A11y
It is not a bug, definitely a feature

Who is ~~Loana~~ Ioana Chiorean?

I am a PM (former QA TL) & CL

Mozillian for more than 9 years now

I volunteer - Mozilla & EU Code Week.

I worked on devices for more than 10y.

Twitter @ioana_cis

lifeofamozillian

"All people over the course of their lives traffic between times of relative independence and dependence"

Sarah Hendren

1 billion

some form of disability (15%), 200 million very significant

ioana 👱‍♀️🦊✨
@ioana_cis

Hey @esconfs I guess no one tested the accessibility of the page, right?

PRICING	€865	€1850	€2030	€2030	€2310
MON	✓		✓		✓
TUE (AM)	✓		✓	✓	✓
TUE (PM)	✓	✓	✓	✓	✓

“It’s possible to fly without motors, but not without knowledge and skill.”

Wilbur Wright

What?

- ➔ Vision Disability - Complete Blindness or Color Blindness or Poor Vision ; Visual problems like visual strobe and flashing effect problems

What?

- ➔ Vision Disability - Complete Blindness or Color Blindness or Poor Vision ; Visual problems like visual strobe and flashing effect problems
- ➔ Physical Disability - Not able to use the mouse or keyboard with one hand; Poor motor skills like hand movements and muscle slowness

What?

- ➔ Vision Disability - Complete Blindness or Color Blindness or Poor Vision ; Visual problems like visual strobe and flashing effect problems
- ➔ Physical Disability - Not able to use the mouse or keyboard with one hand; Poor motor skills like hand movements and muscle slowness
- ➔ Cognitive disability - Learning Difficulties or Poor Memory or not able to understand more complex scenarios

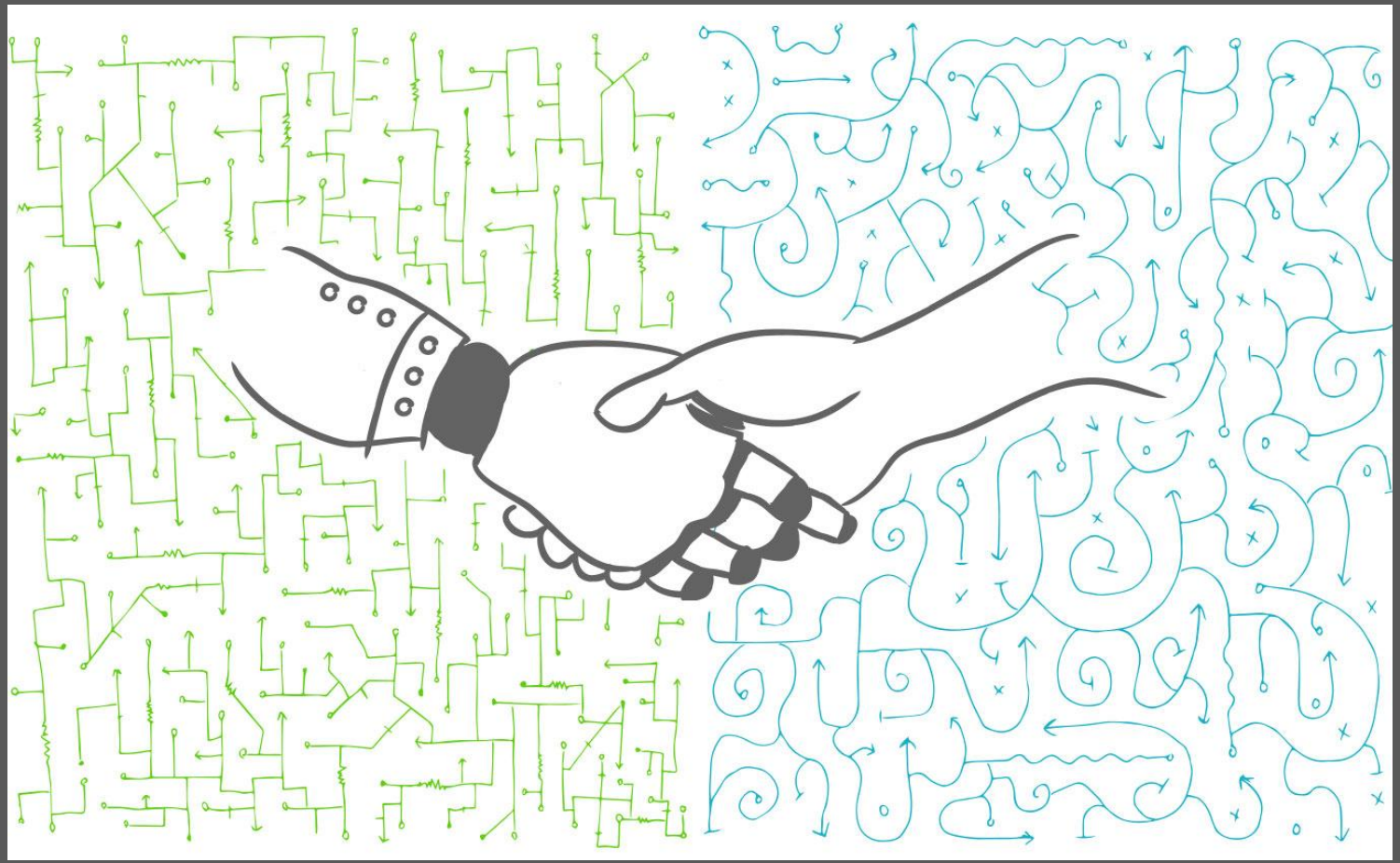
What?

