



Mundo **unicornio**

testing + accesibilidad



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i



?



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Coowner de happergy.es

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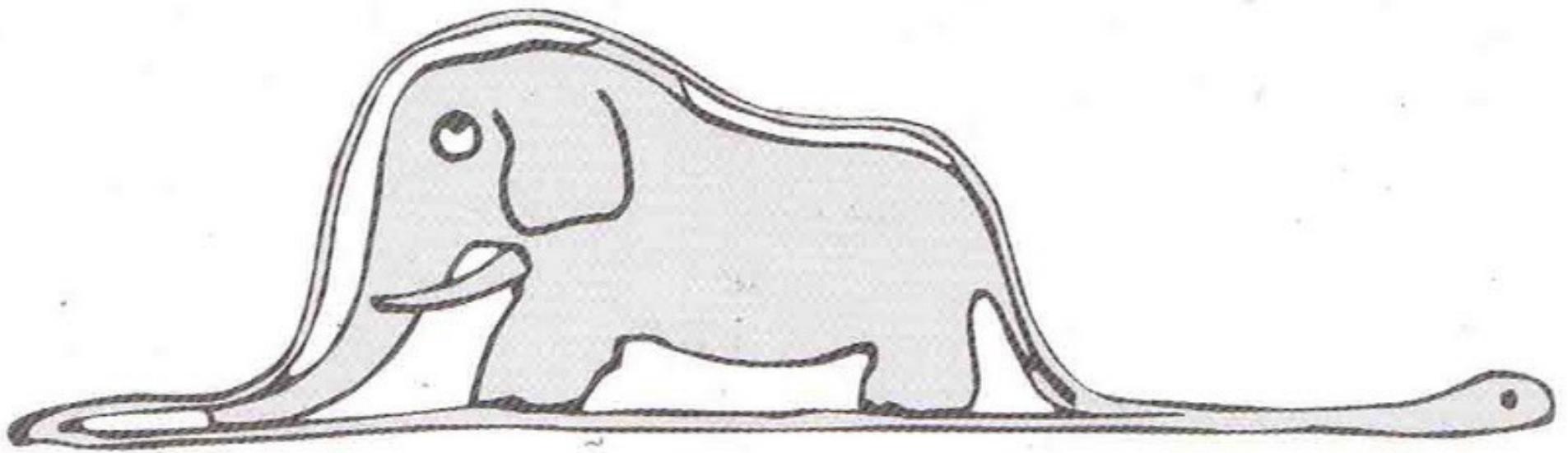
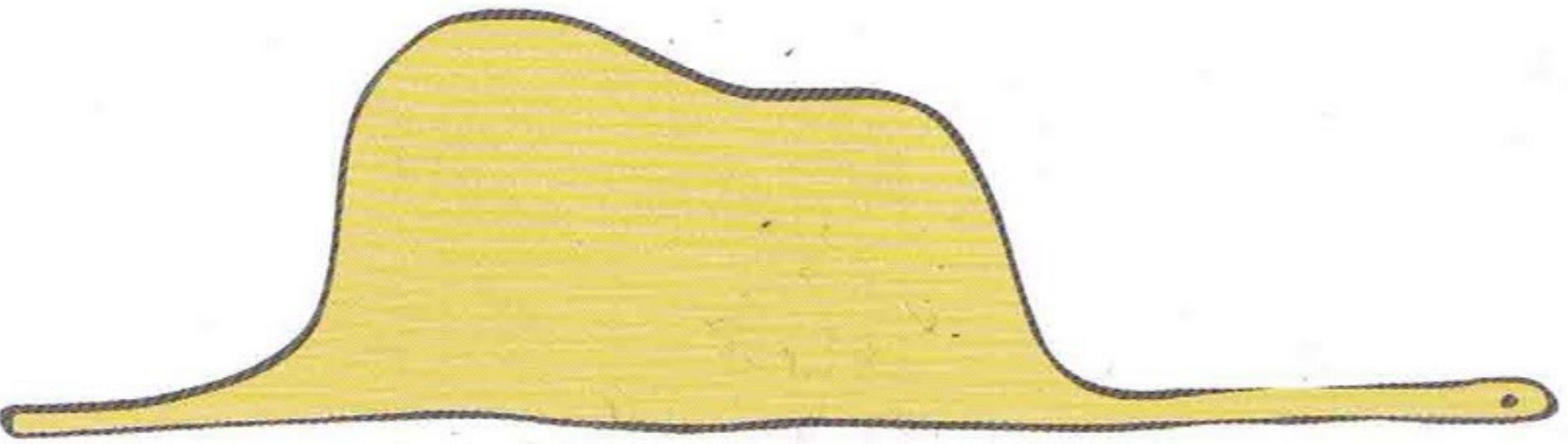
Disclaimer

- Ilustraciones:
 - Vera (6 años)
 - Bruno (4 años)
 - Antoine de Saint-Exupéry (124 años)
- Las opiniones son mías y solo mías.



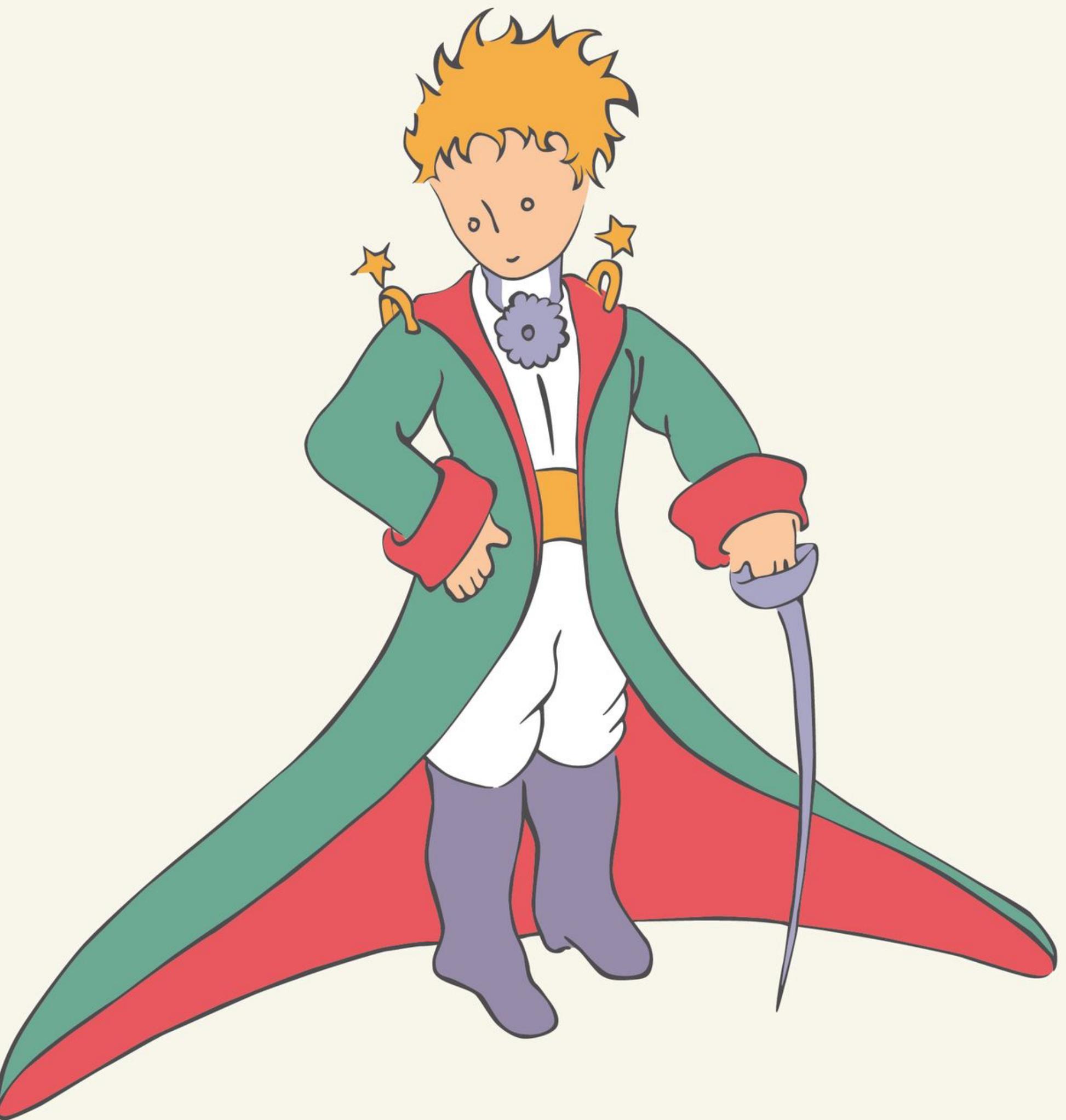
Cap. 0:

Accesibilidad

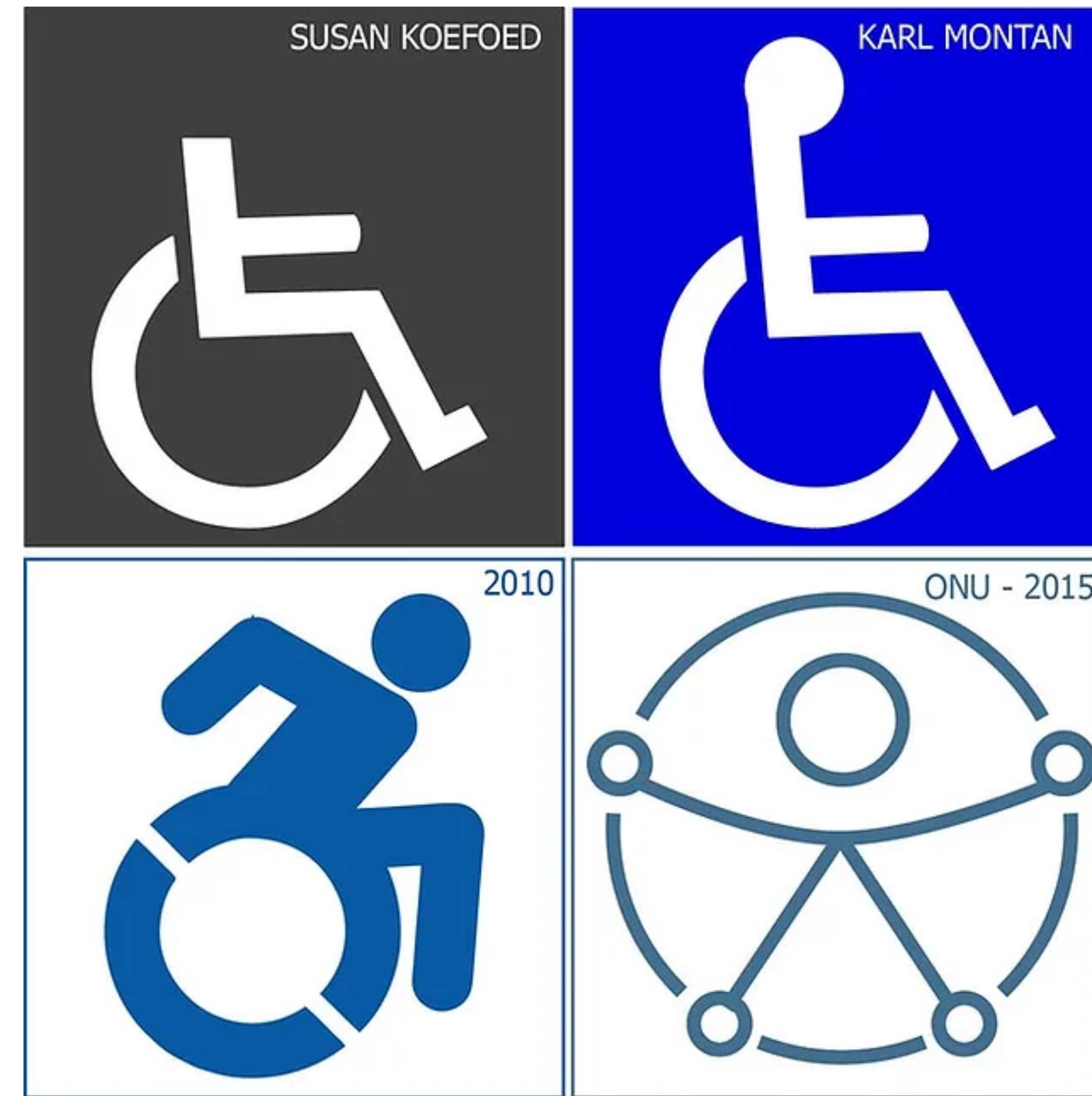


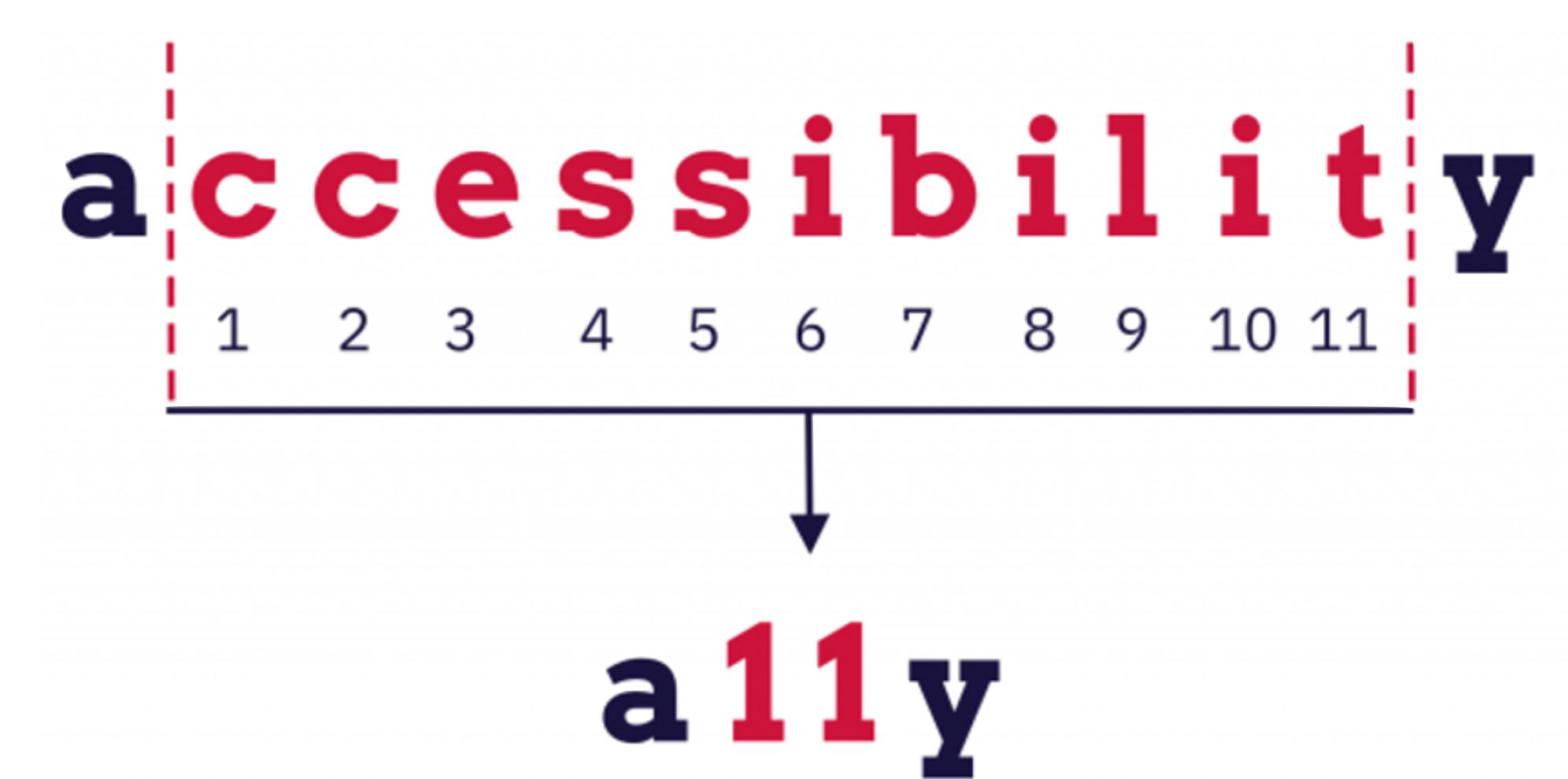
Cap. 1

El Experto



Logo





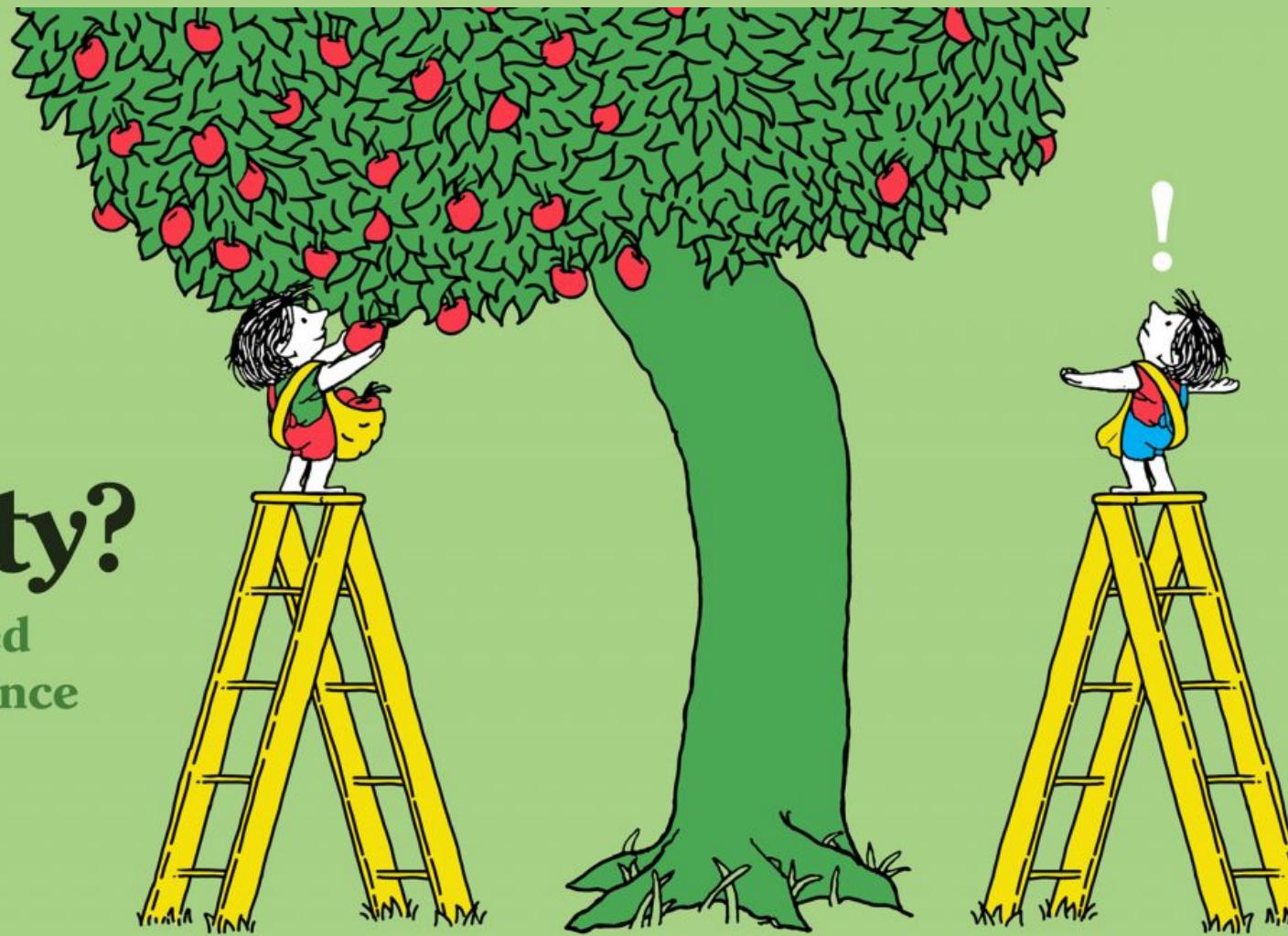
Inequality

Unequal access to opportunities



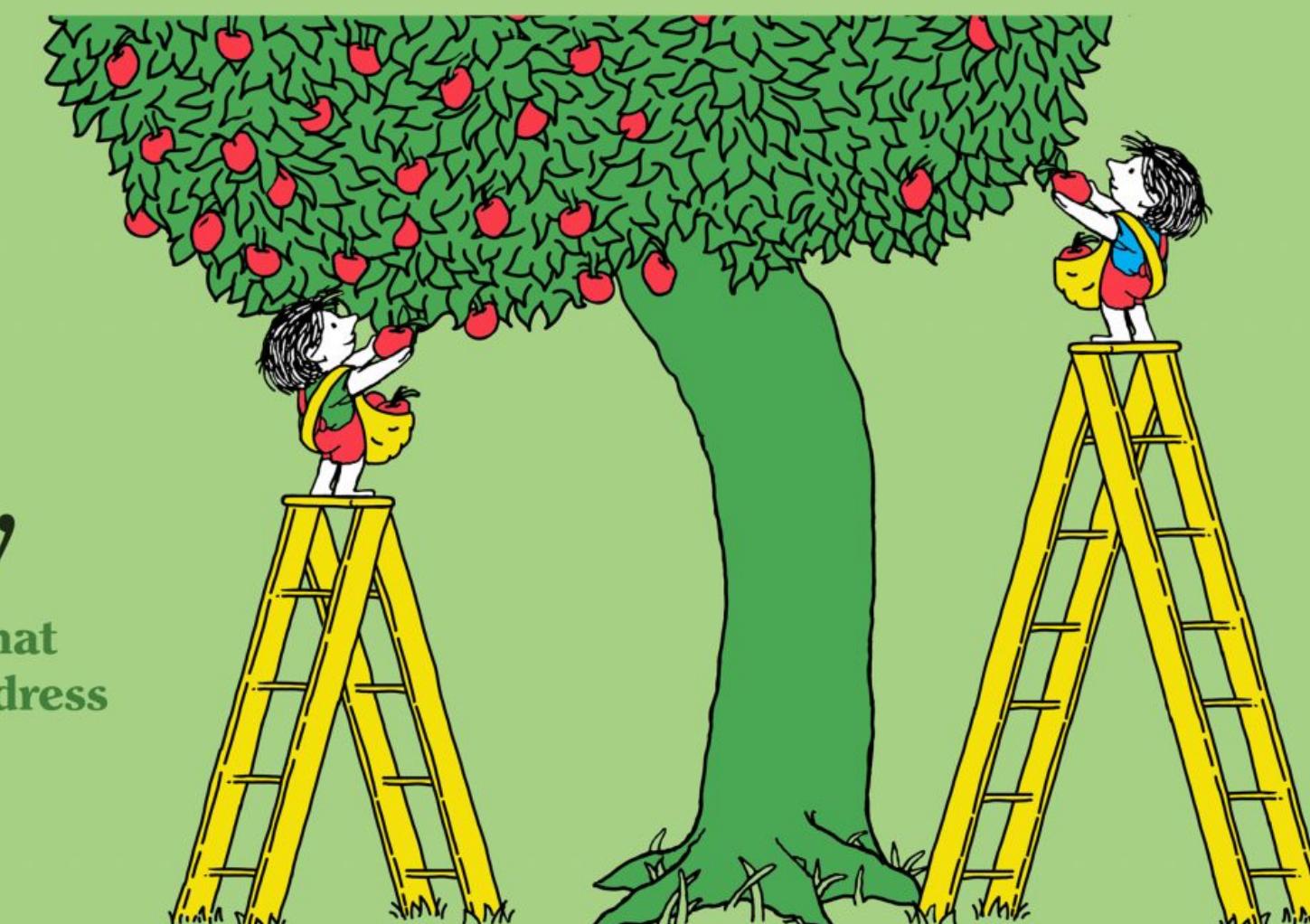
Equality?

Evenly distributed tools and assistance



