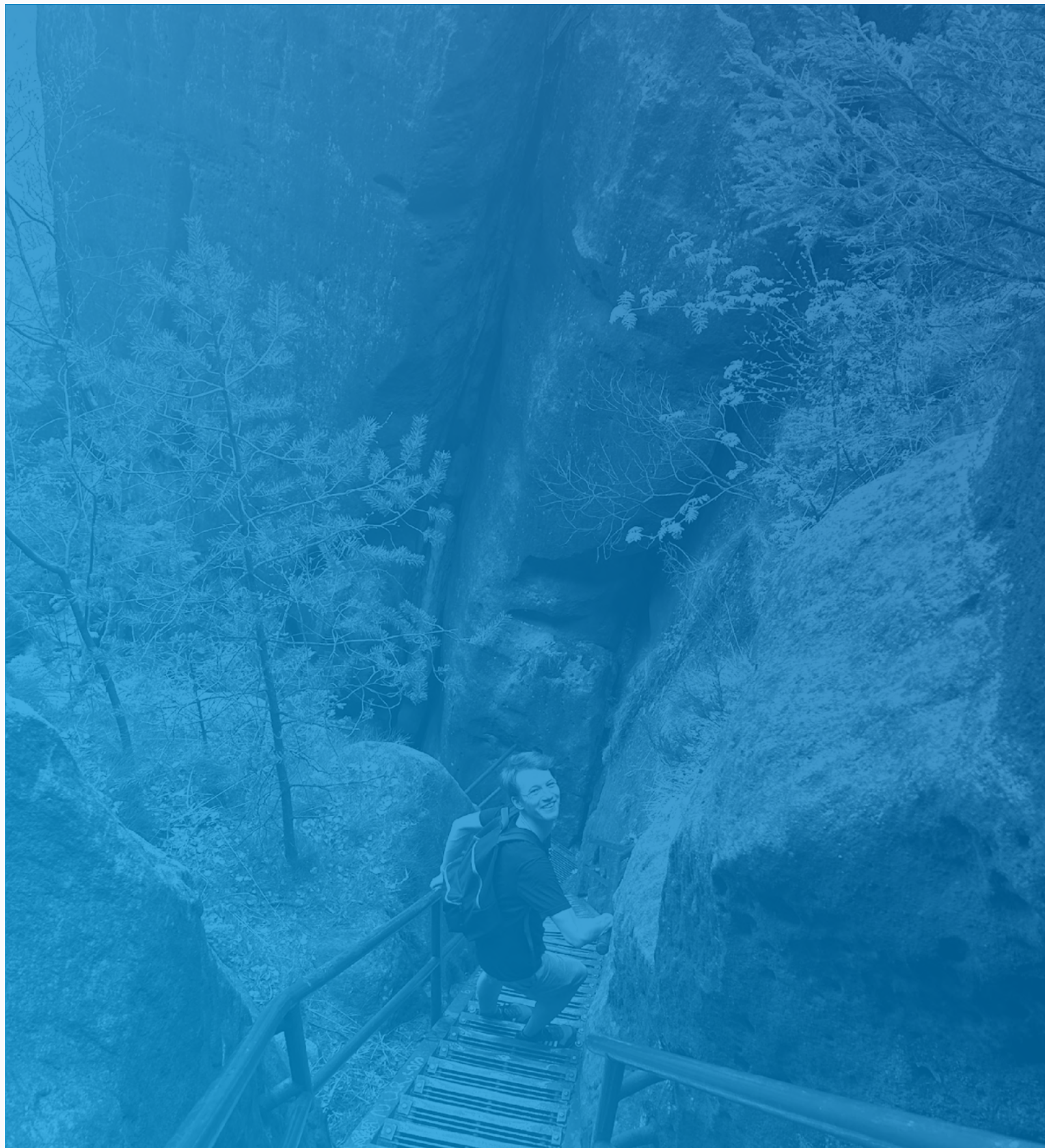


Factorial

Forced colors and Windows contrast themes

2024-05-16



Fynn Becker

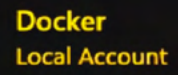
they/them

- Frontend developer at Factorial
- Accessibility specialist
- Occasional open sourcerer

🌐 fynn.be

🐘 [@mvsde@mastodon.social](https://mvsde@mastodon.social)

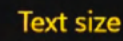
**Who is familiar with
Windows contrast themes?**



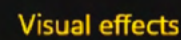
Ⓐ字



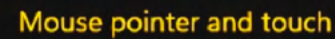
Vision



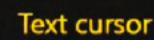
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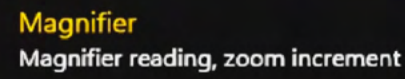
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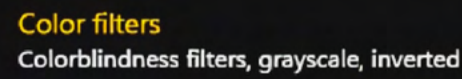
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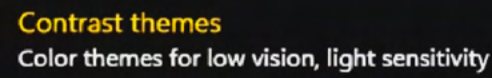
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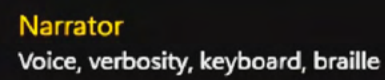
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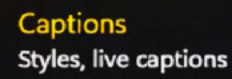
>



>

Audio

>



>

Speech

>

Accessibility > Contrast themes > Edit theme

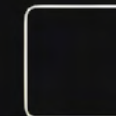


Edit contrast theme

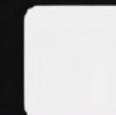
Select a colored square to customize contrast colors

Night sky

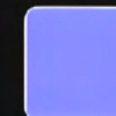
Background



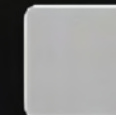
Text



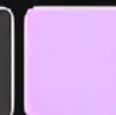
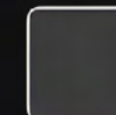
Hyperlink