- ➔ Vision Disability - Complete Blindness or Color Blindness or Poor Vision ; Visual problems like visual strobe and flashing effect problems
- ➔ Physical Disability - Not able to use the mouse or keyboard with one hand; Poor motor skills like hand movements and muscle slowness
- ➔ Cognitive disability - Learning Difficulties or Poor Memory or not able to understand more complex scenarios
- ➔ Literacy Disability - Reading Problems

What?

- ➔ Vision Disability - Complete Blindness or Color Blindness or Poor Vision ; Visual problems like visual strobe and flashing effect problems
- ➔ Physical Disability - Not able to use the mouse or keyboard with one hand; Poor motor skills like hand movements and muscle slowness
- ➔ Cognitive disability - Learning Difficulties or Poor Memory or not able to understand more complex scenarios
- ➔ Literacy Disability - Reading Problems
- ➔ Hearing Disability - Auditory problems like deafness and hearing impairments; Cannot able to hear or not able to hear clearly

The web is for all people



Why..

➔ People ❤️

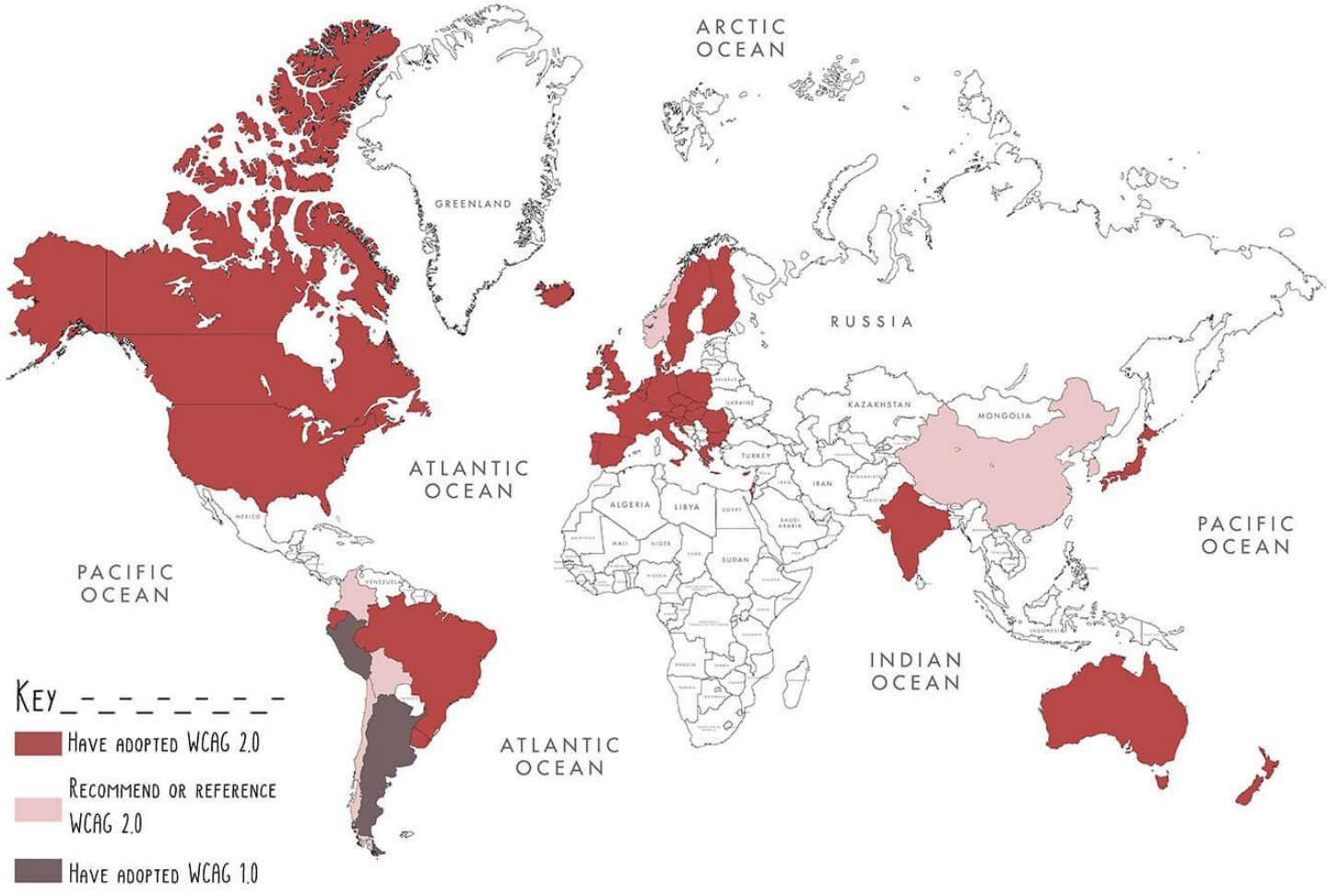
The reality is that accessibility, whether online or in the real world, helps a wide variety of people

