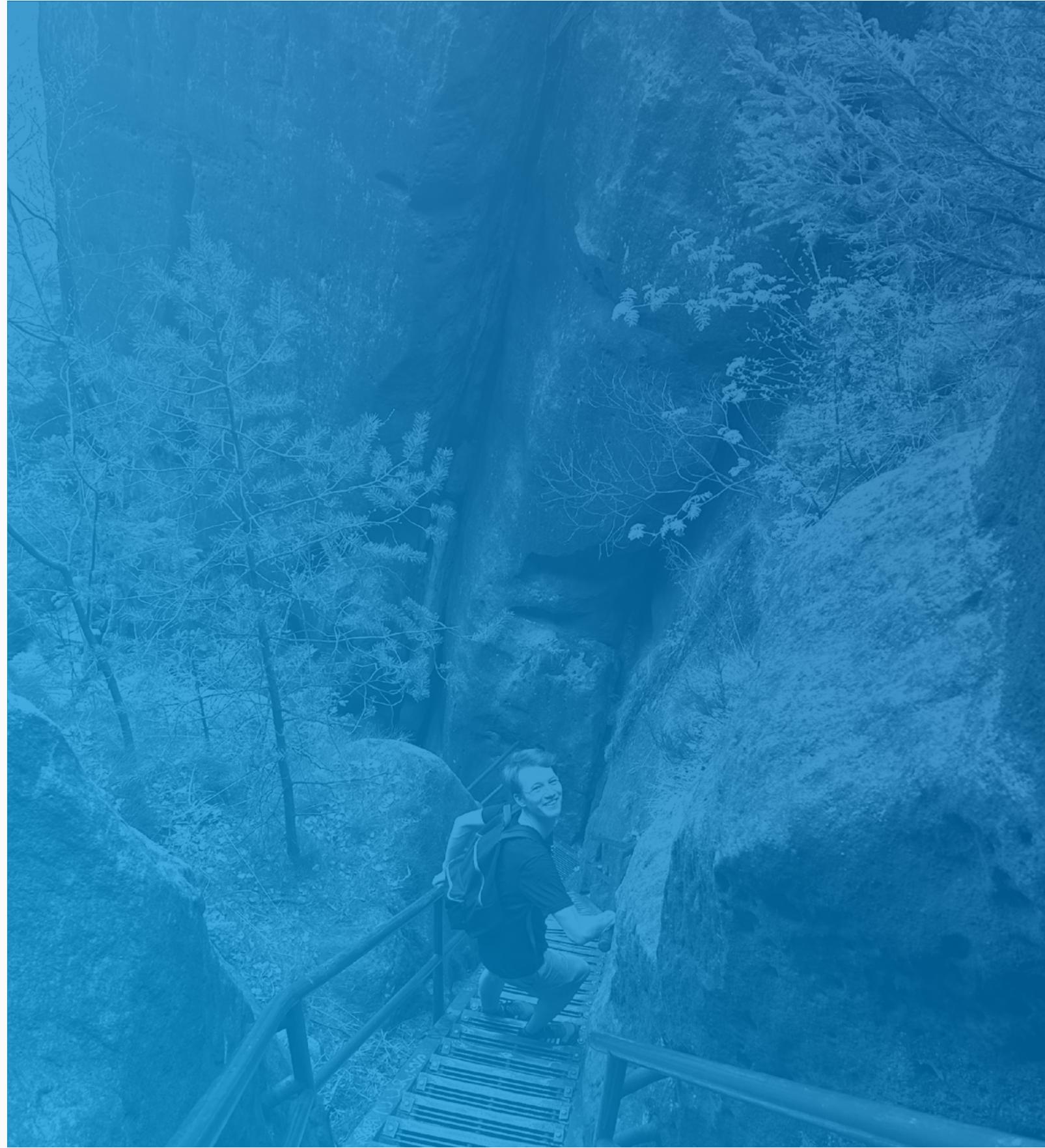


Forced colors and Windows contrast themes



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they/them

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



Docker
Local Account

Find a setting



Home

System

Bluetooth & devices

Network & internet

Personalization

Apps

Accounts

Time & language

Gaming

Accessibility

Privacy & security

Windows Update

Accessibility

Vision

- Text size**
Text size that appears throughout Windows and your apps [>](#)
- Visual effects**
Scroll bars, transparency, animations, notification timeout [>](#)
- Mouse pointer and touch**
Mouse pointer color, size [>](#)
- Text cursor**
Appearance and thickness, text cursor indicator [>](#)
- Magnifier**
Magnifier reading, zoom increment [>](#)
- Color filters**
Colorblindness filters, grayscale, inverted [>](#)
- Contrast themes**
Color themes for low vision, light sensitivity [>](#)
- Narrator**
Voice, verbosity, keyboard, braille [>](#)

