Web Accessibility

What will we talk about ?

- What is Web Accessibility ?
- Who is Web Accessibility intended for ?
- How can we improve accessibility ?
- What are references for accessibility ?
- How can we verify that our website is accessible ?

What is web accessibility ?

"*Web accessibility is the inclusive practice of* ***ensuring there are no barriers that prevent interaction with, or access to, websites*** *on the World Wide Web by people with* ***physical disabilities***, ***situational disabilities***, *and* ***socio-economic restrictions*** *on bandwidth and speed.*"

(Wikipedia)

Who is Web Accessibility intended for ?

People with disabilities :

- Visual
- Auditive
- Motor
- Cognitive
- Seizures

People with socio-economic restriction :

- Low internet
- Limited hardware

Visual disabilities

Different levels and types :

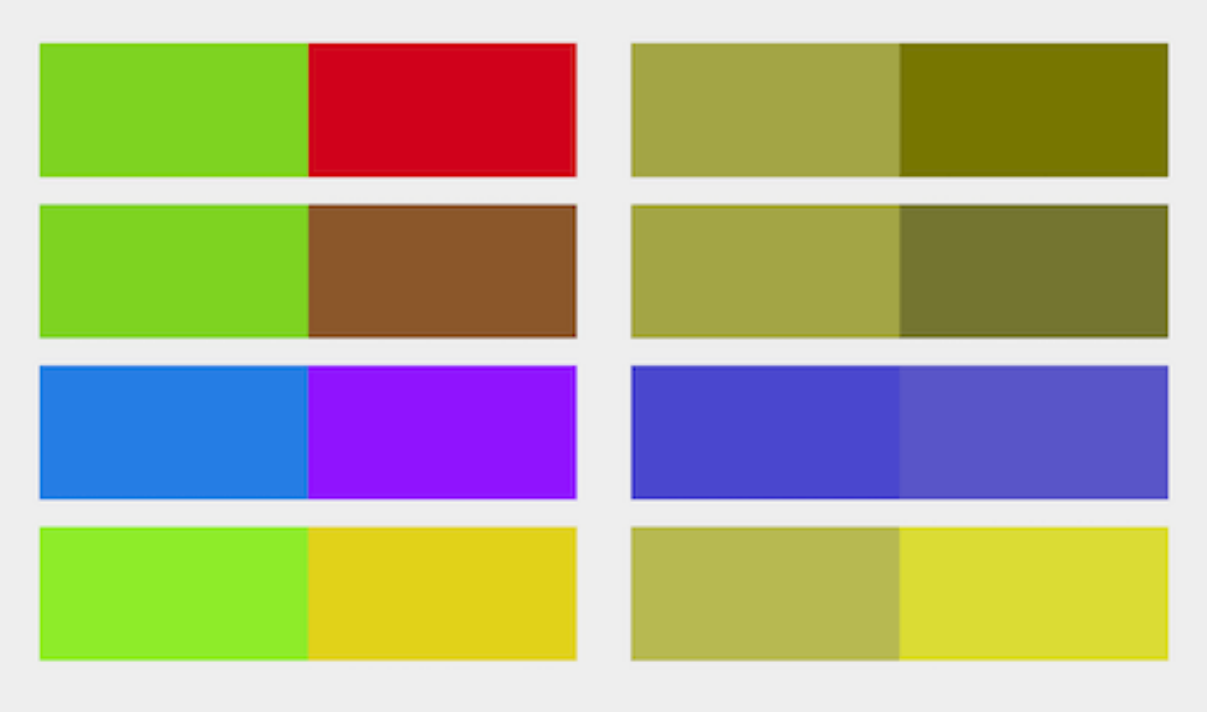
- **Daltonism**
  - ~4.5 % of the population
  - https://www.color-blindness.com/coblis-color-blindness-simulator/

- **Visual impairement/loss**
  - at least 1 billion people have a near or distance vision impairment

/!\ The context influences the ability to see (luminosity, screen,...)