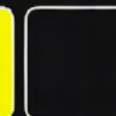
Inactive text



Selected text



Button text



Save as

Cancel

Highly reduced color palette

**Why do we need
contrast themes?**

Contrast themes are important

81 %

of all websites have
low contrast text¹

30 %

of people with low vision
use contrast themes²

4 %

of Windows computers have
active contrast themes³

*56 million*⁴



1. [The WebAIM Million](#), WebAIM, 2024

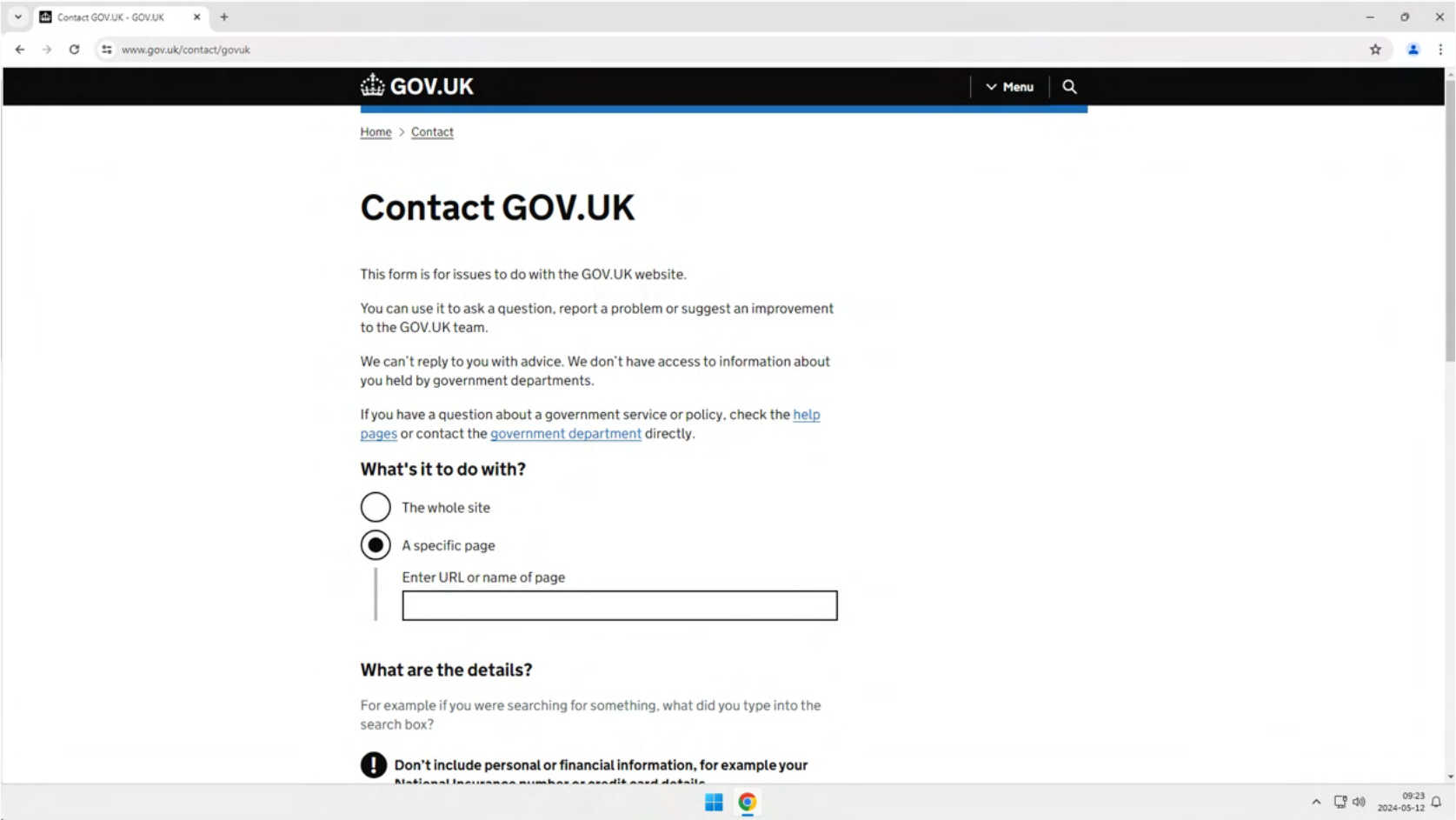
2. [Survey of Users with Low Vision](#), WebAIM, 2018

3. [CSS WG High Contrast](#), Microsoft, 2019

4. [Windows now has 1.4 billion users](#), Tech Advisor, 2022

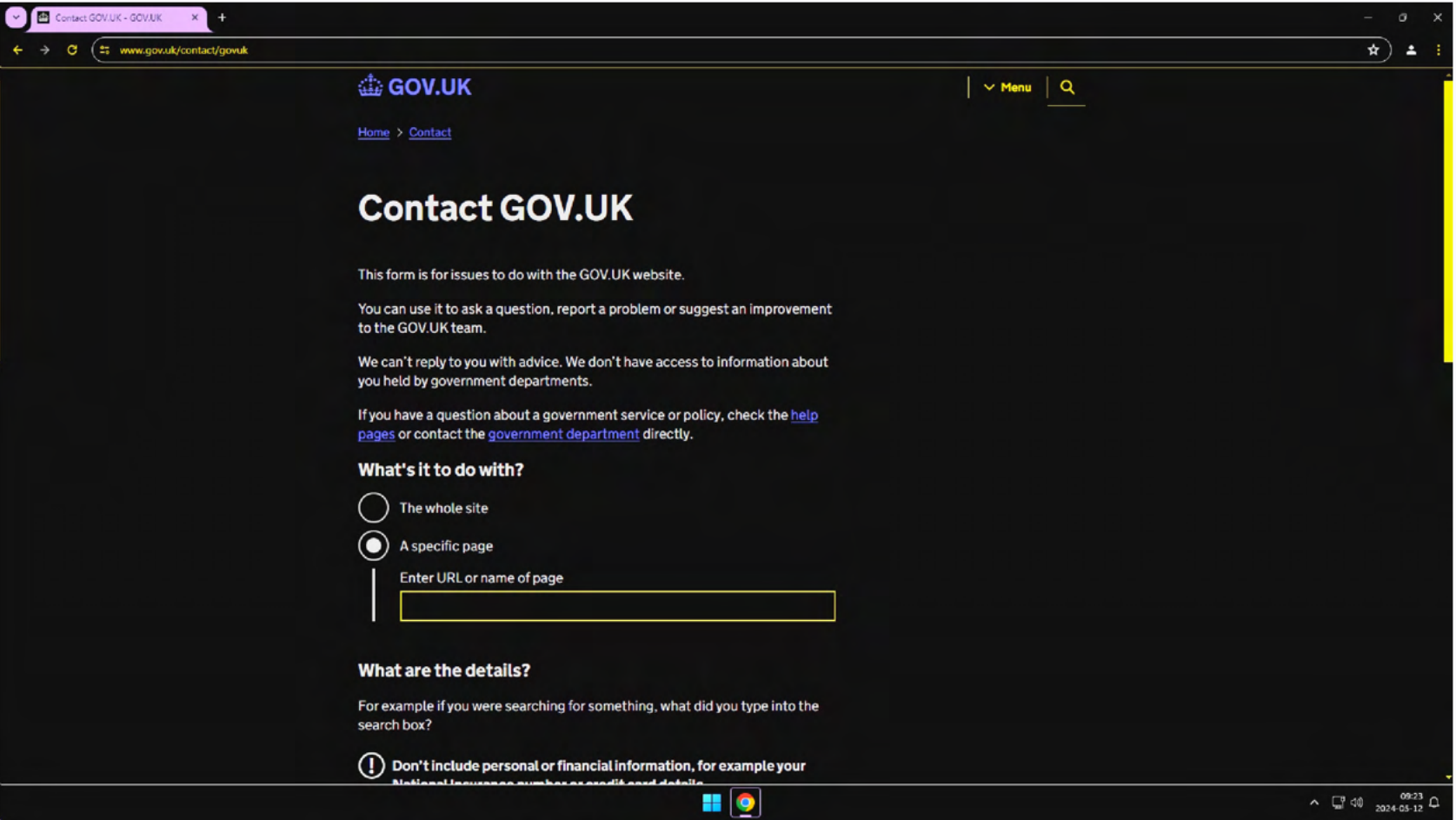
Let's look at
contrast themes in action...