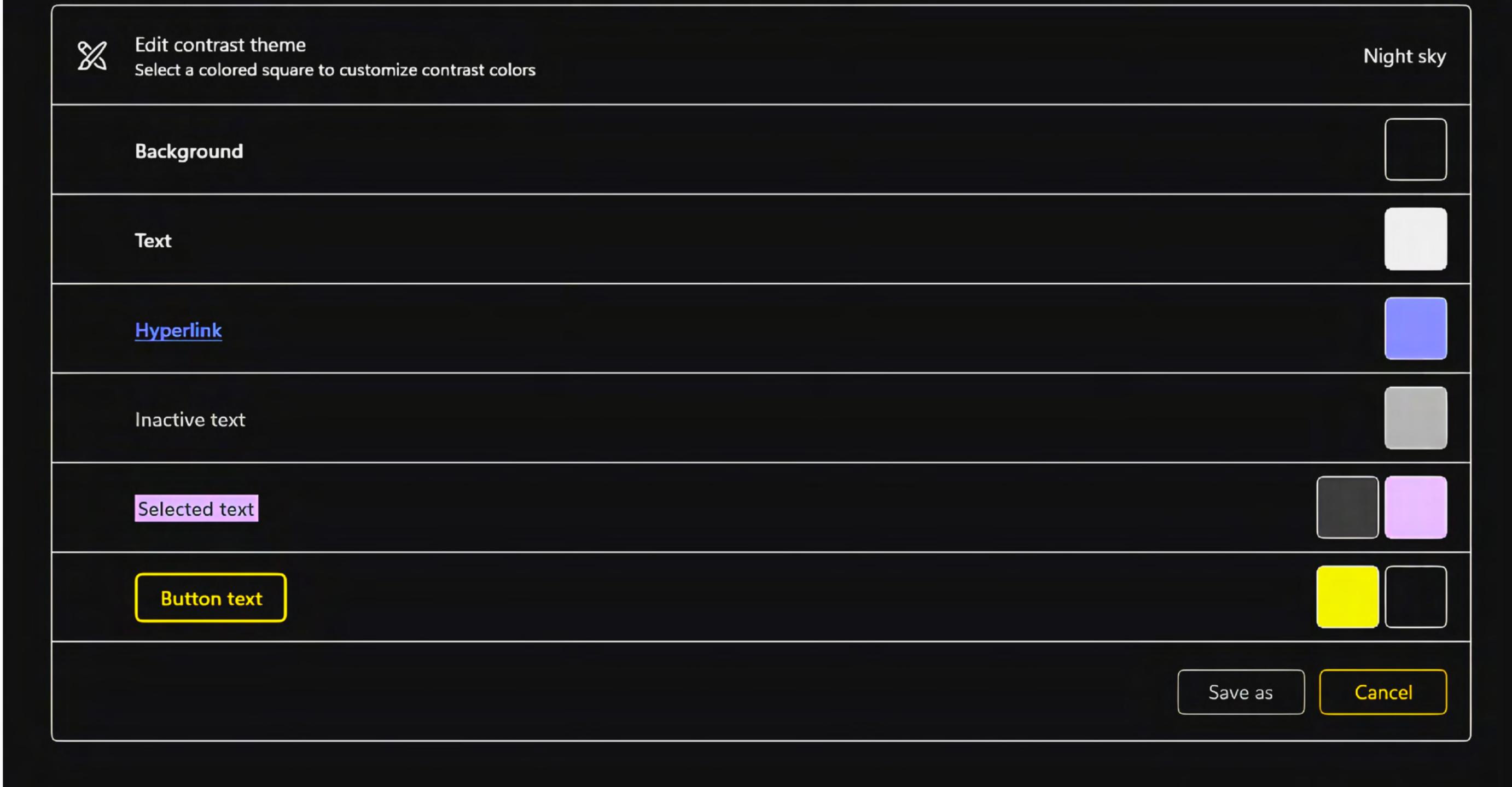
Hearing

- Audio**
Mono audio, audio notifications [>](#)
- Captions**
Styles, live captions [>](#)

Interaction

- Speech**
Voice access, voice typing, Windows Speech Recognition [>](#)

Accessibility > Contrast themes > Edit theme



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

56 million⁴



4 %

of Windows computers have
active contrast themes³

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

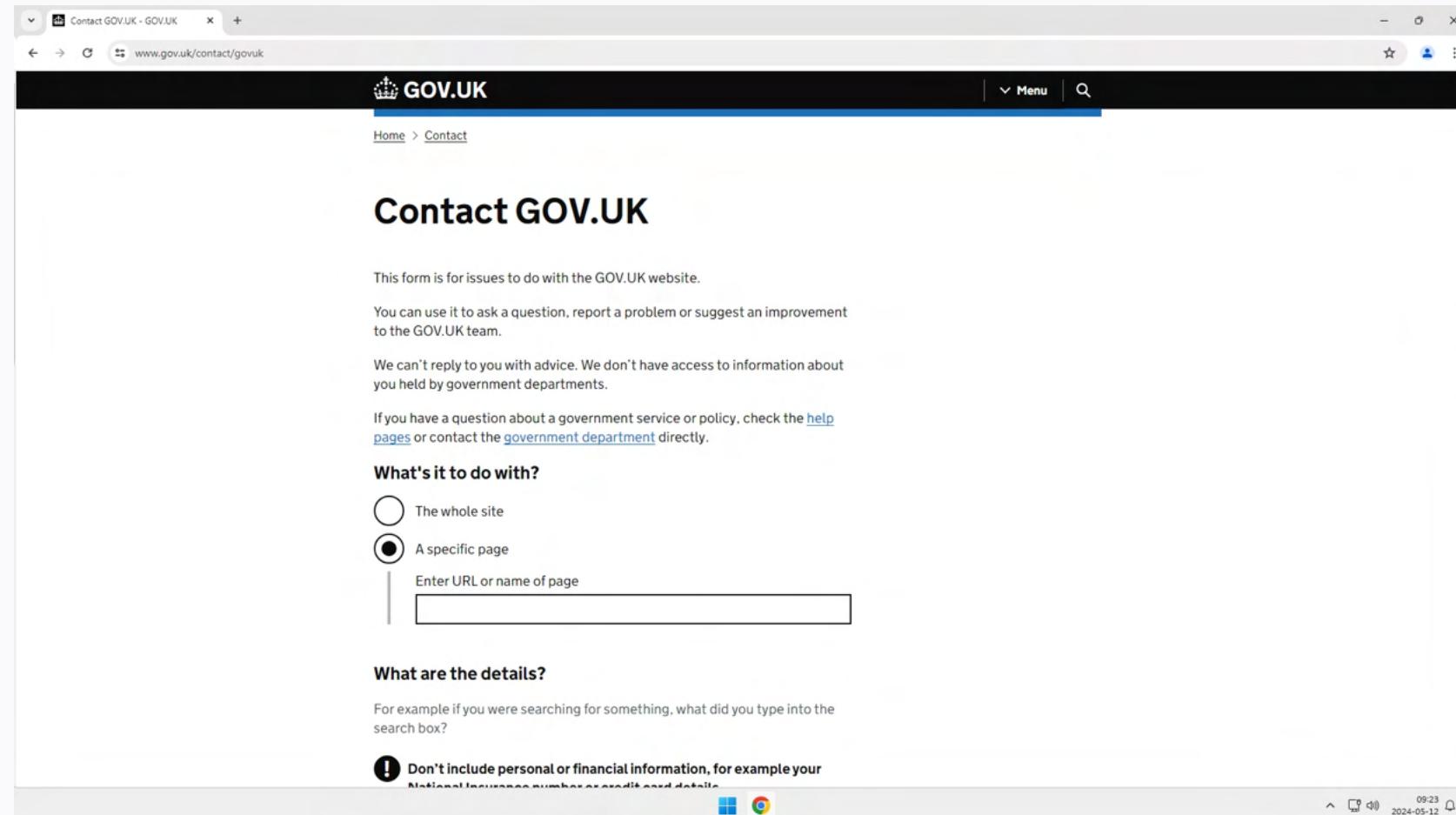
2. [Survey of Users with Low Vision](#), WebAIM, 2018

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...