(wheelchair ramps.sidewalks)

Nicolas Steenhout

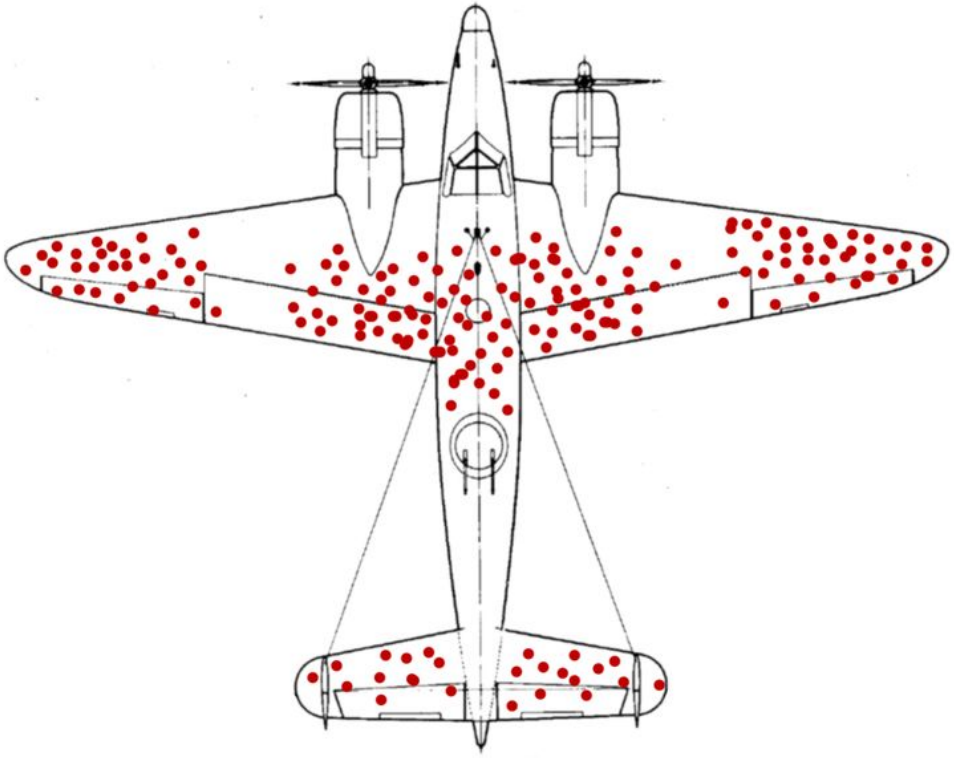
Why..

- ➔ People ❤️
- ➔ Regulations - minimize legal risk


ARCTIC OCEAN
GREENLAND
RUSSIA
ATLANTIC OCEAN
PACIFIC OCEAN
PACIFIC OCEAN
INDIAN OCEAN
ATLANTIC OCEAN
KAZAKHSTAN
MONGOLIA
TURKEY
IRAN
ALGERIA
LIBYA
SUDAN
Key
Have adopted WCAG 2.0
Recommend or reference WCAG 2.0
Have adopted WCAG 1.0

Why..

- ➔ People ❤️
- ➔ Regulations - minimize legal risk
- ➔ Users - data sets
  - ◆ You do have them, trust me
  - ◆ New ones



Survivorship bias

Why..

- ➔ People ❤️
- ➔ Regulations - minimize legal risk
- ➔ Users - data sets
  - ◆ You do have them, trust me
  - ◆ New ones
- ➔ No ROI / No money, honey
  - ◆ Enhance your brand

Why..

