

SPA PWA WTF ?!



@jbmoelker

News

Sep 27, 2017

| New feature added: Media Fragments

Sep 23, 2017

| New feature added: Selection controls for input & textarea

Sep 21, 2017

| New feature added: WebUSB

Sep 14, 2017

| New feature added: Path2D

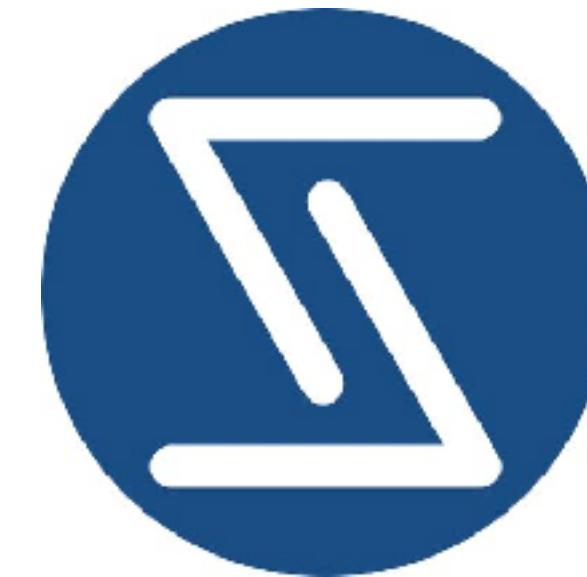
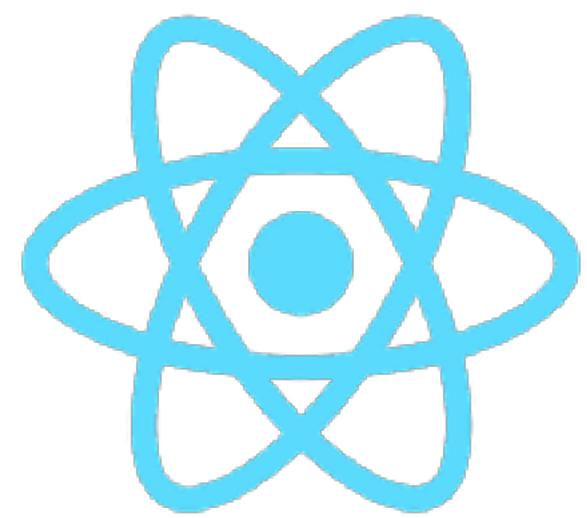
Sep 04, 2017

| New feature added: unhandledrejection/rejectionhandled events

SINGLE PAGE APPS



SPA FRAMEWORKS



svelte

SERVER-RENDERED VS SPA

This screenshot shows a server-rendered web application. The interface is clean and organized. On the left, there's a sidebar with filters for Price (From €0 to No limit), Neighborhood (Archipelbuurt, Arendsdorp, Belgisch Park), Property type (House, Apartment, Parking, Land, Storage space, Storage, Berth, Substructure), and Number of rooms (1 room, 2+ rooms, 3+ rooms, 4+ rooms, 5+ rooms). The main area displays 1,199 results for homes for sale, ordered by relevance. Each listing includes a thumbnail image, address, price, and room details. A 'Save search' button is available at the top left.

This screenshot shows a single-page application (SPA) using React. The user has selected the 'Apartment' filter from the sidebar. The interface is more dynamic, with the 'Apartment' filter highlighted in blue. The search results are presented in a grid format, showing the same 1,199 apartment listings as the first screenshot. The sidebar filters remain visible on the left, and a promotional banner for Coolblue is at the bottom right.

This screenshot provides a detailed view of a specific listing from the server-rendered application. The listing for 'Isingstraat 245' is shown with a thumbnail, address, price (€157,500 k.k.), and room details (79 m² * 4 rooms). It also includes a 'New' and 'Open House' button. Below the listing, there's a brief description from 'Habets makelaardij'.

This screenshot shows the same listing for 'Isingstraat 245' from the SPA. The listing details are identical to the server-rendered version. The 'Apartment' filter is still active in the sidebar. A promotional banner for Coolblue is visible at the bottom right of the page.

9 STATES OF DESIGN

The image shows the header of a Medium.com article. At the top left is the 'M' logo. Next to it is the title 'The Startup' with a small circular icon. To the right is a 'Follow' button. On the far right are icons for search, notifications, and profile.

HOME EDITOR'S CHOICE SUBMIT | GET SMARTER AT BUILDING STARTUPS

Applause from Brent Jackson and 2,396 others



Vince Speelman [Follow](#)

Designer, developer, diner, dreamer, discoverer, do-gooder, Detroiter.

Nov 5, 2015 · 4 min read

The Nine States of Design

Modern UI teams are designing components first; Interfaces are merely the thoughtful composition of components. This leaves an often glaring hole for users on “the unhappy path”—The places where users may,

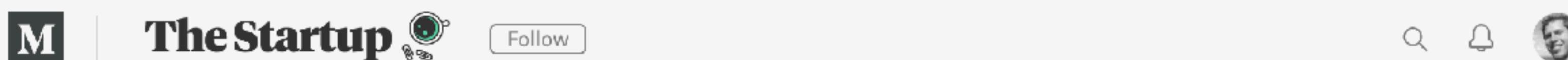
[article on Medium](#)

9 STATES OF DESIGN

none / one / some / too many

incorrect / correct

nothing → loading → done



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RESPONSIVENESS

100ms = Instantaneous

1 second = Uninterrupted flow

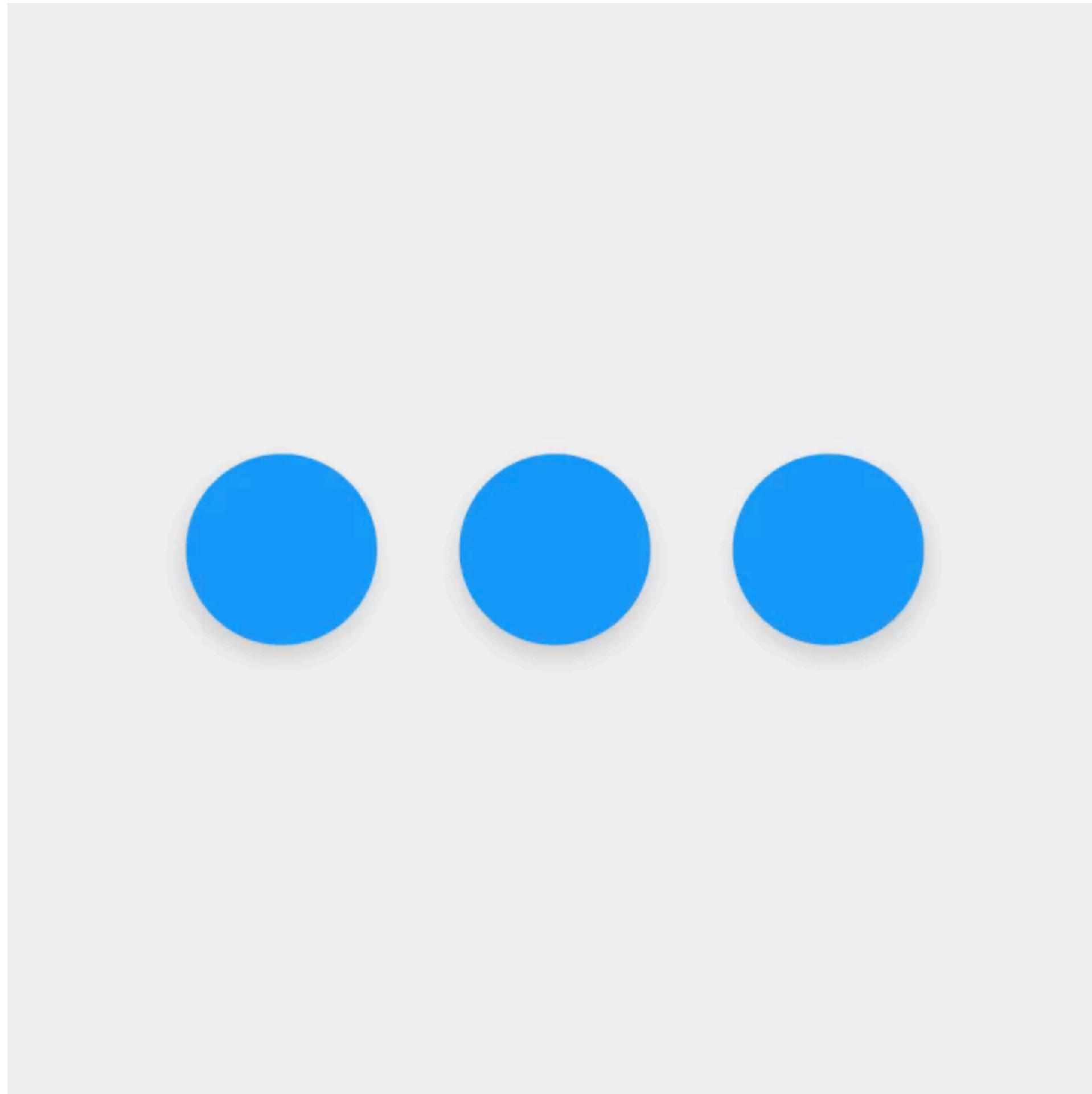


photo by Daniel Hong



photo by Gloom

STATE TRANSITIONS



material.google.com/motion

IN-BETWEEN STATES



Mr de Heer

Bestemming: New York



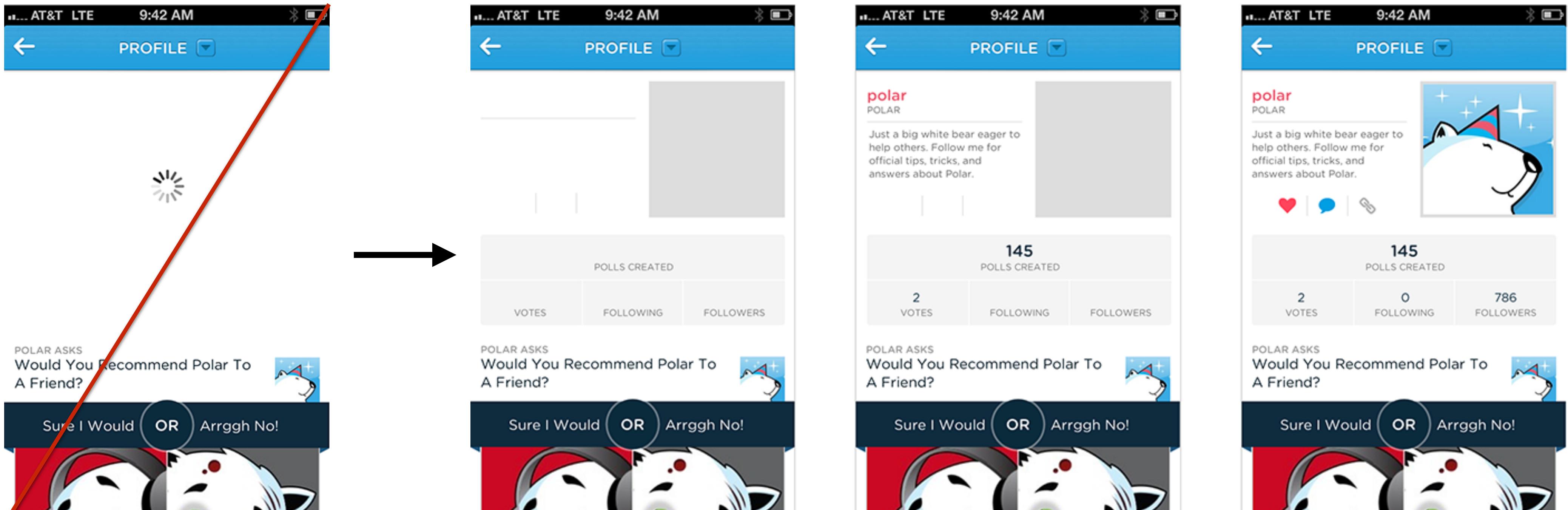
**Scan uw
boardingpas**

Gebruik de handscanner om uw
boardingpas te scannen.

Vraag hulp



SKELETONS

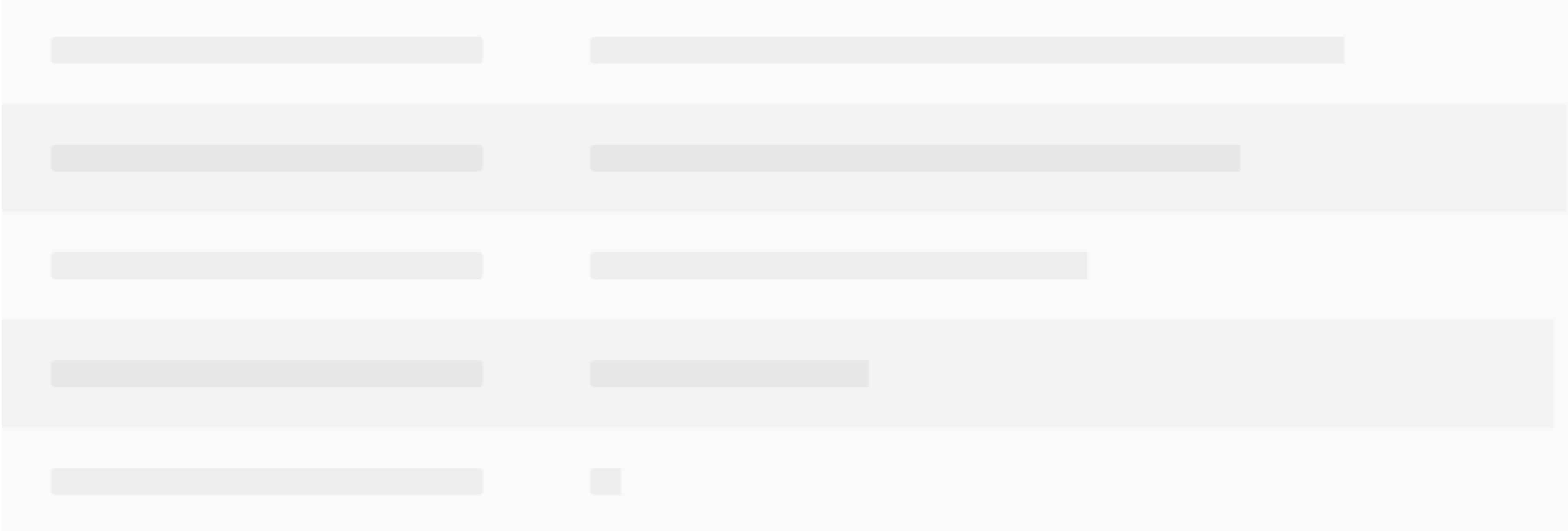


ANIMATING SKELETONS



[credits @IMAgency](#)

ANIMATING SKELETONS

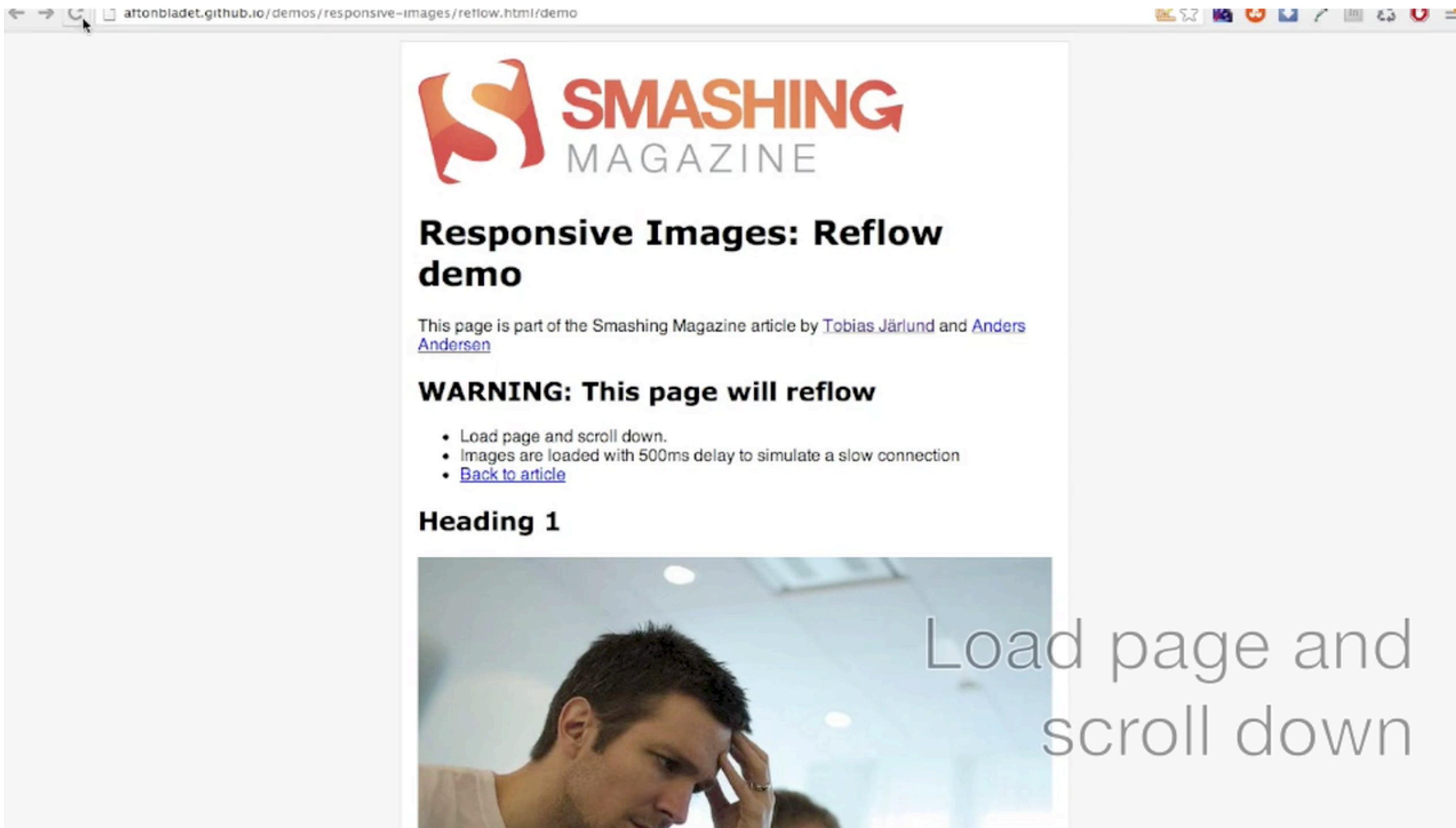


[credits @IMAgency](#)

IMAGE LOADING



IMAGE REFLOW - IN ACTION



The screenshot shows a web browser window with the URL aftonbladet.github.io/demos/responsive-images/reflow.html/demo in the address bar. The page content is as follows:

SMASHING MAGAZINE

Responsive Images: Reflow demo

This page is part of the Smashing Magazine article by [Tobias Järlund](#) and [Anders Andersen](#)

WARNING: This page will reflow

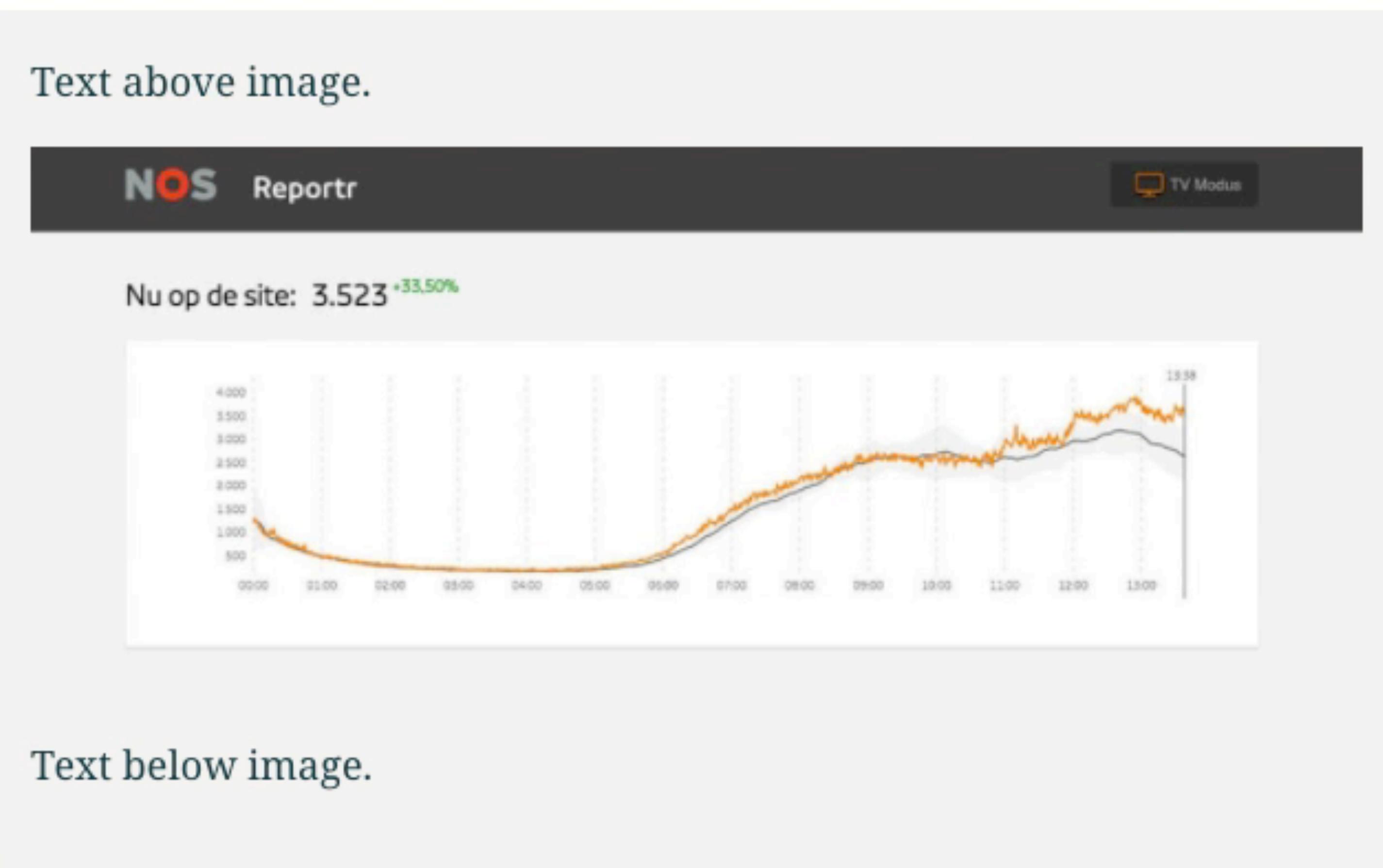
- Load page and scroll down.
- Images are loaded with 500ms delay to simulate a slow connection
- [Back to article](#)