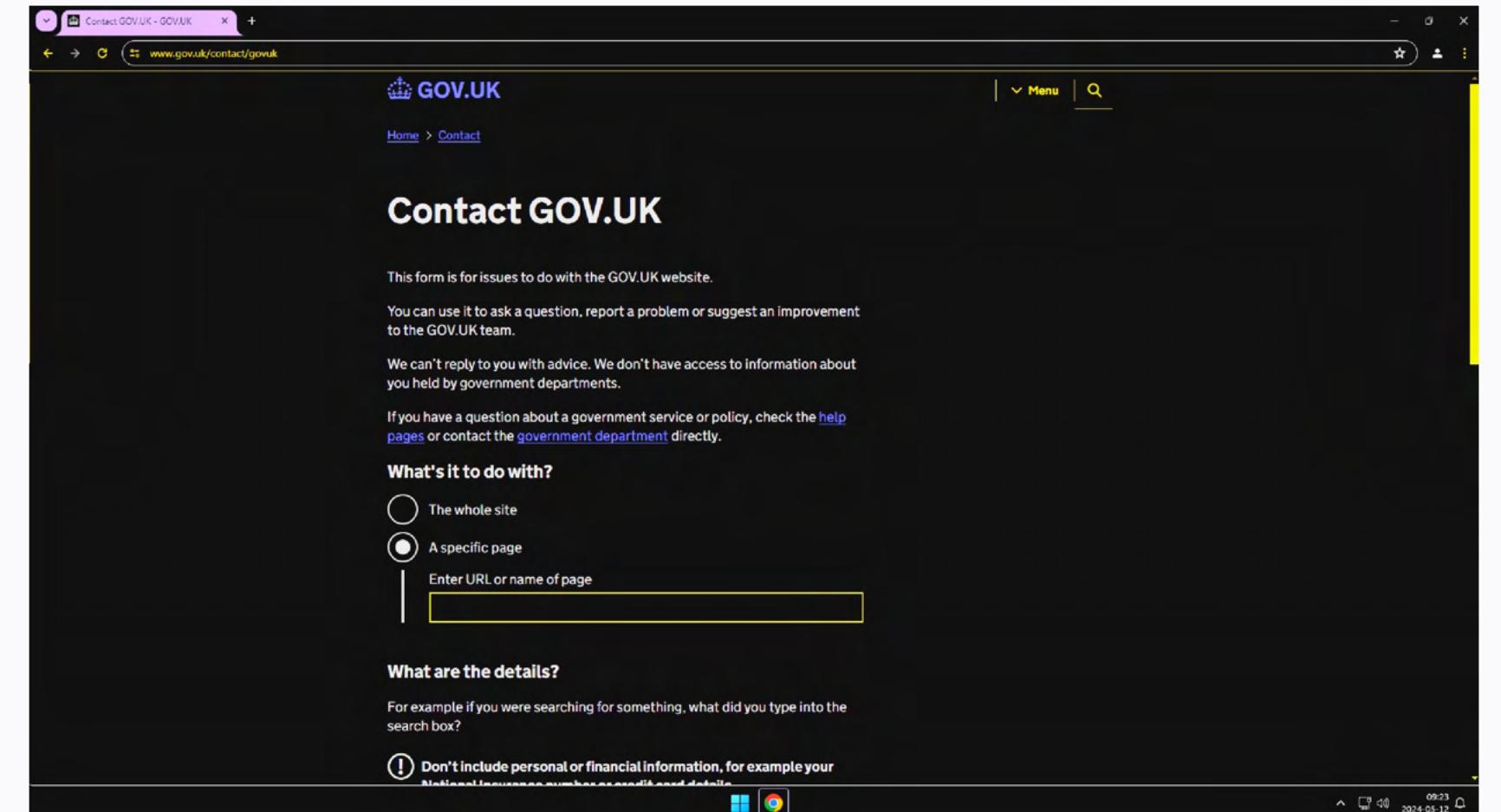
GOV.UK



The screenshot shows the 'Contact GOV.UK' page in standard theme. The background is white. The GOV.UK logo is at the top left. A navigation bar with 'Menu' and a search icon is at the top right. Below the header, the page title 'Contact GOV.UK' is centered. A paragraph explains the form is for issues with the GOV.UK website. It lists three bullet points: 1) Ask a question, report a problem or suggest an improvement to the GOV.UK team; 2) We can't reply with advice; 3) If you have a question about a government service or policy, check the help pages or contact the government department directly. A section titled 'What's it to do with?' contains two radio button options: 'The whole site' (unchecked) and 'A specific page' (checked). A text input field below it is labeled 'Enter URL or name of page'. A 'What are the details?' section follows, with a note about not including personal or financial information like National Insurance numbers or credit card details. A warning icon says 'Don't include personal or financial information, for example your National Insurance number or credit card details.'

