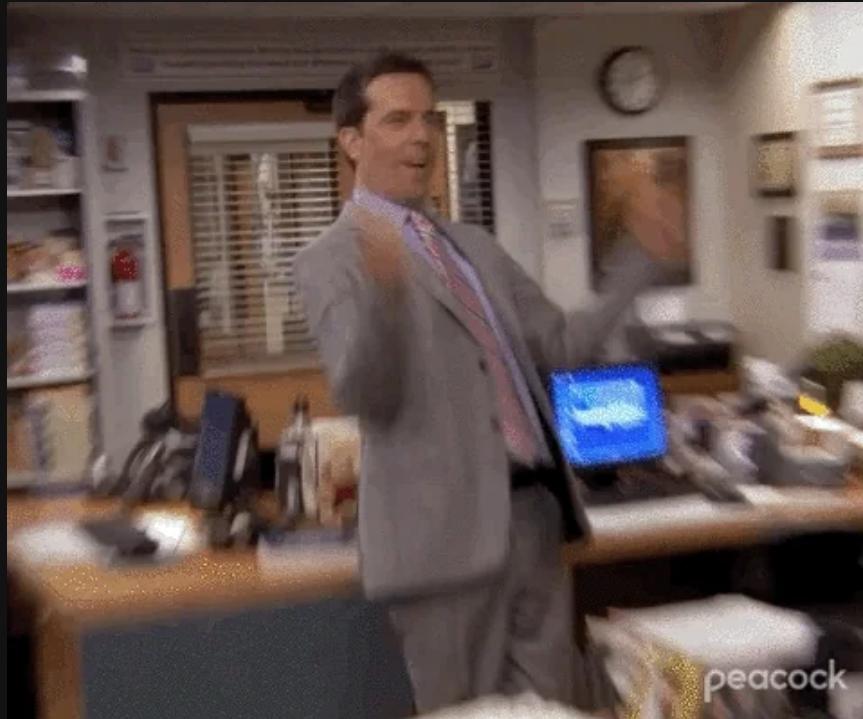


# Pizza party 🍕

27th September 2024



# Accessibility workshop

#gotcha

Clean up

The 🍕 challenge

« break »

About accessibility

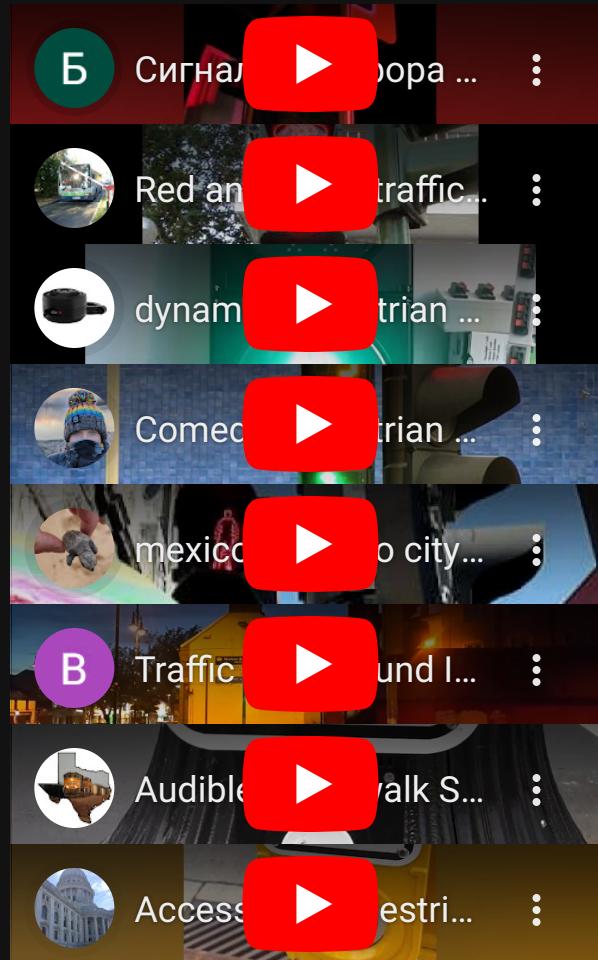


# Clean up



CLOSE YOUR EYES

# What do you hear



ACCESSIBLE INFRASTRUCTURE

# What are your experiences



# ACCESSIBLE INFRASTRUCTURE

# How about digital infrastructure

Source

The image shows two side-by-side screenshots. On the left is the WAVE (Web Accessibility Evaluation Tool) interface, which displays a summary of accessibility errors found on a page. The summary includes:

Type	Count
Errors	1
Contrast Errors	17
Alerts	13
Features	10
Structural Elements	9
ARIA	21

On the right is a screenshot of a university website for the Amsterdam University of Applied Sciences. The top navigation bar includes links for 'About us', 'Partners', 'Contact', and 'Apply'. Below the navigation is a banner featuring a group of people and the text 'Meet our class of 2024!'. The bottom of the page features several small images illustrating various aspects of digital infrastructure and technology.

THE ⚡ CHALLENGE

# Split into groups of 6 and learn the VoiceOver essentials

make sure every team has someone with a Macbook

find a relatively quiet space for your group and *be back in 15 minutes*

THE  CHALLENGE

With your group  
order some pizzas

pizzabeppe.nl

*slick design*

pizzadonna.nl

*seems shady*

dominos.nl

*big company*

# The rules of the 🍕 challenge

The first group who makes it to the payment page wins

You are **only** allowed to use

- A screen reader
- A keyboard

In your cart, put **at least** the following

- Pizza margherita
- Pizza Hawaii
- Any vegetarian pizza



1 Hour Timer



Delen

1:00:00



« break »

REFLECTION

What did you observe

Guillermo Robles, who has a vision impairment, sued Domino's in 2016 claiming he was unable to order pizza on his desktop or mobile device, despite using screen reading technology.

# Why

## He won

Source

SUED FOR

# Accessibility barriers

Lack of **alternative texts** for graphics

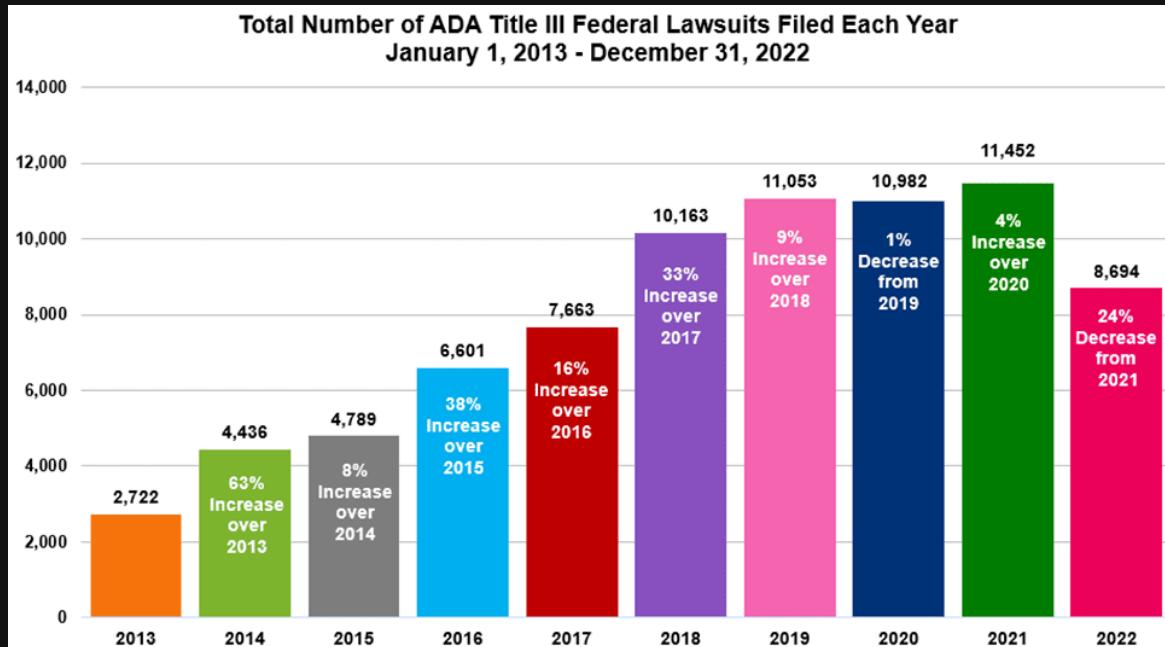
**Empty hyperlinks** with no text to identify their purpose