Heading 1

 Load page and scroll down

smashingmagazine.com/2013/09/responsive-images-performance-problem-case-study

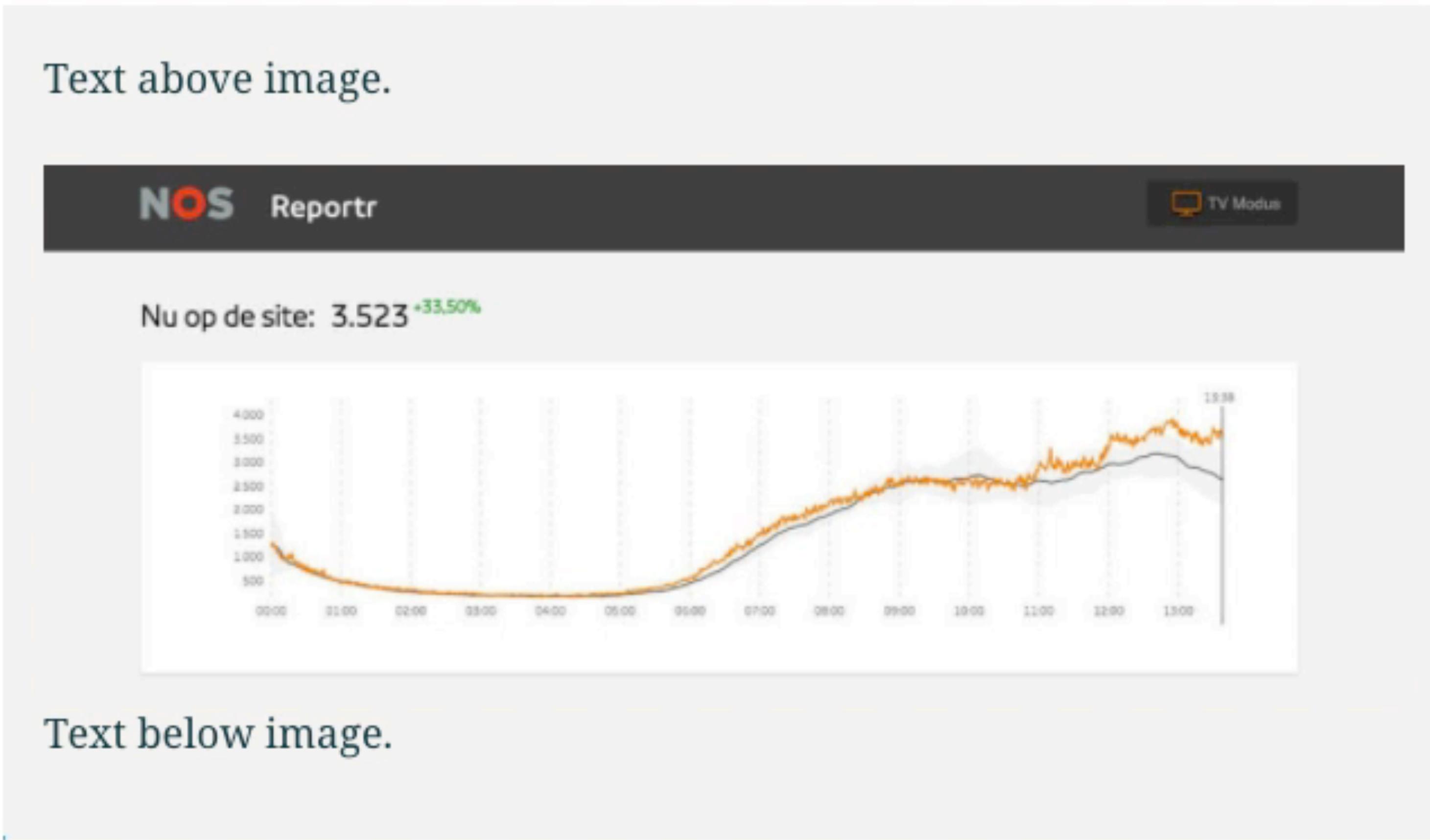
IMAGE REFLOW - THE ISSUE



Text below image reflows on image loaded.

Jasper says no to image reflow

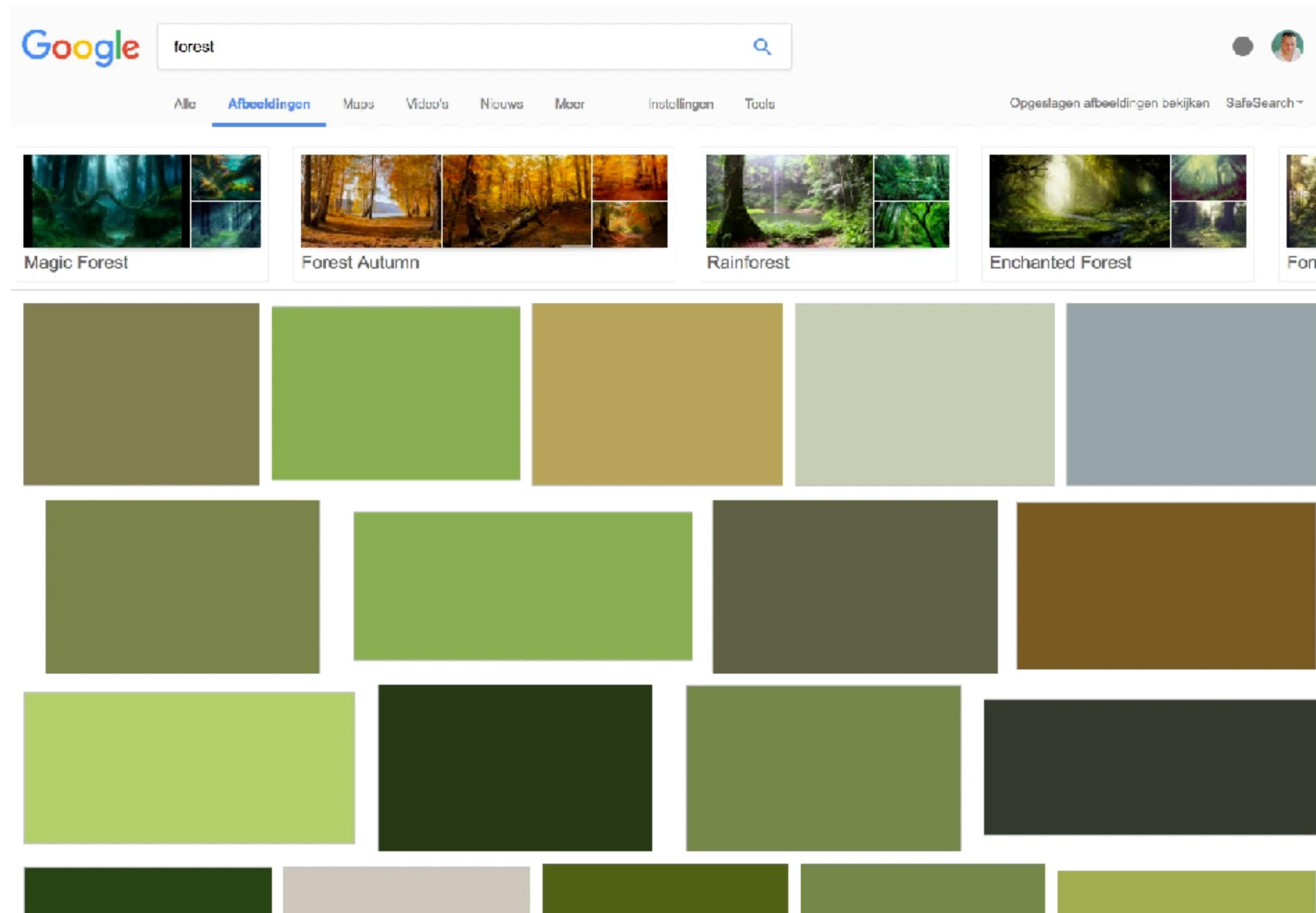
IMAGE REFLOW - THE FIX



Fixed image *ratio* prevent text reflow.

[Jasper says no to image reflow](#)

PLACEHOLDER COLOR



A random Google images search

PLACEHOLDER IMAGE



Basic income

[Follow](#)



[Sign in / Sign up](#)



Scott Santens [Follow](#)

New Orleans writer focused on the potential for human civilization to get its act together in the 21st...

Mar 23 · 13 min read



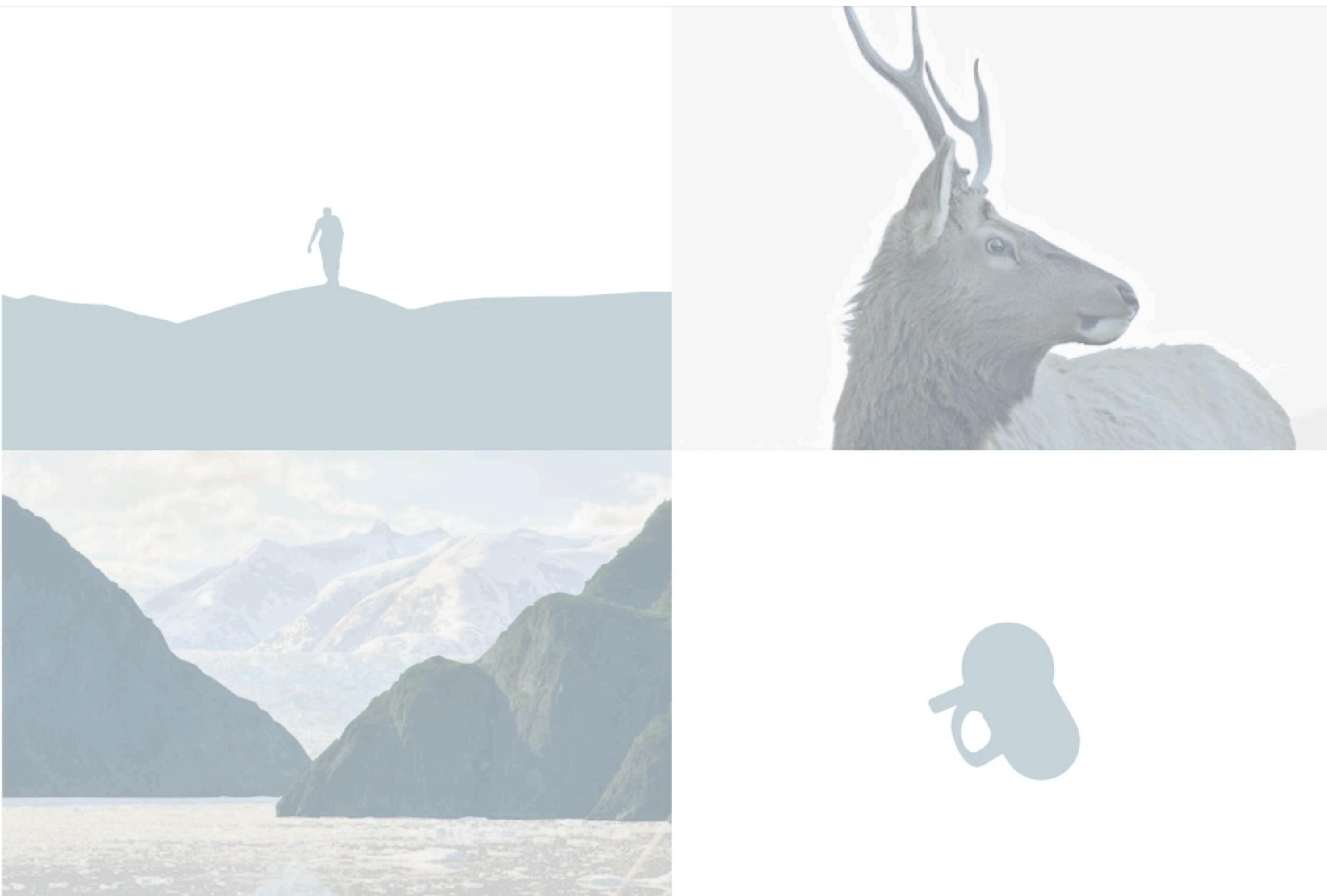
Photo by Generation Grundeinkommen / Flickr Creative Commons BY 2.0

What if you got \$1,000 a month, just for being alive? I decided to find out.

My father has a basic income. As a retired United States Air Force officer, he

A random Medium post

IMAGE TRACE

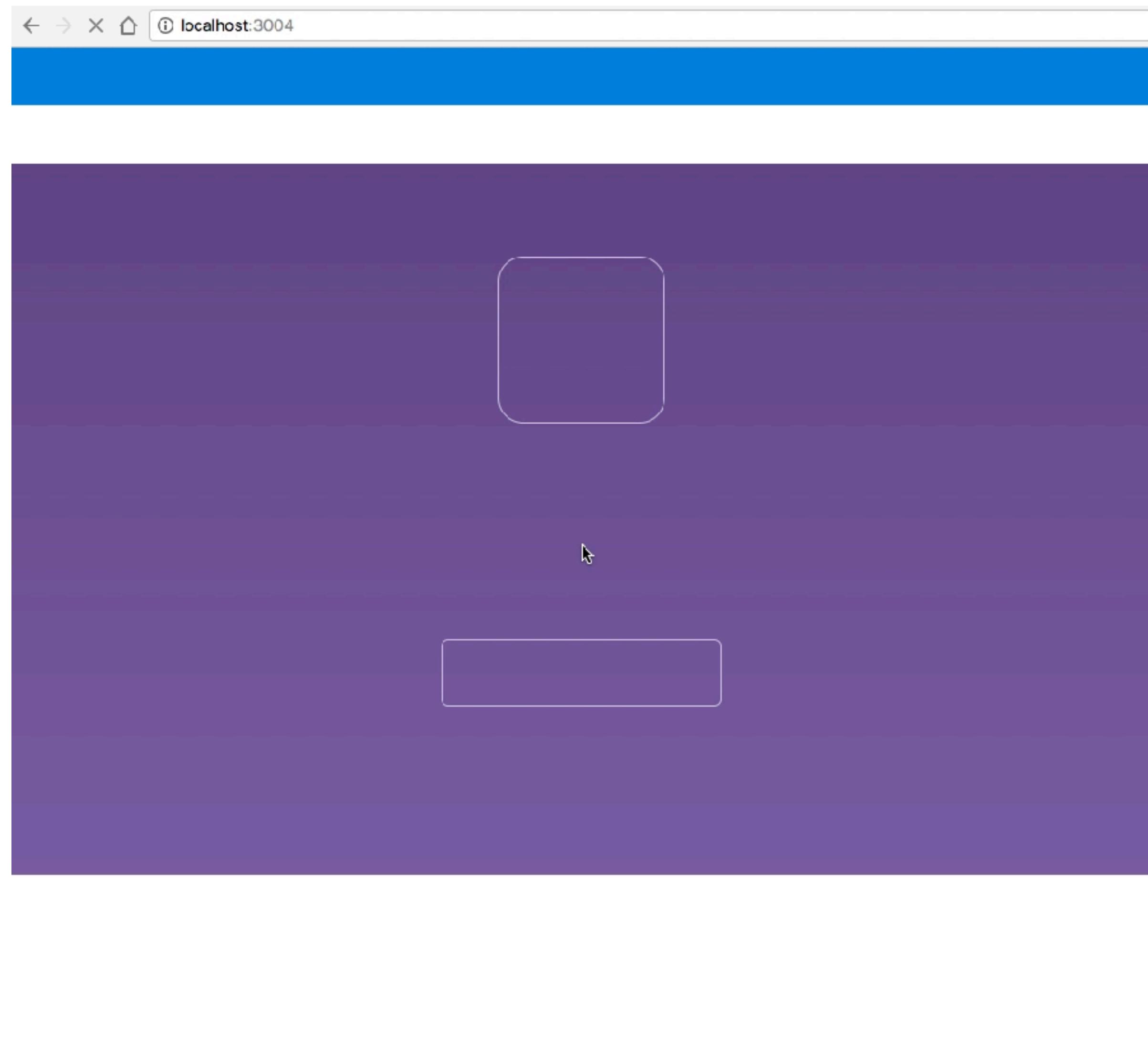


[*image-trace-loader*](#)

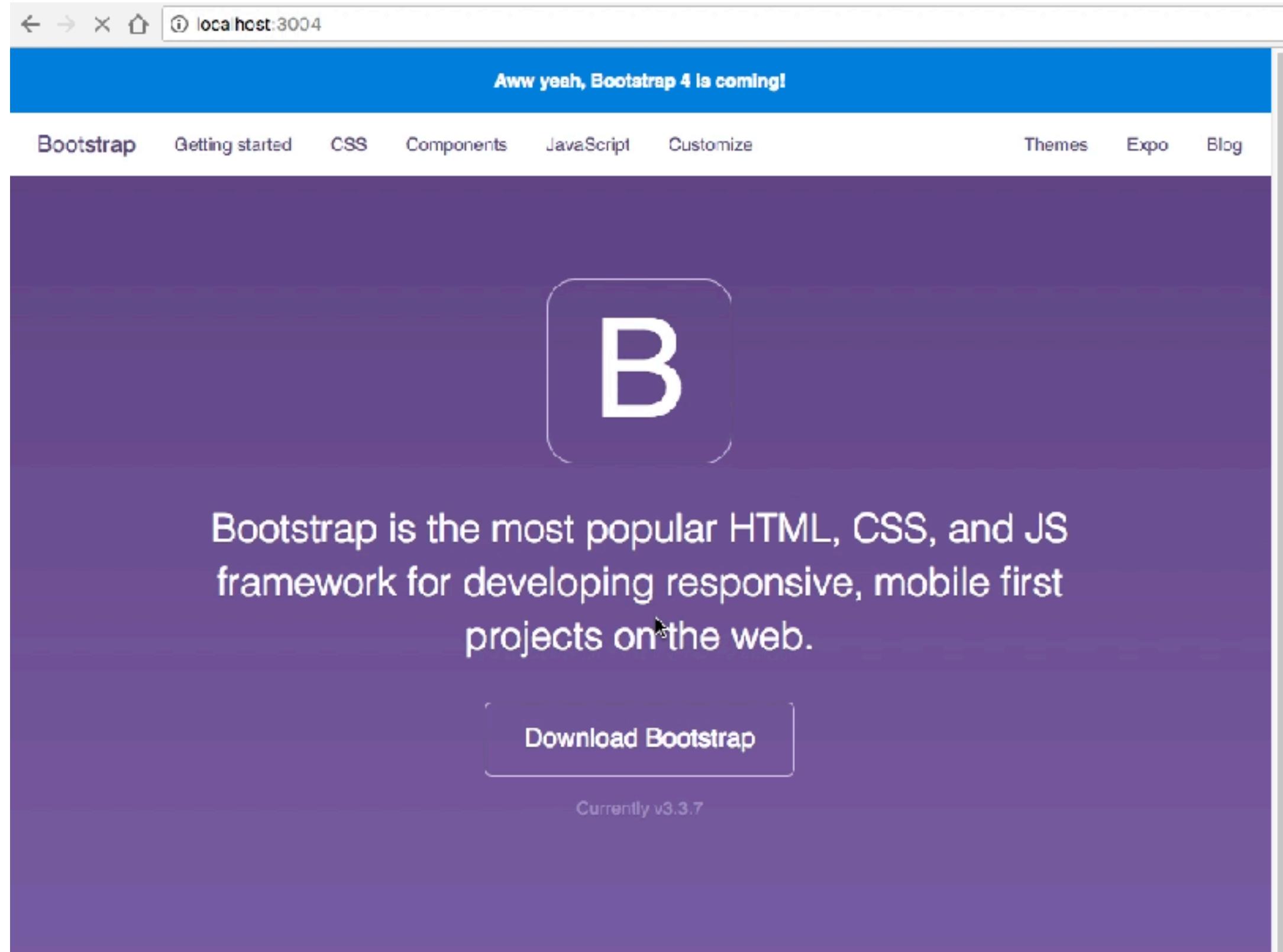
FONT LOADING



FLASH OF INVISIBLE TEXT (FOIT)



FLASH OF UNSTYLED TEXT (FOUT)



Designed for everyone, everywhere.

Bootstrap makes front-end web development faster and easier. It's made for

TEXT REFLOW - THE ISSUE

Georgia (initial font)

Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velitesse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum.

TEXT REFLOW - THE FIX

Georgia (initial font)

Noto Serif (web font)

TEXT REFLOW - THE RESULT



WORK BLOG TEAM CONTACT NLIEN

.NET can has wow front-end too

Building a modular front-end in .NET Core



by Joao
September 16, 2016

Table of contents

[Why we need a .NET front-end stack](#)

[Running .NET on Mac OS](#)

[Picking best practices](#)

[A back-end agnostic module viewer](#)

[Embracing .NET and its standards](#)

[File structure](#)

[Conclusion](#)

Share on

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[.NET Core front-end development guide →](#)

In this blog post, we explain why and how we set it up.

Why we need a .NET front-end stack

Node.js on the back-end is still a fairly small affair, moreso in corporate environments where .NET and Java still reign supreme. However, as front-enders we prefer to work with Node.js — or, to be honest, we *need* to, as many of the tools we use are written with Node.

We often try to **combine the front-end and back-end into a single project environment**. If for some reason we can't, we deliver a static, modular front-end using [Nunjucks](#) templates and stub data. Back-end developers then build the actual application out of prerendered templates and precompiled assets.

This conversion however is time-consuming and prone to errors. So, to smoothen this process, we built a **front-end development stack for .NET**.