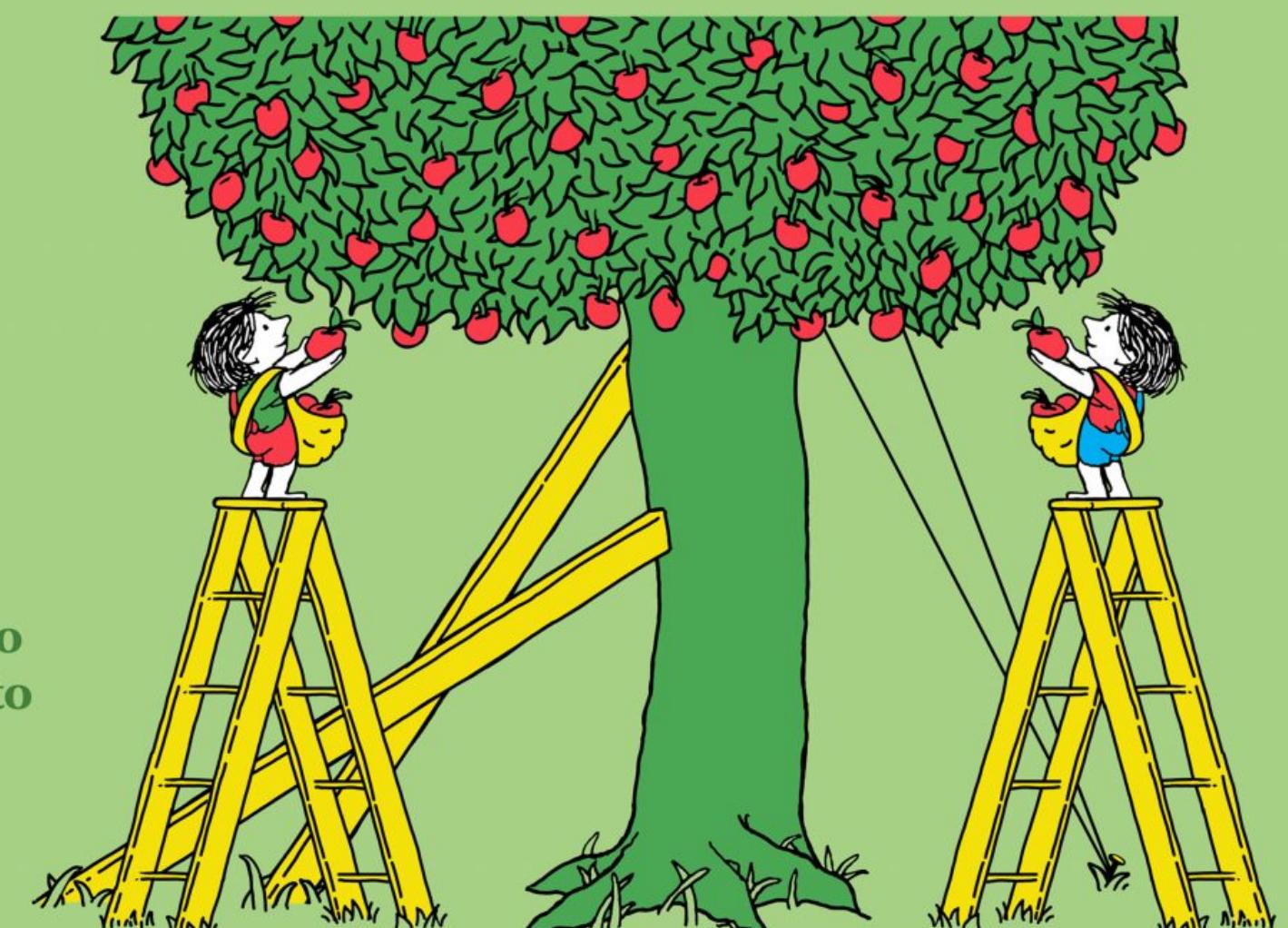
Equity

Custom tools that identify and address inequality



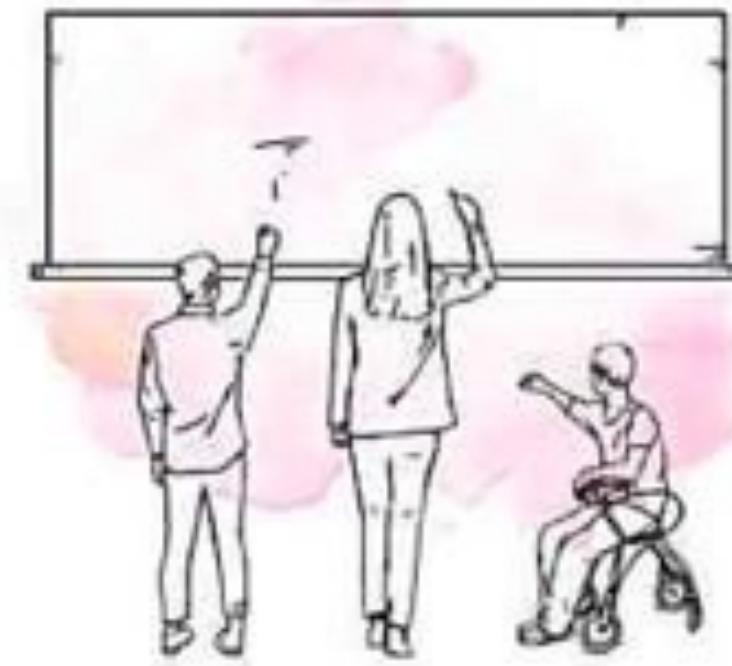
Justice

Fixing the system to offer equal access to both tools and opportunities

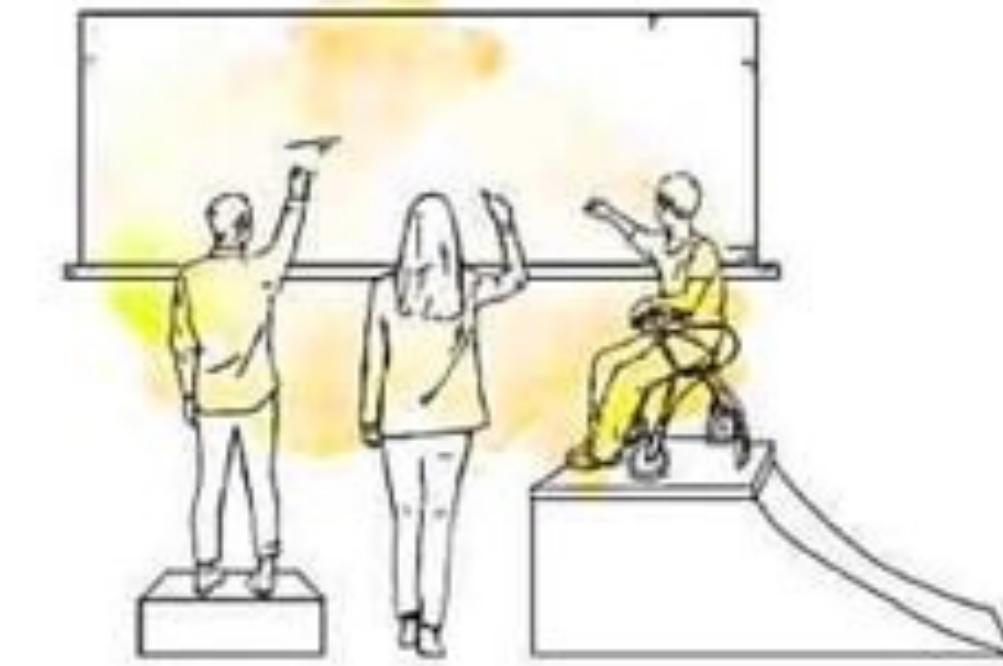


¿Qué es la accesibilidad?