**Redundant links** that point to the same URL

NOW WHAT

# Accessibility lawsuits are on the rise

Source



Source



MAKE EUROPE ACCESSIBLE AGAIN

# The European Accessibility Act (EAA)

Source

---



THE EUROPEAN ACCESSIBILITY ACT

# Passed in 2019

Businesses have until June 28, 2025 to implement the EAA's measures

Mandate 376

Accessibility  
requirements  
(EN 301 549)

EAA  
published

Finalised laws  
& regulations

EAA  
enforced

2005

2015

2019

2022

2025

You are here --- ↑



THE EUROPEAN ACCESSIBILITY ACT

Does not only cover  
websites

ATMs, Ticketing- and check-in machines, E-readers, etc.

THE EUROPEAN ACCESSIBILITY ACT

**It will not be  
retroactive\***

\* Is not fully defined just yet

THE EUROPEAN ACCESSIBILITY ACT

**It will follow the  
WCAG guidelines**

WEB CONTENT ACCESSIBILITY GUIDELINES

# WCAG

**A set of guidelines to make apps, websites and digital platforms more accessible**

For each guideline, there are testable success criteria.

The success criteria are at three levels: **A**, **AA**, and **AAA**.

Source

---

# A

Designed to be met with **little effort** on the design or structure of a digital product.

Not reaching level A? There are **serious barriers** that cannot be **overcome** by assistive technology.

Achieving this level is **essential**.

# AA

Requires adjustments to several components (design, text structure, code).

Most sites do not reach this level without effort.

The European Accessibility Act is about level AA, most target groups can work with your site using assistive technology.

# AAA

Most strict set of guidelines, has a serious impact on design, copy and tech.

Colors can hardly be used because of contrast requirements, for video content a textual version must be available, etc.

Level AAA is the golden standard.

# WCAG

Many of the technological challenges for accessibility can be described using one of the **POUR** principles

**Perceivable**

**Operable**

**Understandable**

**Robust**

# WCAG

Many of the technological challenges for accessibility can be described using one of the **POUR** principles

## Perceivable

The user can identify content and interface elements by means of the senses

## Operable

- Are **text sizes** large enough?
- Enough **color contrast** for text and interactive elements?
- **Another element** used than color for conveying information?
- Are **text alternatives** used for non textual content like images?

## Understandable

## Robust

# WCAG

Many of the technological challenges for accessibility can be described using one of the **POUR** principles

## Perceivable

A user can successfully use controls, buttons, navigation, and other interactive elements

## Operable

- Are **interactive elements** on a page big enough?
- Can all element within a page be **controlled by the keyboard**? And is it clear where you are (focus state)?
- Are **headers/labels** defined and do they describe the content below in a proper way?

## Understandable

## Robust

# WCAG

Many of the technological challenges for accessibility can be described using one of the **POUR** principles

**Perceivable**

Users should be able to comprehend the content, and learn and remember how to use your site

**Operable**

- When you use a page, does the context not change unexpectedly ([animations](#))?
- Does the page use [understandable language](#)?
- Are input fields labelled and/or [properly instructed](#)?
- [No unnecessary elements](#) on the page read out by screen readers?

**Understandable**

**Robust**

# WCAG

Many of the technological challenges for accessibility can be described using one of the **POUR** principles

**Perceivable**

Users should be allowed to choose their own technologies to access your content.

**Operable**

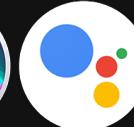
- Make use of [Semantic Markup](#)
- Proper use of [ARIA tags](#) and logical ordering of (DOM) elements makes content friendly for keyboard navigation and screen readers
- Site should provide an usable interface [even if JS/CSS fails to load](#)
- [Responsive Design](#): designing for phone, tablets, large screens etc.

**Understandable**

**Robust**

THINK OUTSIDE OF THE BOX

# Which forms of user inputs exist?





# Input devices & screen readers



Accessible Rich Internet Applications  
(ARIA)

[Source](#)



CHECK YOUR WCAG COMPLIANCE

Source

a11y stands for

A C C E S S I B I L I T Y

\_\_\_\_\_ 11 characters \_\_\_\_\_

The A11Y Project is a community-driven effort  
to make digital accessibility easier.