Running .NET on Mac OS

ASP.NET is available for Windows only, whereas all of De Voorhoeve (and many



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design **states**
and state **transitions**

PROGRESSIVE WEB APPS



Progressive Web Apps
are websites
with **super powers**



Progressive



Responsive



Network
Independent



App-Like



Fresh



Safe



Discoverable



Re-engageable



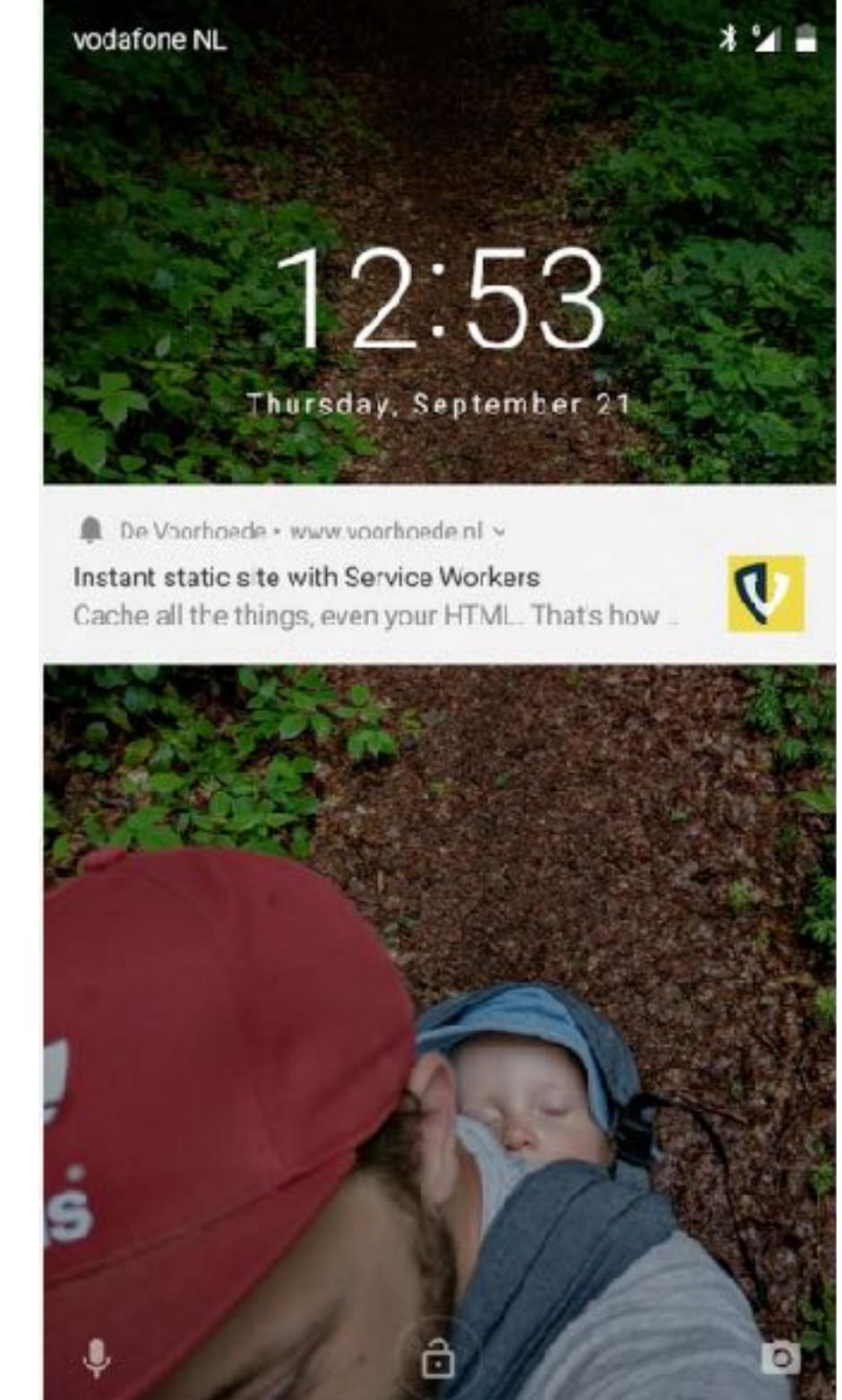
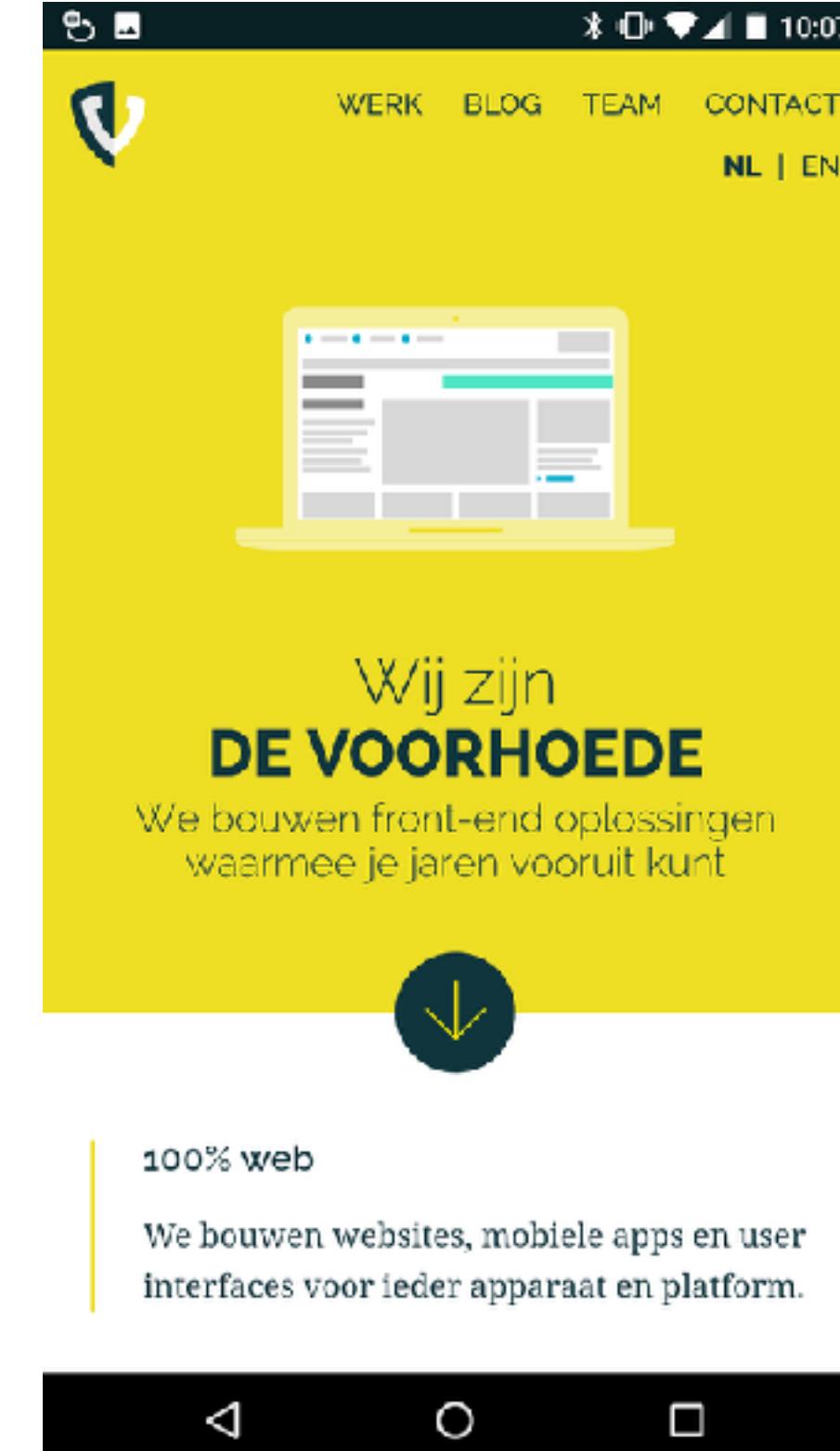
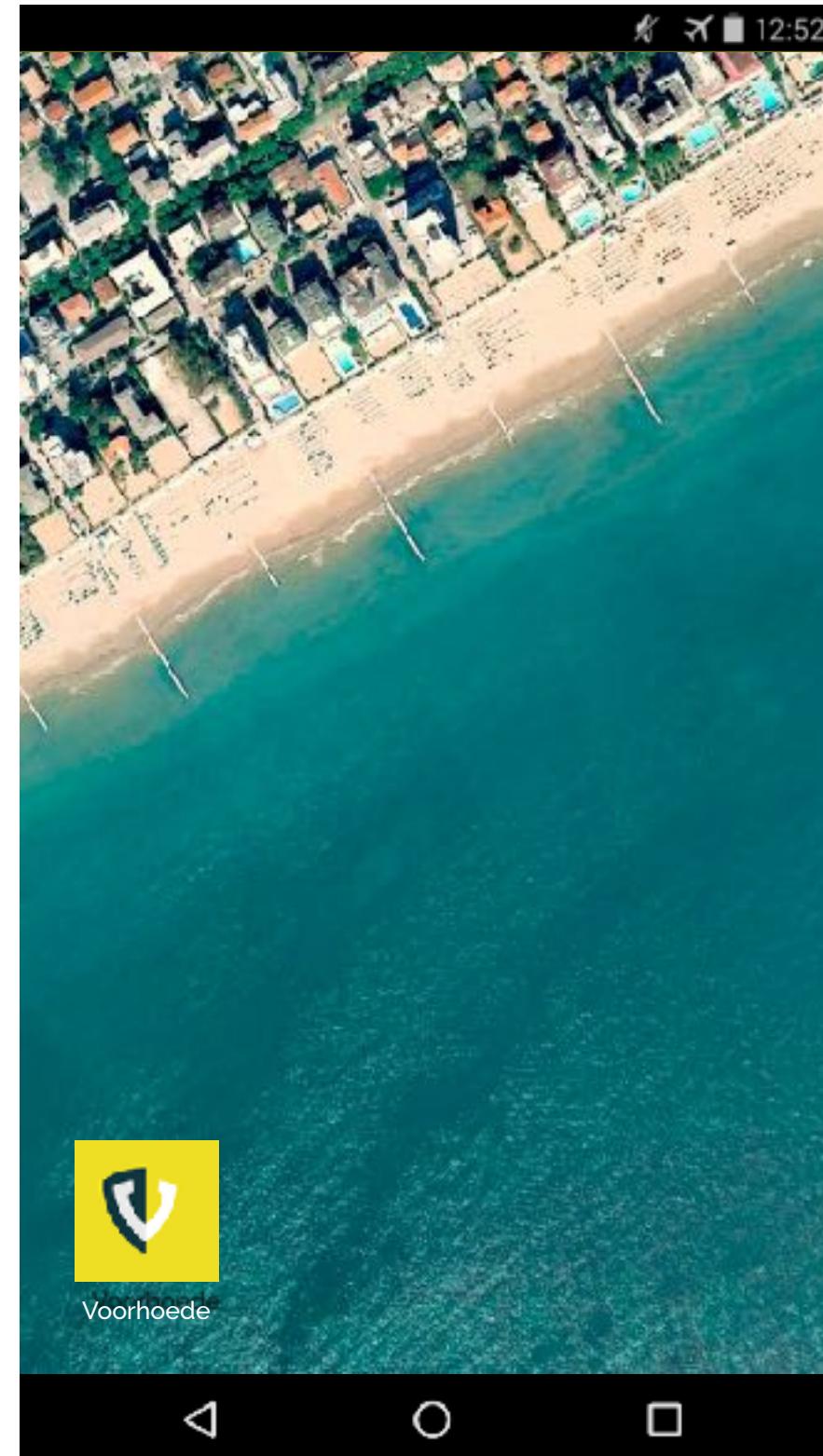
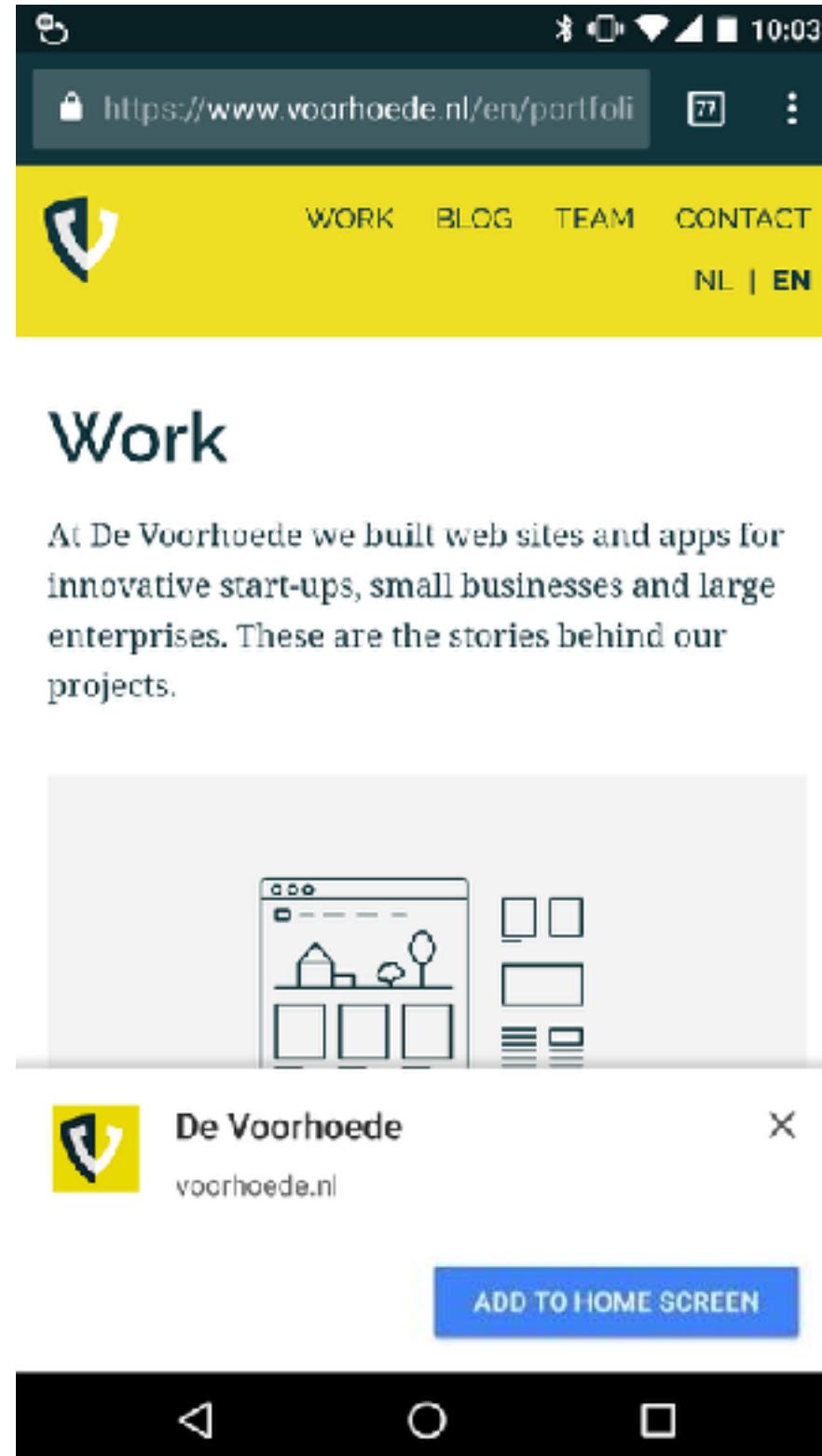
Installable



Linkable

A PWA is

FROM SITE TO PWA



voorhoede.nl

use the
latest web technologies
to create a
1st class app experience

CHROME, ANDROID (2018-03)

Native Behaviors	Seamless Experience	Surroundings	Input
<ul style="list-style-type: none">LOCAL NOTIFICATIONS ✓PUSH MESSAGES ✓HOME SCREEN INSTALLATION ✓FOREGROUND DETECTION ✓PERMISSIONS ✓	<ul style="list-style-type: none">OFFLINE MODE ✓BACKGROUND SYNC ✓INTER-APP COMMUNICATION ✓PAYMENTS ✓CREDENTIALS ✓	<ul style="list-style-type: none">BLUETOOTH ✓USB ✓NFC ✘PROXIMITY SENSORS ✘AMBIENT LIGHT ✘	<ul style="list-style-type: none">TOUCH GESTURES ✓SPEECHrecognition ✓CLIPBOARD (COPY & PASTE) ✓POINTING DEVICE ADAPTATION ✓

Location & Position	Device Features	Screen & Output	Camera & Microphone
<ul style="list-style-type: none">GEOLOCATION ✓GEOFENCING ✘DEVICE ORIENTATION ✓DEVICE MOTIONS ✓PROXIMITY SENSORS ✘	<ul style="list-style-type: none">NETWORK TYPE & SPEED ✓ONLINE STATE ✓VIBRATION ✓BATTERY STATUS ✓DEVICE MEMORY ✓	<ul style="list-style-type: none">VIRTUAL & AUGMENTED REALITY ✓FULLSCREEN ✓SCREEN ORIENTATION & LOCK ✓WAKE LOCK ✘PRESENTATION FEATURES ✓	<ul style="list-style-type: none">AUDIO & VIDEO CAPTURE ✓ADVANCED CAMERA CONTROLS ✓RECORDING MEDIA ✓REAL-TIME COMMUNICATION ✓



What Web Can Do Today

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An overview of the device integration HTML5 APIs

✓ Feature available in your current browser

✗ Feature not available in your current browser

Operating System
<ul style="list-style-type: none">OFFLINE STORAGE ✓FILE ACCESS ✓CONTACTS ✘SMS ✘STORAGE QUOTAS ✓TASK SCHEDULING ✘

PWAS IN PRACTICE



STARTS AS WEBSITE



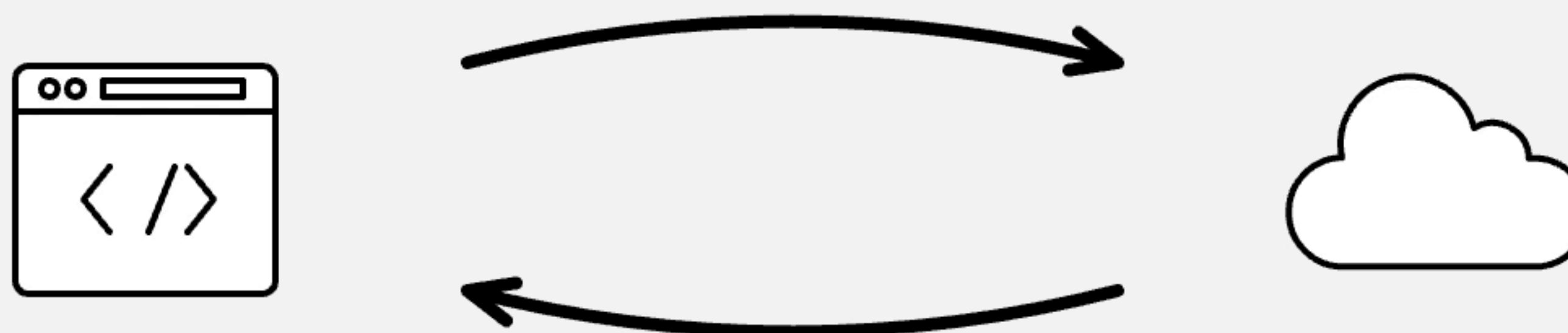
The screenshot shows a browser window with the title 'Blog | De Voorhoede'. The address bar indicates a secure connection to <https://www.voorhoede.nl>. The page has a yellow header featuring the company logo (a stylized 'V' icon) and the text 'DE VOORHOEDE front-end developers'. On the right side of the header are navigation links for 'WERK', 'BLOG', 'TEAM', 'CONTACT', and 'NL|EN'. Below the header is a large yellow background area containing the text 'Wij zijn **DE VOORHOEDE**' and 'We bouwen front-end oplossingen waarmee je jaren vooruit kunt'. A small circular arrow icon is located at the bottom center of this yellow area.

100% web

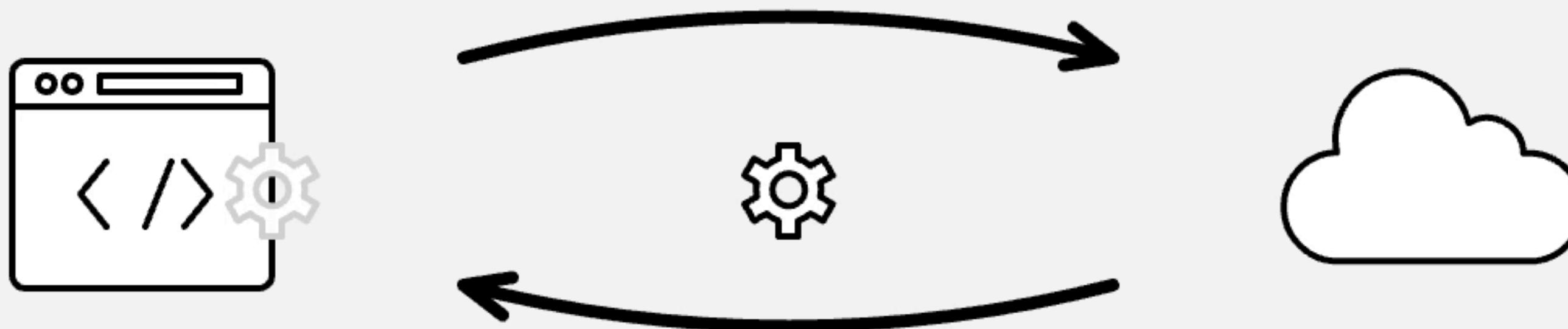
We bouwen websites, mobiele apps en user interfaces voor ieder apparaat en