Visual disabilities

Avoid some color combinations and flashing content



Visual disabilities

Make good use of contrast

14pt text passes

18pt text passes

14pt text fails

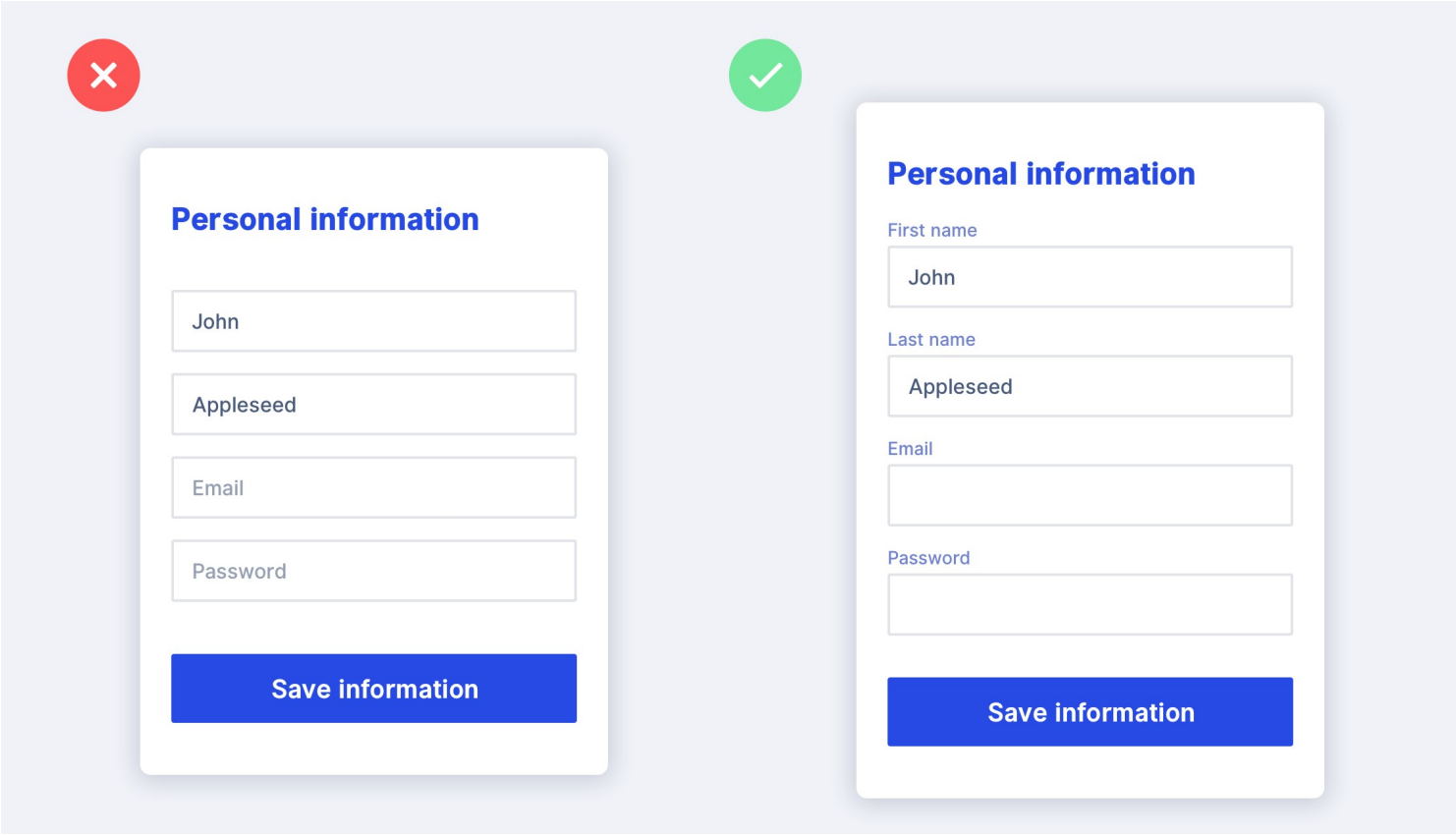
18pt text passes

14pt text fails

18pt text fails

Visual disabilities

Label your forms



Visual disabilities

Don't rely on colors only

GDS is approaching its fifth birthday. It's grown from a small organisation that delivered the prototype of GOV.UK in 12 weeks to one with responsibility for a number of transformation programmes, services, and standards. And it will continue to grow through the £450m investment government is making to help departments transform government.

Growth will always bring issues as organisations try to scale in a sustainable way, particularly when an organisation grows at the rate we have. Even without rapid growth, any large organisation will have issues and things it needs to improve. What's important is that running any organisation shouldn't be any different from building and running great public services. You always start with user needs, and then iterate, and iterate again.