- People ❤️
- Regulations - minimize legal risk
- Users - data sets
  - You do have them, trust me
  - New ones
- No ROI / No money, honey
- Enhance your brand
- Doing favors vs doing your job
  - Drive innovation / improve practices

Accessibility audits

“It is really like any other thing you learn. It takes time till you add it first and then you just add it everywhere”

Stefan Judis

How

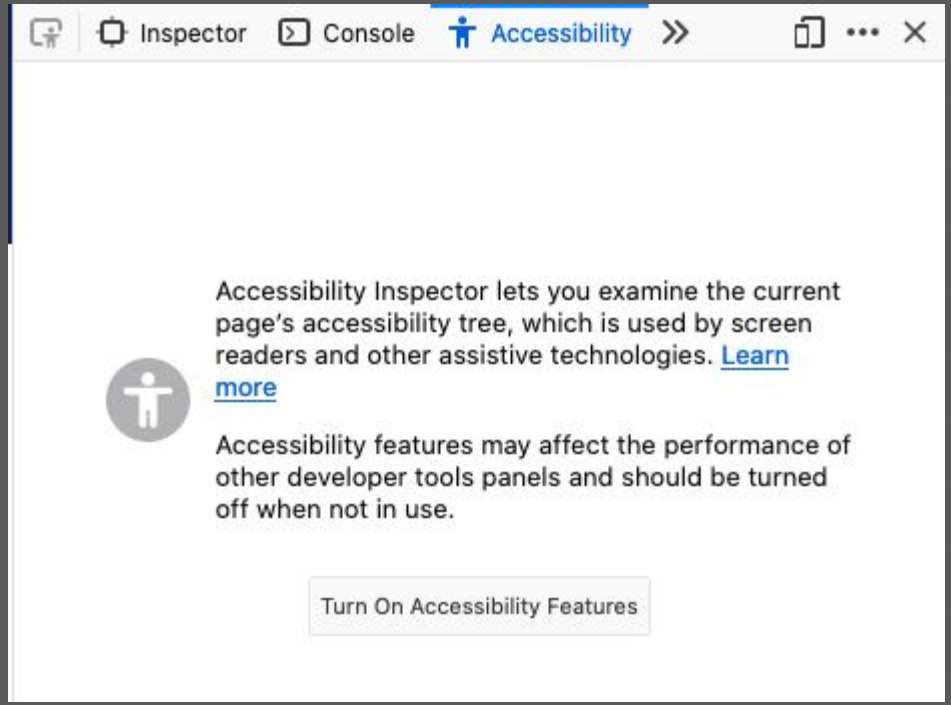
- DevTools Audits
- Color Contrast
- Patterns & Colors
- Typography - Comics Sans
- Animations
- Semantic - elements in order/a11y tree/ Page structure/ Menu nav & list
- Alt input - links, images, etc

DevTools Audits

- Not bounded to any framework
- ARIA tree inspector - Mozilla a11y team colaboration
- Run a simulation

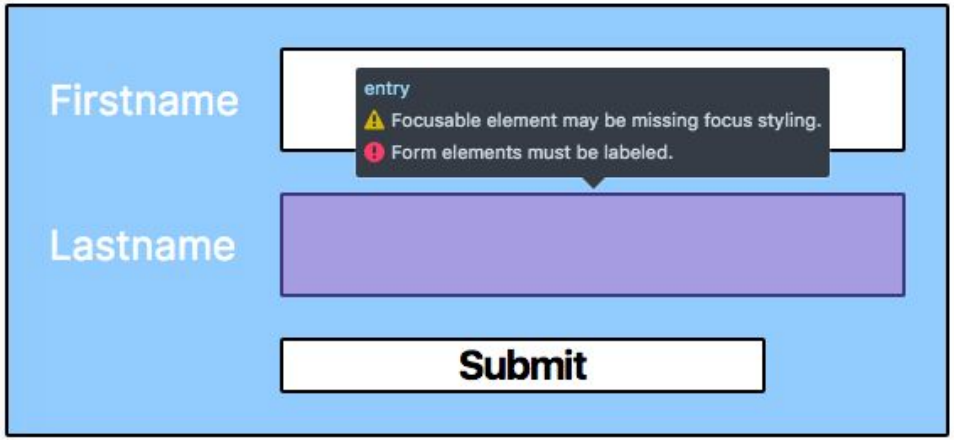
- http://firefox-devtools-tour.glitch.me/20190915/new/#a11y
- http://firefox-devtools-tour.glitch.me/20190915/soon/#color-blindness
- https://developer.mozilla.org/en-US/docs/Web/Accessibility/Understanding_WCAG/Keyboard
- https://hacks.mozilla.org/2019/10/auditing-for-accessibility-problems-with-firefox-developer-tools/

