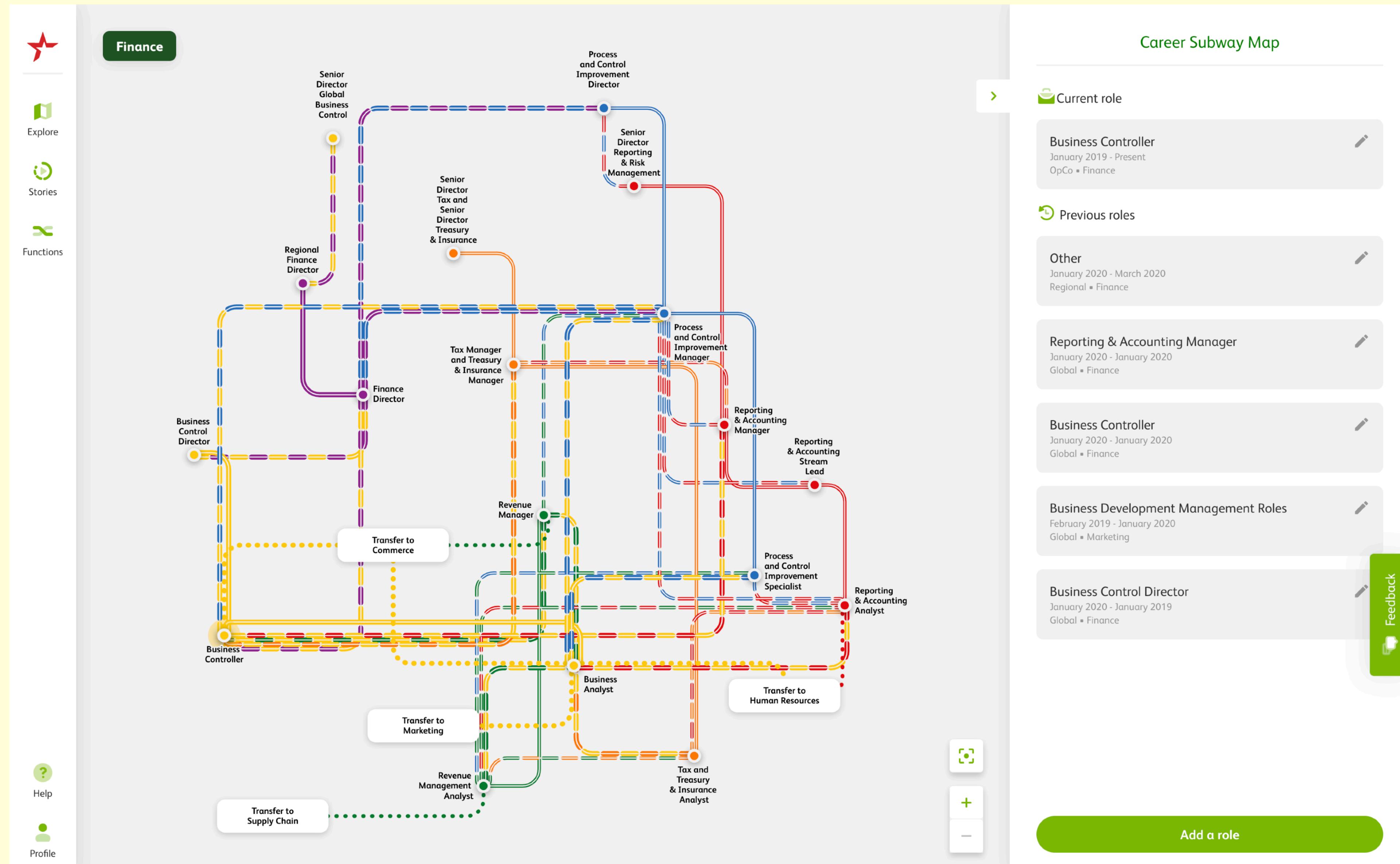
webpack



```
{  
  "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