# a11y

a – ccessibilit – y

# i18n

i – nternationalizatio – n

# l10n

l – ocalizatio – n

TIM BERNERS-LEE

The power of the Web is in its universality.  
Access by everyone **regardless of disability** is an  
*essential* aspect.

*motherfuckingwebsite.com*

[...] What I'm saying is that all the **problems** we have with websites are ones **we create ourselves.**

Websites aren't broken by default, they are functional, high-performing, and accessible.

You break them.

You son-of-a-bitch.

People, digital abilities, *patterns*  
and behaviour all evolve over  
time.

Understand your users by  
**building with your users**, not just  
as an afterthought.

« mini break »

## IMPAIRMENTS IN THE NETHERLANDS

Blind



78.000

Visually impaired



238.000

Color blind



700.000

Deaf / hearing  
impairment



1.300.000

Physically impaired



1.500.000

At some point in their life  
**everyone** will experience an  
(temporary) impairment.

# The Persona Spectrum

[Source](#)

Permanent    Temporary    Situational

Touch



One arm



Arm injury



New parent

See



Blind



Cataract



Distracted driver

Permanent    Temporary    Situational

Hear



Deaf



Ear infection



Bartender

Speak



Non-verbal



Laryngitis



Heavy accent

Necessary for some,  
**beneficial** to all.



THE NUMBER OF DETECTED ERRORS INCREASED NOTABLY (13.6%) SINCE THE 2023

# Practical tips

Across the one million home pages, 56,791,260 distinct accessibility errors were detected – an average of 56.8 errors per page.