voorhoede.nl

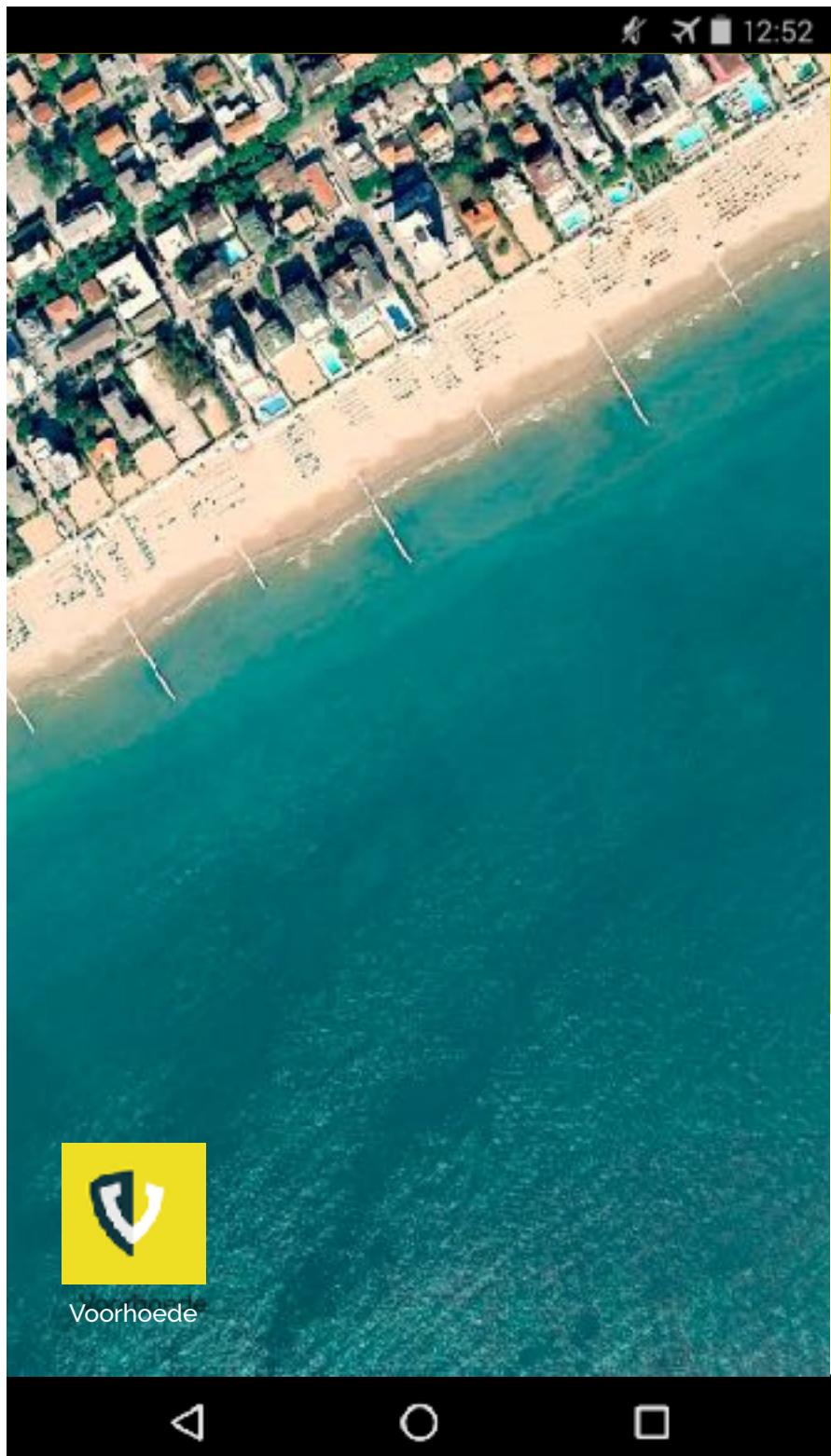
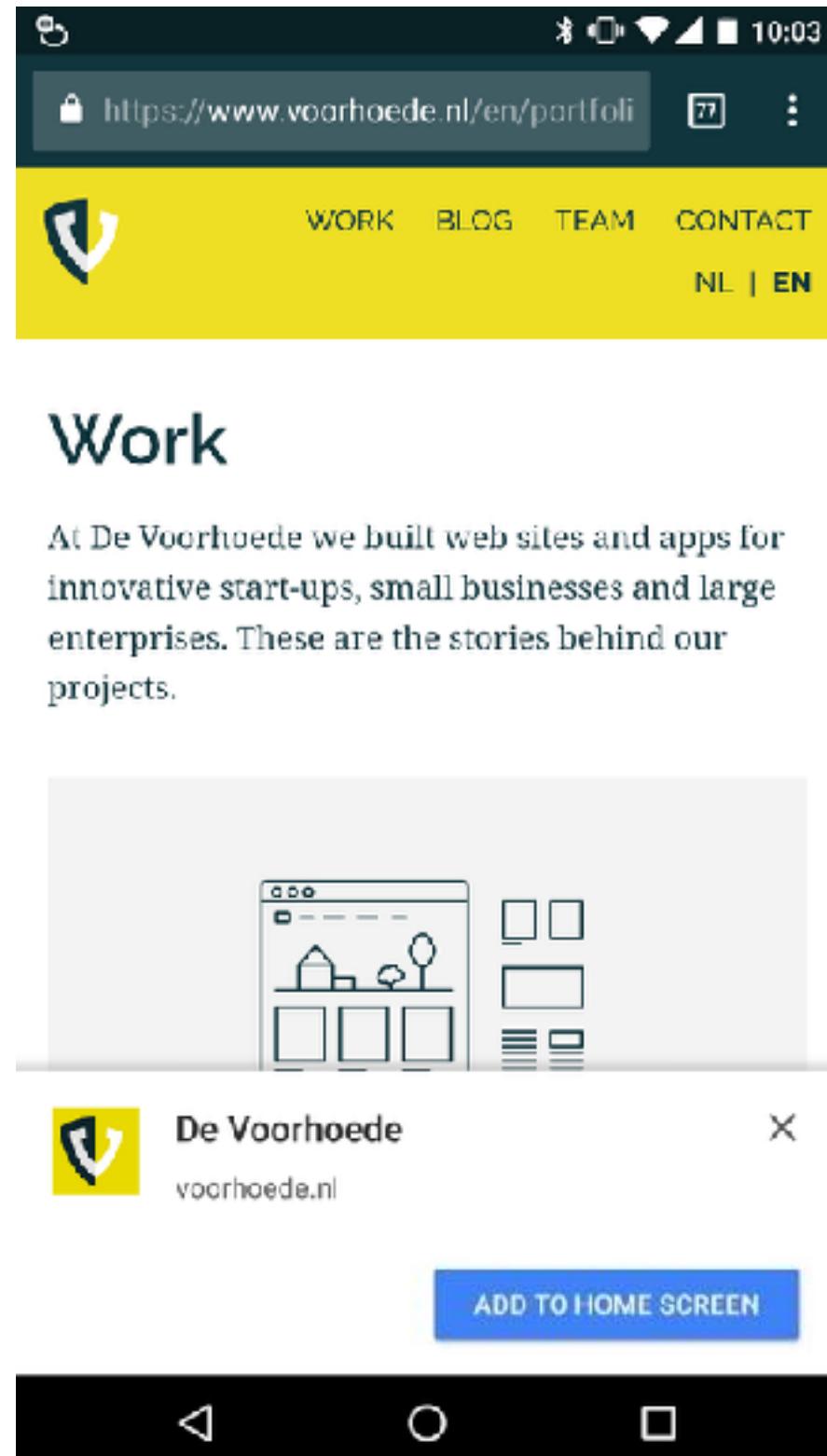
INITIAL PAGE LOAD



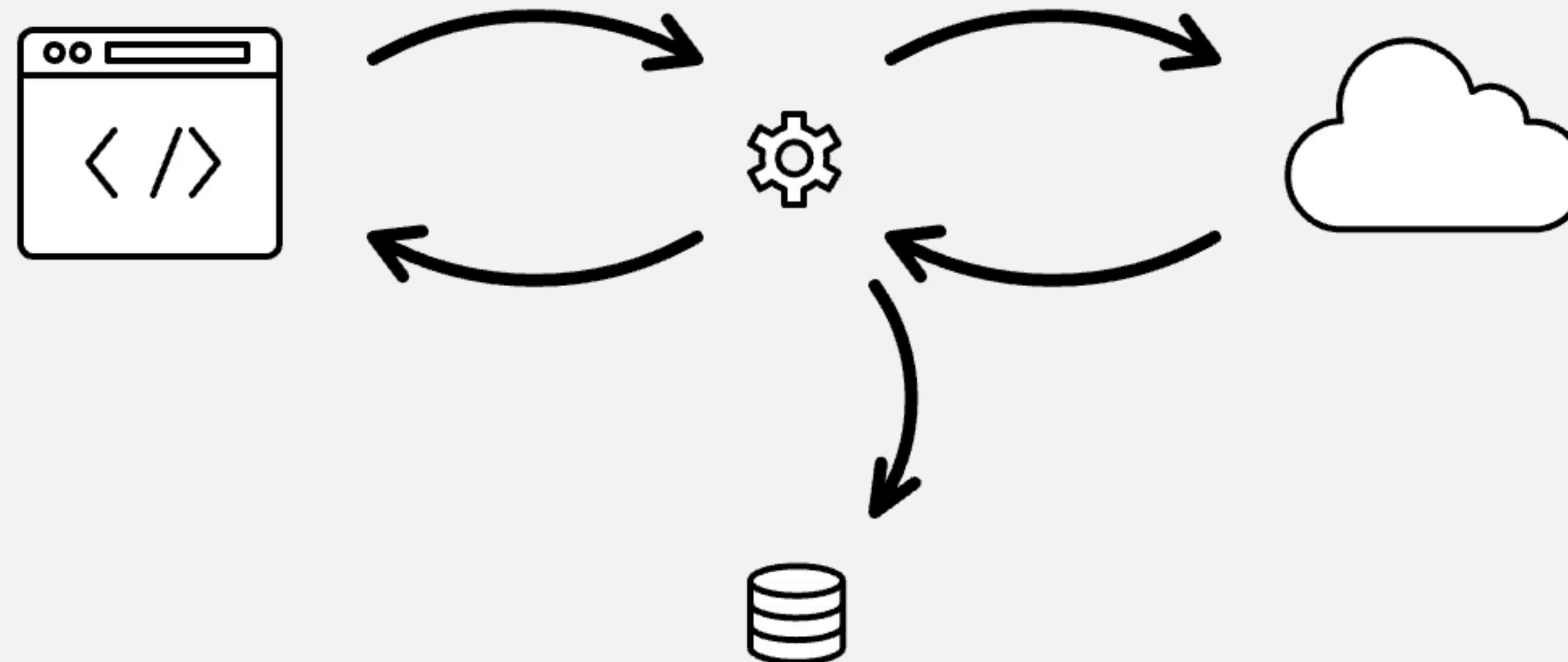
REGISTER SERVICE WORKER



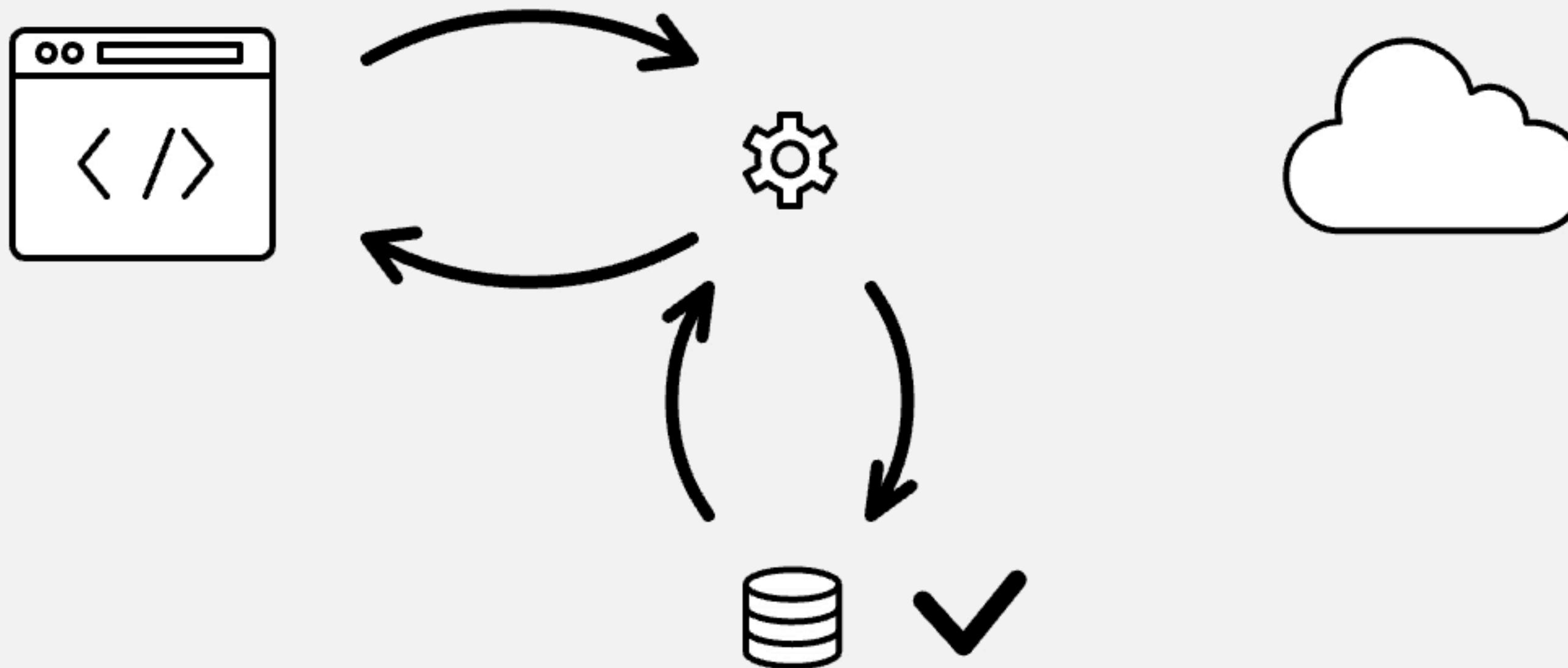
ADD TO HOMESCREEN



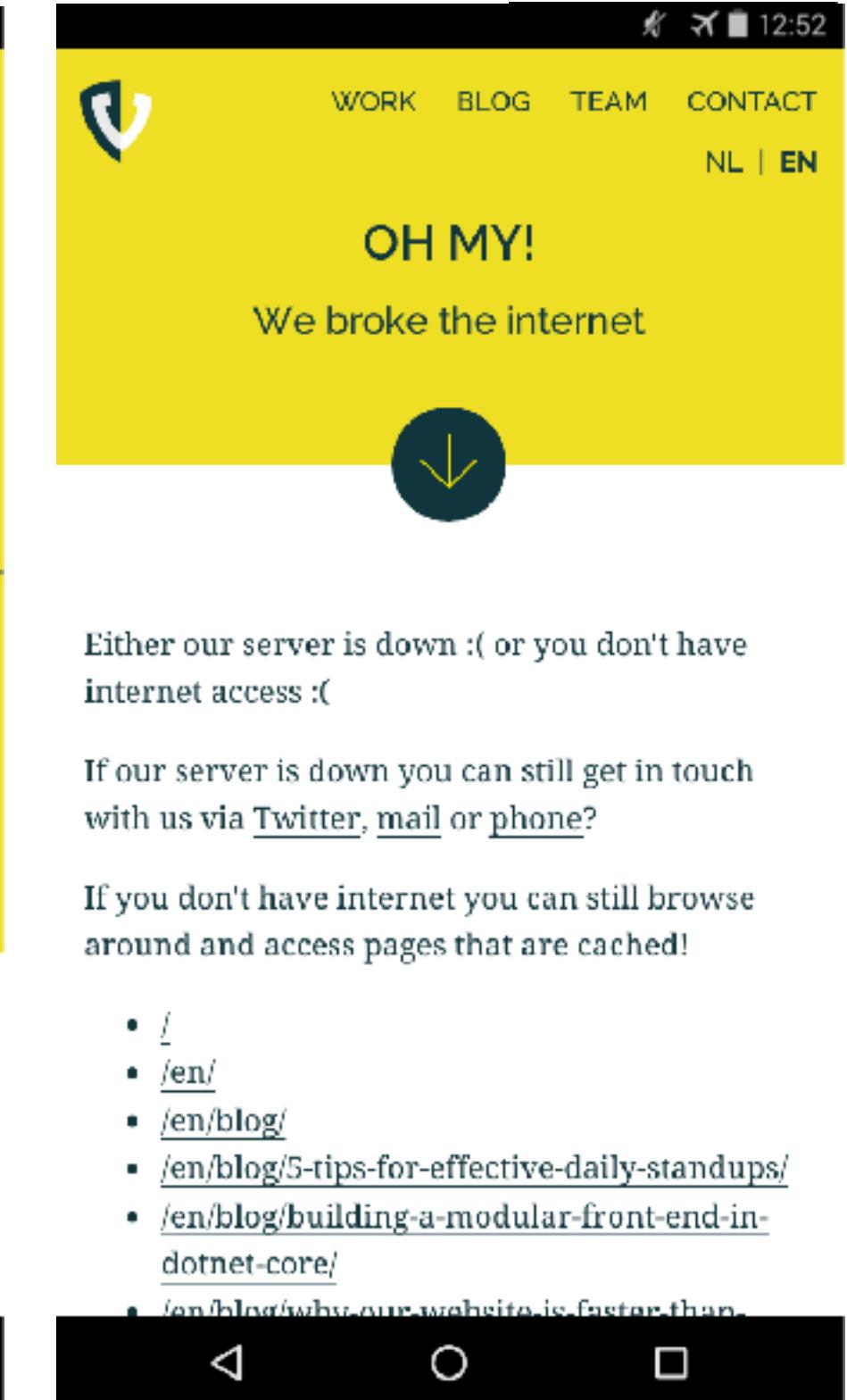
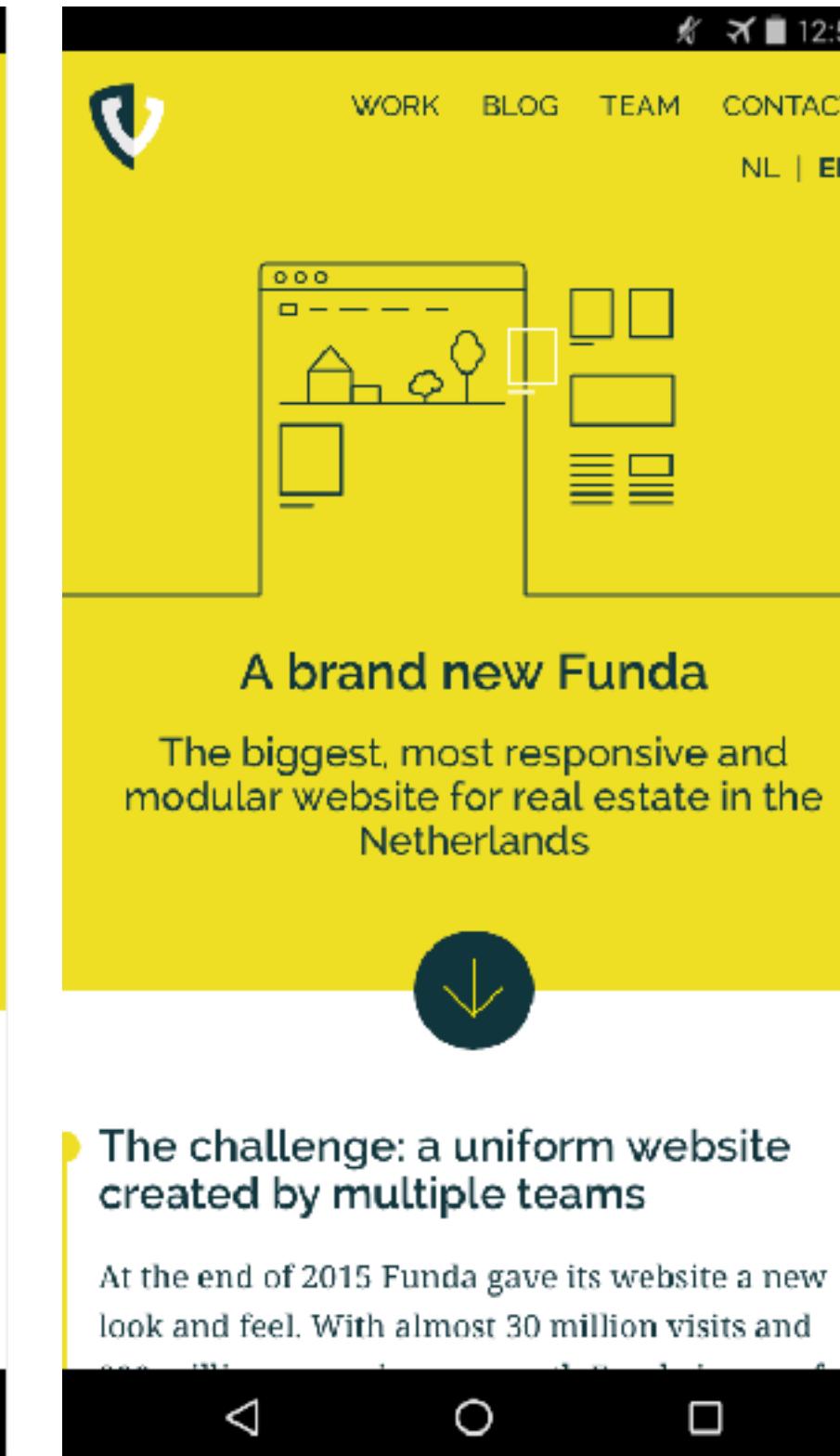
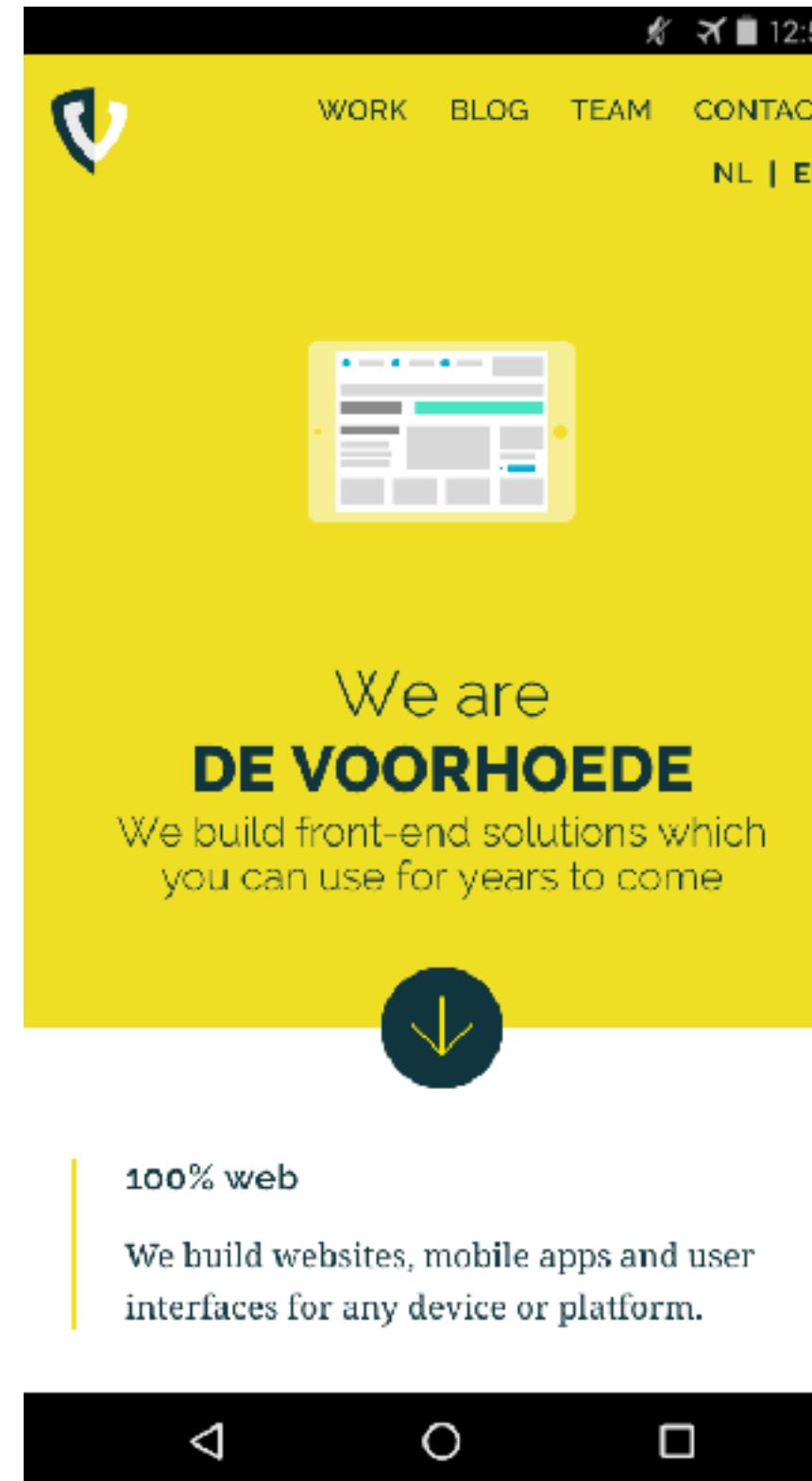
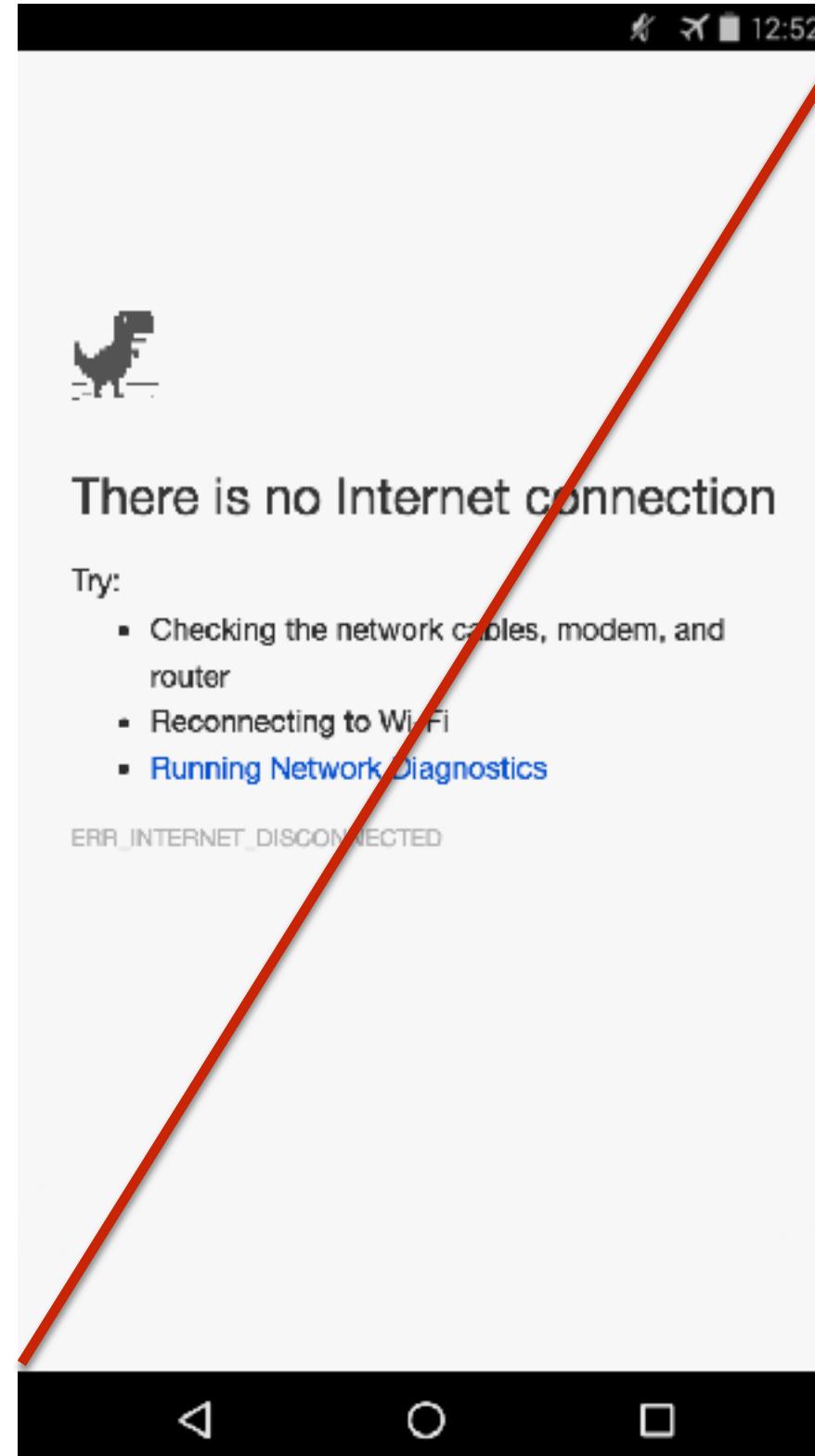
CACHE ON FETCH