You have added the item to your basket

Unable to add the item to your basket

Succes: You have added the item to your basket

Error: Unable to add the item to your basket

You have added the item to your basket

Unable to add the item to your basket

Visual disabilities

Don't disallow zoom and use relative sizing.

```css
html {
    font-size: 62.5%;
}

.box {
    height: 10rem;
}

.description {
    font-size: 1.6rem;
}
```

> Usage of `user-scalable=no` can cause accessibility issues to users with visual impairments such as low vision.

Auditive disabilities

From mild to completely deaf

- 466 million people worldwide
- It is estimated that by 2050 over 900 million people will have disabling hearing loss.

Solution : add some subtitles or a transcription

Motor disabilities

Different difficulties encountered on a computer :

- No/bad control of the mouse
- No/bad control of the keyboard
- Reduced reactivity
- Usage of a voice-activated software
- Usage of eye-tracking software
- Usage of "puff-and-sip" (PNS)

Motor disabilities

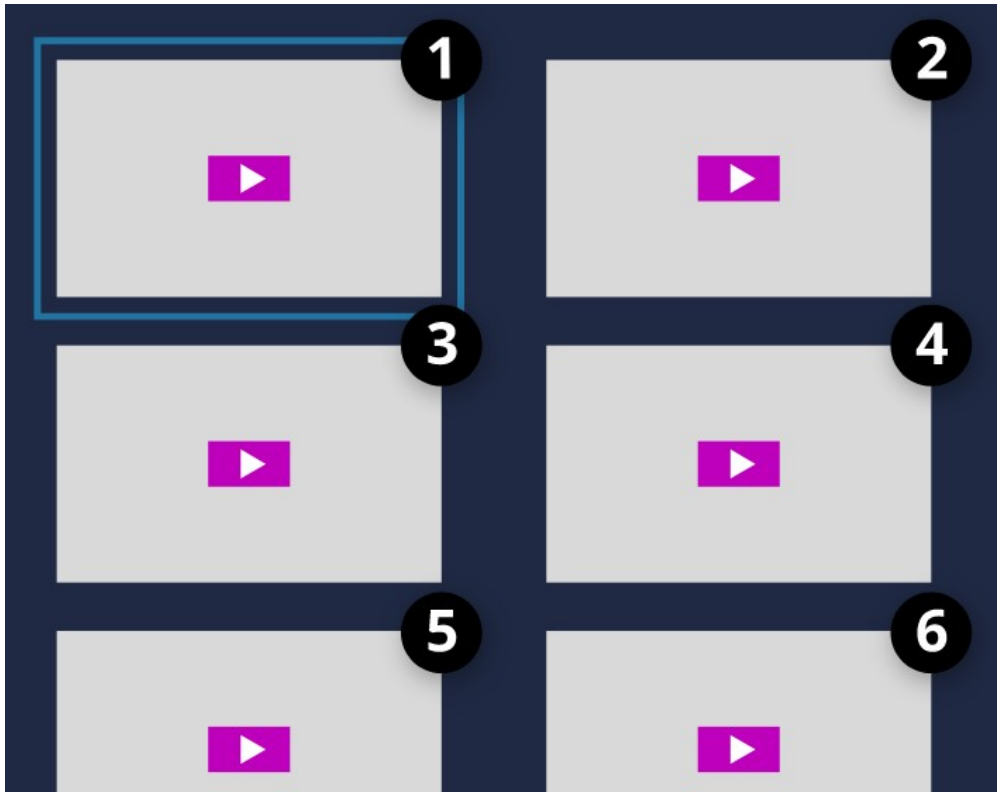
Allow error

Motor disabilities

Use appropriate HTML tags

Motor disabilities

Use the css "`focus`" property and avoid keyboard traps



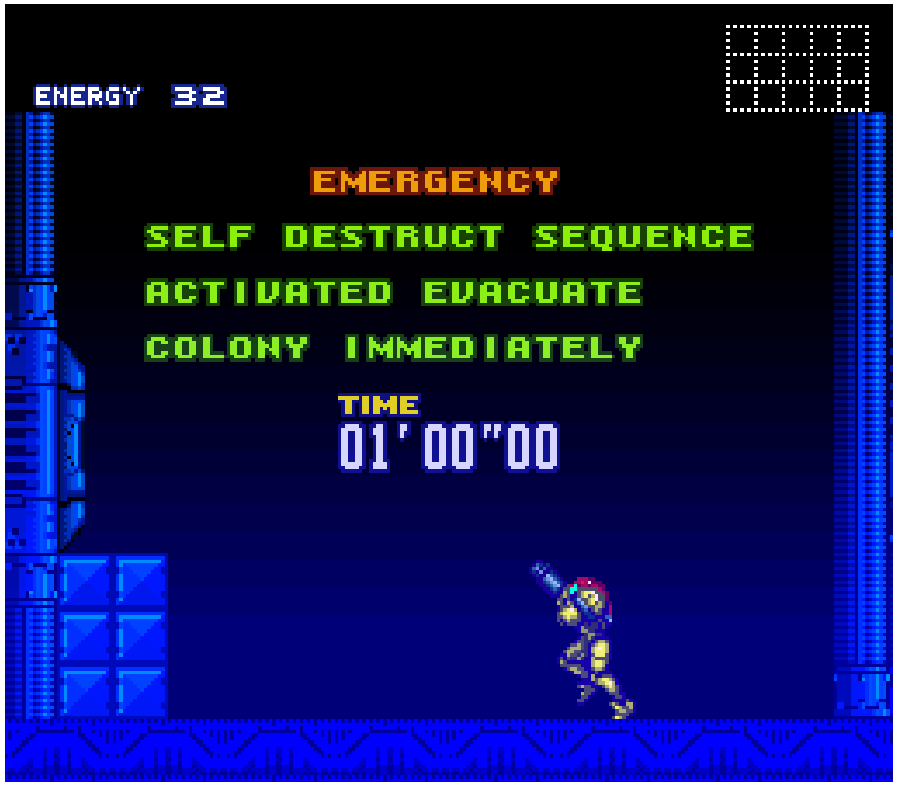
Cognitive disabilities

Three main categories :

- Focusing disabilities
- Memory disabilities
- Comprehension disabilities
  - Visual
  - Linguistical
  - Mathematical

Cognitive disabilities

Provide time



Cognitive disabilities

Simplify your content

Cognitive disabilities

Make the website react in a predictable way

Socio-economic restrictions

Hardware limitation :

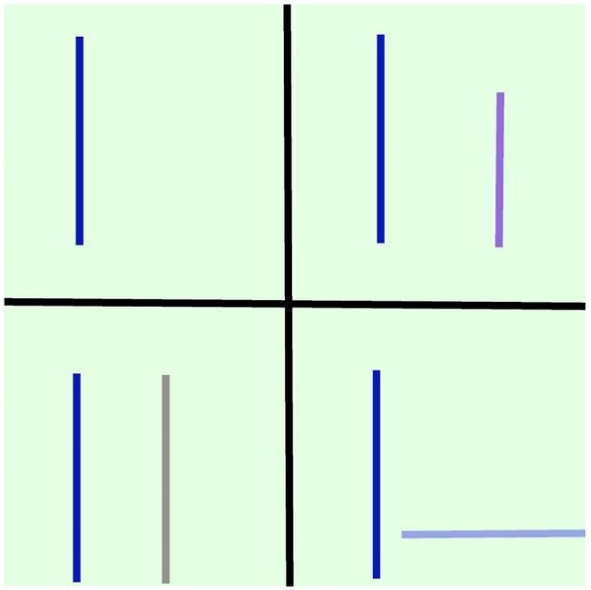
- Old computer
- Old smartphone model
- Bad internet connection (I cry every time)