Source

---



FIX YOUR CONTRAST

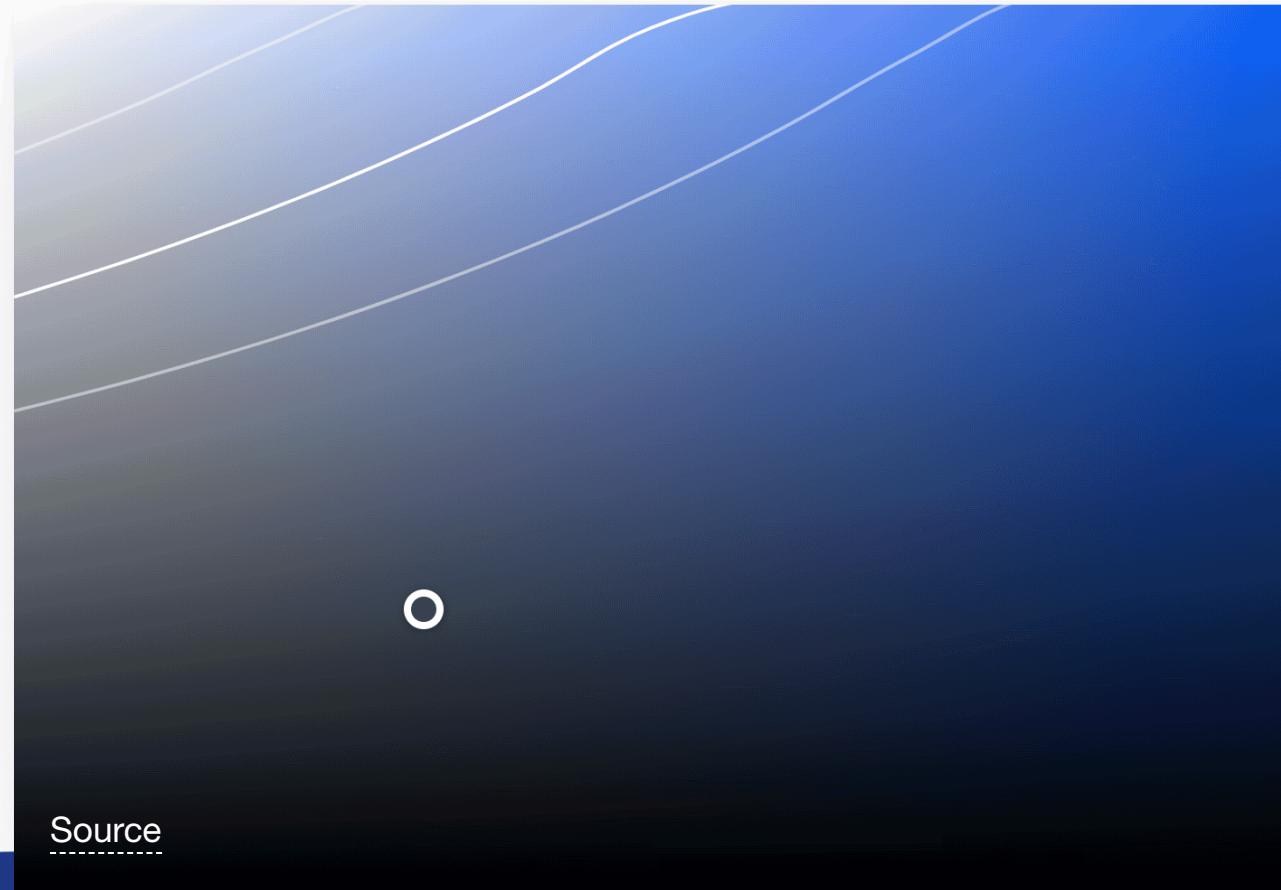
81.0%

The **contrast** between foreground and background is **1**

Text **FAIL**

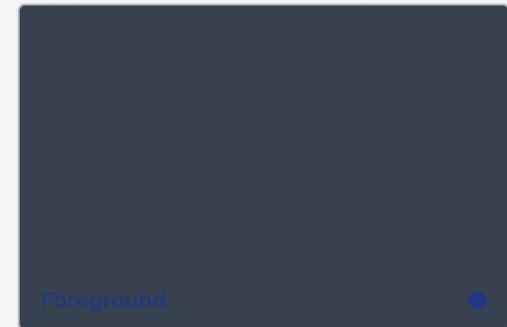
Headlines **FAIL**

🔗 color.review/check/374151-1E3A8A



Flip ↕

**RGB** HSL CMYK CSS



SERVE ALTERNATIVES

**54.5%**

SERVE ALTERNATIVES

**54.5%**

*Without context*

```
<img alt="A mostly empty stadium"/>
```

*On a students activites page*

```
<img alt="Harvard stadium workout  
routine of students running the  
stairs"/>
```

*On a page about renovations in the city*

```
<img alt="Harvard stadium with visible  
crackes in the stone pillars"/>
```



SERVE ALTERNATIVES

54.5%



If you're blind, you can't use a mouse because you can't see where to put it.