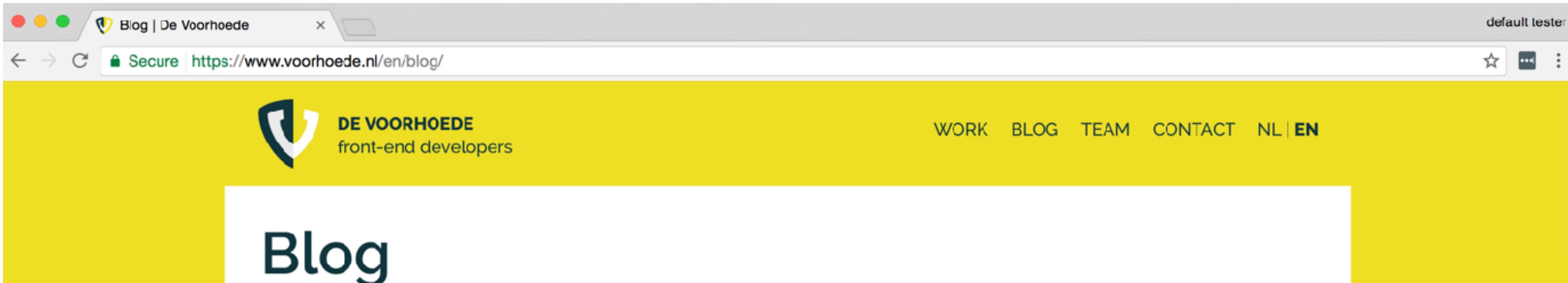
SERVE FROM CACHE



OFFLINE SUPPORT



OFFLINE SUPPORT



In our blog posts you'll read how we approach our projects and what techniques we use.

17 Mar 2017

[Fighting front-end fatigue with tooling recipes](#)



by Jasper

available offline

16 Jan 2017

[The importance of an Interaction Engineer](#)



by Tjerk

27 Dec 2016

[Improving accessibility for the blind: 8 guidelines](#)



by Bas

21 Dec 2016

[Creating HTML email templates from scratch](#)



by Vincent

28 Nov 2016

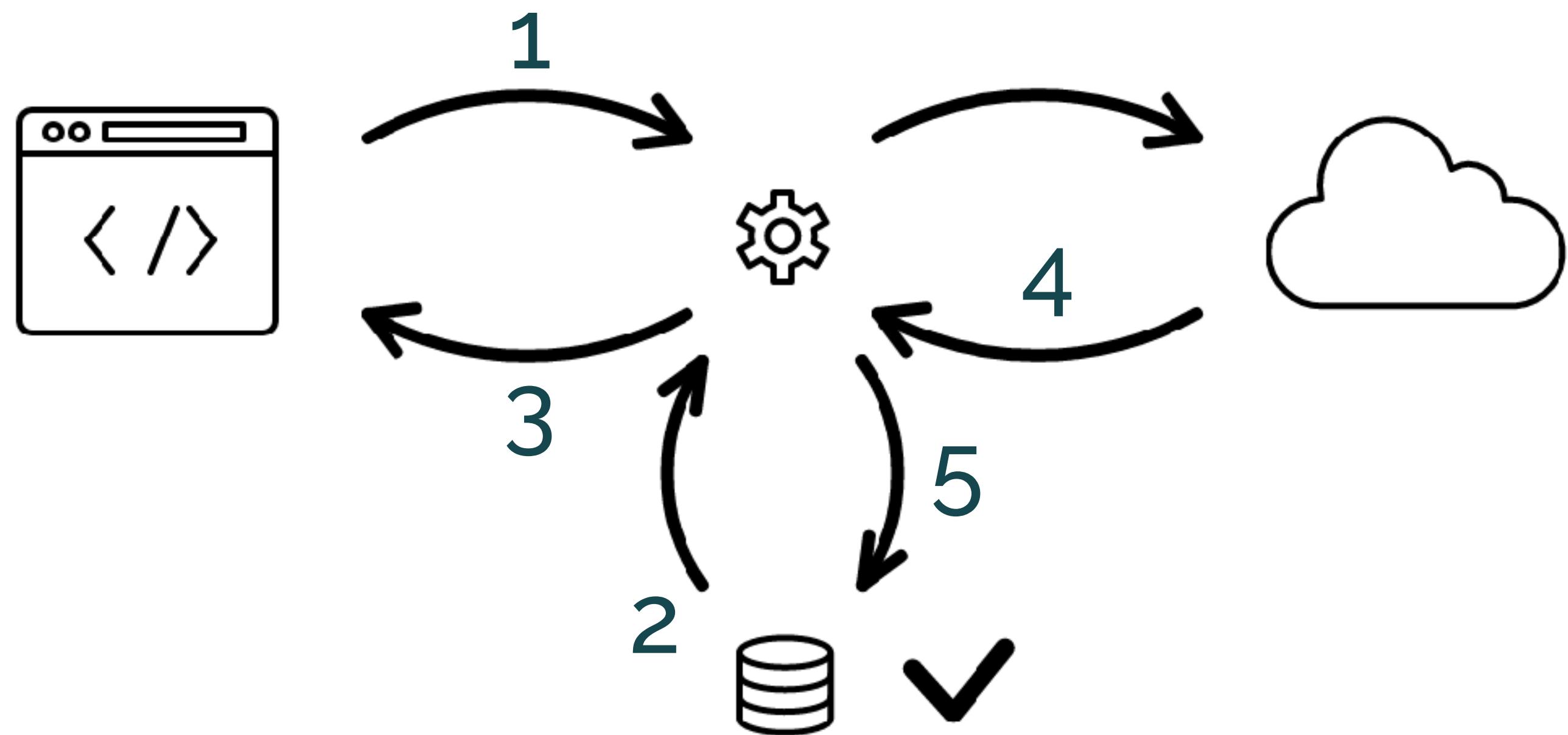
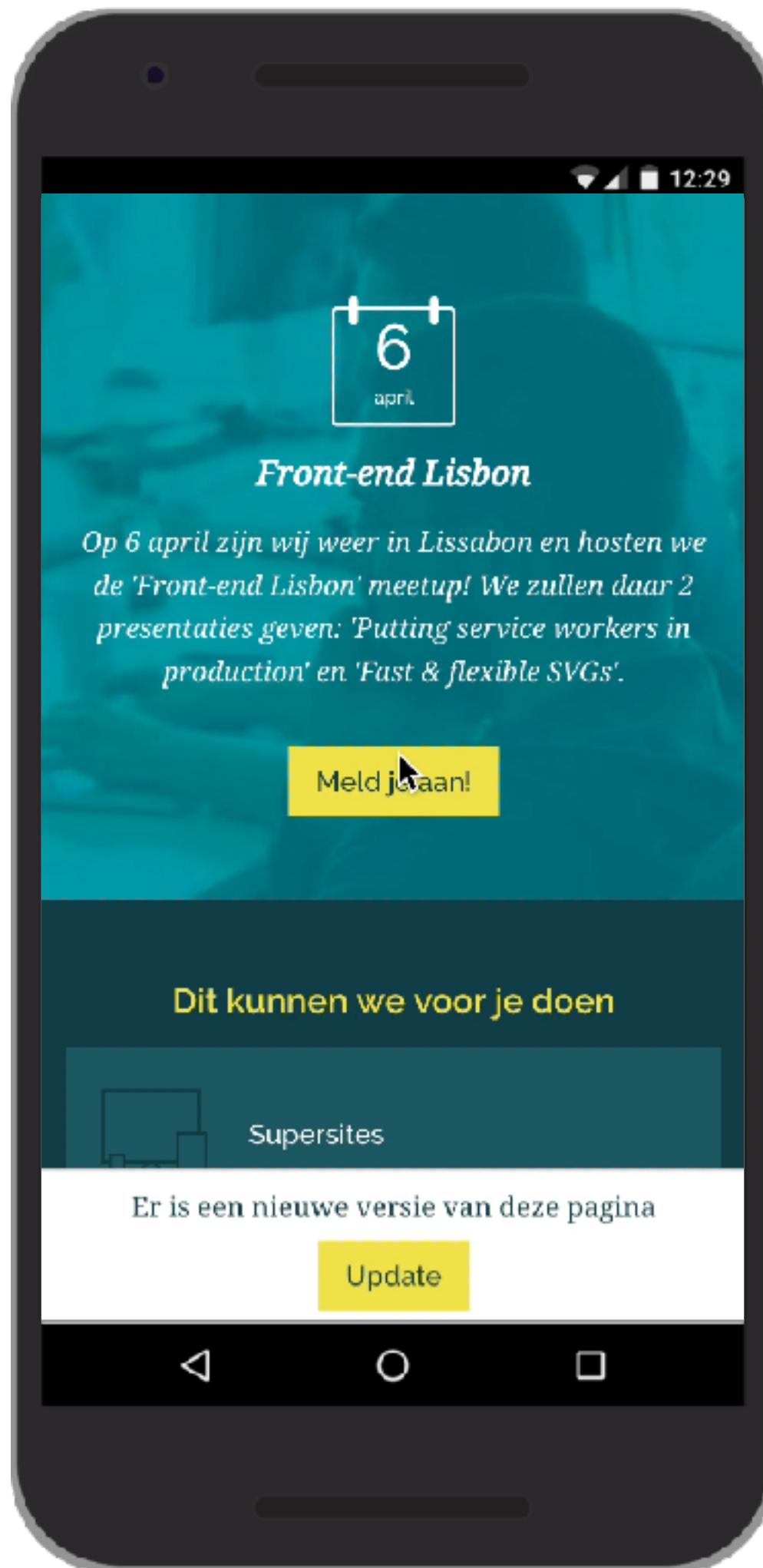
[Static site implosion with Brotli and Gzip](#)



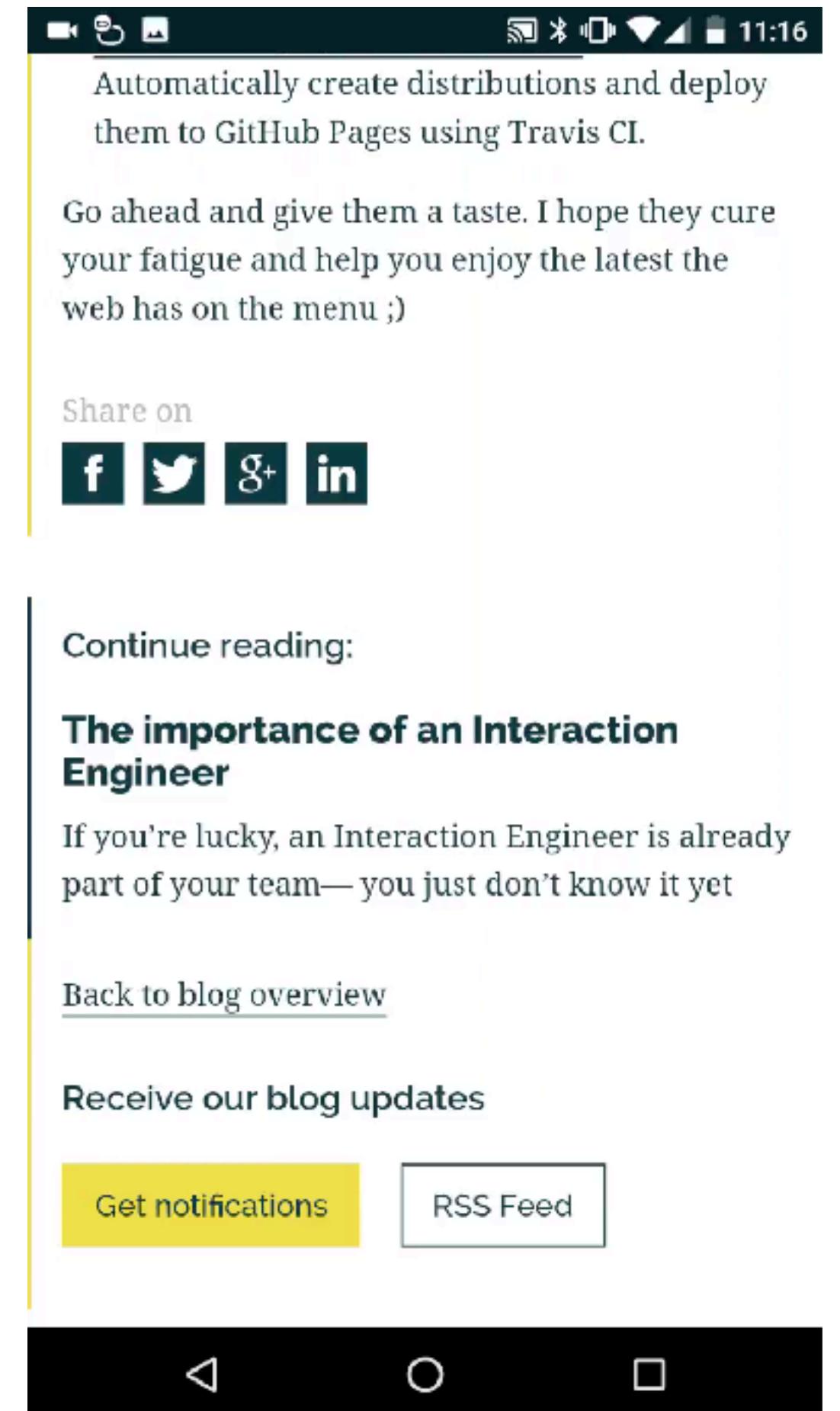
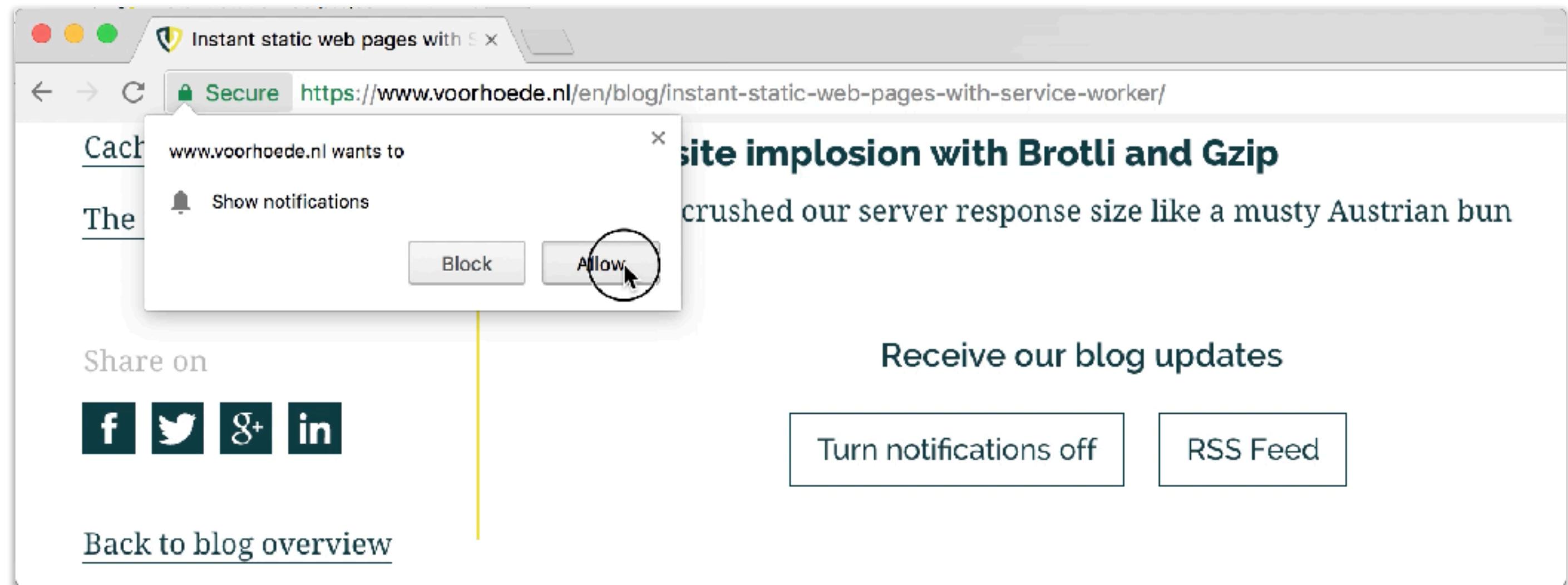
by Thadée

[voorhoede.nl/en/blog/](https://www.voorhoede.nl/en/blog/)

STAY FRESH

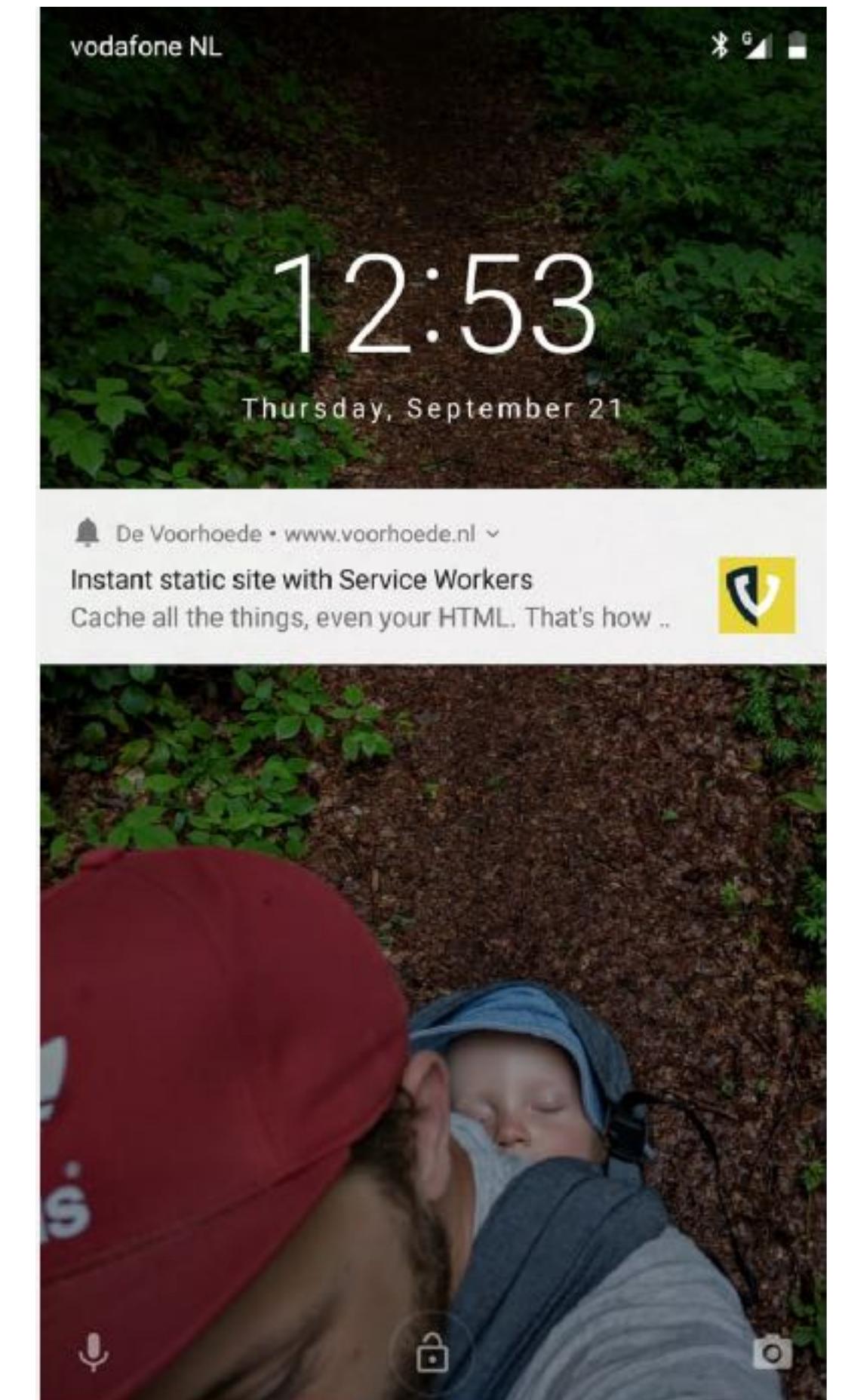
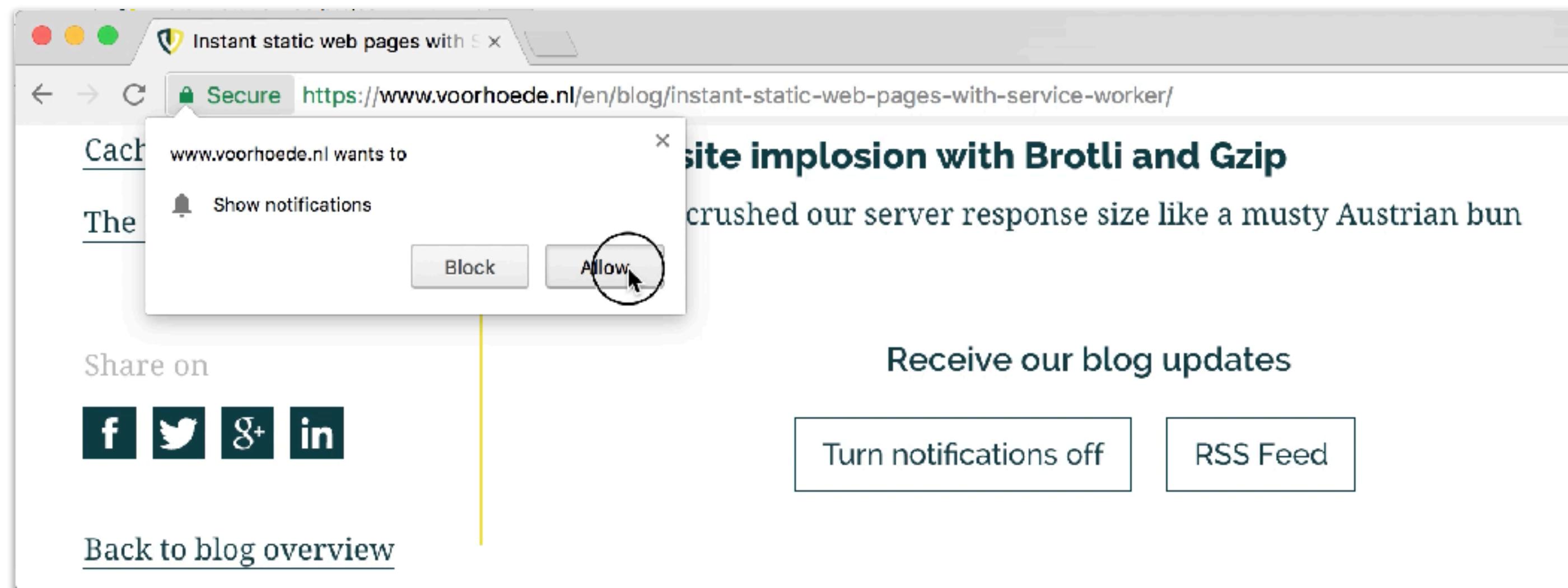