Standard theme

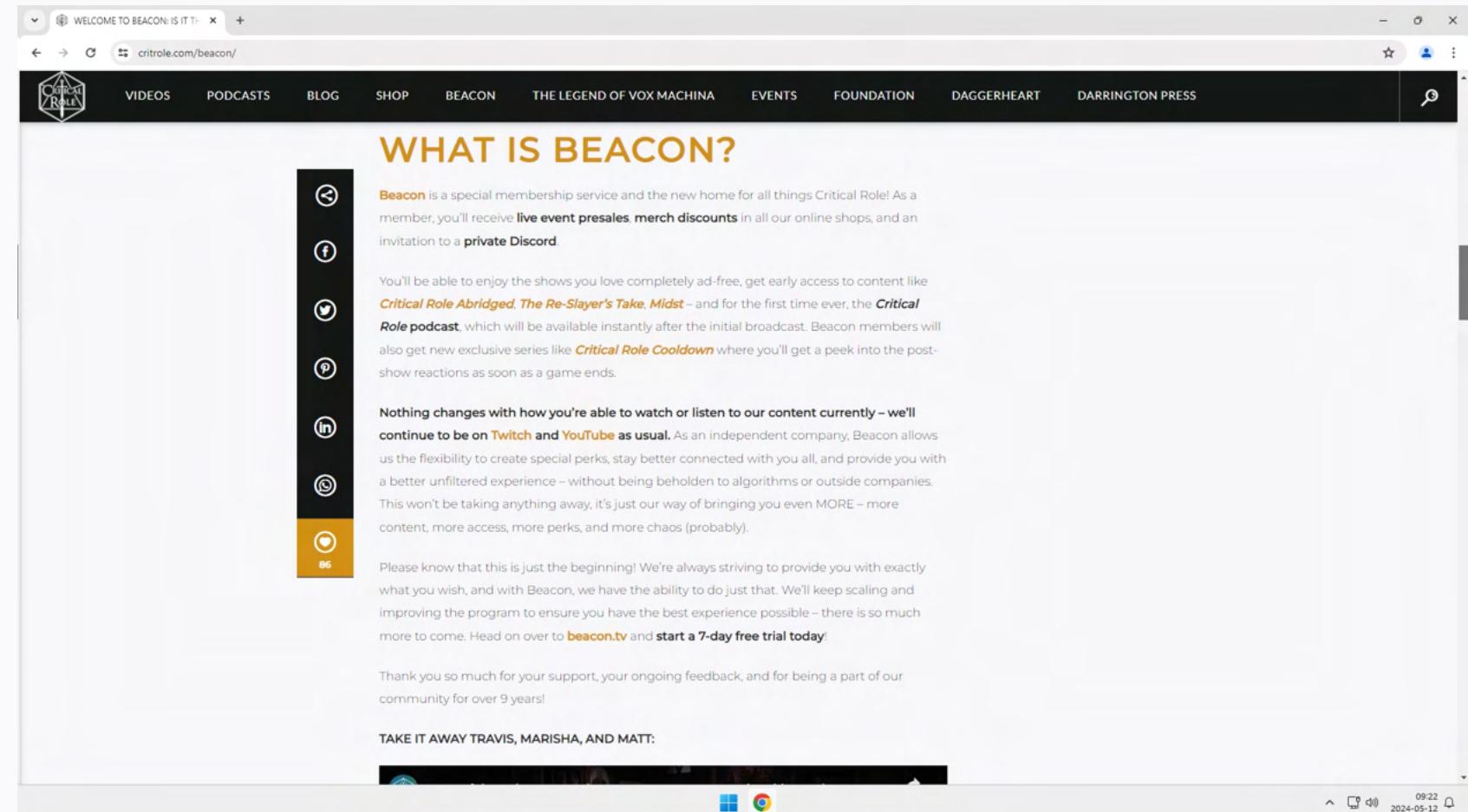
gov.uk/contact/govuk



The screenshot shows the same 'Contact GOV.UK' page in contrast theme. The background is black. The GOV.UK logo is at the top left. A navigation bar with 'Menu' and a search icon is at the top right. Below the header, the page title 'Contact GOV.UK' is centered. The text and bullet points are white, making them stand out against the dark background. The 'What's it to do with?' section, text input field, and 'What are the details?' section are also white. The warning icon and its text are white.

Contrast theme

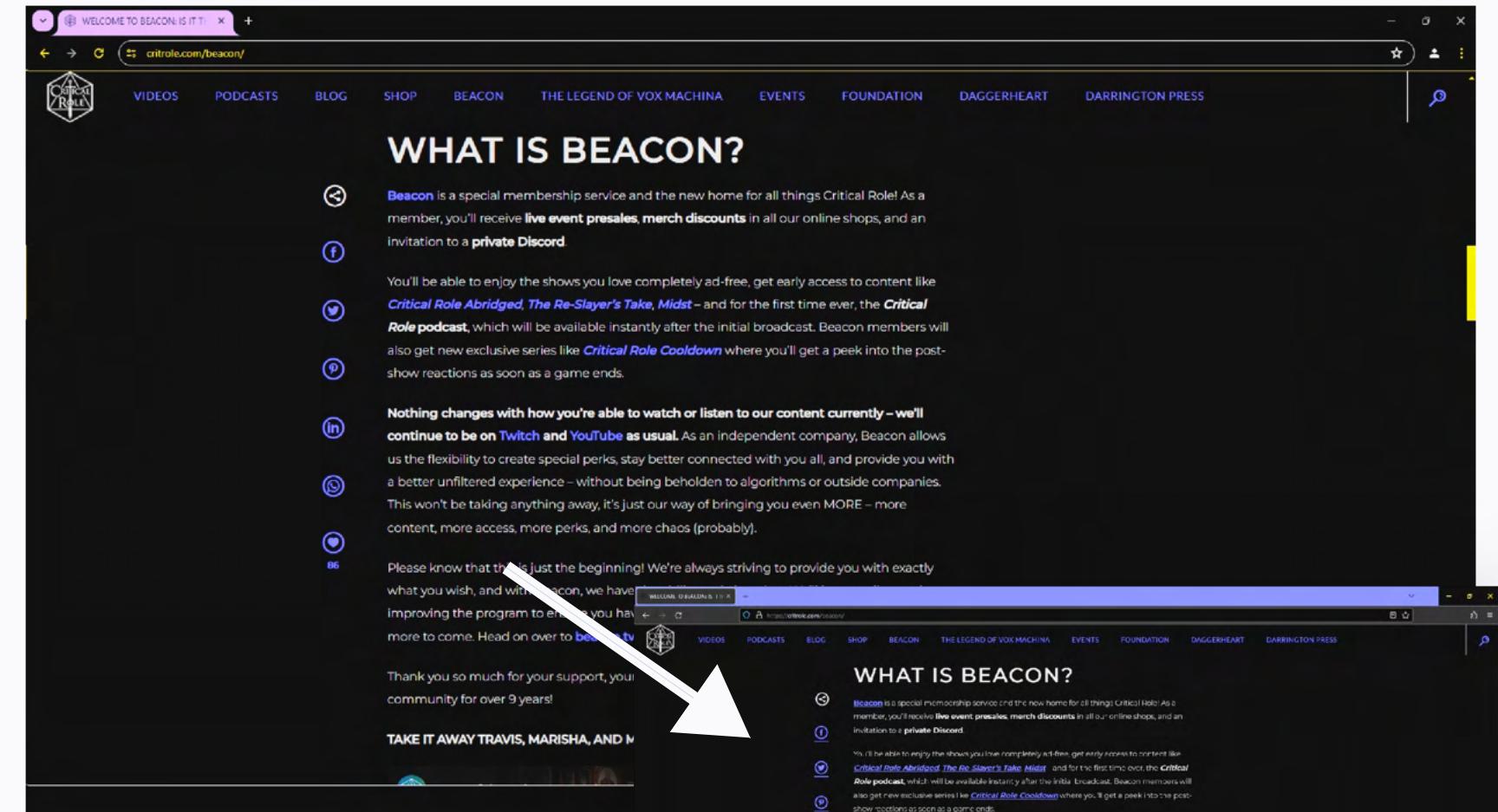
Critical Role



The screenshot shows the 'WHAT IS BEACON?' page in a standard light-colored theme. The text is black on a white background. A sidebar on the left contains social media icons for LinkedIn, Facebook, Twitter, Pinterest, and YouTube, with the YouTube icon highlighted in orange. A large white arrow points from the 'Contrast theme' section to this sidebar.

Standard theme

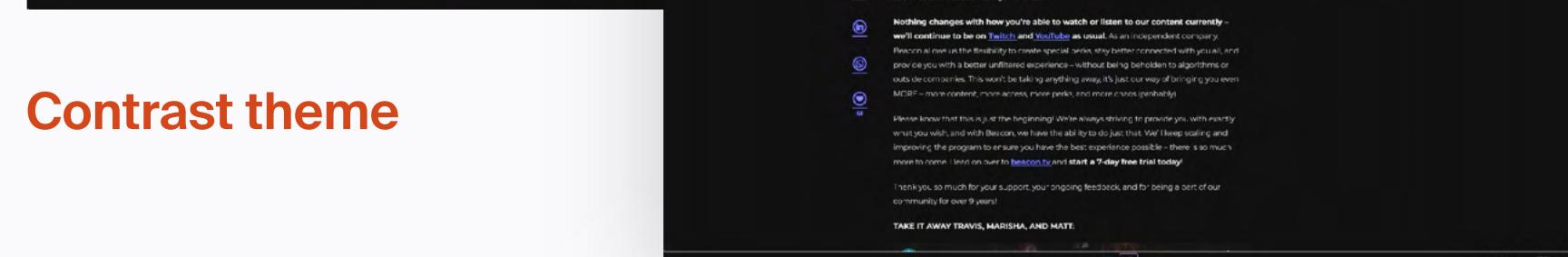
critrole.com/beacon/



The screenshot shows the same 'WHAT IS BEACON?' page in a dark-themed browser. The text is white on a black background. The sidebar on the left has the same social media icons, but the YouTube icon is now highlighted in yellow. A large white arrow points from the 'Contrast theme' section to this sidebar.