▶ ▶ 🔍 3:15 / 13:32

▶ 🔍 CC HD 🎞️

The Internet's Accessibility Problem – and How To Fix It | Clive Loseby | TED



All From TED TED Talks Website Rel >

LABEL YOUR INPUTS

48.6%

LABEL YOUR INPUTS

**48.6%**

Username

Username

your username here

Username

Xiduzo

Username

Xiduzo

Username already exists

Username

Username already exists

EMPTY LINKS / BUTTONS

**44.6% / 28.2%**

Filter 1

app design bottom navigation

X

Sort Recommended

## EMPTY LINKS / BUTTON

10,000+ Results

48.6%

Clear All Filters

UI/UX

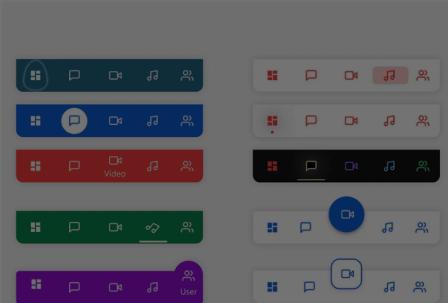


GPS Tracker App/Web | UI/UX Case Study

175

530

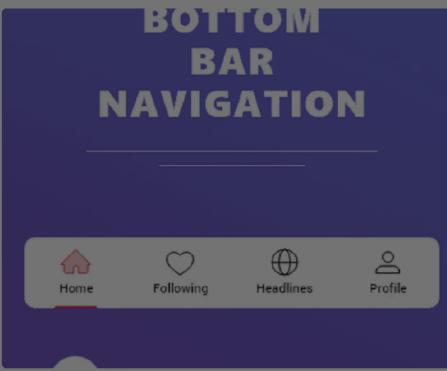
Multiple Owners ▾



Bottom Navigation  
Bao NT

1

214



Bottom bar navigation  
Bhoomi Vaja

3

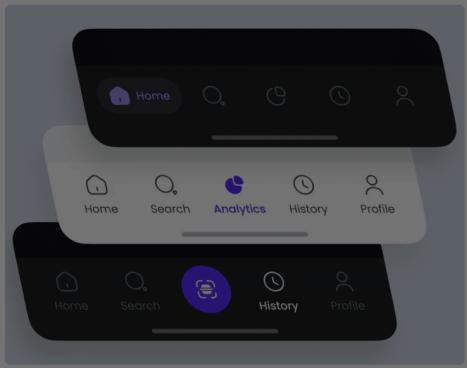
129



Navigation Map - Insti App Map  
redesign

10

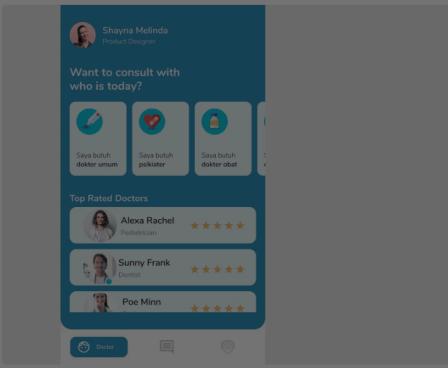
44



Bottom navigation bar

15

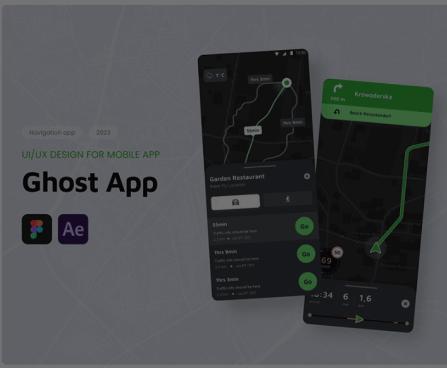
670



Home UI Design Hi! Doctor App

1

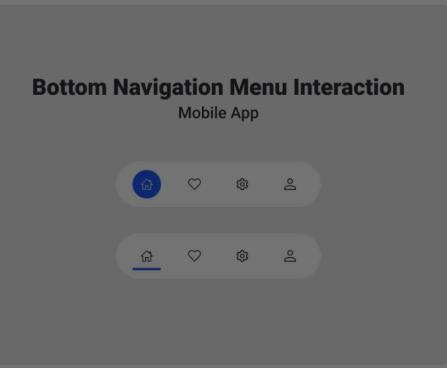
48



UI/UX Design for Navigation

584

41k



Bottom Navigation Menu Interaction -

1

178

SANDERS' TIPS

# What Sander has observed in the wild

# Make interactive elements descriptive



Are you sure you want to cancel?

This action can not be reverted

Cancel

Yes

# Make interactive elements descriptive



**Are you sure you want to cancel?**

This action can not be reverted

Go back without cancelling

Cancel reservation

# Make interactive elements descriptive



**Are you sure you want to cancel your reservation?**

By cancelling your reservation you will not be elegiable anymore for your spot on our glamping

Go back without cancelling

Cancel reservation

Voorschot nummer:

Datum: \*

SANDER'S TIPS  
Omschrijving: \*

**Totaal**  
Totaal kosten **0,00 EUR**  
Geen gegevens

# Make interactive elements descriptive

Kostentoewijzing: \*  Kostenplaats  WBS-element



# Listen to your users

Prefers color  
scheme

SANDER'S TIPS

# Listen to your users

Prefers  
contrast

# Listen to your users

Prefers  
reduced  
motion



SANDER'S TIPS

## Use skip links

a11y stands for  
A C C E S S I B I L I T Y

11 characters

The ALIY Project is a community-driven effort  
to make digital accessibility easier.

HOW DO I GET STARTED?

## TAKEAWAYS

With great power comes great  
responsibility

TAKEAWAYS

It will be a  
requirement for your  
future job

*Be the leader, not the follower*

TAKEAWAYS

Every single person  
here will play a role  
in accessibility

*No matter how small*

This really matters  
and it makes a huge  
difference for so  
many people



## DOWN THE RABBIT HOLE

- [Web Content Accessibility Guidelines \(WCAG\)](#)
- [A11Y Project](#)
- [MDN Web Docs Accessibility](#)
- [WebAIM](#)
- [Some posters](#)
- [Microsoft Inclusive Design](#)
- [TED talk – The Internet’s Accessibility Problem](#)