GOV.UK



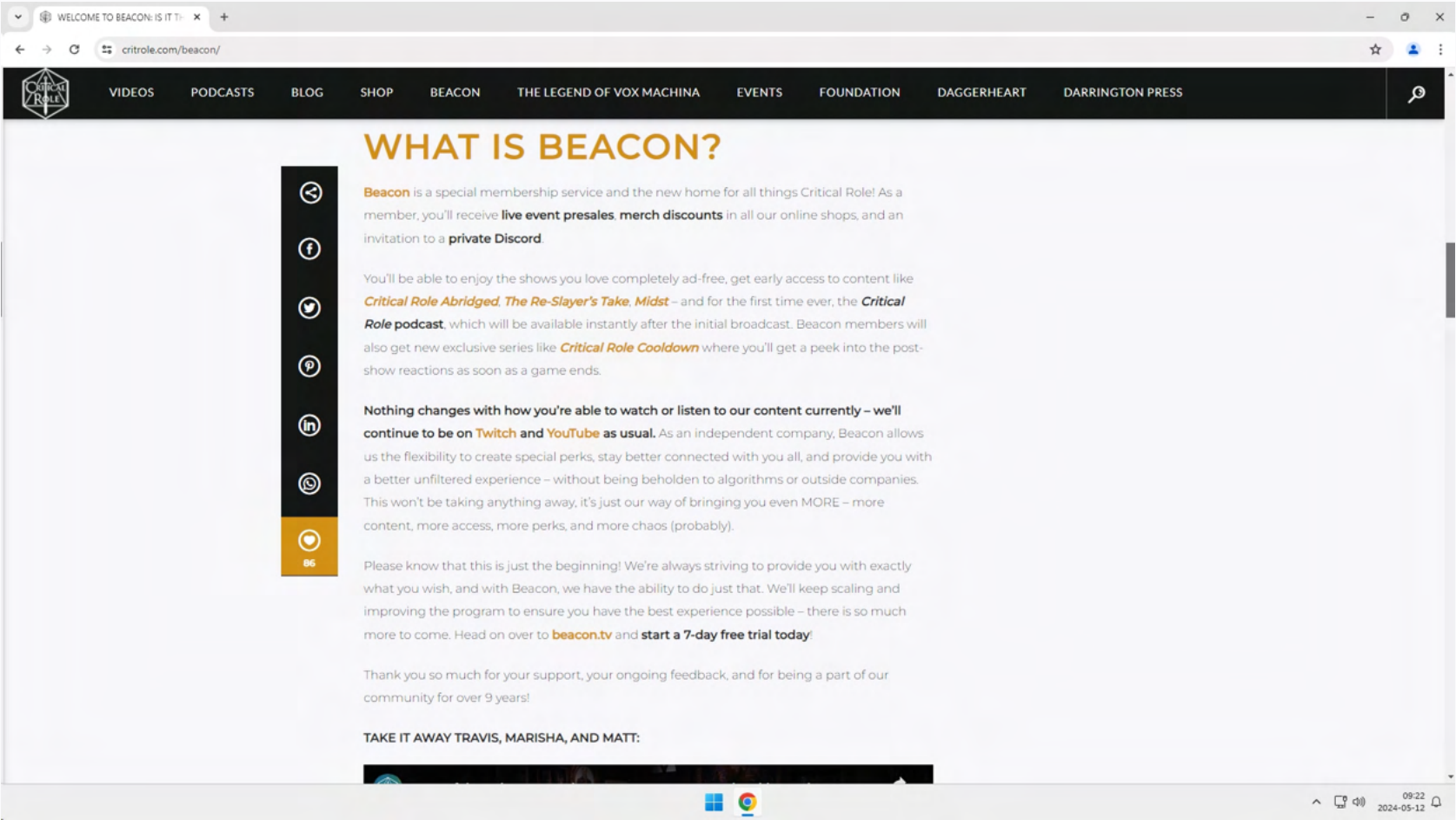
Standard theme

gov.uk/contact/govuk



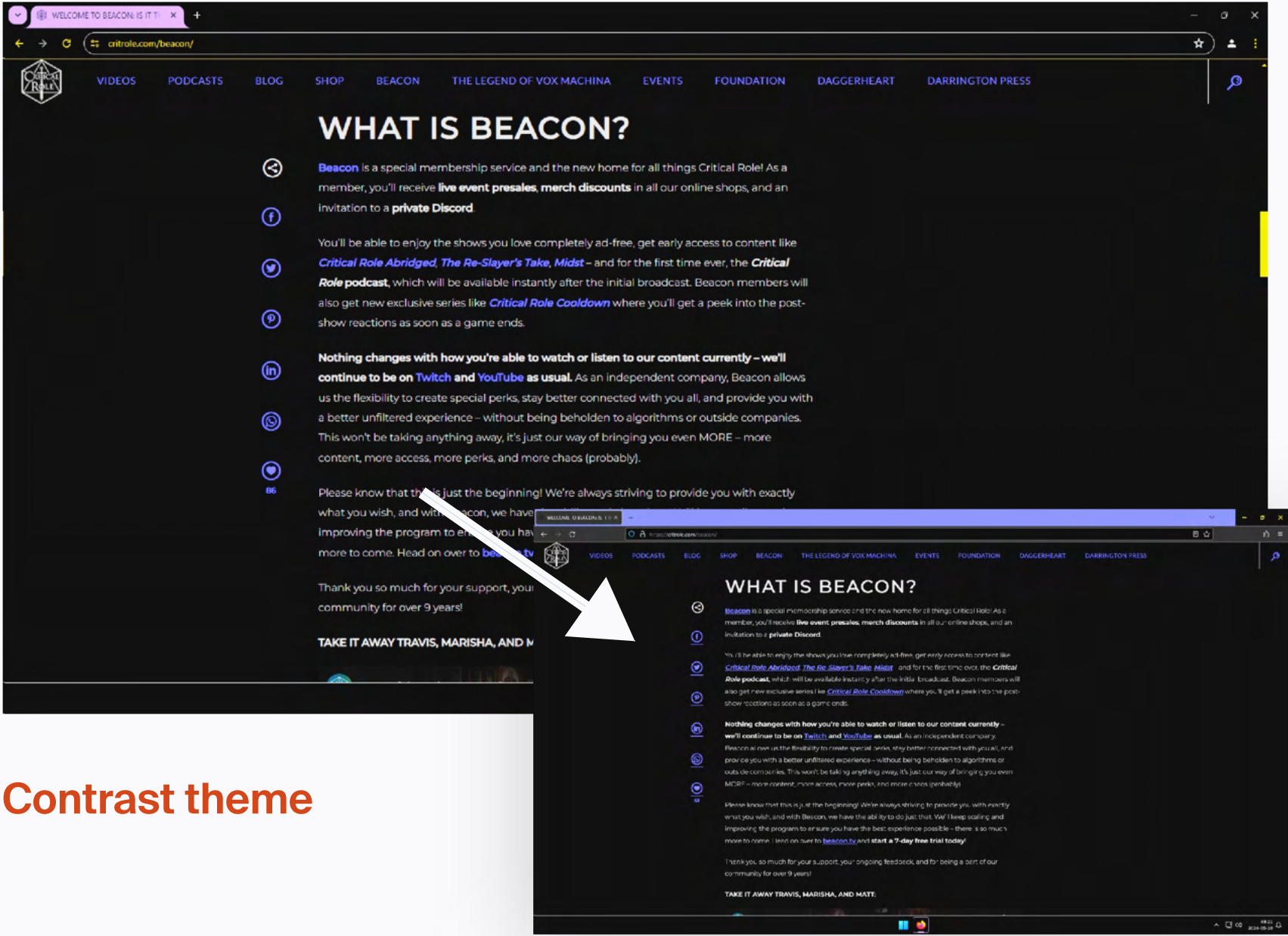
Contrast theme

Critical Role



Standard theme

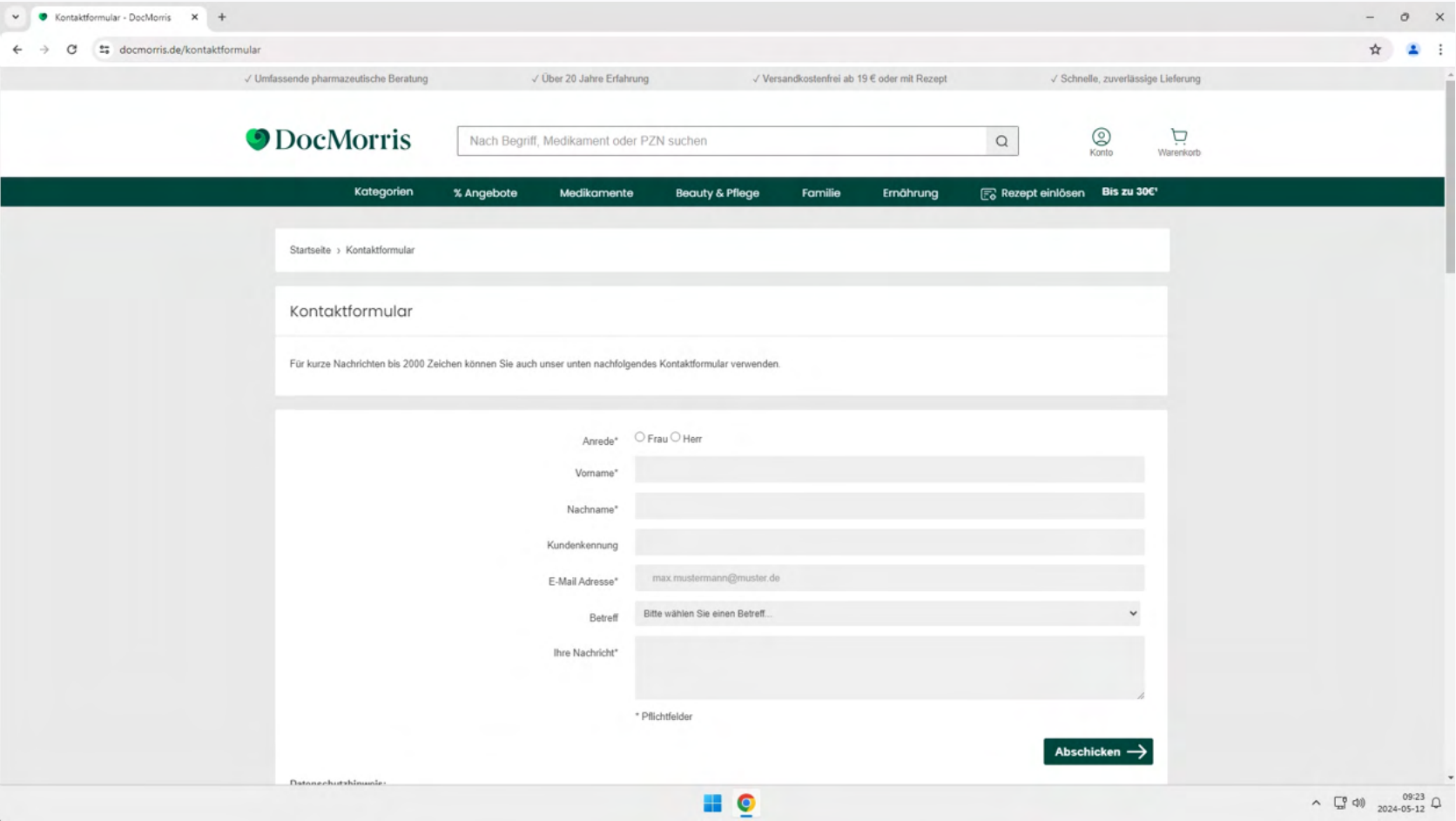
critrole.com/beacon/



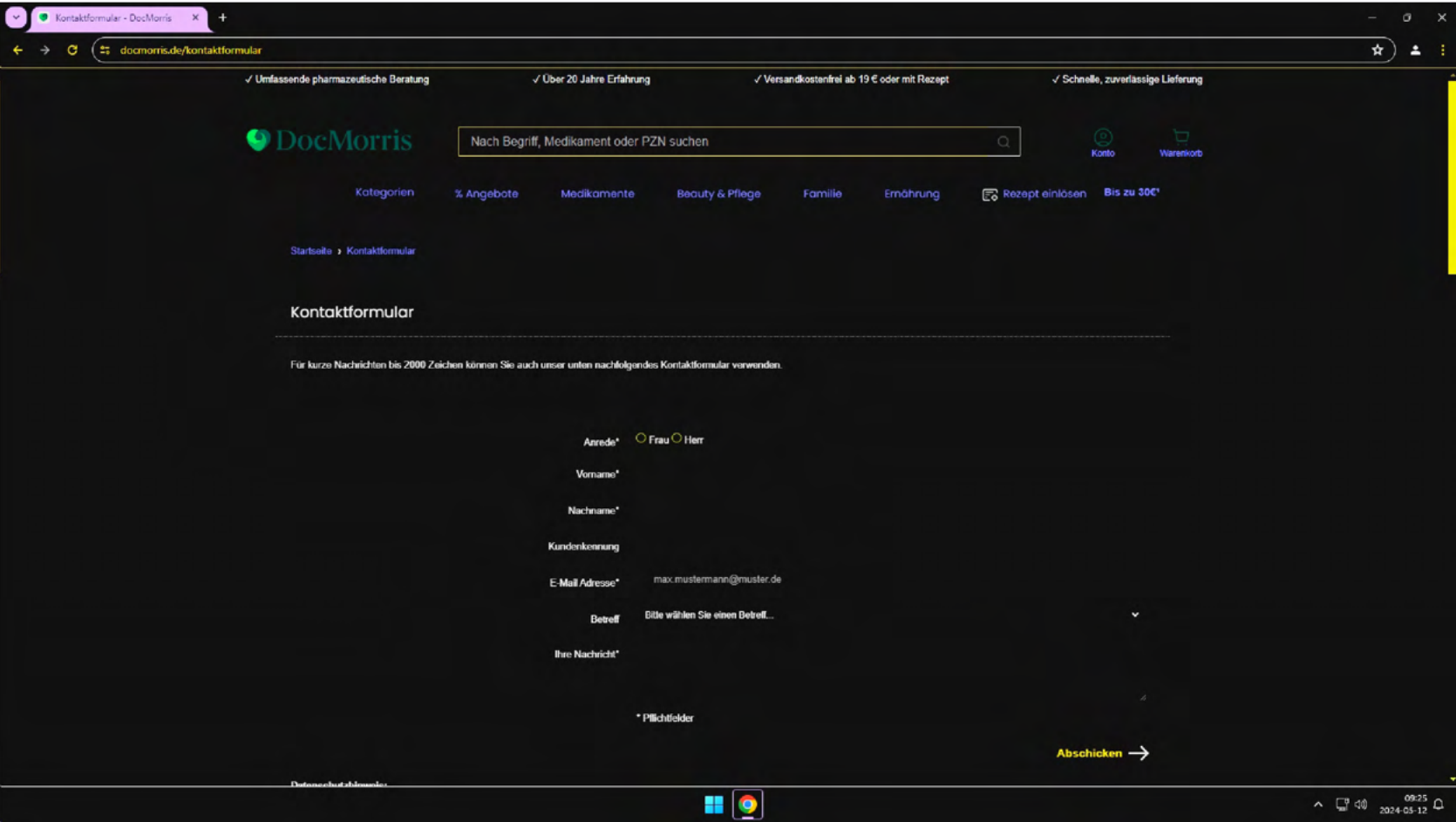
Contrast theme

Firefox forced link underline

DocMorris



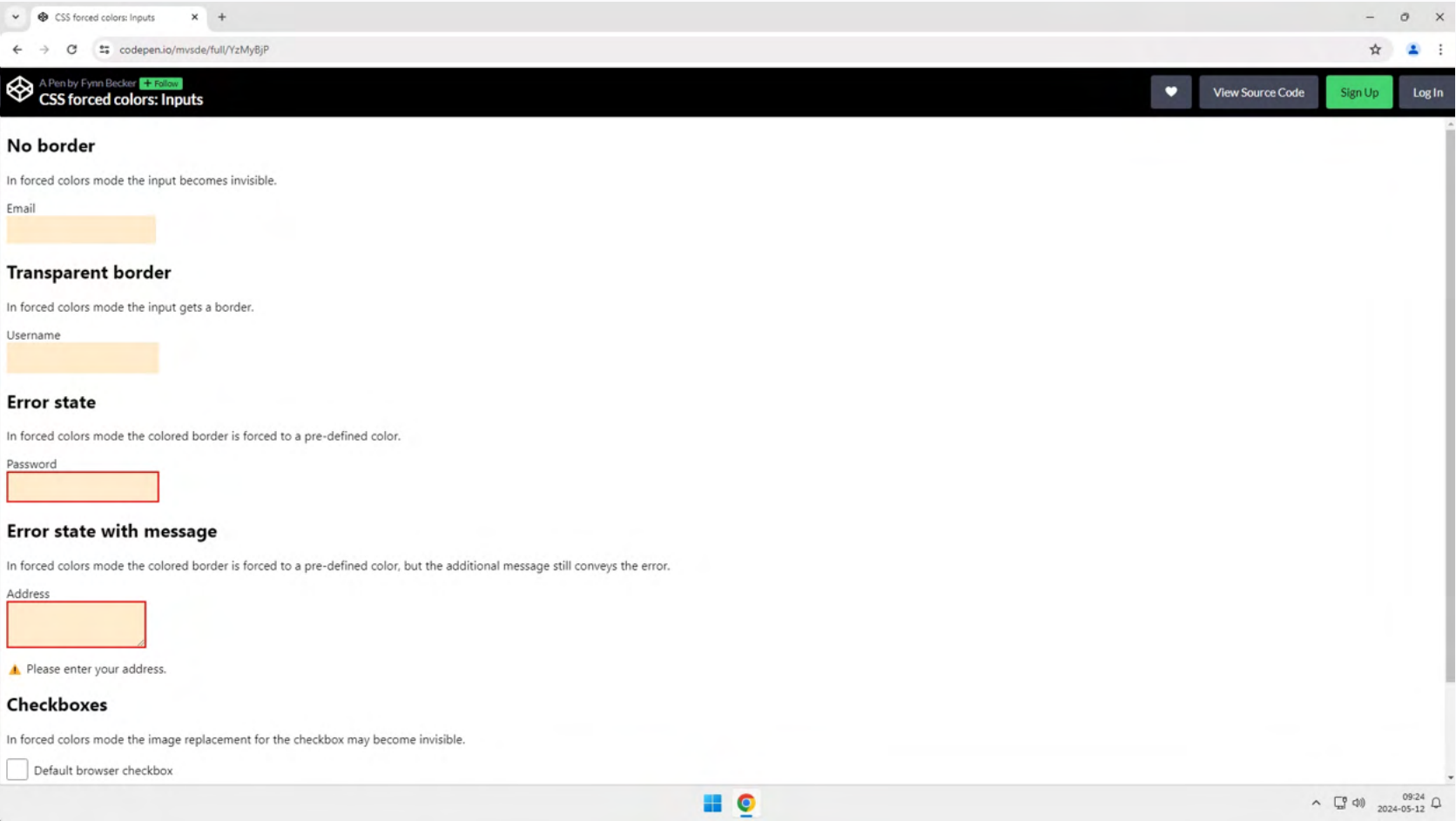
Standard theme