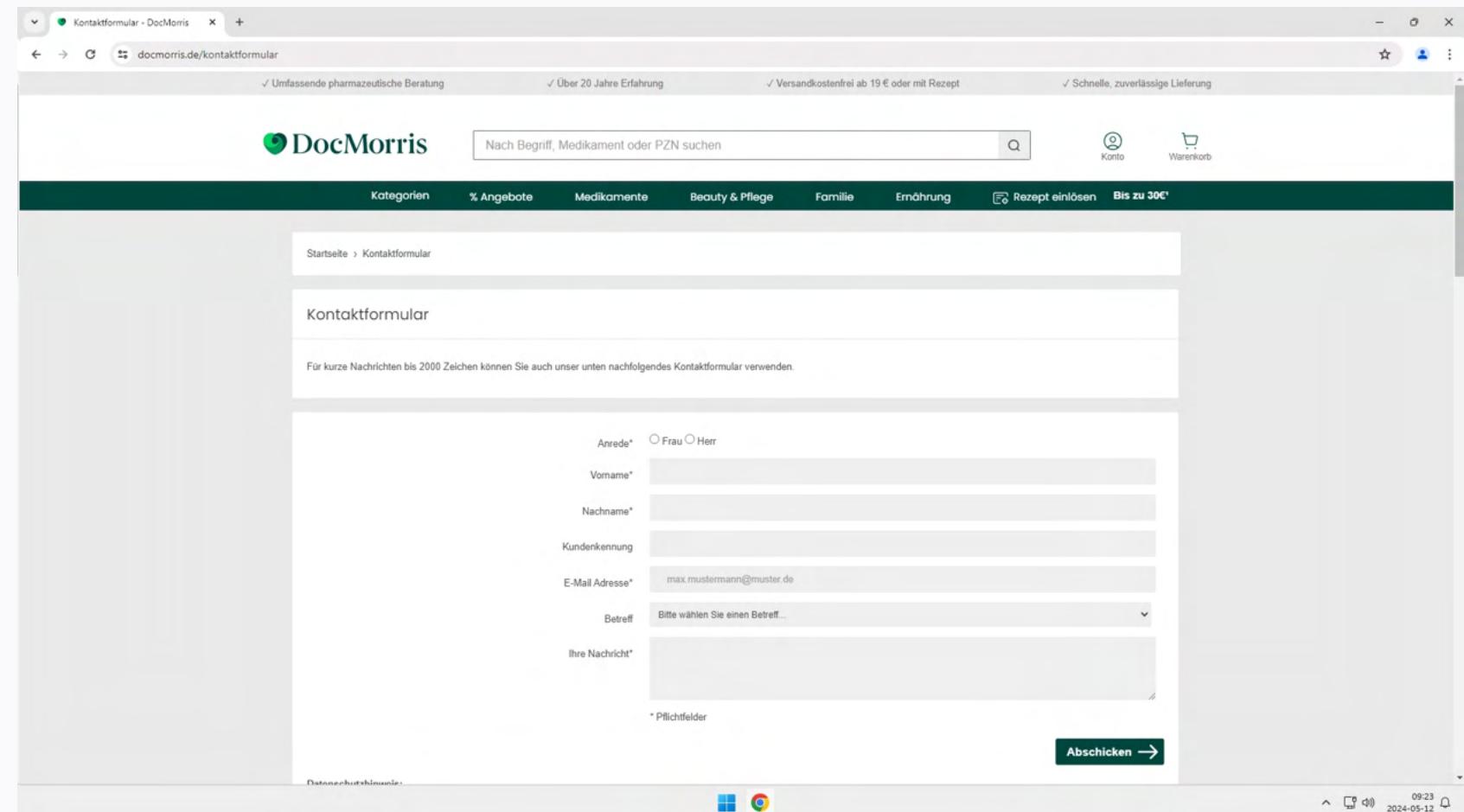
Contrast theme

Firefox forced link underline



The screenshot shows the same page in Firefox with a forced link underline. The text is white on a black background. The sidebar on the left has the same social media icons, with the YouTube icon highlighted in orange. A large white arrow points from the 'Firefox forced link underline' section to this sidebar.