PUSH NOTIFICATIONS



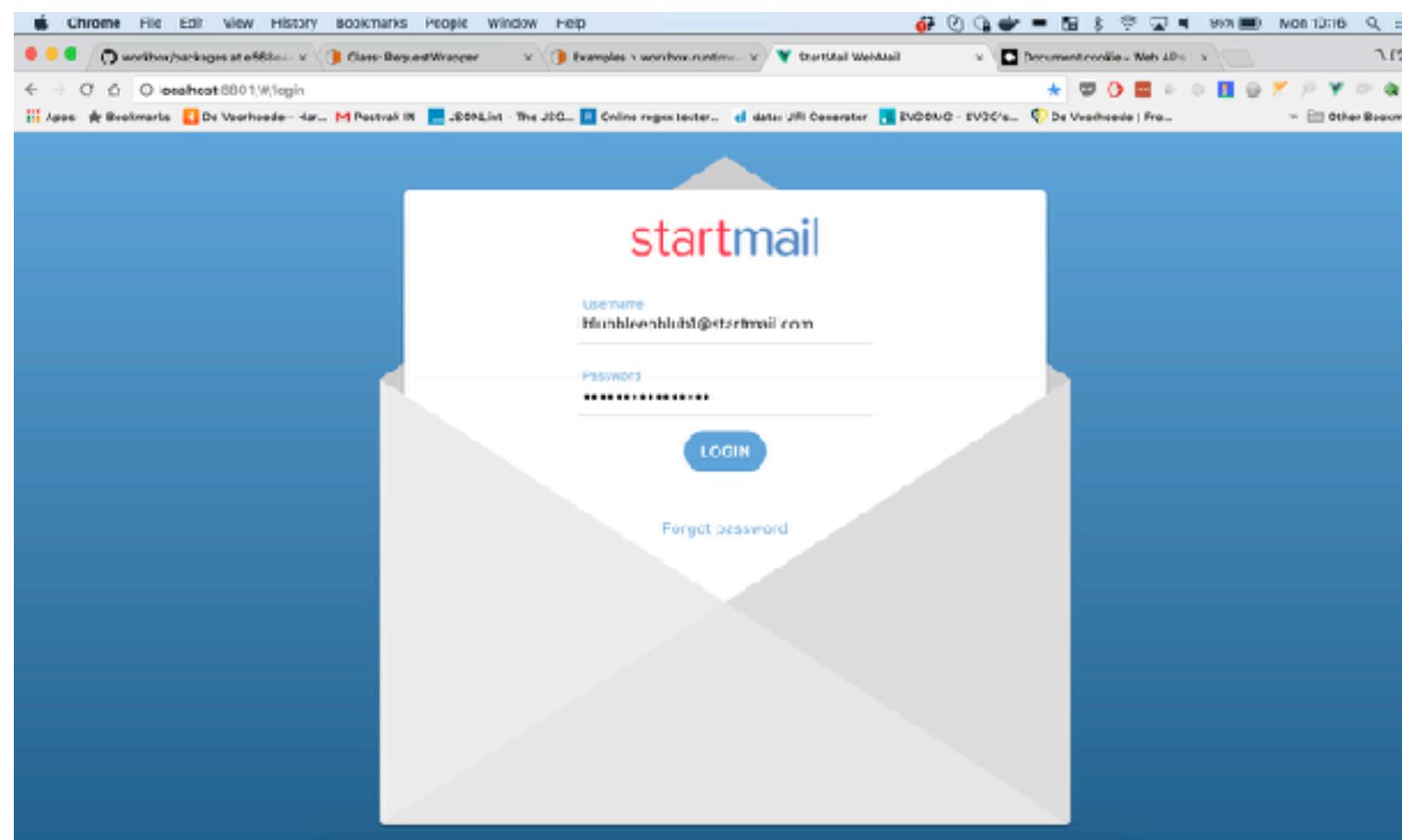
[voorhoede.nl/en/blog/making-our-site-more-app-y/](https://www.voorhoede.nl/en/blog/making-our-site-more-app-y/)

PUSH NOTIFICATIONS



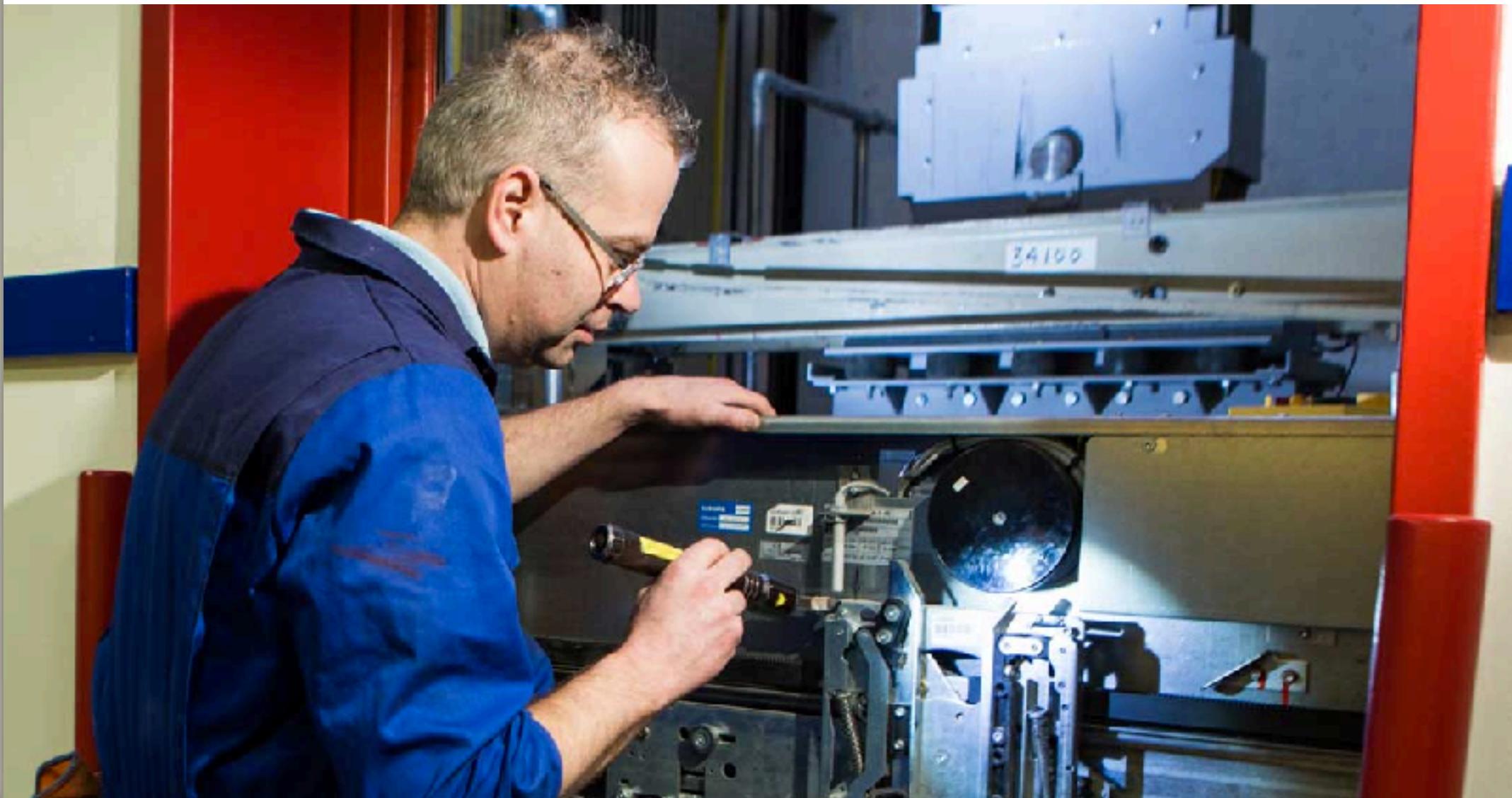
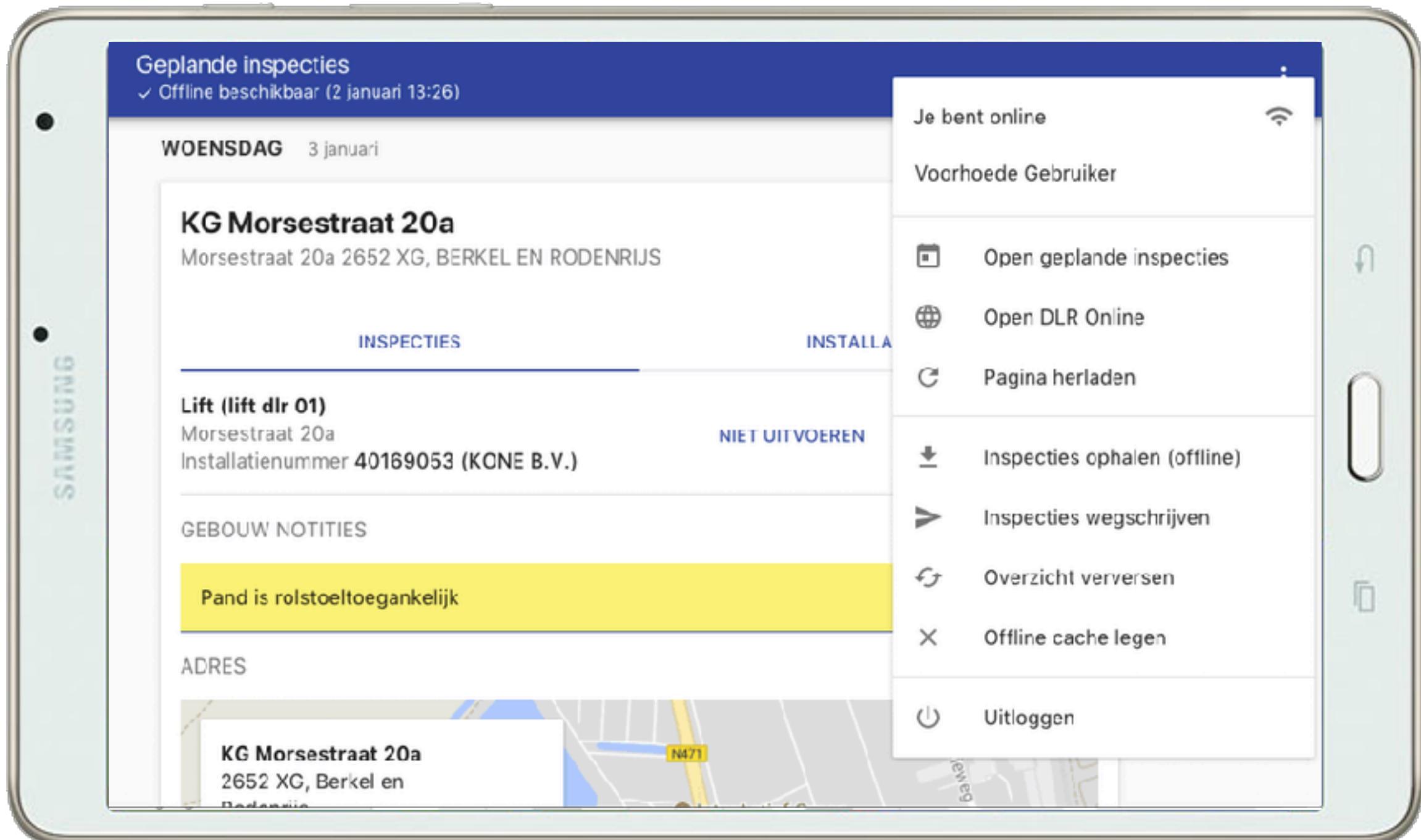
voorhoede.nl/en/blog/making-our-site-more-app-y/

EXAMPLE: STARTMAIL WEB CLIENT

A screenshot of a web browser showing the StartMail inbox. The URL in the address bar is 'localhost:8801/#/mail/czt8jkw8j0hjdsd3hxd75x2vu'. The interface includes a sidebar with links for 'Inbox', 'Archive', 'Drafts', 'Sent', 'Spam', 'Trash', 'Fortunes', and 'Notification emails'. The main area displays a list of messages under the heading 'Older'.

Message	From	Date
Demo today	Tijn Schmits	Last Thursday
Fwd: [SECURITY] [DSA 3944-1] mariadb-10.0 security update	Tijn Schmits	Last Thursday
Fwd: [USN-3392-1] Linux kernel regression	Tijn Schmits	Last Wednesday
Hey, hoe gaat het ermee?	Tijn Schmits	Aug 07, 2017
Sprint Review Today	Tijn Schmits	Jul 27, 2017
HTML in a text message	Aaryn Tonita	Jul 13, 2017
blubleepblub1@startmail.com	Aaryn Tonita	Jul 12, 2017
Re: Reminder to self: Finish NFE	Tijn Schmits	Jun 19, 2017
Test selfsending 01	StartMail Test	Jun 16, 2017
Re: Testing	StartMail Test	Jun 09, 2017

EXAMPLE: ELEVATOR INSPECTION APP



CHROME, ANDROID (2018-03)

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Help,
my users have
an iPhone



image source: [bloomberg.com](#)

SAFARI, IOS (2018-03)

Native Behaviors
LOCAL NOTIFICATIONS ✗
PUSH MESSAGES ✗
HOME SCREEN INSTALLATION ✗
FOREGROUND DETECTION ✓
PERMISSIONS ✗

Seamless Experience
OFFLINE MODE ✗
BACKGROUND SYNC ✗
INTER-APP COMMUNICATION ✗
PAYMENTS ✓
CREDENTIALS ✗

Surroundings
BLUETOOTH ✓
USB ✓
NFC ✗
PROXIMITY SENSORS ✗
AMBIENT LIGHT ✗

Input
TOUCH GESTURES ✓
SPEECHrecognition ✗
CLIPBOARD (COPY & PASTE) ✓
POINTING DEVICE ADAPTATION ✓

Camera & Microphone
AUDIO & VIDEO CAPTURE ✓
ADVANCED CAMERA CONTROLS ✗
RECORDING MEDIA ✗
REAL-TIME COMMUNICATION ✓

Operating System
OFFLINE STORAGE ✓
FILE ACCESS ✓
CONTACTS ✗
SMS ✗
STORAGE QUOTAS ✗
TASK SCHEDULING ✗



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Can I rely on the Web Platform features to build my app?
An overview of the device integration HTML5 APIs

✓ Feature available in your current browser

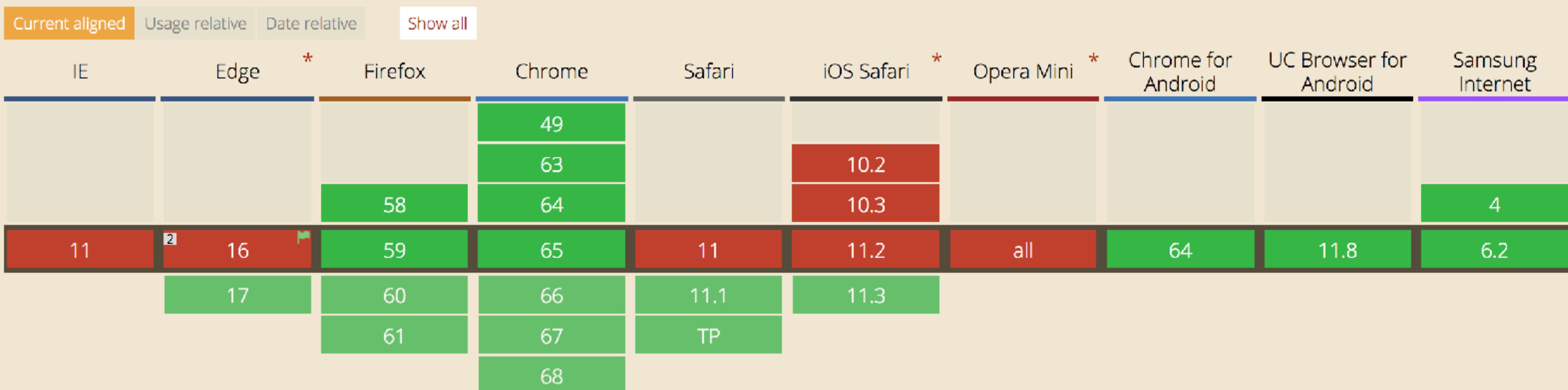
✗ Feature not available in your current browser

Service Workers 📁 - WD

Usage
Global

% of all users
75.23% + 0.18% = 75.41%

Method that enables applications to take advantage of persistent background processing, including hooks to enable bootstrapping of web applications while offline.

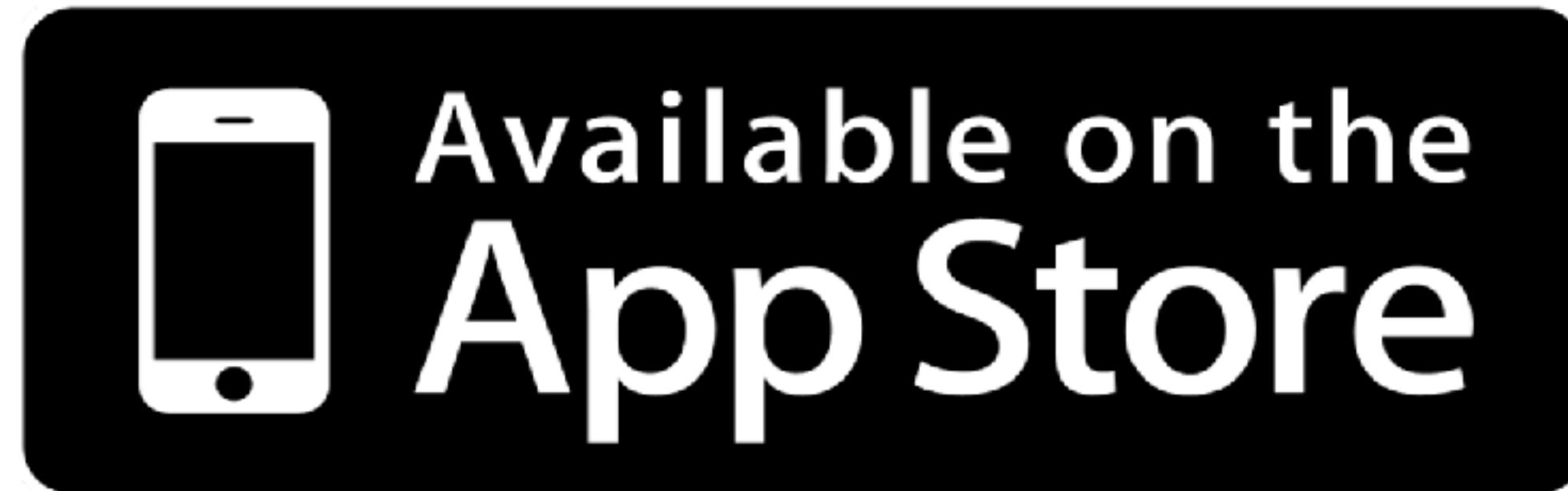
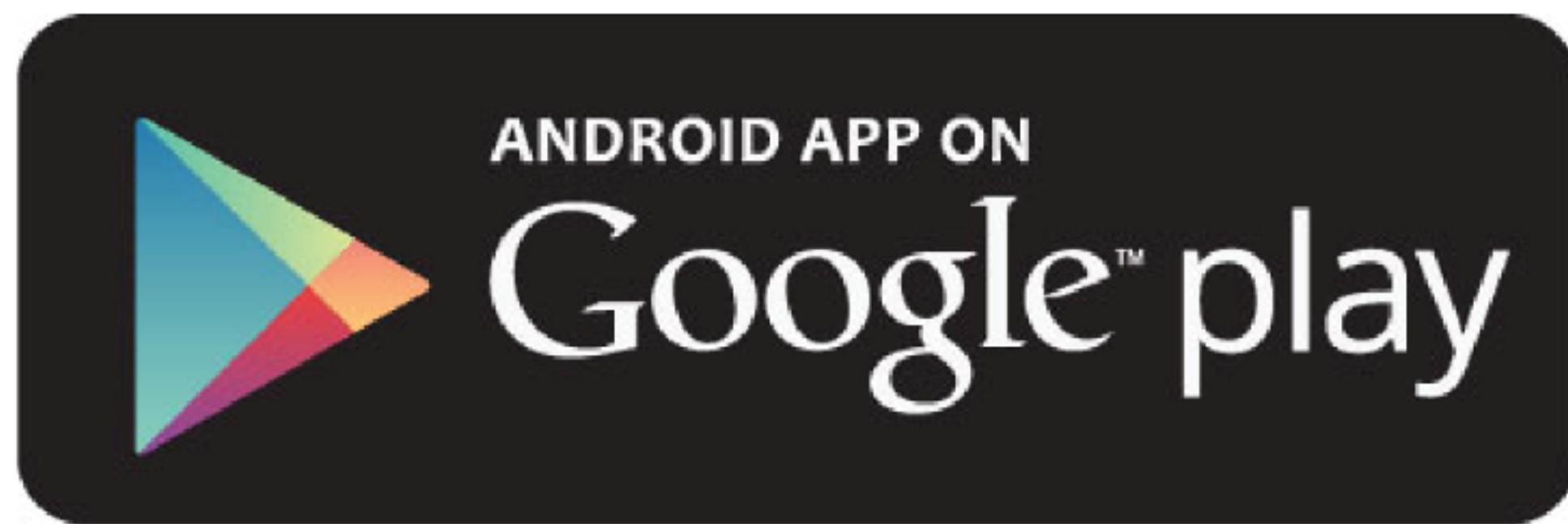