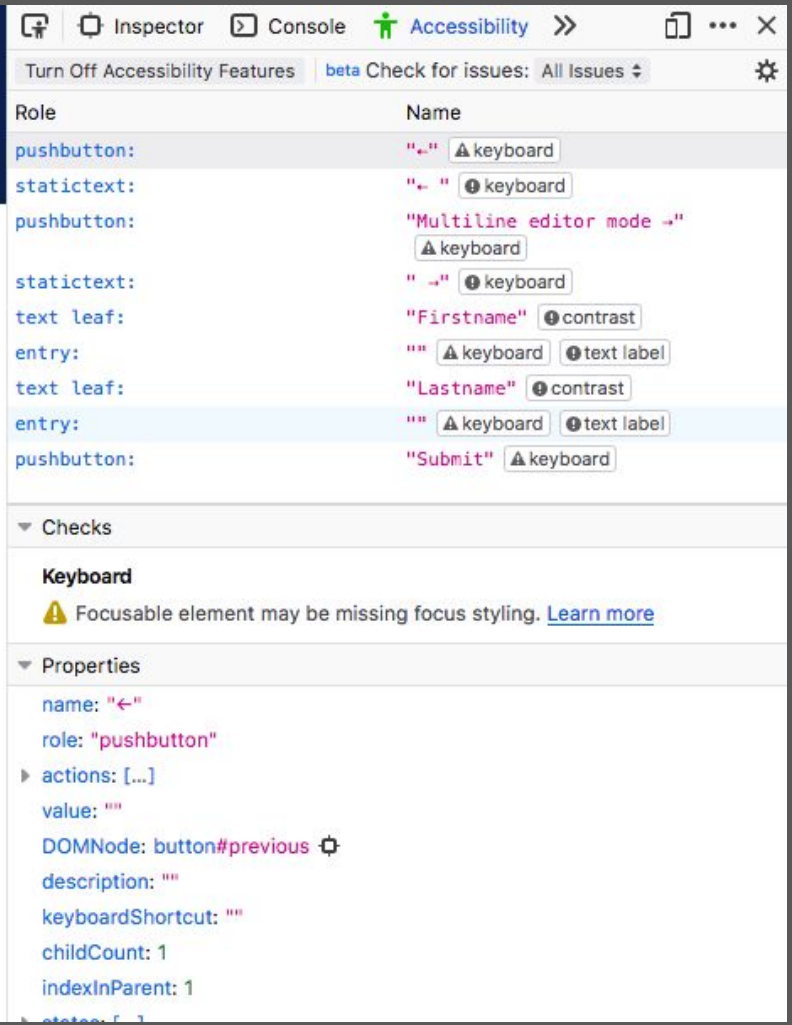
F12
THERE.. MAGIC

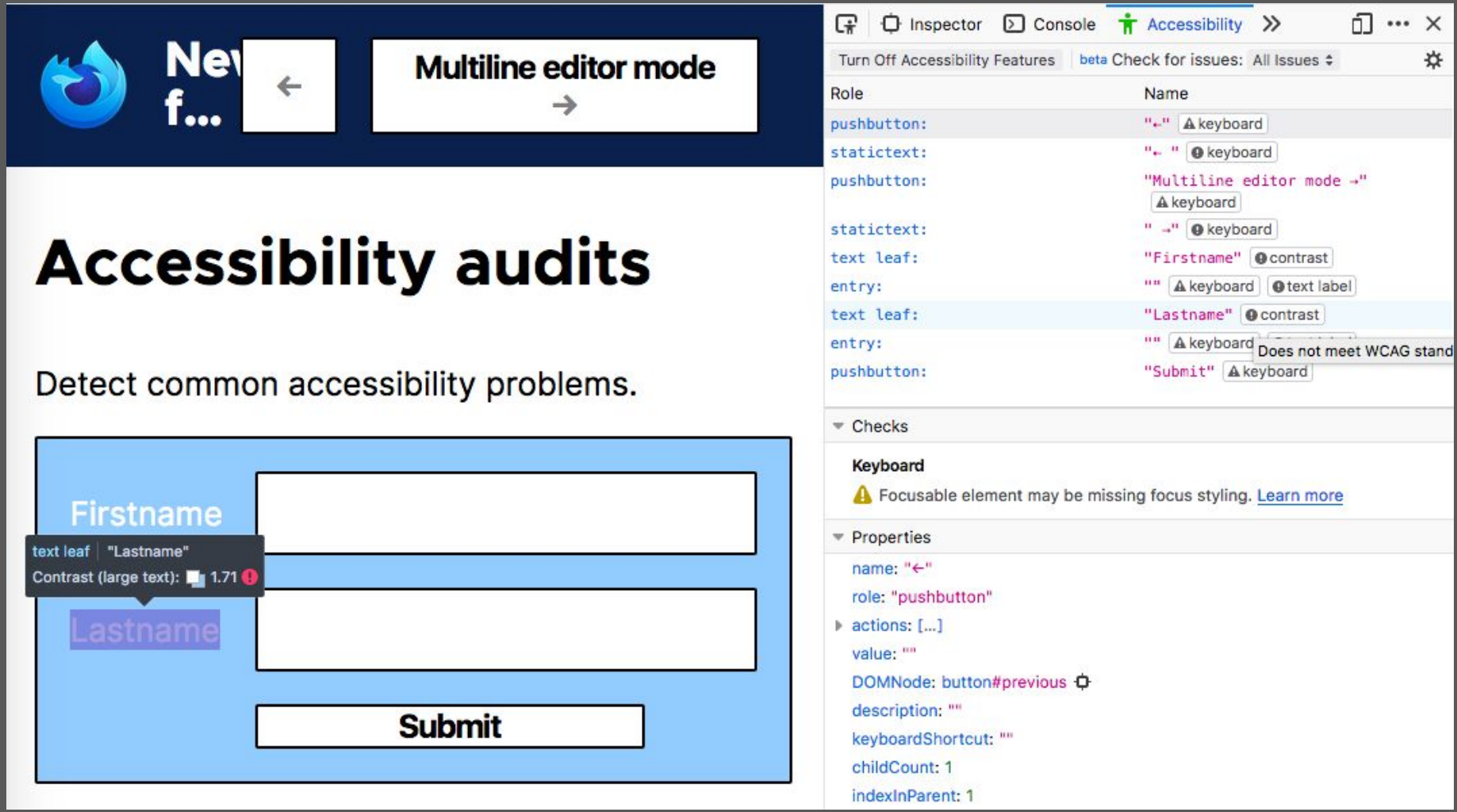

Inspector
Console
Accessibility
Accessibility Inspector lets you examine the current page's accessibility tree, which is used by screen readers and other assistive technologies. Learn more
Accessibility features may affect the performance of other developer tools panels and should be turned off when not in use.
Turn On Accessibility Features