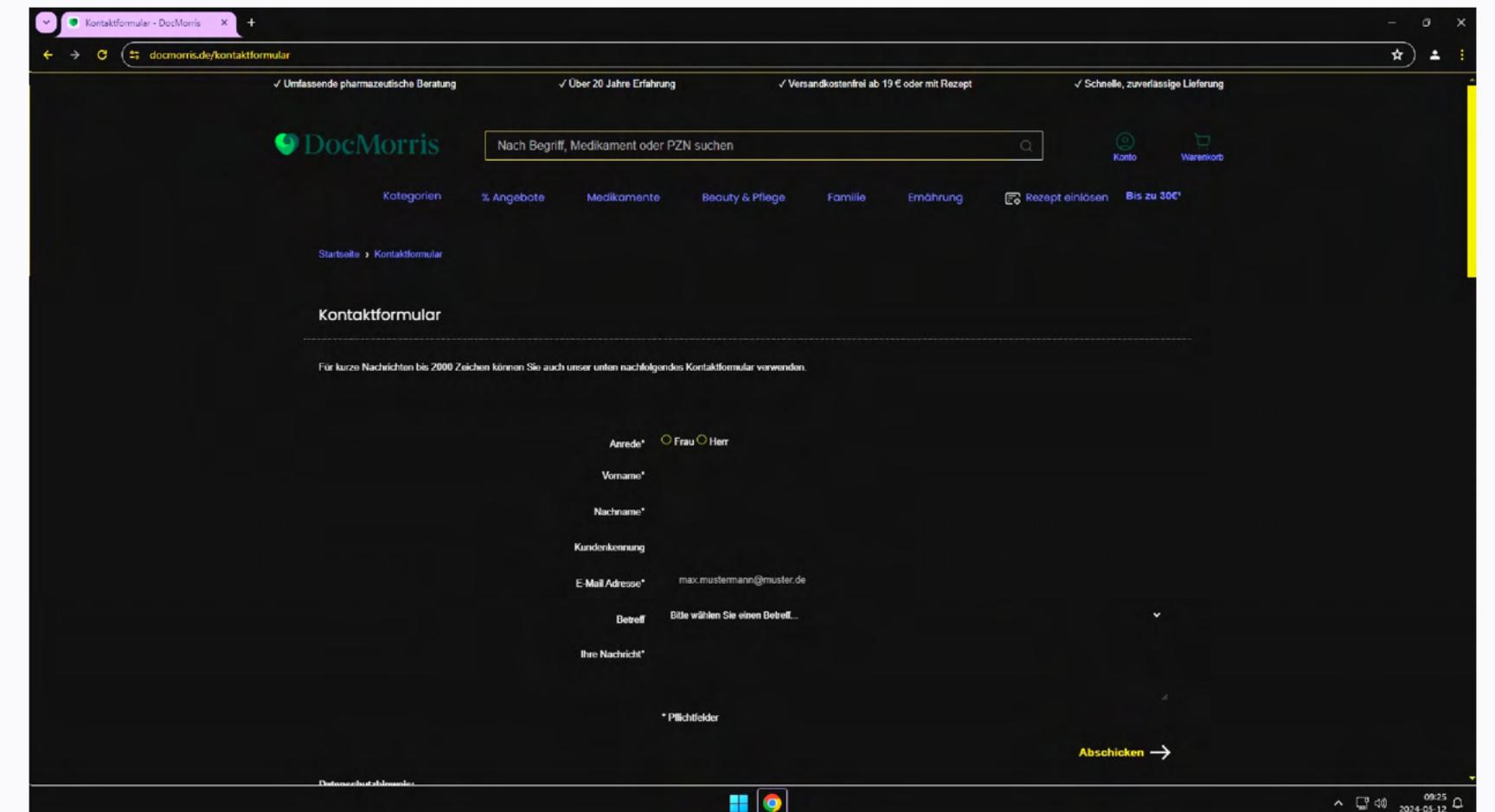
DocMorris



The screenshot shows the DocMorris website in its standard light-colored theme. The header features the DocMorris logo and navigation links for categories like Kategorien, % Angebote, Medikamente, Beauty & Pflege, Familie, Ernährung, Rezept einlösen, and Bis zu 30€. A search bar and user account icons are also present. The main content area displays a contact form titled "Kontaktformular". It includes fields for "Anrede" (Address) with radio buttons for "Frau" and "Herr", "Vorname" (First Name), "Nachname" (Last Name), "Kundenkennung" (Customer Reference), "E-Mail Adresse" (Email Address) with a placeholder "max.mustermann@muster.de", "Betreff" (Subject) with a dropdown menu, and "Ihre Nachricht" (Your Message) with a text area. A note at the bottom states: "Für kurze Nachrichten bis 2000 Zeichen können Sie auch unser unten nachfolgendes Kontaktformular verwenden." A "Abschicken" (Send) button is located at the bottom right of the form.

Standard theme

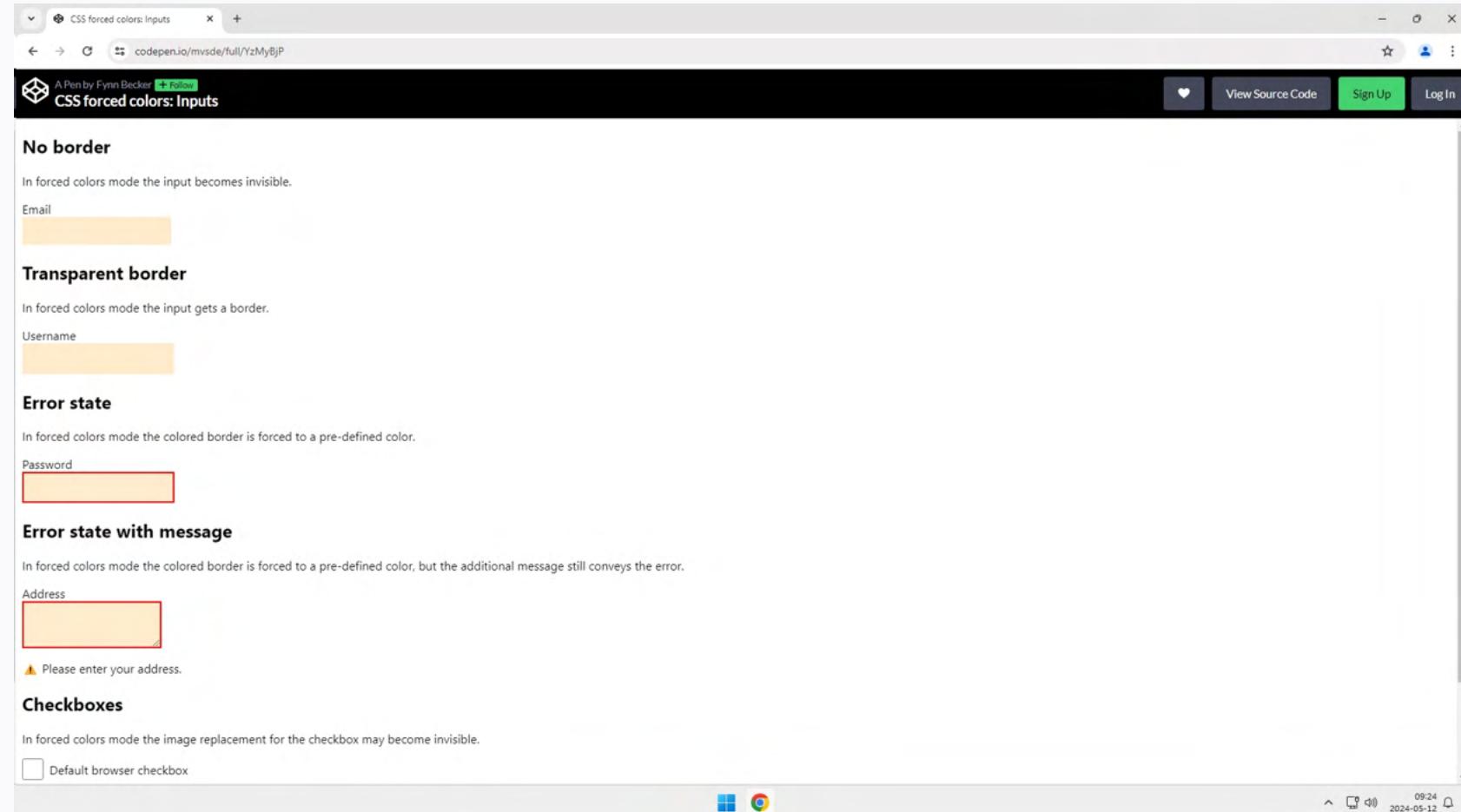
docmorris.de/kontaktformular



The screenshot shows the same contact form from the previous image, but in the Contrast theme. The background is dark, and the text and form fields are white or light gray. The overall aesthetic is more minimalist and high-contrast.