Socio-economic restrictions

Go for mobile first in your responsive

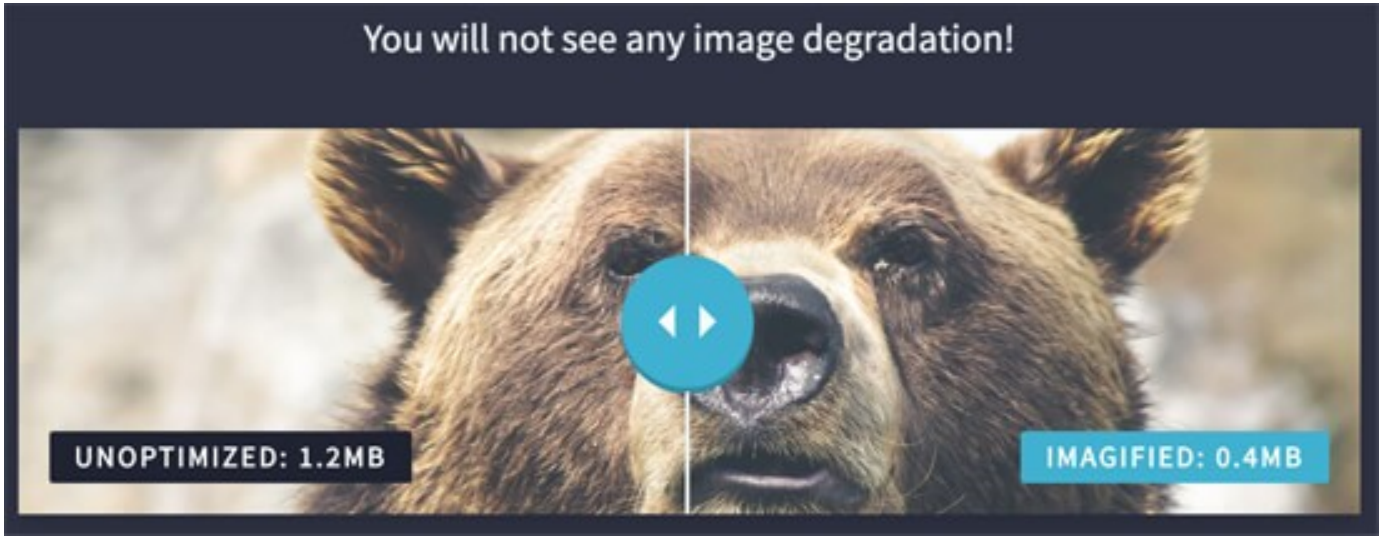
Socio-economic restrictions

Go minimalist / provide an alternative



Socio-economic restrictions

Prefer optimized file formats



What are references for accessibility ?

- **W3C's "WCAG 2.2"**
  - Web Content Accessibility Guidelines
  - https://www.w3.org/TR/WCAG22/
  - 4 levels of accessibility : perceivable, operable, understandable, robust
- **Anysurfer**
  - Label given to accessible sites
  - https://www.anysurfer.be/fr
  - Legal obligation on public organisations websites since 2016

What are references for accessibility ?

- **12 main recommandations of the WCAG**
  - Perceivable #1 : offer textual equivalent for non-text content.
  - Perceivable #2 : offer subtitles on audio or video medias.
  - Perceivable #3 : make your content adaptable : audio version of texts, operable font-size…
  - Perceivable #4 : use contrast to distinguish different contents.
  - Operable #1 : allow keyboard navigation and keyboard shortcuts.
  - Operable #2 : let the time for the user to read information.
  - Operable #3 : Avoid content susceptible to provoke seizures.
  - Operable #4 : help the user locating himself on your site and on your page (search bar, menu..).
  - Understandable #1 : make your text readable and understandable.
  - Understandable #2 : make your content appearing and behaving in a predictable way.
  - Understandable #3 : help the user to avoid and correct mistakes.
  - Robust #1 : optimise your site to make it compatible with modern and future technologies.

How can we verify that our website is accessible ?

https://wave.webaim.org/

Sources

- https://en.wikipedia.org/wiki/Web_accessibility
- https://www.lafabriquedunet.fr/creation-site-vitrine/articles/guide-accessibilite-site-web/
- https://www.smashingmagazine.com/2016/06/improving-ux-for-color-blind-users/
- https://developer.mozilla.org/en-US/docs/Web/HTML/Viewport_meta_tag
- https://www.who.int/news-room/fact-sheets/detail/blindness-and-visual-impairment
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- https://webaim.org/intro/
- https://www.csun.edu/universal-design-center/web-accessibility-criteria-keyboard-accessibility
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- https://www.w3.org/WAI/cognitive/
- https://cawab.be/Nouvelle-Directive-Europeenne-pour-l-accessibilite-des-sites-internet.html
- https://eur-lex.europa.eu/legal-content/FR/TXT/HTML/?uri=CELEX:32016L2102&from=EN
- https://www.smashstack.com/articles/life-in-the-slow-lane-web-designs-for-slow-internet-connections/

Thanks for your attention !

Now if you have any question, Logan, we can use Cerebro and try to reach the answer from anywhere in the world.

Go further :
https://www.youtube.com/playlist?list=PLc38fcMFcV_vvWOhMDriBlVocTZ8mKQzR