start small, incrementally
enhance your user experience

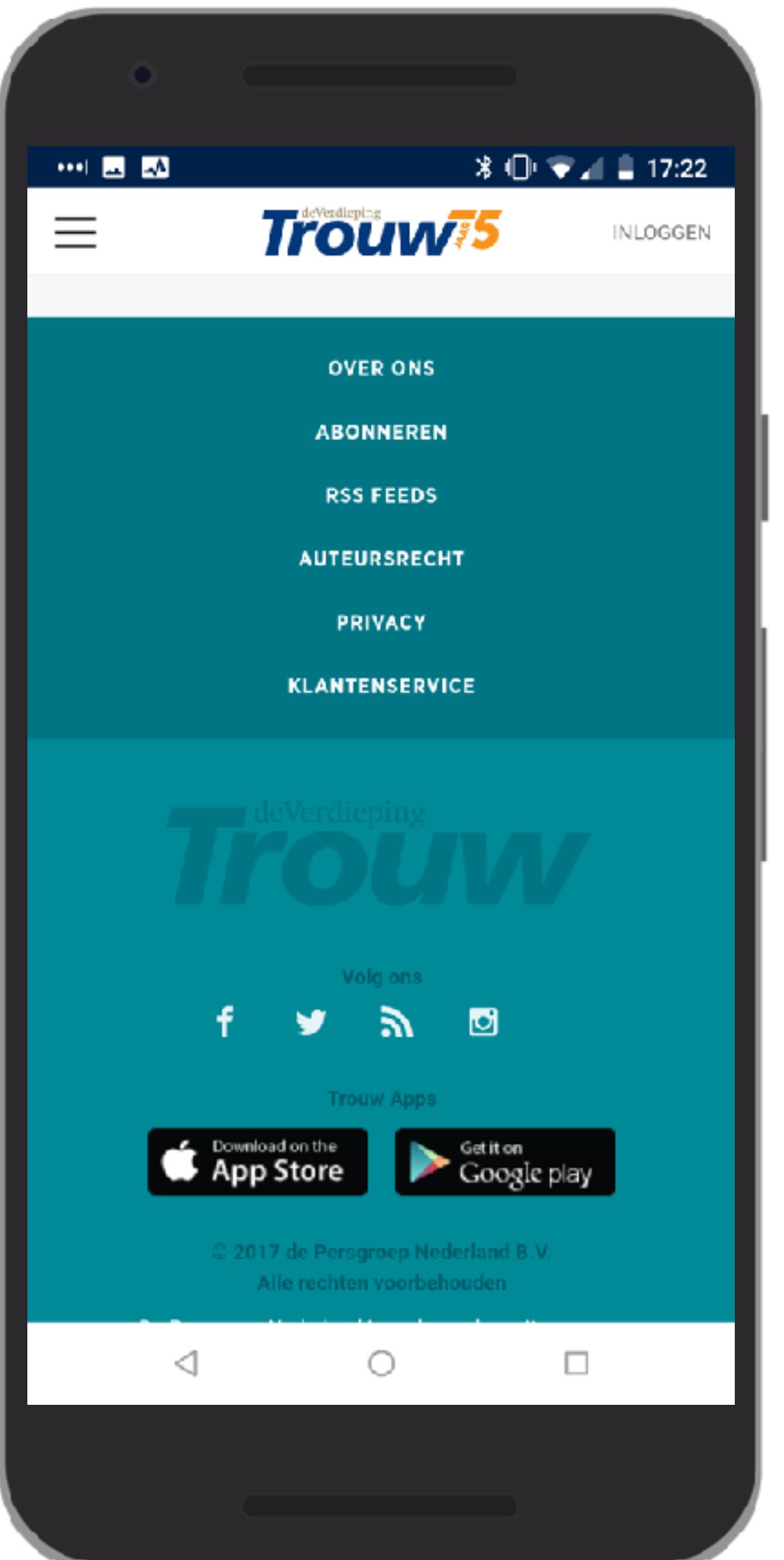
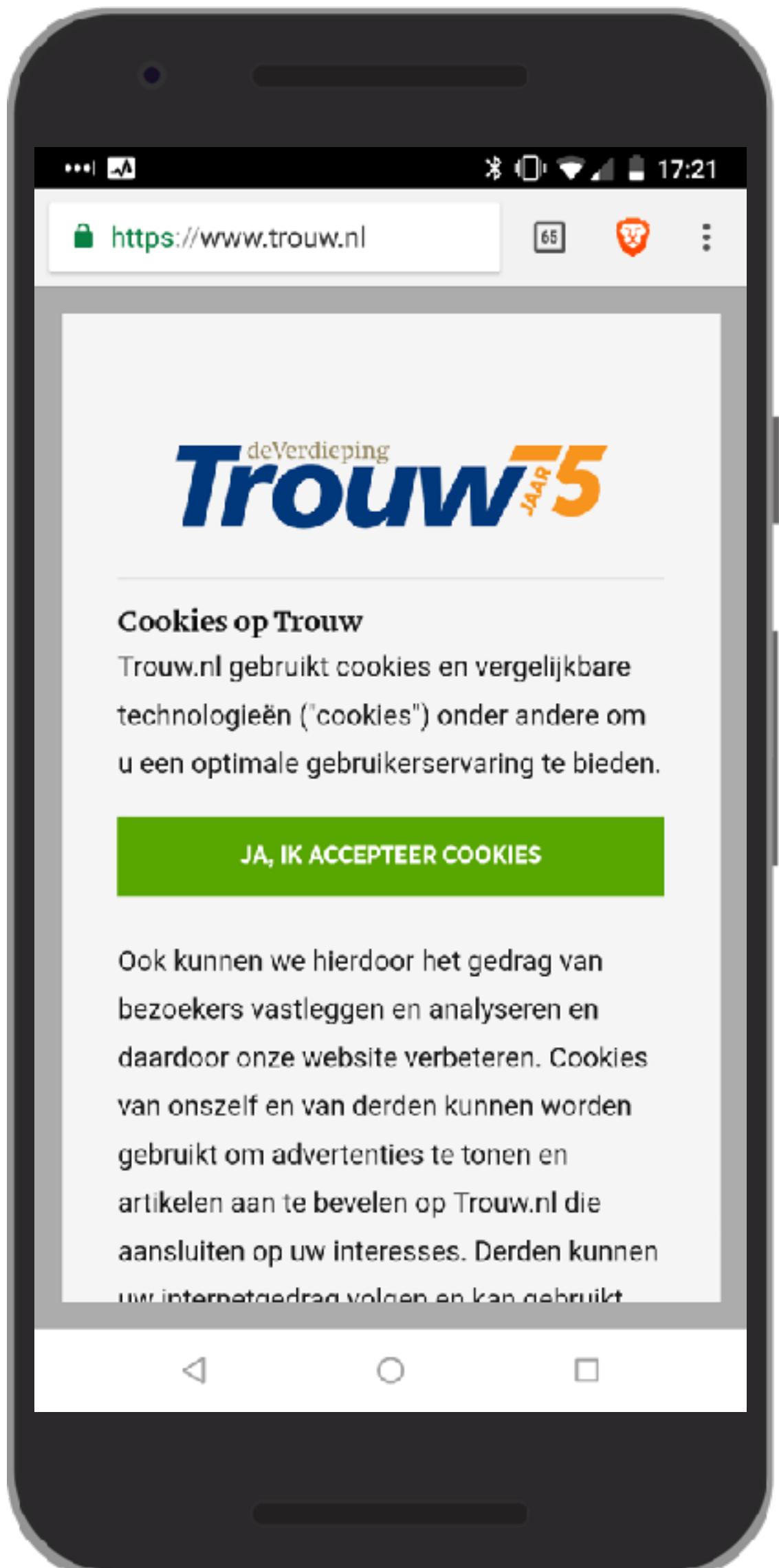
FEELING APP-Y



APP STORES

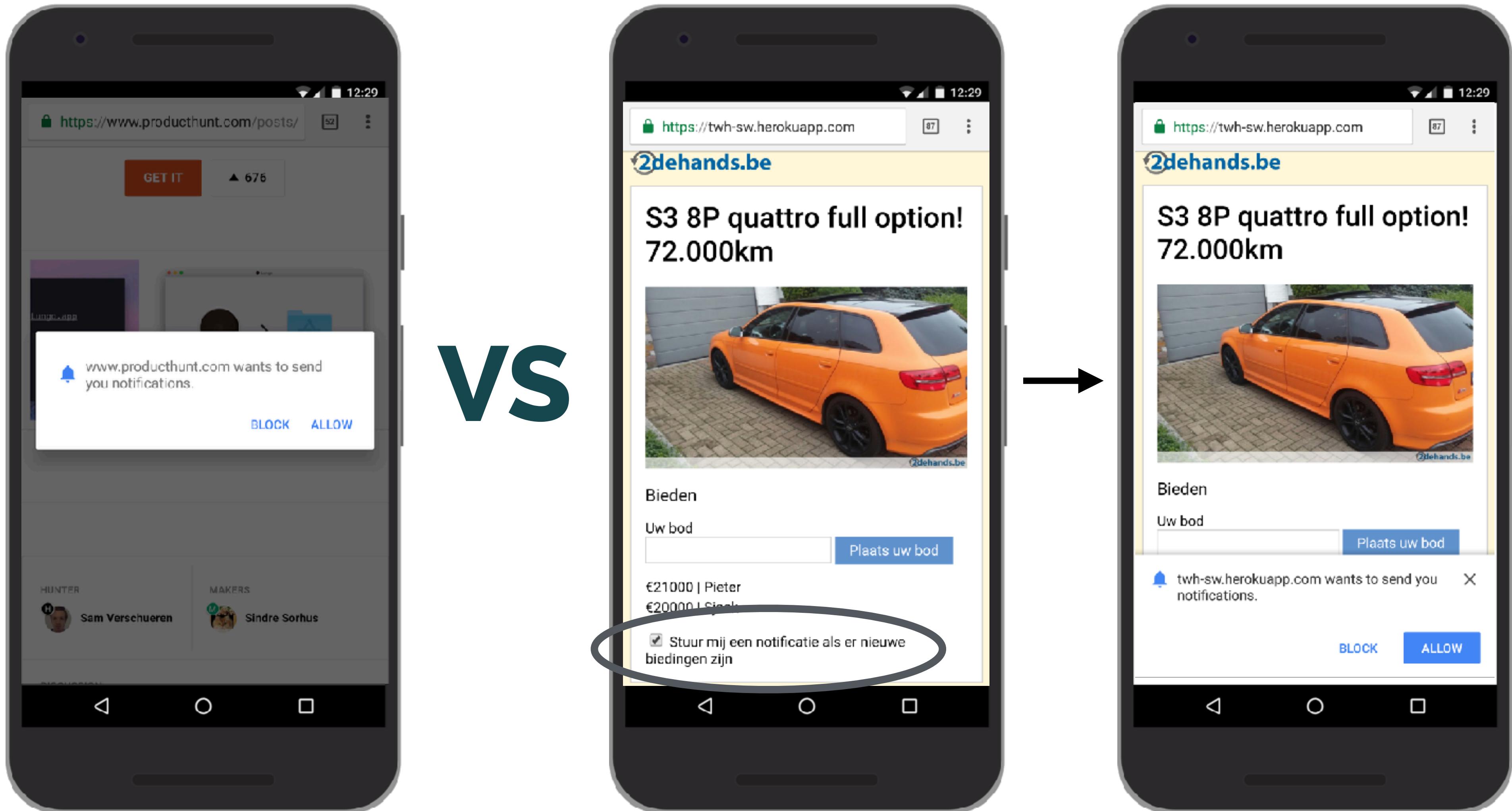


CONTEXT MATTERS

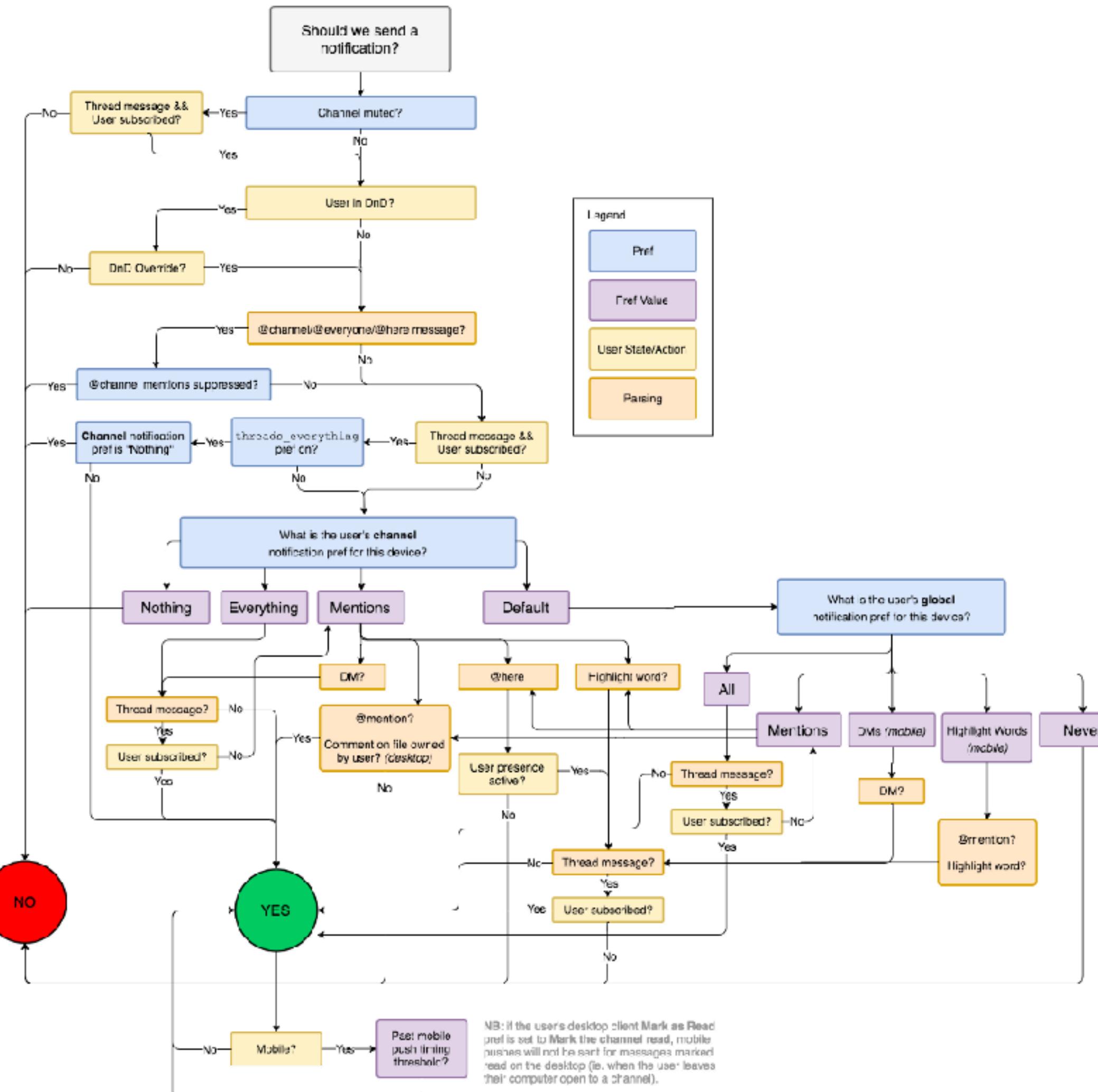


- Interstitials
(cookie walls,
ads, ...)
- Fat footers
- App banners
- 3rd party
pop-ups

PERMISSION FLOW



PUSH NOTIFICATION FLOW



slack.engineering/reducing-slacks-memory-footprint-4480fec7e8eb

SYSTEM FONTS

The quick brown fox jumps over the lazy dog.

Fira Sans Firefox OS

The quick brown fox jumps over the lazy dog.

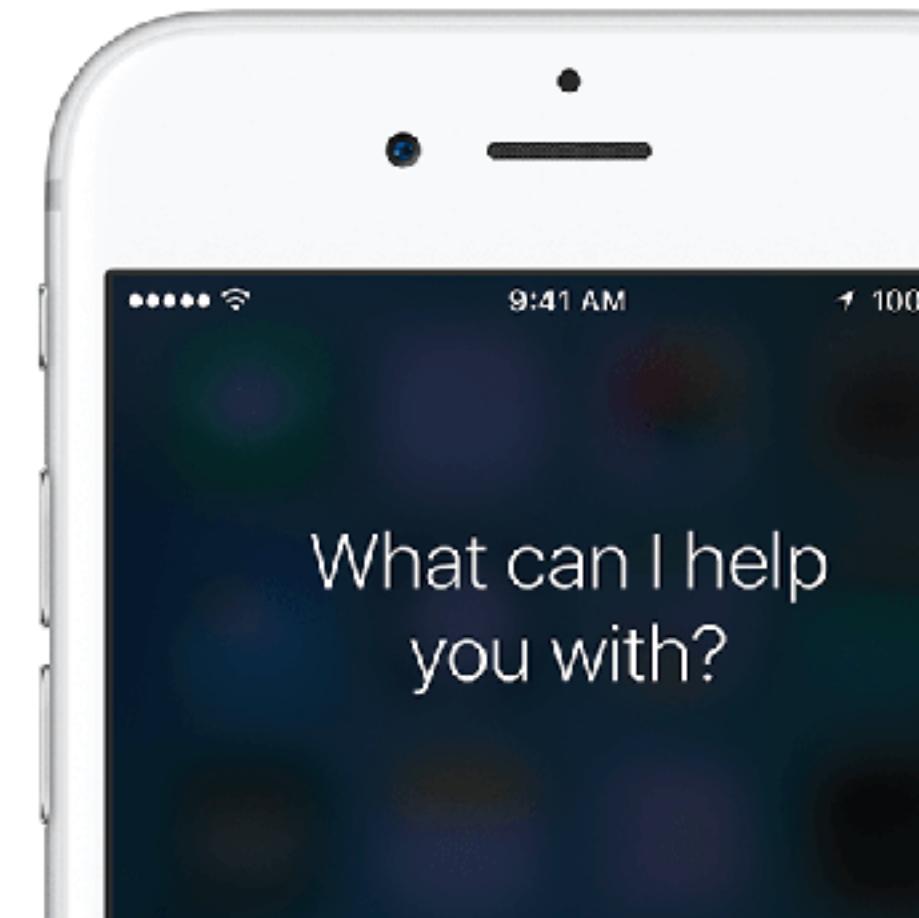
Roboto Android and Chrome OS

The quick brown fox jumps over the lazy dog.

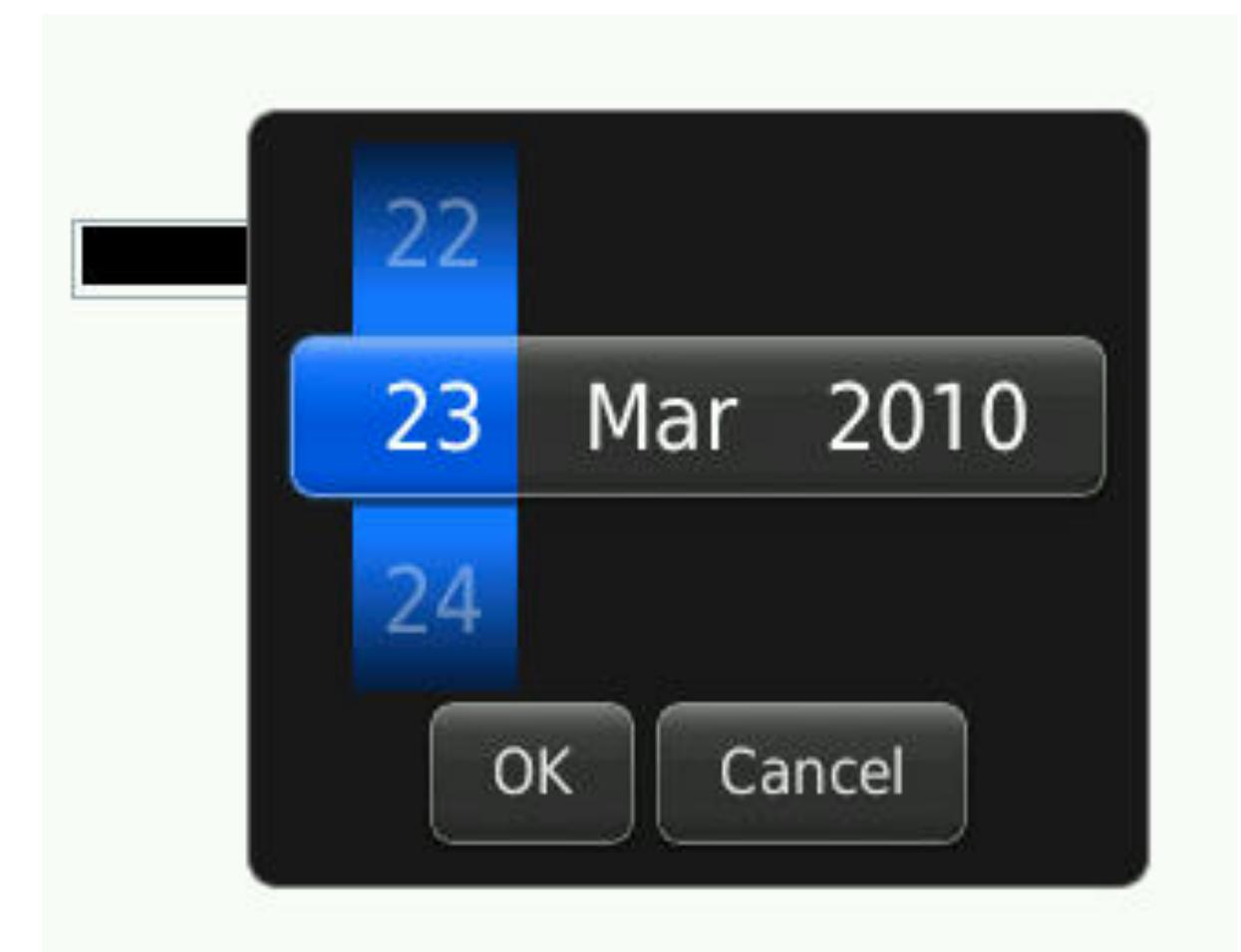
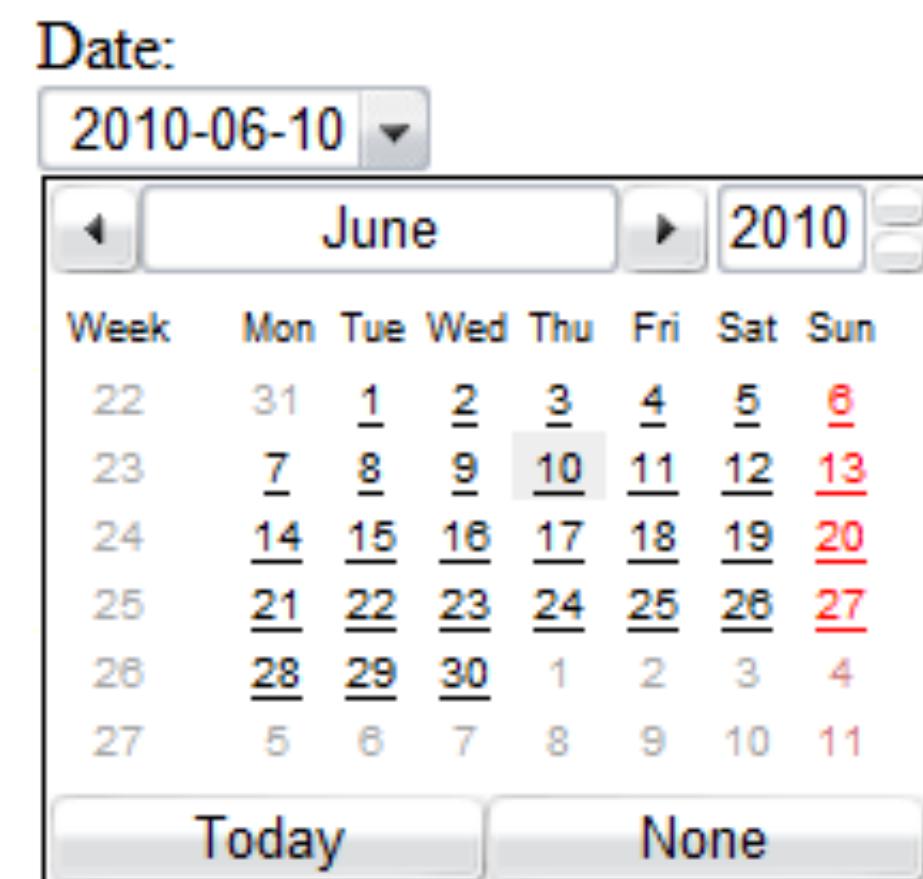
San Francisco iOS and Mac OS

The quick brown fox jumps over the lazy dog.