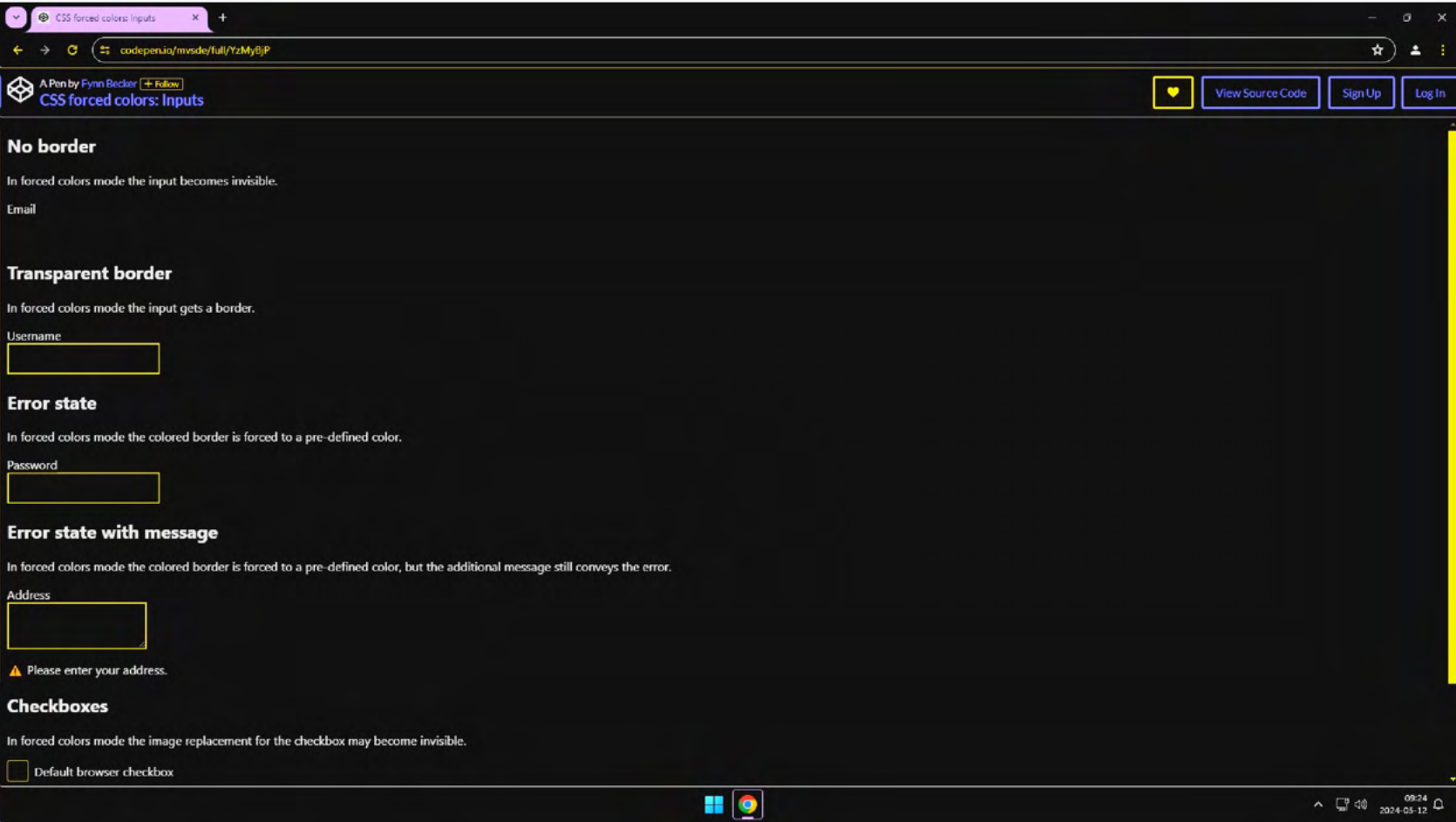
Contrast theme

docmorris.de/kontaktformular

Form inputs



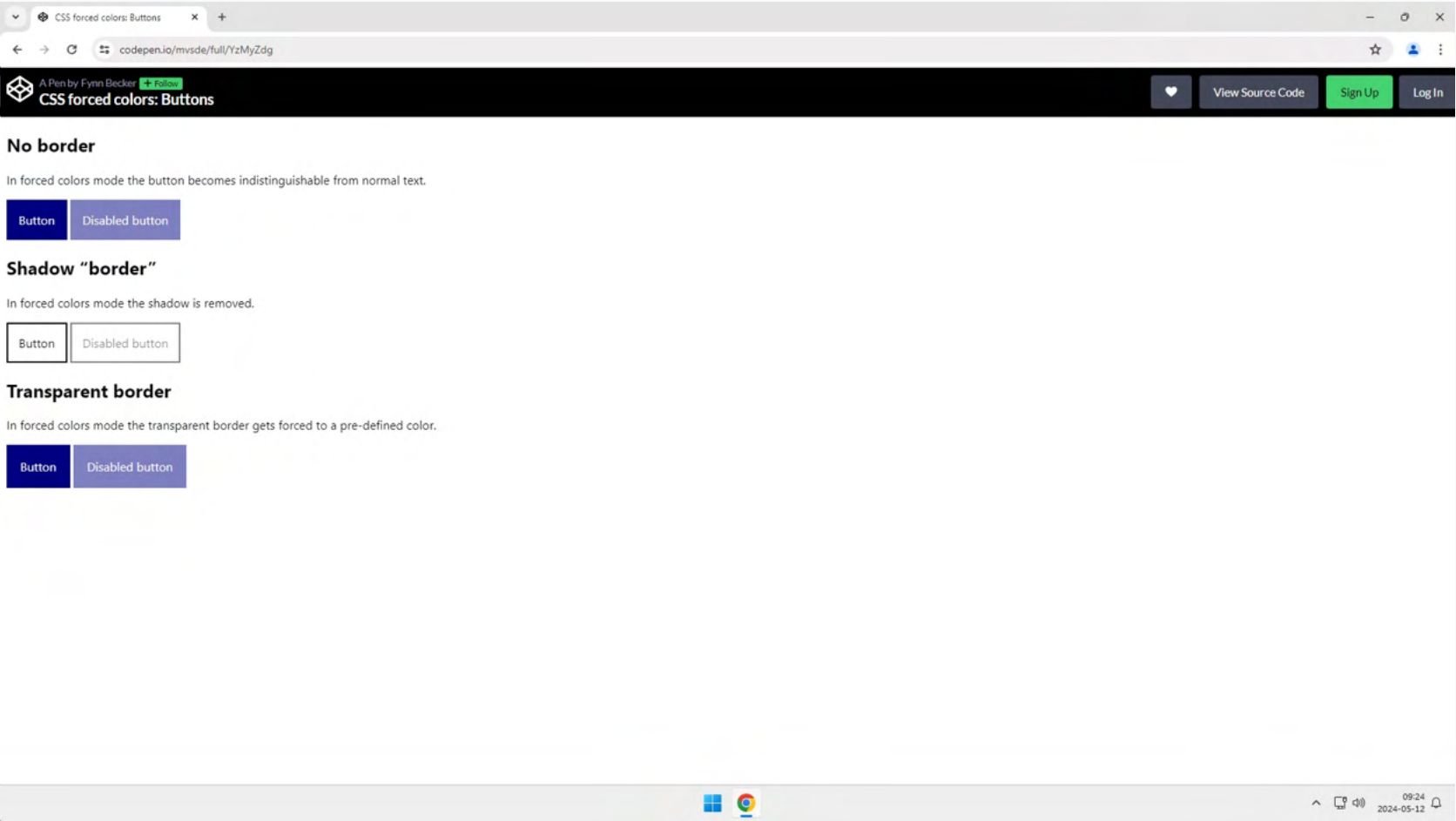
Standard theme



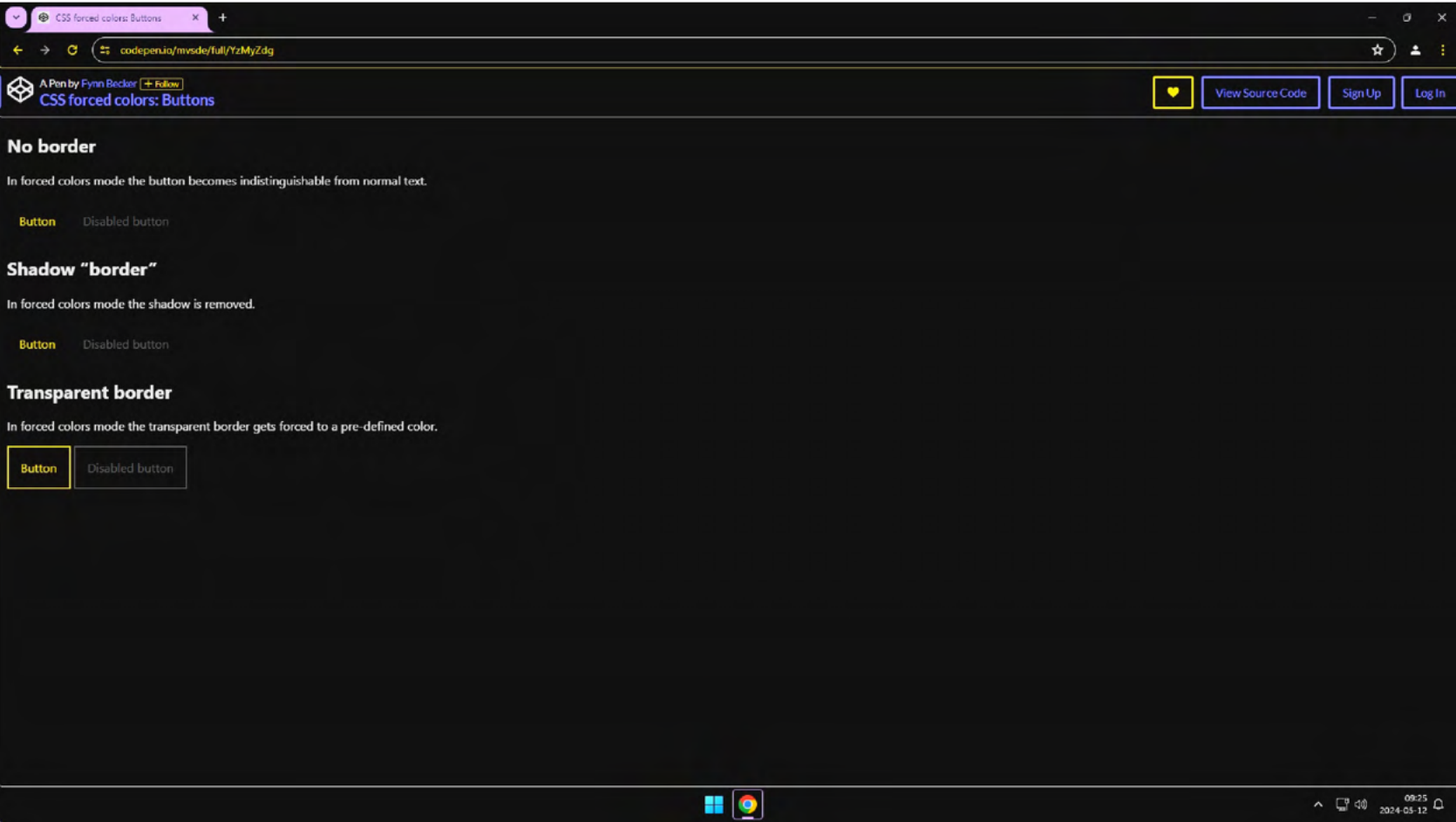
Contrast theme

codepen.io/mvsde/pen/YzMyBjP

Buttons



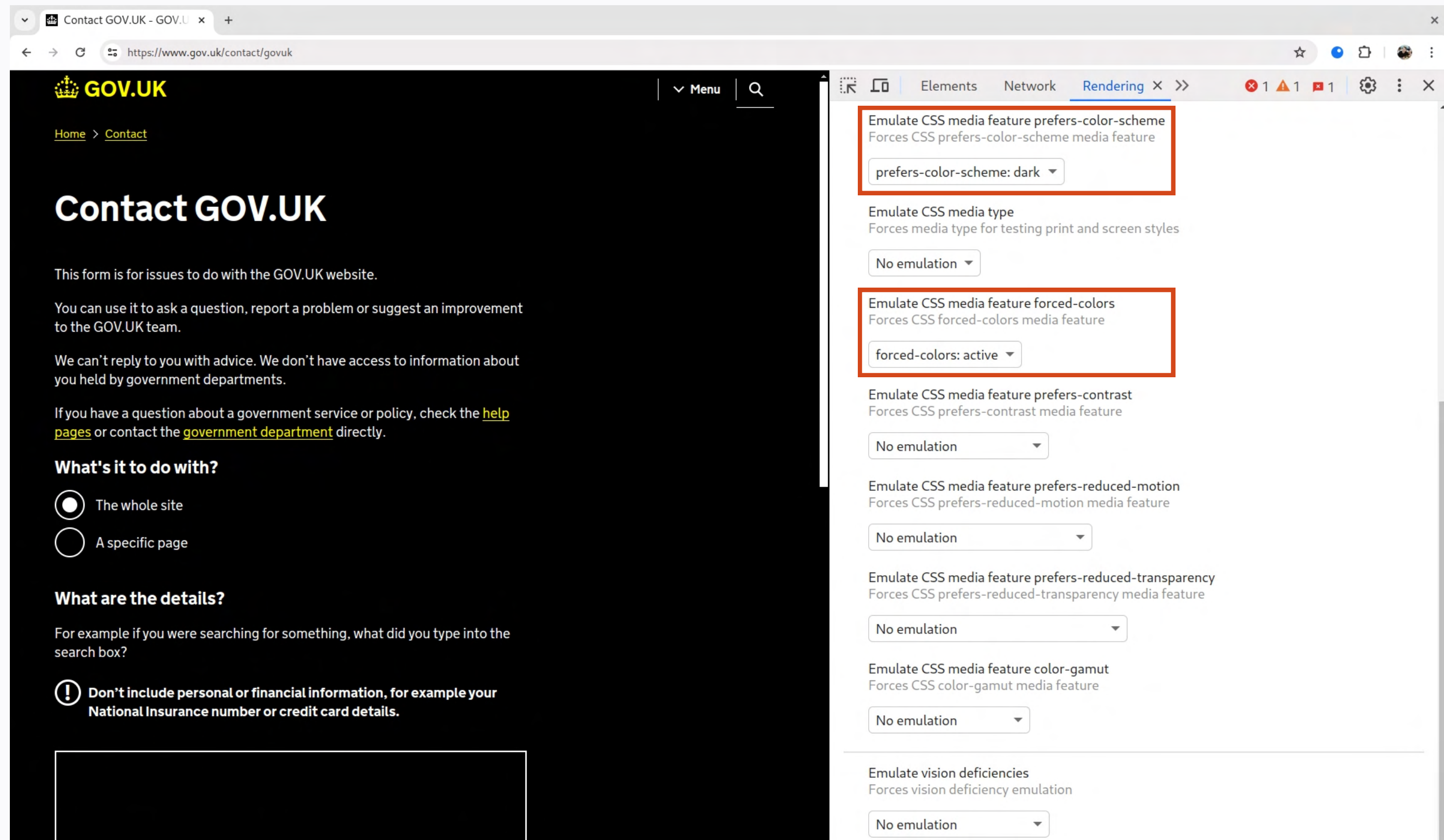
Standard theme



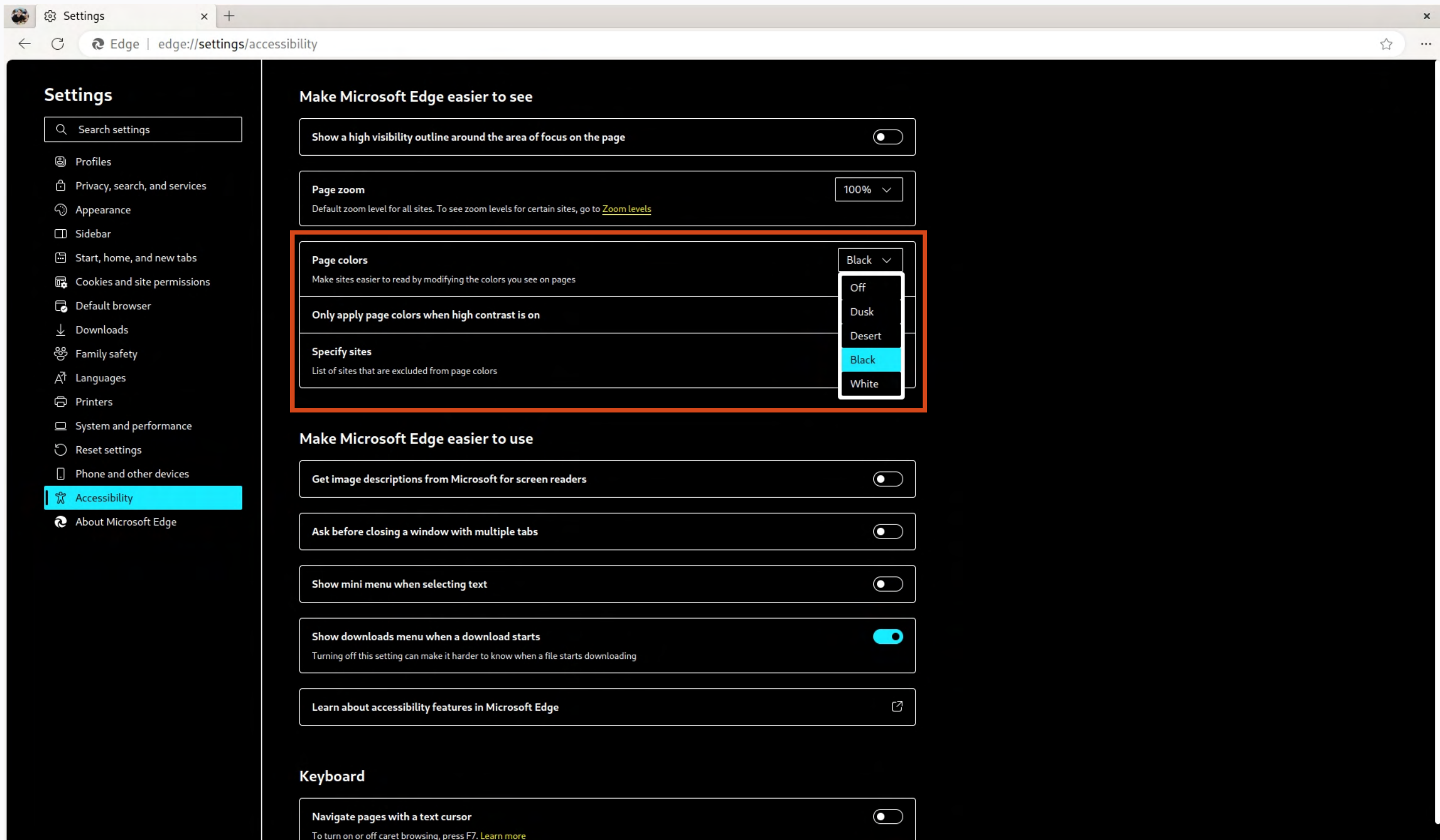
Contrast theme

codepen.io/mvsde/pen/YzMyZdg