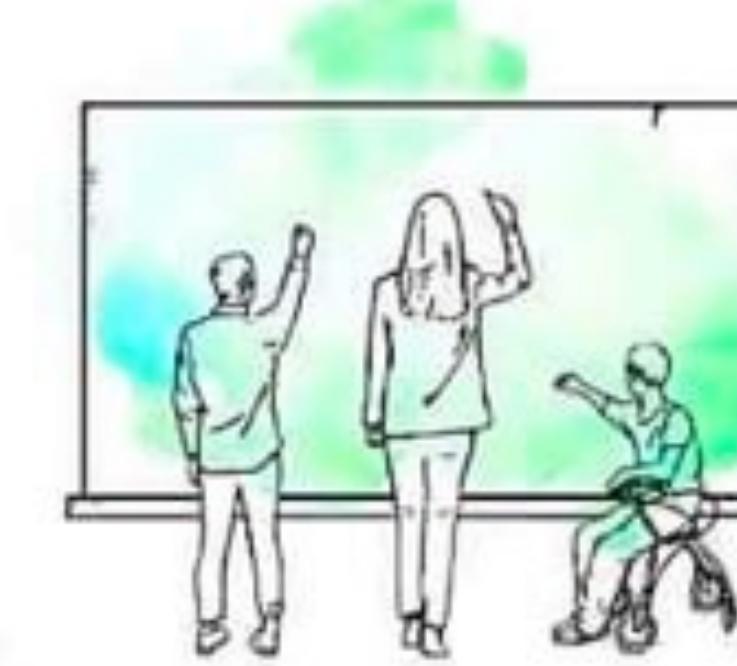
Igualdad



Adaptación

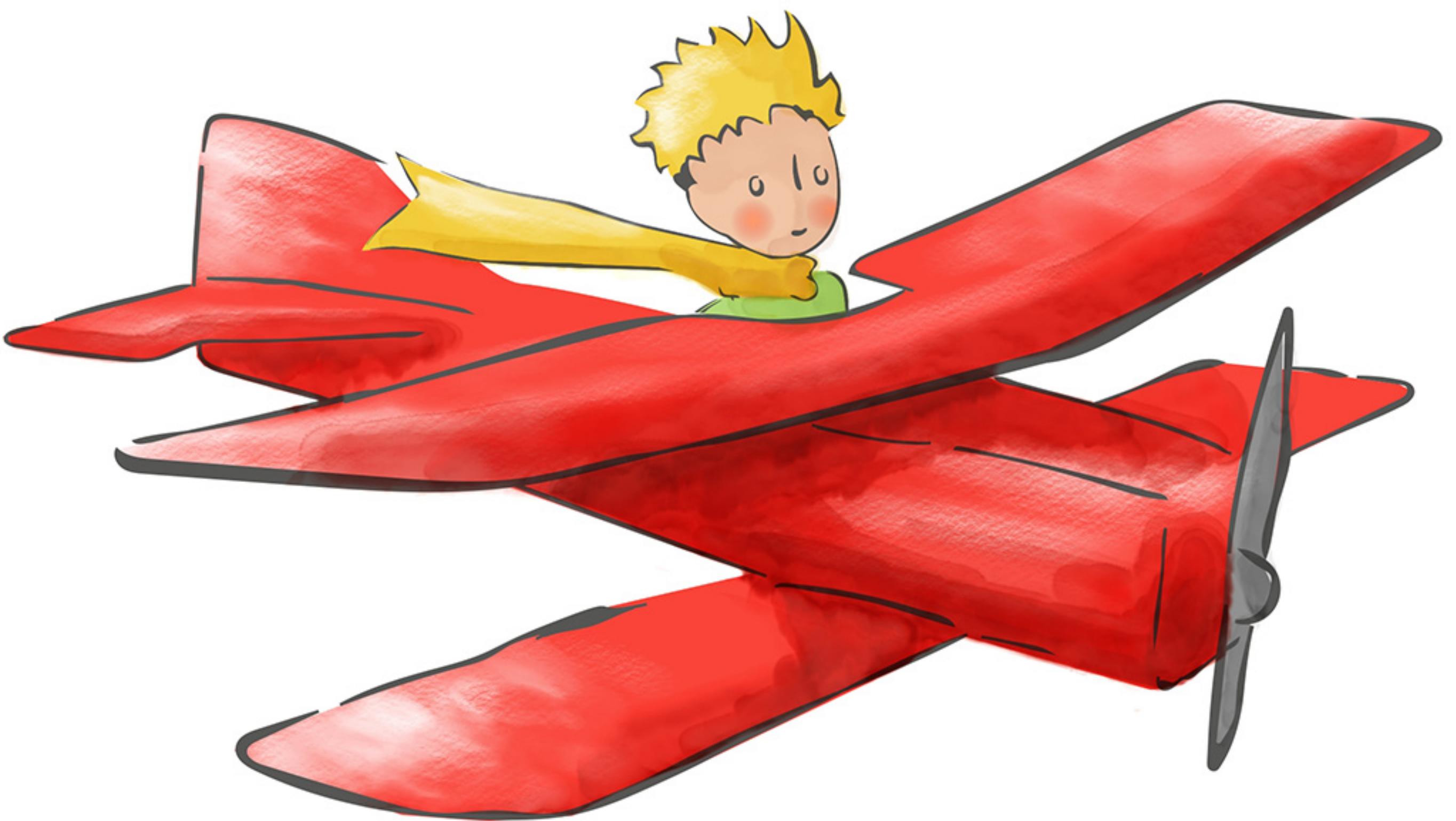


Accesibilidad



Tipos de discapacidad

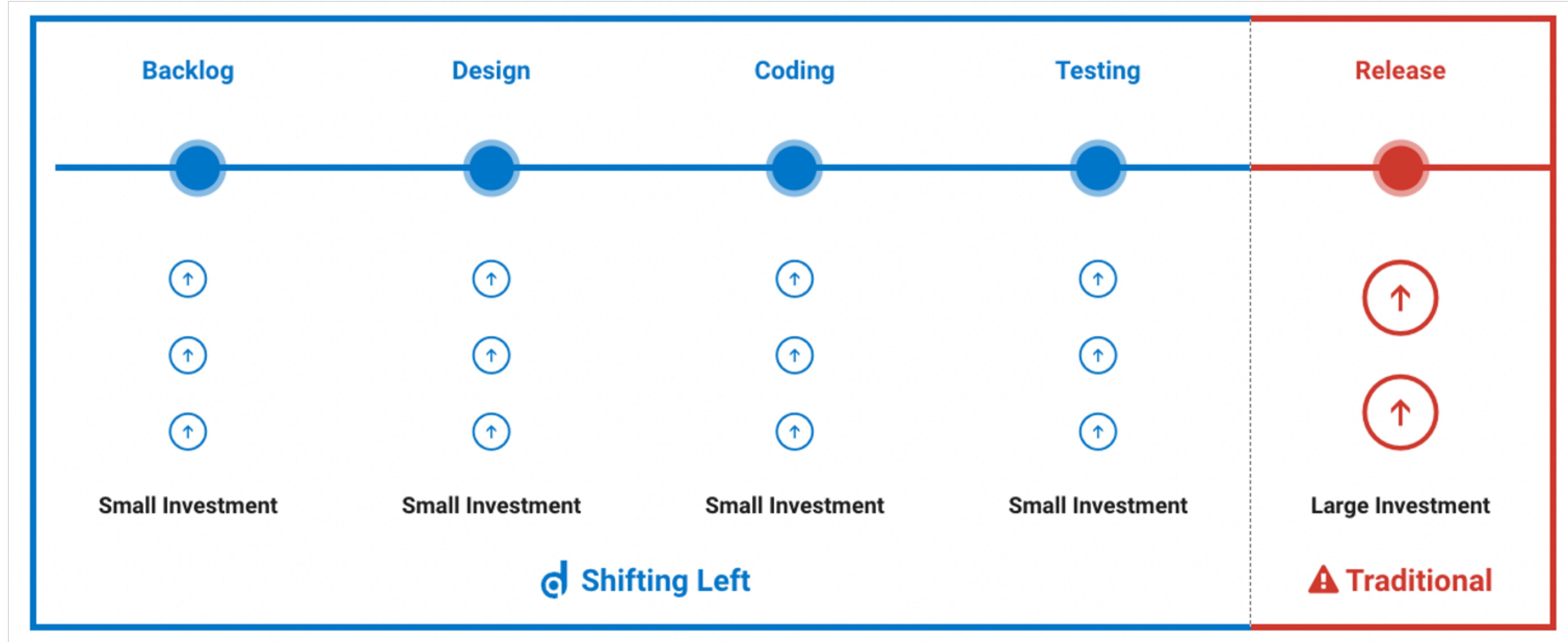
	MOVE	SEE	HEAR	SPEAK	COGNITION
PERMANENT					
	Missing limbs	Blind	Deaf	Non-verbal	Dyslexia
TEMPORARY					
	Broken limbs	Eye infection	Hearing aid	Throat infection	Concussion
SITUATIONAL					
	Small infant	Sun on screen	Noise cancelling headphones	Foreign languages	Tired