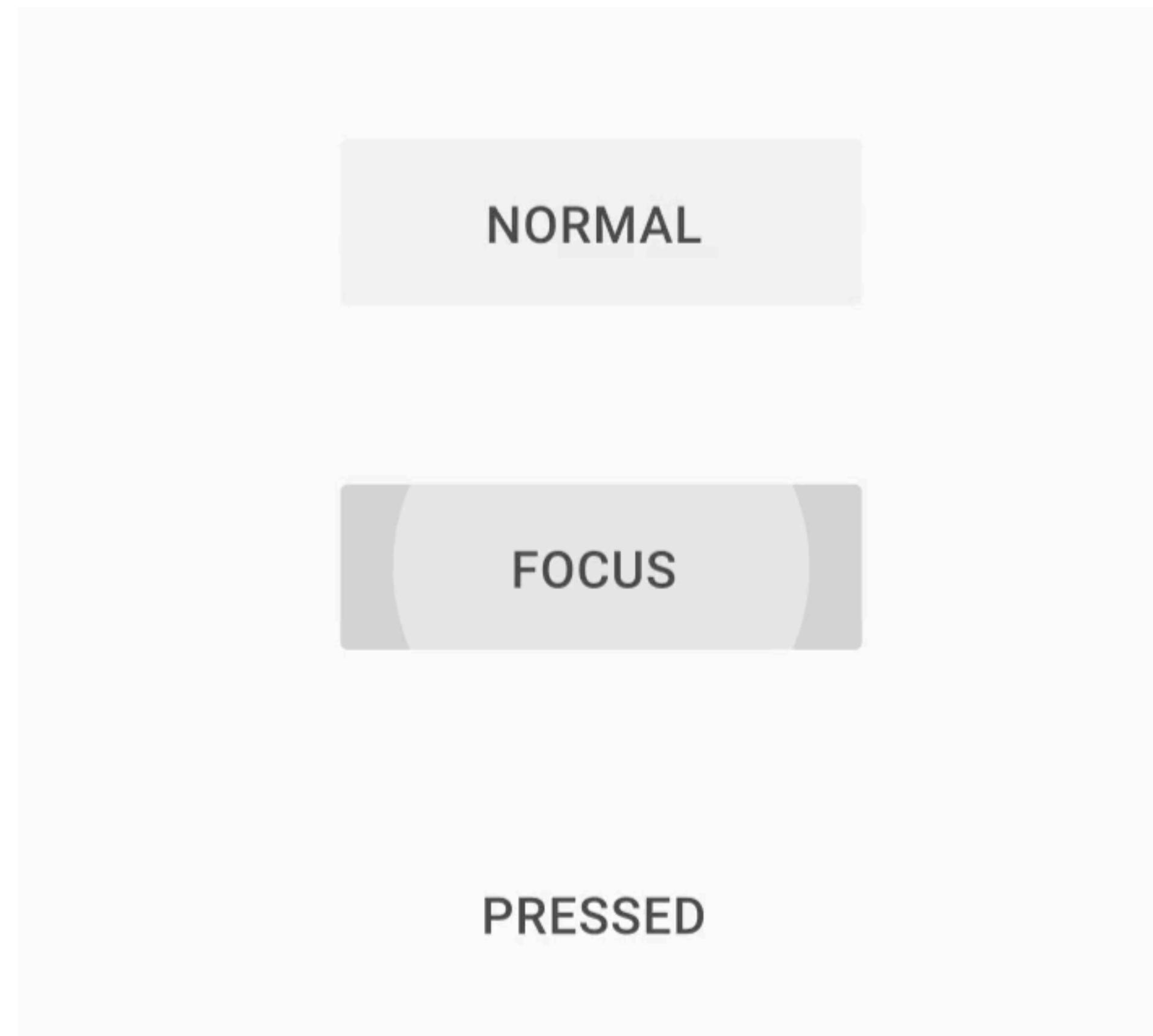
Segoe UI Windows and Windows Phone



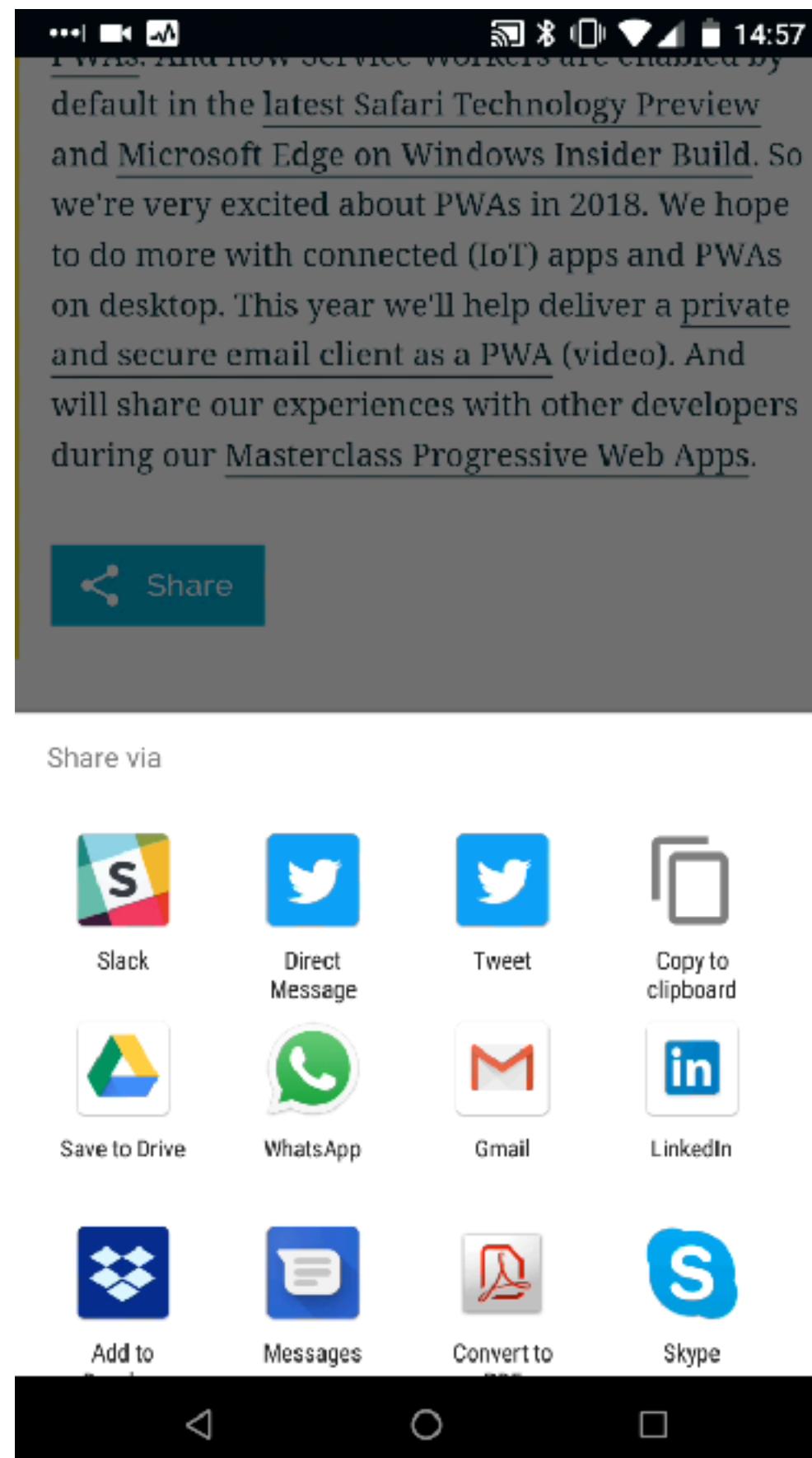
NATIVE INPUT TYPES



TOUCH FEEDBACK



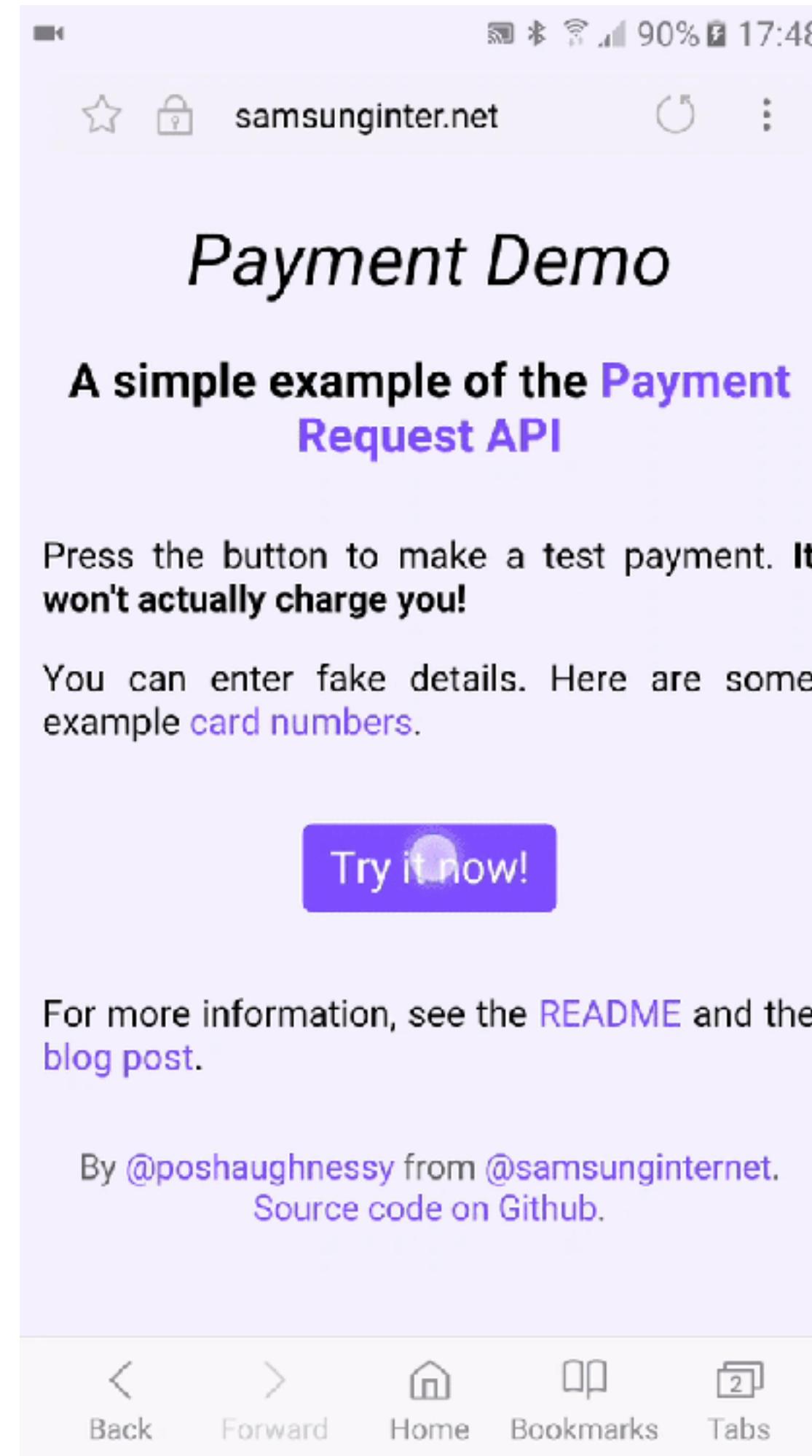
NATIVE SHARE



A screenshot of a desktop web browser window. The title bar shows the page is titled 'Modular build tasks with Grunt'. On the right side of the title bar, there is a 'Share a link on Twitter' button. The main content area of the browser shows a secure connection (https://www.voorhoeede.nl/en/blog/modular-build...) with a green lock icon. Below the browser window, the word 'Share on' is followed by four large social media icons: Facebook (f), Twitter, Google+ (g+), and LinkedIn (in). At the bottom of the page, there is a blue horizontal bar with white text that reads 'Back to blog overview'.

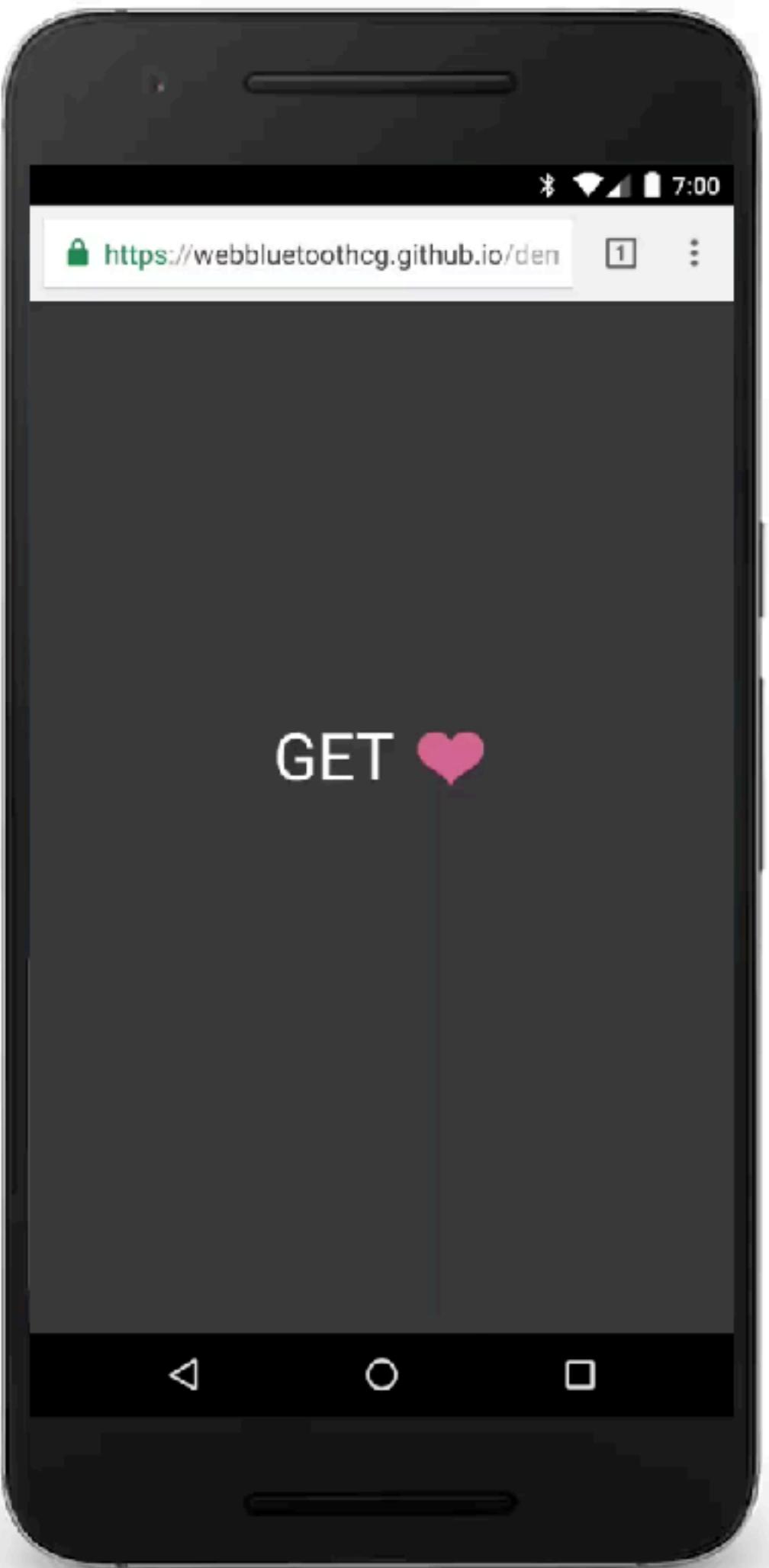
[voorhoeede.nl/en/blog/making-our-site-more-app-y/](https://www.voorhoeede.nl/en/blog/making-our-site-more-app-y/)

WEB PAYMENTS



[Web Payments](#)

WEB BLUETOOTH



Bluetooth

new app features require
new design patterns

TAKEAWAYS

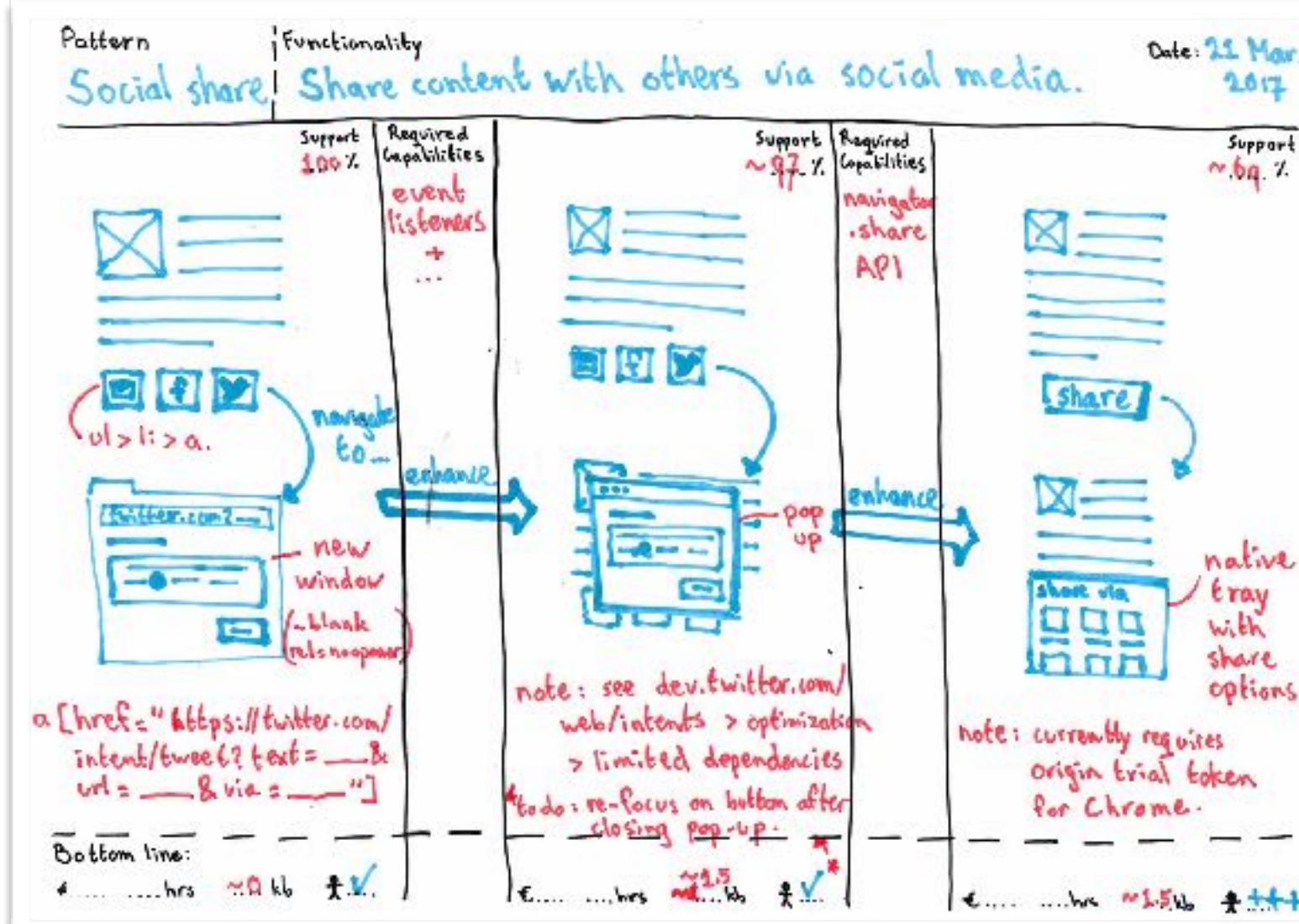


design all **states** and **transitions**

enhance with new technology

make **part of your design**

MASTERCLASS DESIGN FOR WEB



28 September 2018
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THANK YOU





DE VOORHOEDE

front-end developers