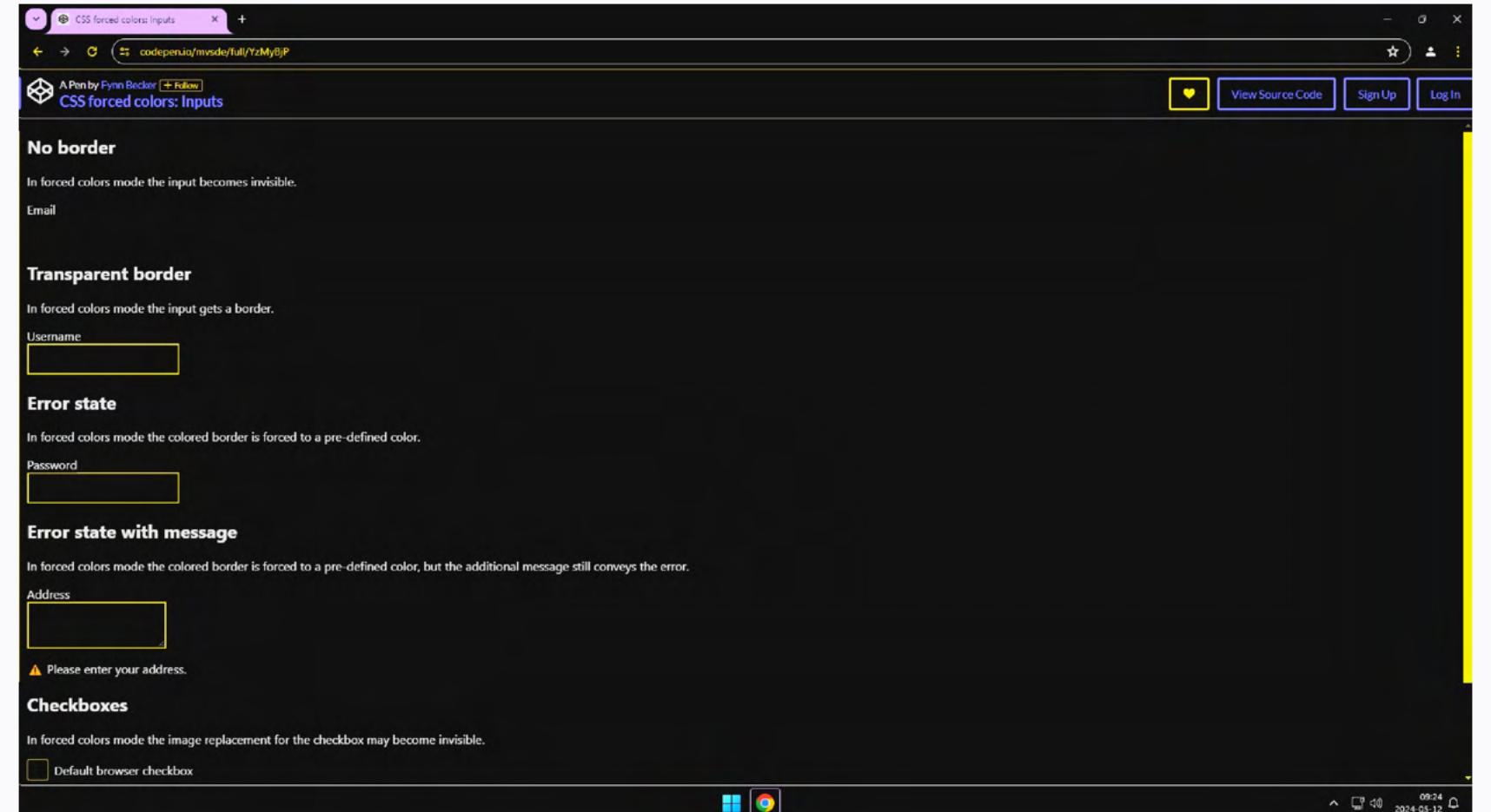
Contrast theme

Form inputs



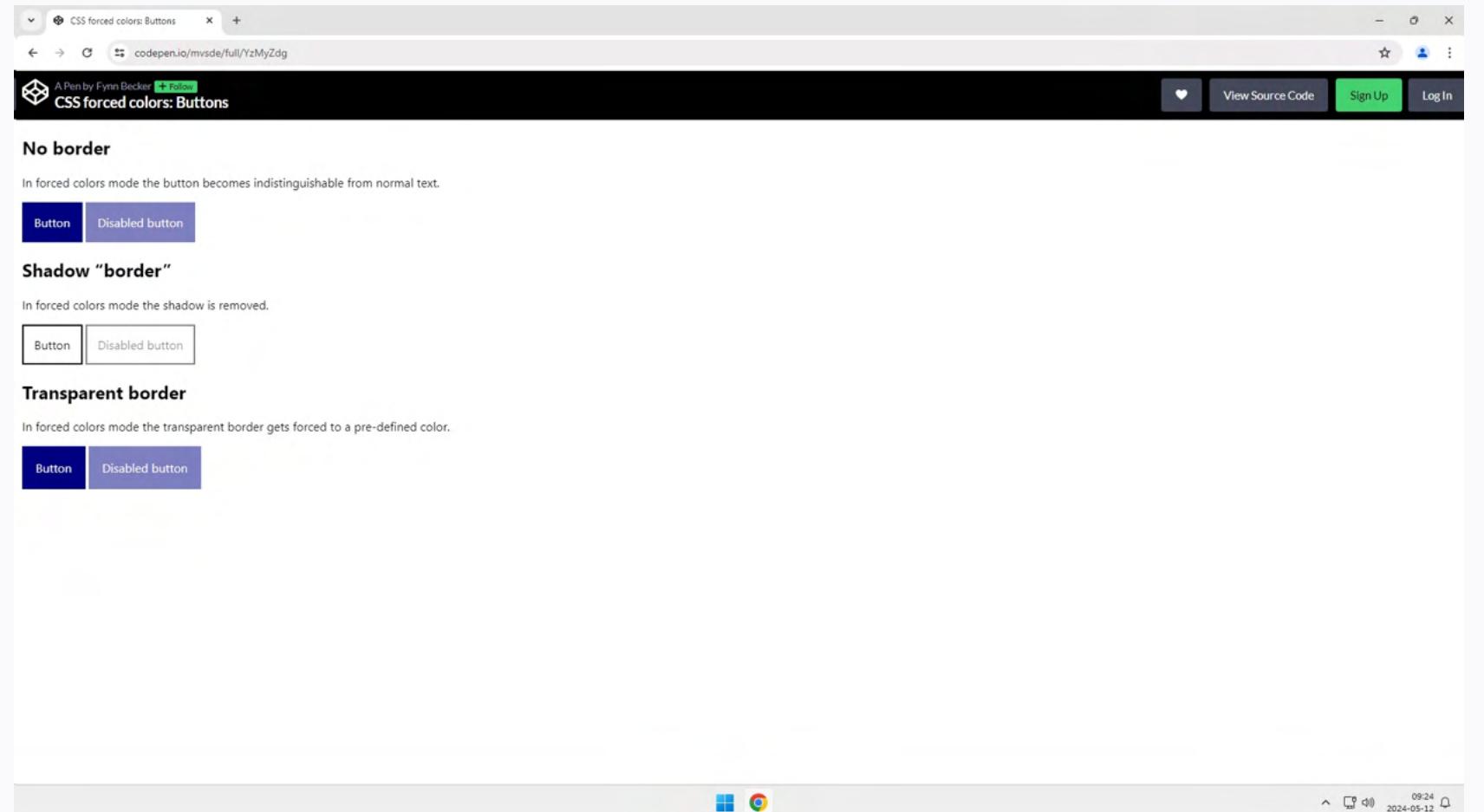
Standard theme

codepen.io/mvsde/pen/YzMyBjP



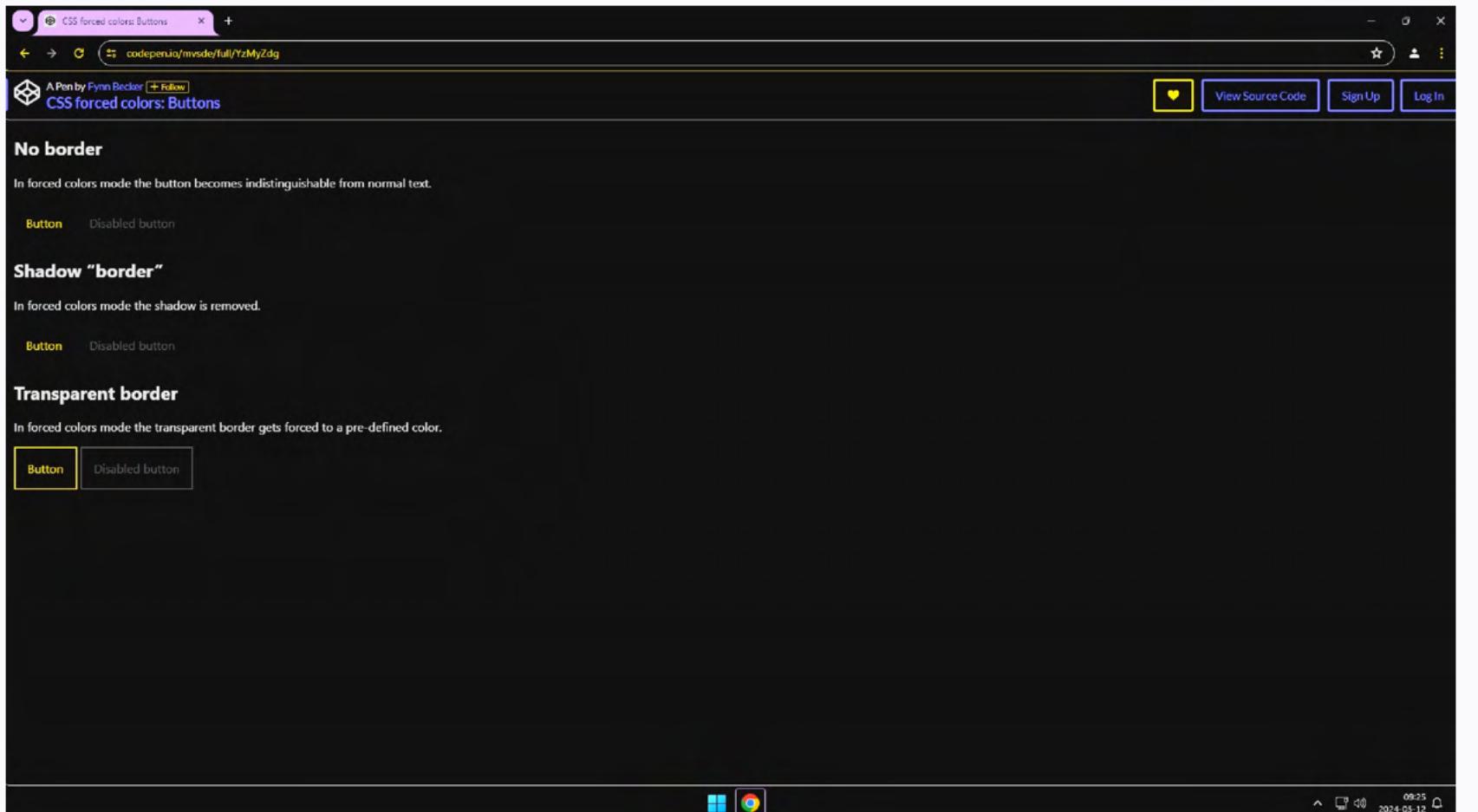
Contrast theme

Buttons



Standard theme

codepen.io/mvsde/pen/YzMyZdg



Contrast theme

Testing contrast themes without Windows

The screenshot shows a browser window displaying the 'Contact GOV.UK' page at <https://www.gov.uk/contact/govuk>. The page has a dark background with white text. The 'Rendering' tab of the DevTools panel is selected, showing various CSS media feature emulation options. Two specific options are highlighted with red boxes:

- Emulate CSS media feature prefers-color-scheme**: Forces CSS prefers-color-scheme media feature. The dropdown menu shows 'prefers-color-scheme: dark'.
- Emulate CSS media feature forced-colors**: Forces CSS forced-colors media feature. The dropdown menu shows 'forced-colors: active'.

The rest of the DevTools panel shows other emulation options like 'Emulate CSS media type', 'Emulate CSS media feature prefers-contrast', etc., each with a 'No emulation' dropdown.

Emulated contrast theme in Chrome DevTools

The screenshot shows the Microsoft Edge Settings interface with the following details:

- Left sidebar:** A dark-themed sidebar with a search bar and a list of settings categories. The "Accessibility" category is highlighted with a blue background.
- Main content area:** The "Make Microsoft Edge easier to see" section is visible.
 - A toggle switch for "Show a high visibility outline around the area of focus on the page" is turned on.
 - A dropdown menu for "Page zoom" is set to 100%.
 - Page colors:** This section is highlighted with an orange border. It includes:
 - A dropdown menu showing options: Black (selected), Off, Dusk, Desert, Black (highlighted in cyan), and White.
 - A checkbox for "Only apply page colors when high contrast is on".
 - A "Specify sites" section with a link to "List of sites that are excluded from page colors".
 - Make Microsoft Edge easier to use:** This section contains several toggle switches:
 - "Get image descriptions from Microsoft for screen readers"
 - "Ask before closing a window with multiple tabs"
 - "Show mini menu when selecting text"
 - "Show downloads menu when a download starts" (this setting is turned on)
 - "Learn about accessibility features in Microsoft Edge"
 - Keyboard:** This section contains a toggle switch for "Navigate pages with a text cursor". A note below it says: "To turn on or off caret browsing, press F7." followed by a "Learn more" link.

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

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Factorial

🌐 factorial.io

🐘 @factorial_io@social.factorial.io

⌚ factorial.io

Slides

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