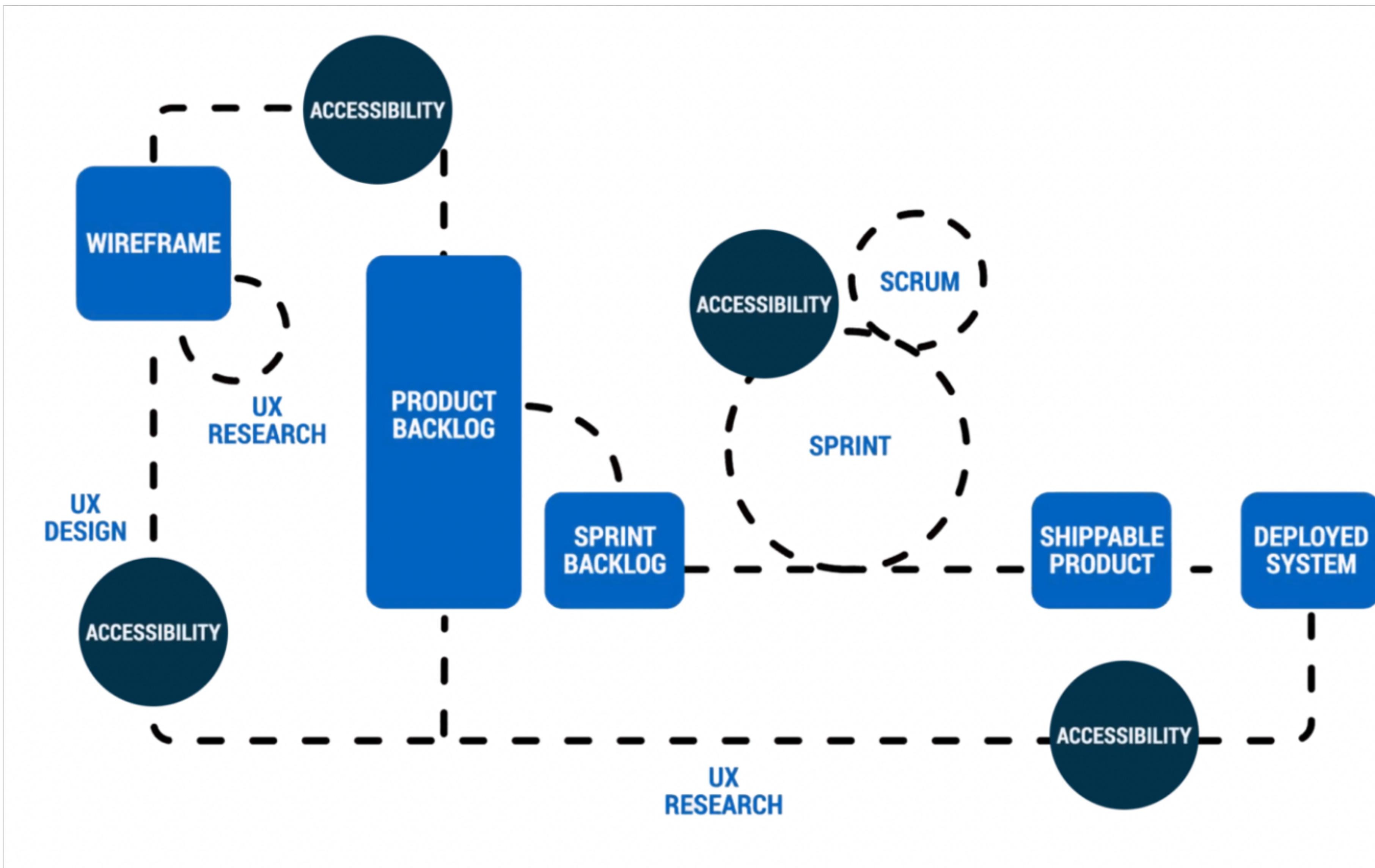


Cap. 2

El Gandul







**“La accesibilidad es como el helado.
Cuanto menos caso le haces,
mayor es el desastre.”**

Phil Springall



**“No puedes poner los arándanos en el muffin
después de haberlo horneado.”**



Cordelia McGee-Tubb

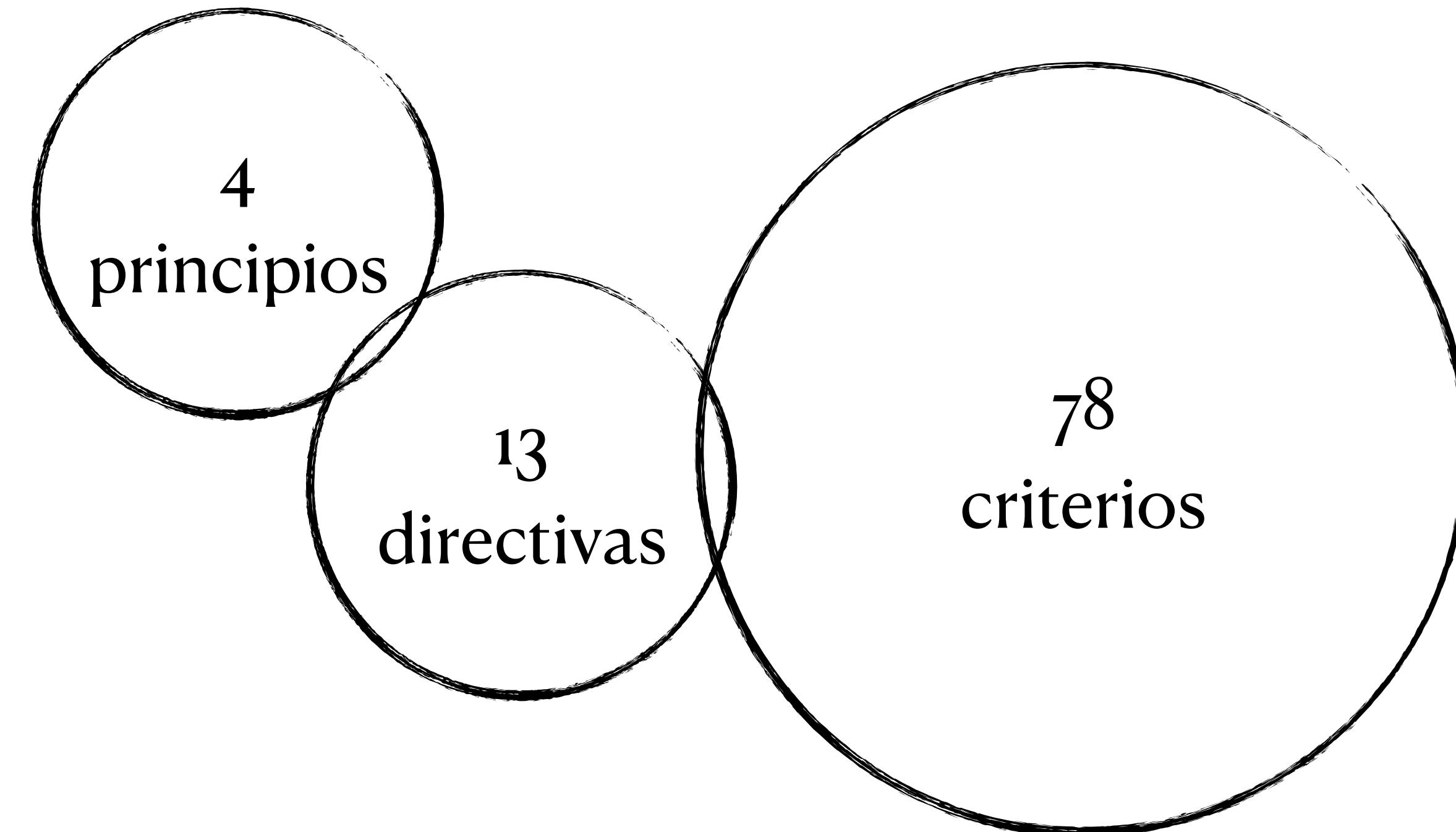
Cap. 3

El Rey



WCAG 2.2

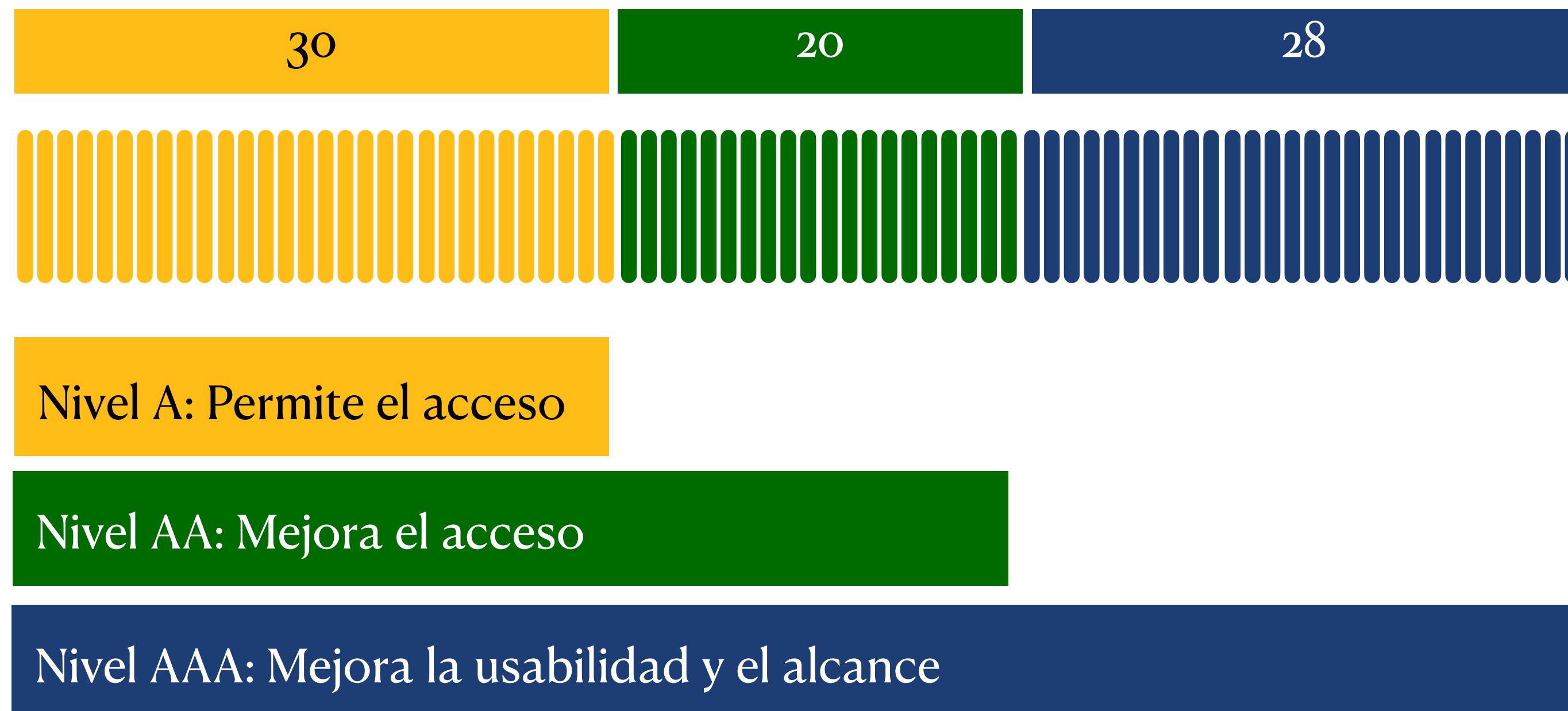
05/10/2023



WCAG 2.2

05/10/2023

78
criterios



WCAG 2.2

Principio 3: Comprensible

Directiva 3: Ayuda en la entrada

Criterio 3.3.2 - Etiquetas o instrucciones (Nivel A)

Se proporcionan etiquetas o instrucciones cuando el contenido requiere la introducción de datos por parte del usuario

Web Content Accessibility Guidelines (WCAG) 2.2

[W3C Recommendation 05 October 2023](#)

▼ More details about this document

This version:

<https://www.w3.org/TR/2023/REC-WCAG22-20231005/>

Latest published version:

<https://www.w3.org/TR/WCAG22/>

Latest editor's draft:

<https://w3c.github.io/wcag/guidelines/22/>

History:

<https://www.w3.org/standards/history/WCAG22/>

[Commit history](#)

Implementation report:

<https://www.w3.org/WAI/WCAG22/implementation-report/>

Previous Recommendation:

<https://www.w3.org/TR/WCAG21/>

Editors:

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[Chuck Adams](#) (Oracle)

[Rachael Bradley Montgomery](#) (Library of Congress)

[Michael Cooper](#) (W3C)

[Andrew Kirkpatrick](#) (Adobe)

Feedback:

[GitHub w3c/wcag](#) ([pull requests](#), [new issue](#), [open issues](#))

Errata:

[Errata exists.](#)

See also [translations](#).

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Abstract

Web Content Accessibility Guidelines (WCAG) 2.2 covers a wide range of recommendations for making Web content more accessible. Following these guidelines will make content more accessible to a wider range of people with disabilities, including accommodations for blindness and low vision, deafness and hearing loss, limited movement, speech disabilities, photosensitivity, and combinations of these, and some accommodation for learning disabilities and cognitive limitations; but will not address every user need for people with these disabilities. These guidelines address accessibility of web content on desktops, laptops, tablets, and mobile devices. Following these guidelines will also often make Web content more usable to users in general.

WCAG 2.2 success criteria are written as testable statements that are not technology-specific. Guidance about satisfying the success criteria in specific technologies, as well as general information about interpreting the success criteria, is provided in separate documents. See [Web Content Accessibility Guidelines \(WCAG\) Overview](#) for an introduction and links to WCAG technical and educational material.