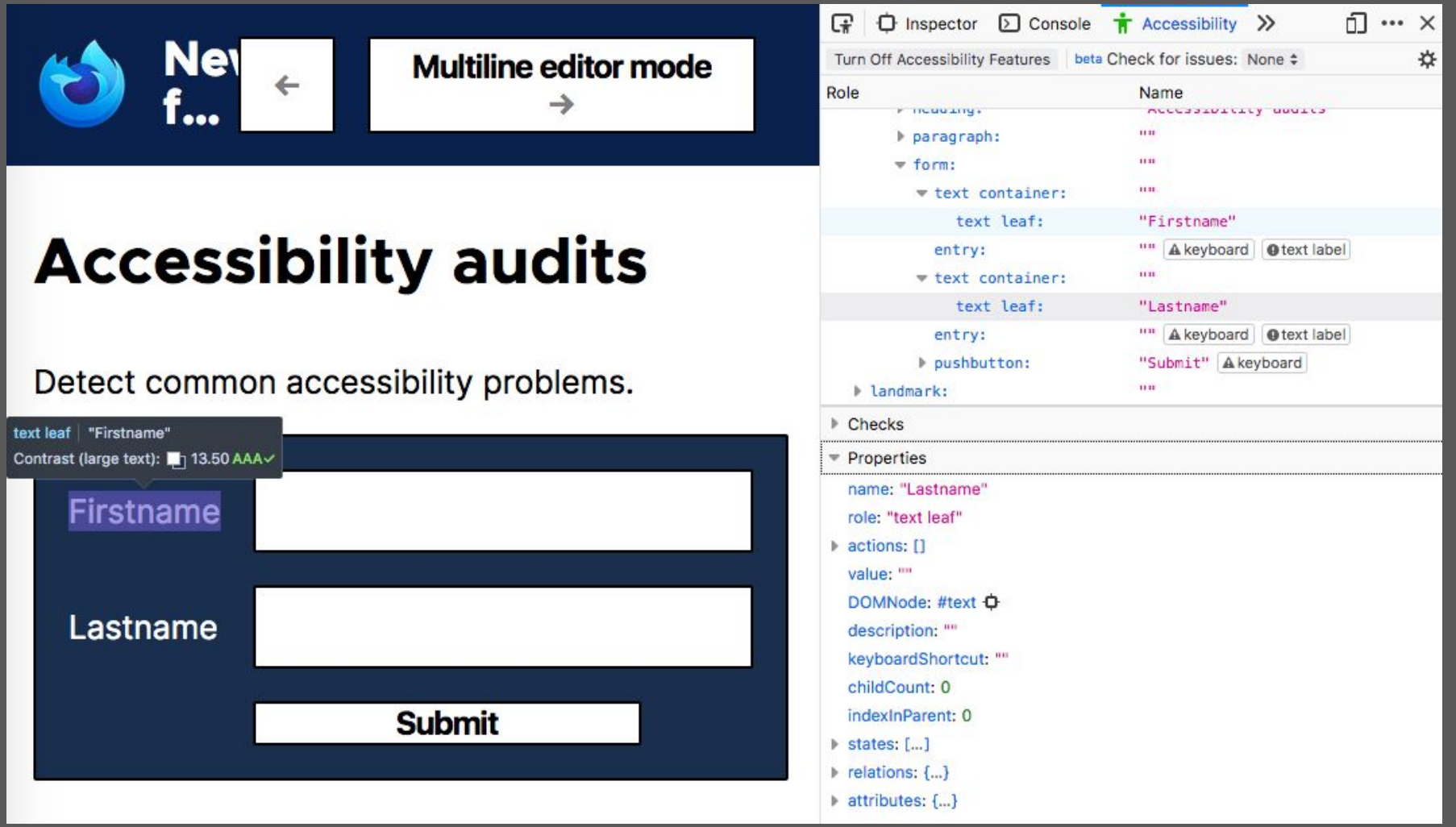
Accessibility audits