Testing **contrast themes** without Windows



Emulated contrast theme in Chrome DevTools



Windows contrast theme in Edge (Dev)

Why?

Enable people with low vision

Contrast themes “fix” websites with low contrast text

Combination with other assistive technology

Contrast themes plus screen readers or page zoom make a powerful combination

Reduced cognitive load

Contrast themes clearly identify text, links, and buttons

Last resort

Contrast themes may be the only way for certain users to consume digital content

How?

It's all about borders

Borders are the only UI pattern that can be used as a “divider”

Avoid images for UI elements

Images (usually) don't change colors in contrast themes and may become invisible

Use semantic elements

Contrast themes need correctly marked up interactive elements (links, buttons, inputs)

Don't fight contrast themes

People who rely on contrast themes want a working site, not brand accuracy

Resources

Color contrast themes in Windows

support.microsoft.com/windows/change-color-contrast-in-windows-fedc744c-90ac-69df-aed5-c8a90125e696

Emulation in Chrome DevTools

developer.chrome.com/docs/devtools/rendering/emulate-css/#emulate_css_media_feature_forced-colors

CSS forced colors

developer.mozilla.org/docs/Web/CSS/@media/forced-colors

Code demo collection

codepen.io/collection/BNbpee

Thank you!

Fynn

🌐 fynn.be

🐘 [@mvsde@mastodon.social](https://mvsde@mastodon.social)

Factorial

🌐 factorial.io

🐘 @factorial_io@social.factorial.io

📷 factorial.io

Slides

fynn.be/talks/forced-colors-windows-contrast-themes