WCAG 2.2 extends [Web Content Accessibility Guidelines 2.1 \[WCAG21\]](#), which was published as a W3C Recommendation June 2018. Content that conforms to WCAG 2.2 also conforms to WCAG 2.0 and WCAG 2.1. The WG intends that for policies requiring conformance to WCAG 2.0 or WCAG 2.1, WCAG 2.2 can provide an alternate means of conformance. The publication of WCAG 2.2 does not deprecate or supersede WCAG 2.0 or WCAG 2.1. While WCAG 2.0 and WCAG 2.1 remain W3C Recommendations, the W3C advises the use of

Legal

Nivel AA

- 🇺🇸 ADA
Section 508
- 🇪🇺 UNE-EN 301549:2019
European Accessibility Act (EAA) (2025)

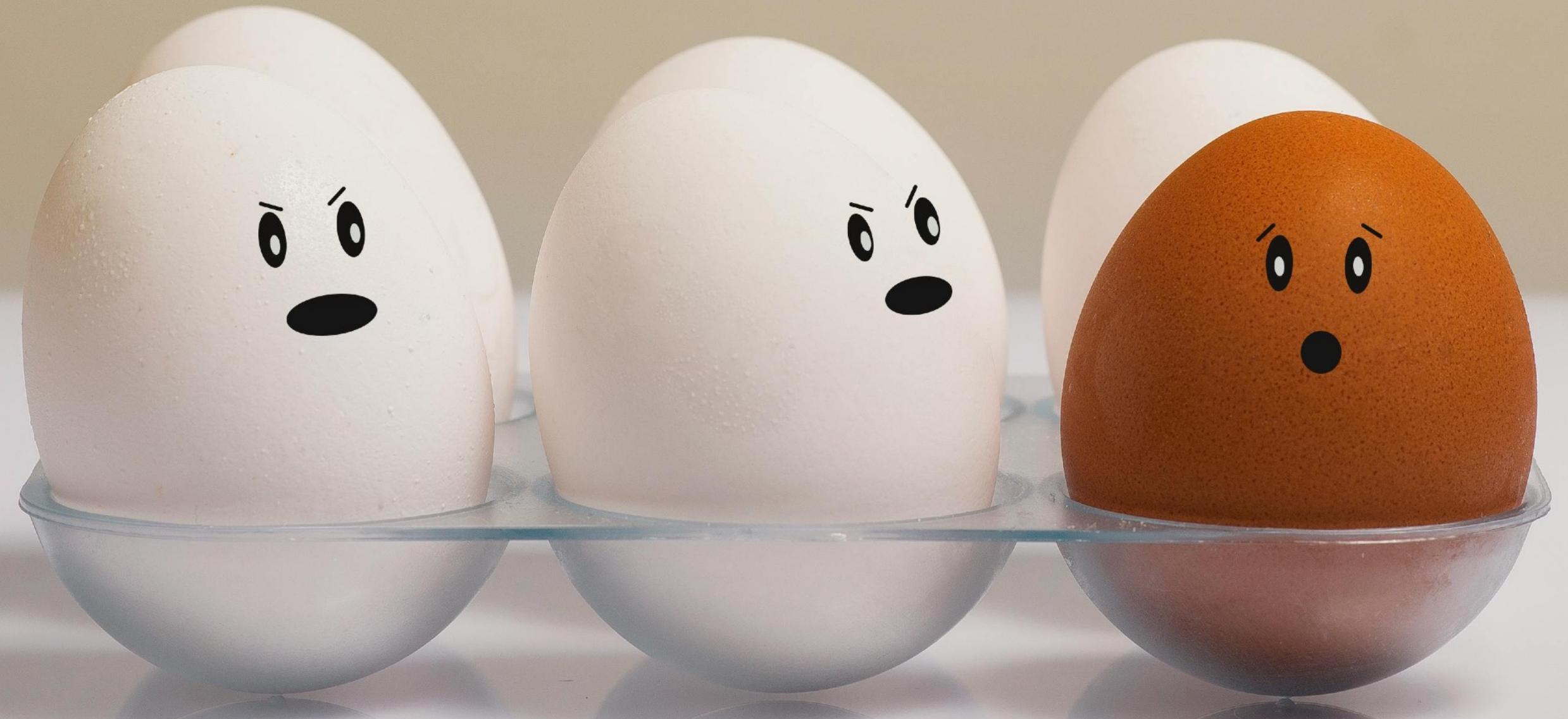


European Accessibility Act Countdown

1 2 2 2
MONTHS DAYS

eaa-countdown.eu

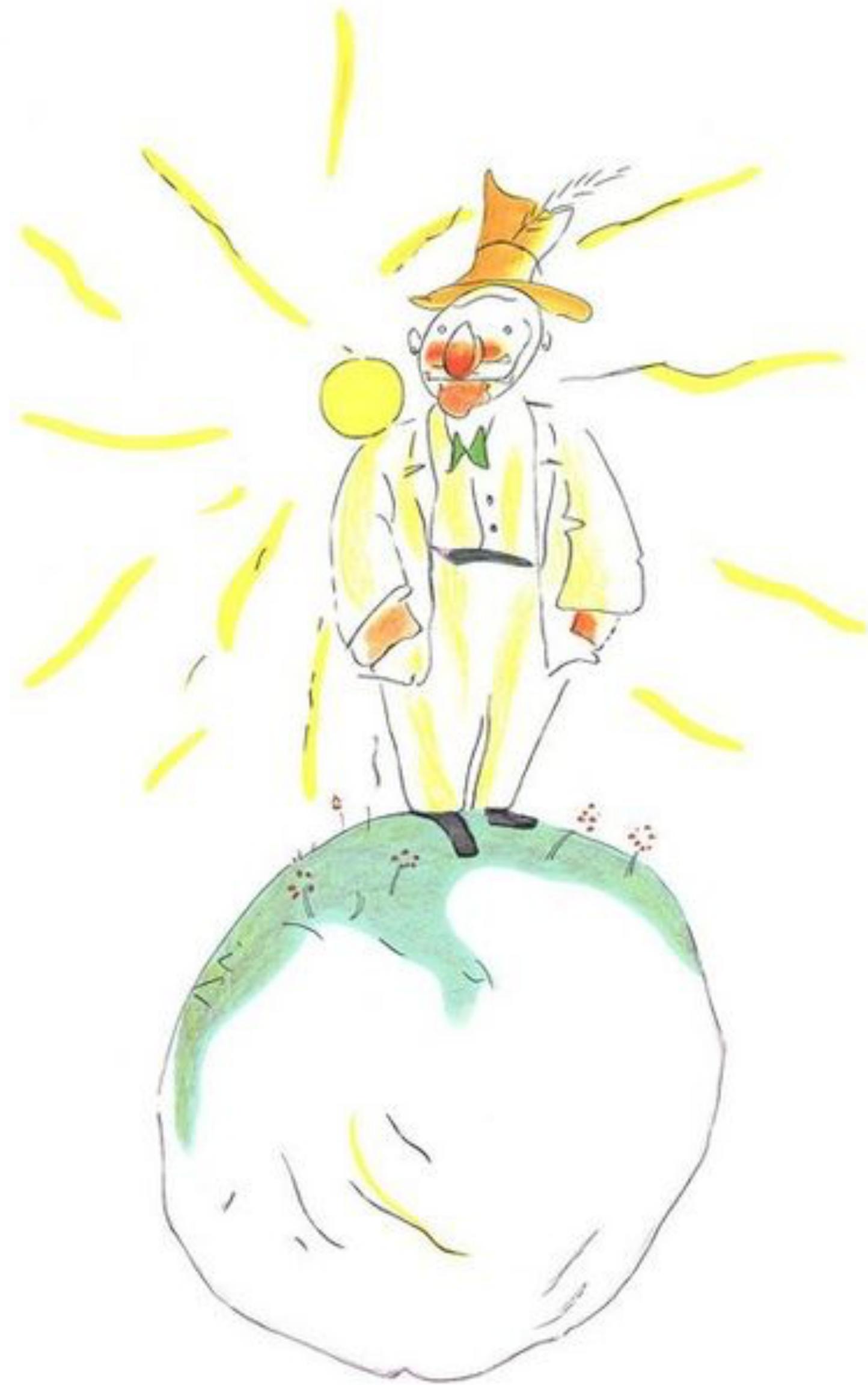
**“Soft boiled (volunteer) eggs are good,
but sometimes hard boiled ones (law suits),
are needed.”**