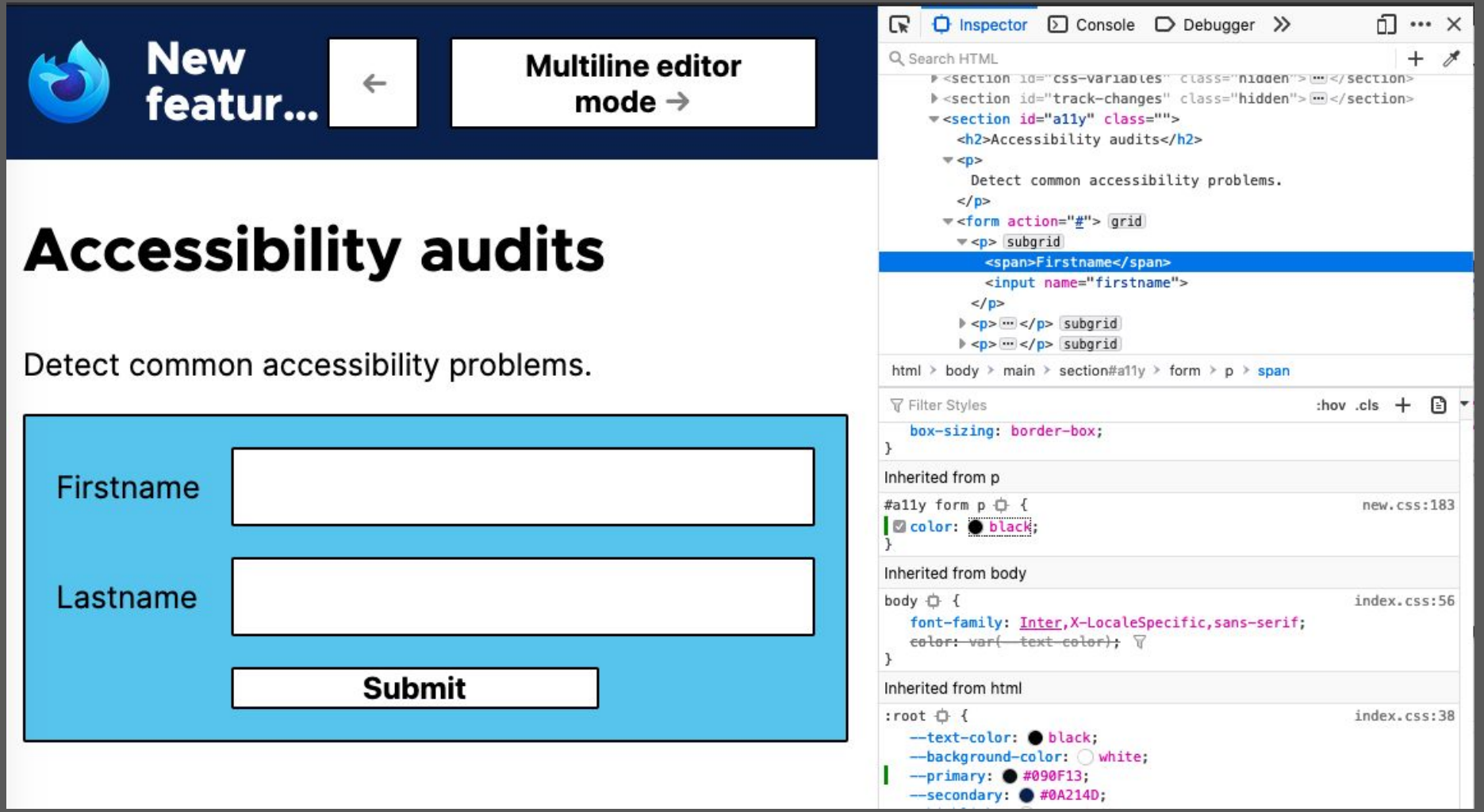
Detect common accessibility problems.






Multiline editor mode
Accessibility audits
Detect common accessibility problems.
Firstname
text leaf "Lastname"
Contrast (large text): 1.71
Lastname
Submit
Inspector
Console
Accessibility
Turn Off Accessibility Features
beta Check for issues: All Issues
Role
Name
pushbutton: "←" keyboard
statictext: "← " keyboard
pushbutton: "Multiline editor mode →" keyboard
statictext: " →" keyboard
text leaf: "Firstname" contrast
entry: "" keyboard text label
text leaf: "Lastname" contrast
entry: "" keyboard
Does not meet WCAG stand
pushbutton: "Submit" keyboard
Checks
Keyboard
Focusable element may be missing focus styling. Learn more
Properties
name: "←"
role: "pushbutton"
actions: [...]
value: ""
DOMNode: button#previous
description: ""
keyboardShortcut: ""
childCount: 1
indexInParent: 1


Multiline editor mode
Accessibility audits
Detect common accessibility problems.
text leaf "Firstname"
Contrast (large text): 13.50 AAA
Firstname
Lastname
Submit
Inspector
Console
Accessibility
Turn Off Accessibility Features
beta Check for issues: None
Role
Name
paragraph: ""
form: ""
text container: ""
text leaf: "Firstname"
entry: "" keyboard text label
text container: ""
text leaf: "Lastname"
entry: "" keyboard text label
pushbutton: "Submit" keyboard
landmark: ""
Checks
Properties
name: "Lastname"
role: "text leaf"
actions: []
value: ""
DOMNode: #text
description: ""
keyboardShortcut: ""
childCount: 0
indexInParent: 0
states: [...]
relations: {...}
attributes: {...}


New featur...
Multiline editor mode →
Accessibility audits
Detect common accessibility problems.
Firstname
Lastname
Submit
Inspector
Console
Debugger
Search HTML
<section id="a11y" class="">
<h2>Accessibility audits</h2>

Detect common accessibility problems.

<form action="#"> grid
 subgrid
Firstname
<input name="firstname">

  subgrid
  subgrid
html > body > main > section#a11y > form > p > span
Filter Styles
:hov .cls
box-sizing: border-box;
}
Inherited from p
#a11y form p {
color: black;
}
new.css:183
Inherited from body
body {
font-family: Inter,X-LocaleSpecific,sans-serif;
color: var(--text-color);
}
index.css:56
Inherited from html
:root {
--text-color: black;
--background-color: white;
--primary: #090F13;
--secondary: #0A214D;
index.css:38

Coming soon
←
Firefox Profiler →
Color blindness simulation
🔥 In the Accessibility panel pick a simulation
🦊 Contrast ratios are also calculated based on the simulated values
🛠️ This is fine? This is fine? This is fine?
🔥 Requires WebRender! Which also allows it to be used against the whole browser window
Inspector
Console
Accessibility
Turn Off Accessibility Features
beta Check for issues: Keyboard
Role
Name
pushbutton: "←" keyboard
statictext: "← " keyboard
pushbutton: "Firefox Profiler →" keyboard
statictext: " →" keyboard
pushbutton: "This is fine?" keyboard
pushbutton: "This is fine?" keyboard
pushbutton: "This is fine?" keyboard
Checks
Color and Contrast
3.98 AA✓ large text
Meets WCAG AA standards for accessible text. Learn more
Keyboard
Clickable elements must be focusable and should have interactive semantics. Learn more
Properties
name: " →"
role: "statictext"
actions: [...]
value: ""
DOMNode: ::after
description: ""

Tools

- Close your eyes and try to navigate
- DevTools
  - Color Checks /Typograpgy
- JAWS, Orca, Voice Over.
- Lighthouse
- Wave
- Tota11y
- Webhint.io
- My example:
  - 3 different OS + mobile => 4
  - 2 browsers + mobile => 3
  - Different Machines / Monitors

Recommandations

- Stefan Judis' blog on Accessibility Resources
- Firefox Developer Tools Page for Community & Documentation

- FOSDEM talks :
  - Make it accessible - *Tips and tricks for create a good accessible frontend* Gabriele Falasca
  - *12:15* - Discover the New Firefox Profiler Nazım Can Altınova

Don’t be the sheep!
Be the ~~wolf~~ fox!

Photo credit.

“Information should not be a priviledge”

Una Kravets

@ioana_cis

ioana@mozilla.com

http://bit.ly/a11yFOSDEM

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

Tim Berners-Lee,
W3C Director and inventor
of the World Wide Web