Gisele Mesnage

Cap. 4

El vanidoso



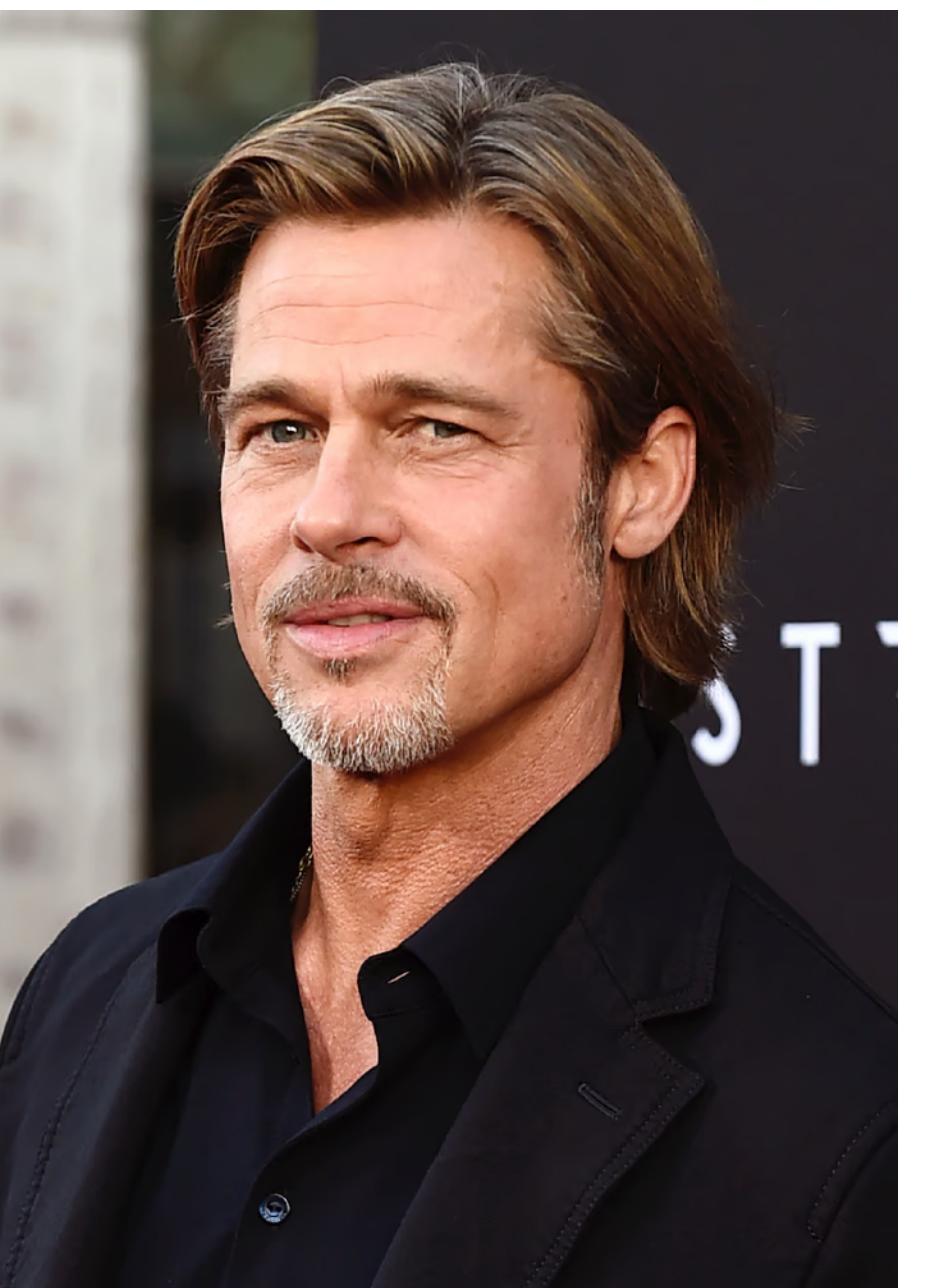
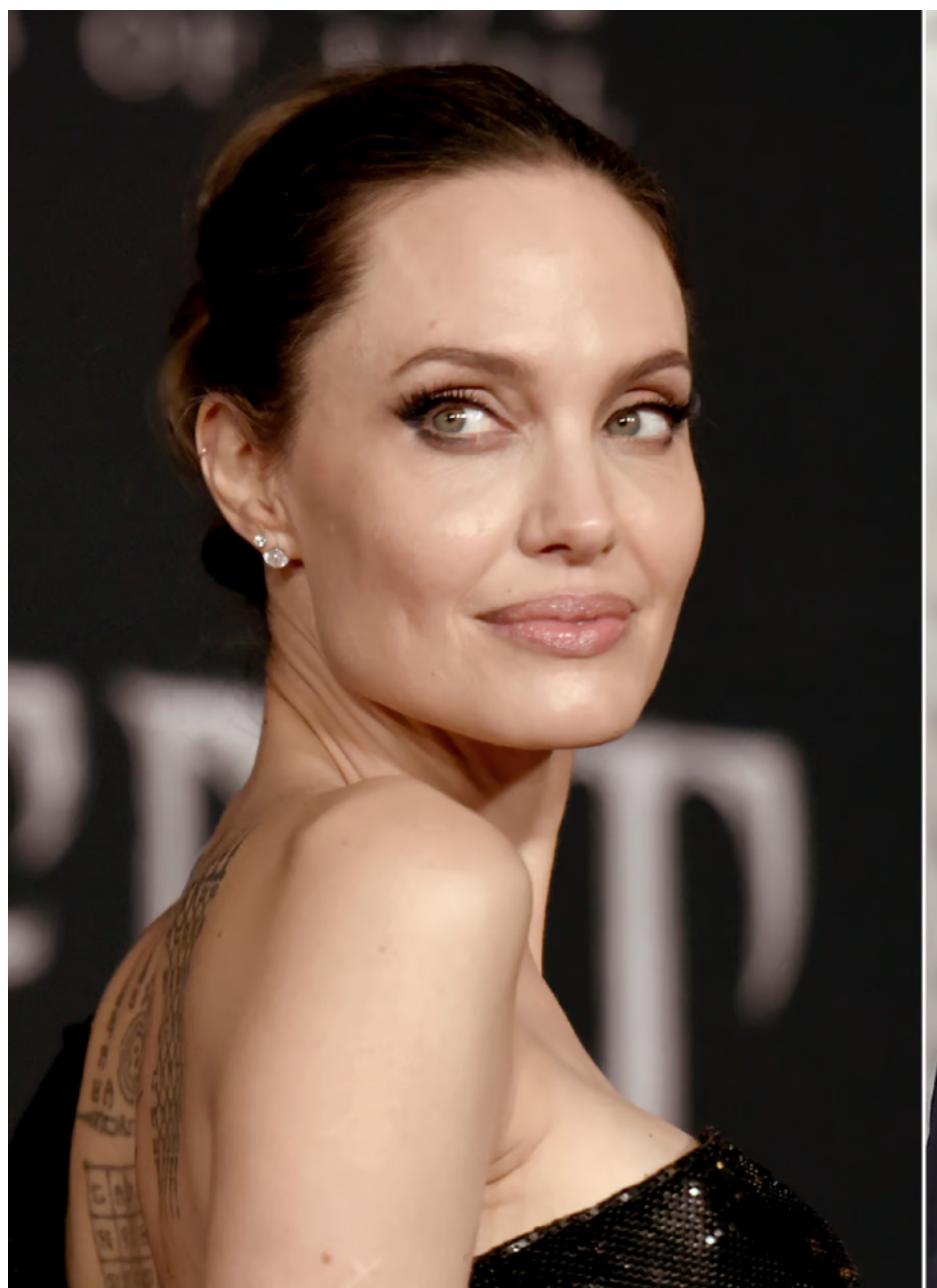
Manzana
roja

Sabor
helado

La más guapa

El más guapo

Persona
discapacitada



Cards Against Humanity



How can you meet their needs?

Cards for humanity

cardsforhumanity.frog.co

Katherine, 65
is easily distracted



Deal new pair

View needs

Swap card



and has a learning
disability

View needs

Swap card

How can you meet their needs?

Consider

It can be difficult to hold some people's attention.

It can be challenging for some people to remember key information.

Some people need more orientation in a process so they know which step they are on.

Deal new pair

View needs

Swap card

Consider

A learning disability affects the way a person understands information and how they communicate.

Some people may have difficulty understanding new or complex information, learning new skills, or coping independently.

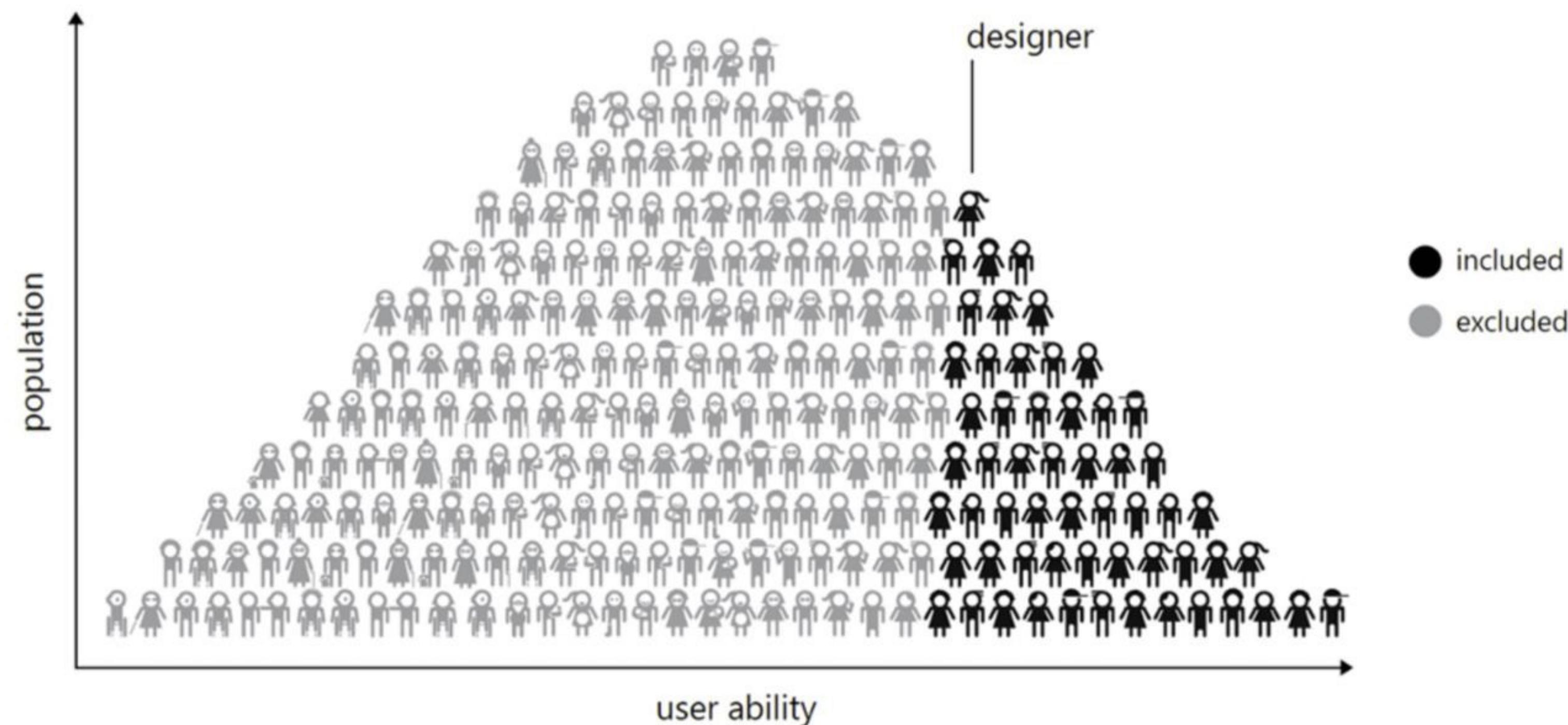
Up to 10% of the population is affected by specific learning disabilities such as dyslexia, dyscalculia and autism. – Science Daily

View needs

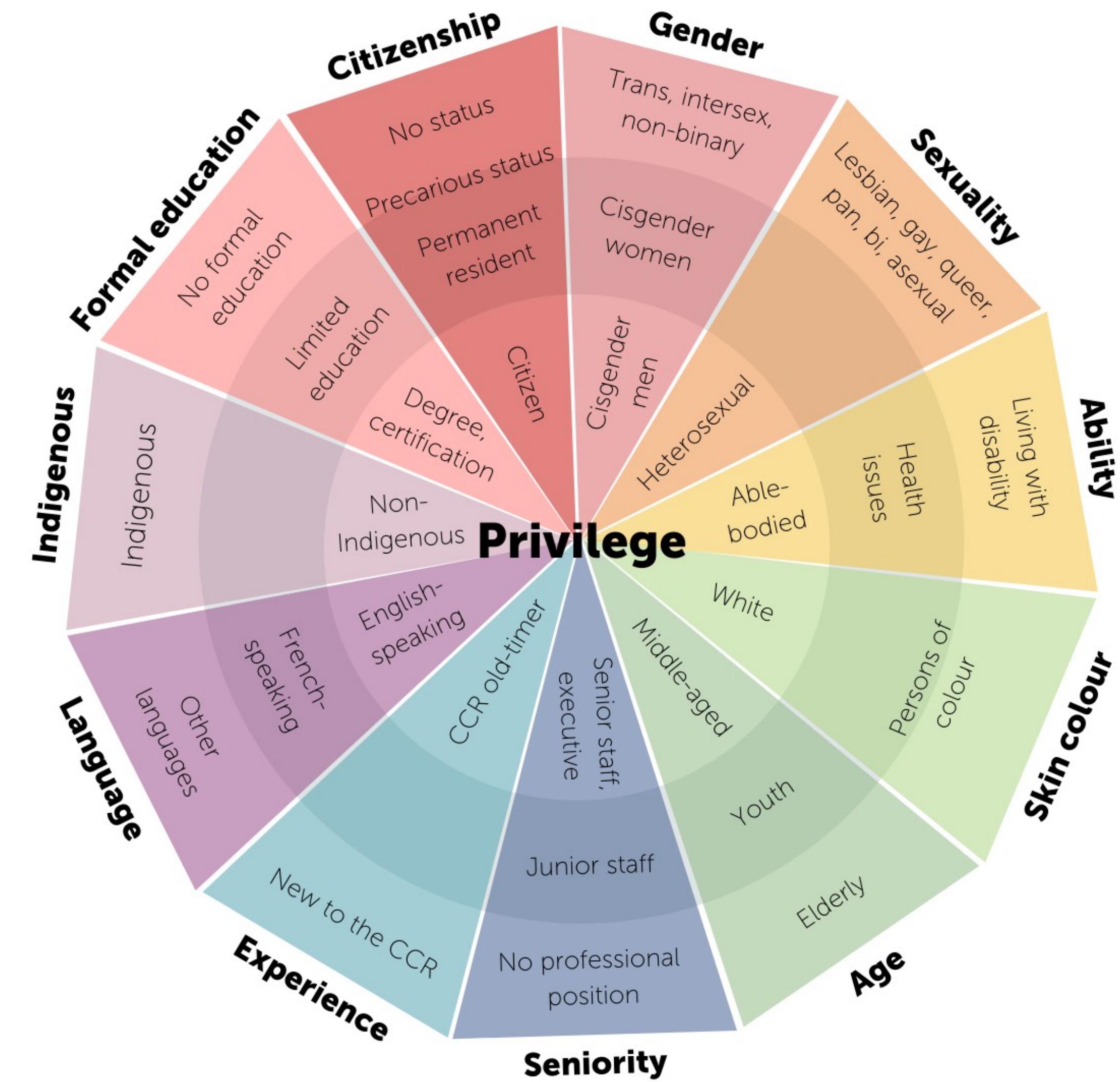
Swap card

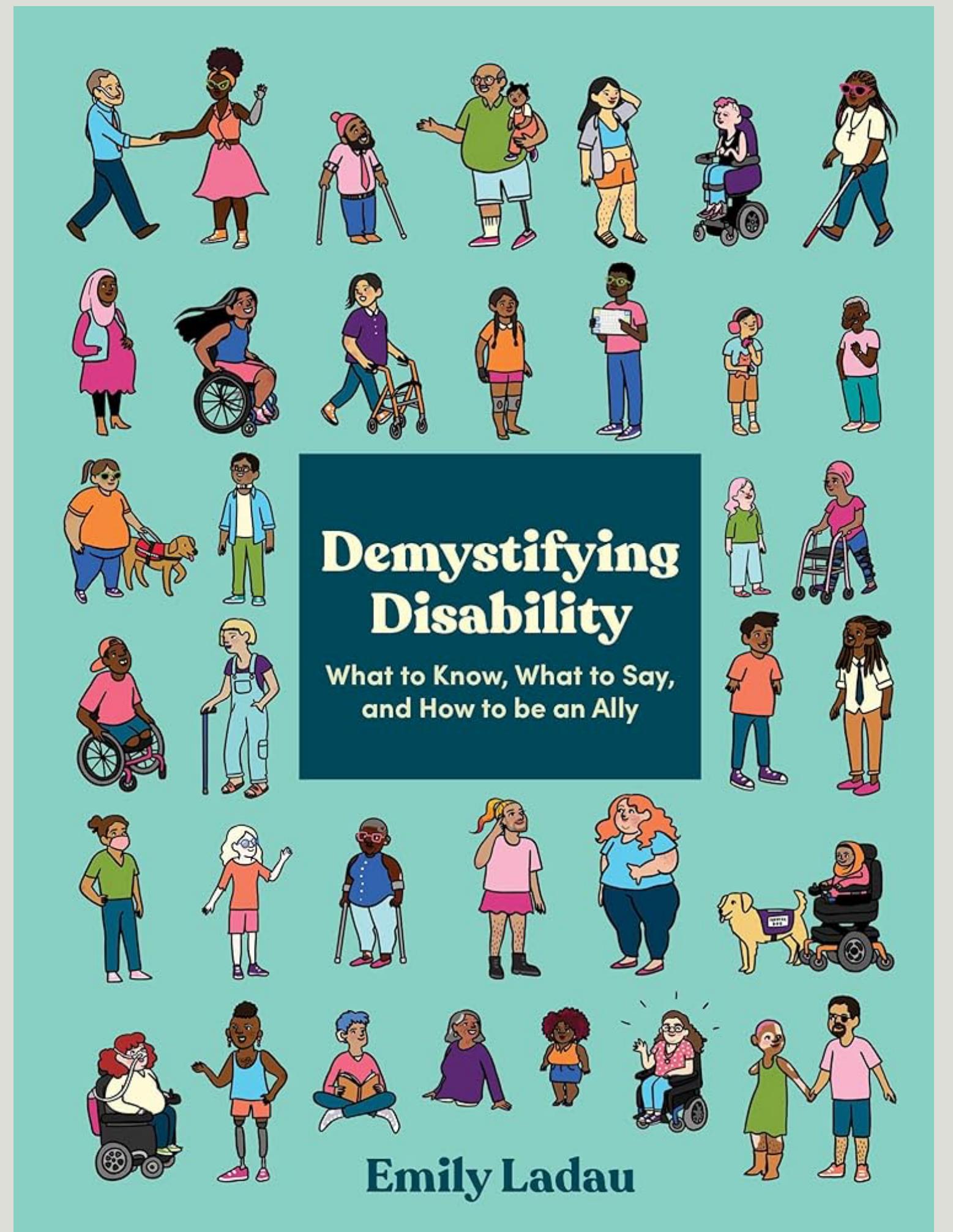
El contexto

Capacitismo (Ableism)



La rueda de privilegio





“Una imagen vale más que mil palabras”

**“Una imagen vale más que mil palabras,
si las palabras son entendibles y
la imagen se puede ver”**

Miguel Ángel Valero

Cap. 5

El contable





1.000.000

**de páginas analizadas
(Tranco ranking)**



56.791.260

errores diferentes encontrados



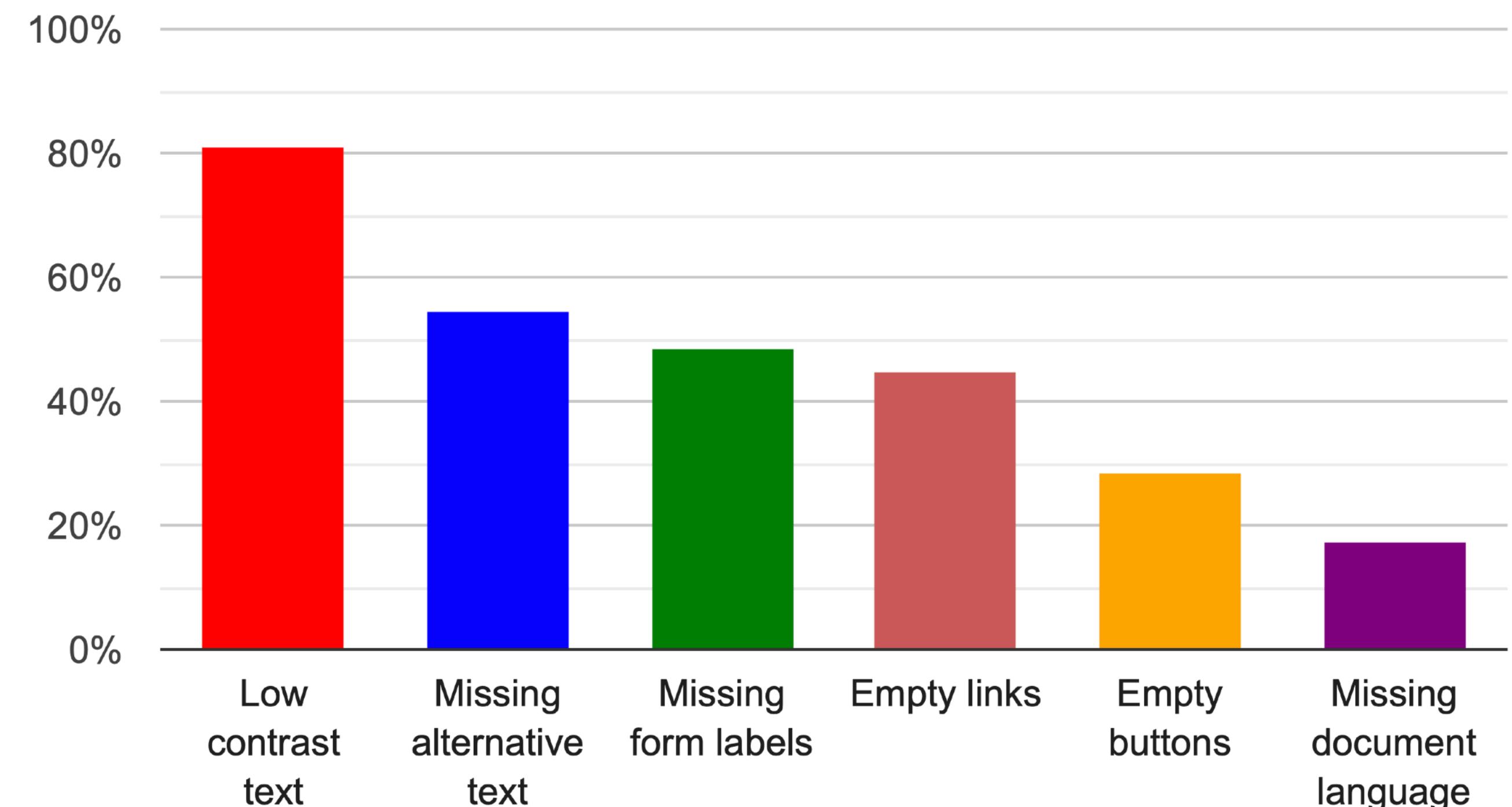
96%

de las páginas tienen errores de la WCAG

6 categorías

% de home pages

1. Bajo contraste
2. Falta de textos alternativos
3. Falta de etiquetas de formulario
4. Enlaces vacíos
5. Botones vacíos
6. Falta de atributos de idioma



“Solo arreglando estas categorías,
la accesibilidad global mejoraría
notablemente”

WebAIM



25%-30%

Tests automáticos

70%-75%

Tests manuales

HTML (tabIndex, onClick, alt, title, ...)

ARIA (aria-label, aria-labelledby, ...)

Contraste

Cap. 6

El zorro



**“La buena accesibilidad
es invisible a los ojos”**





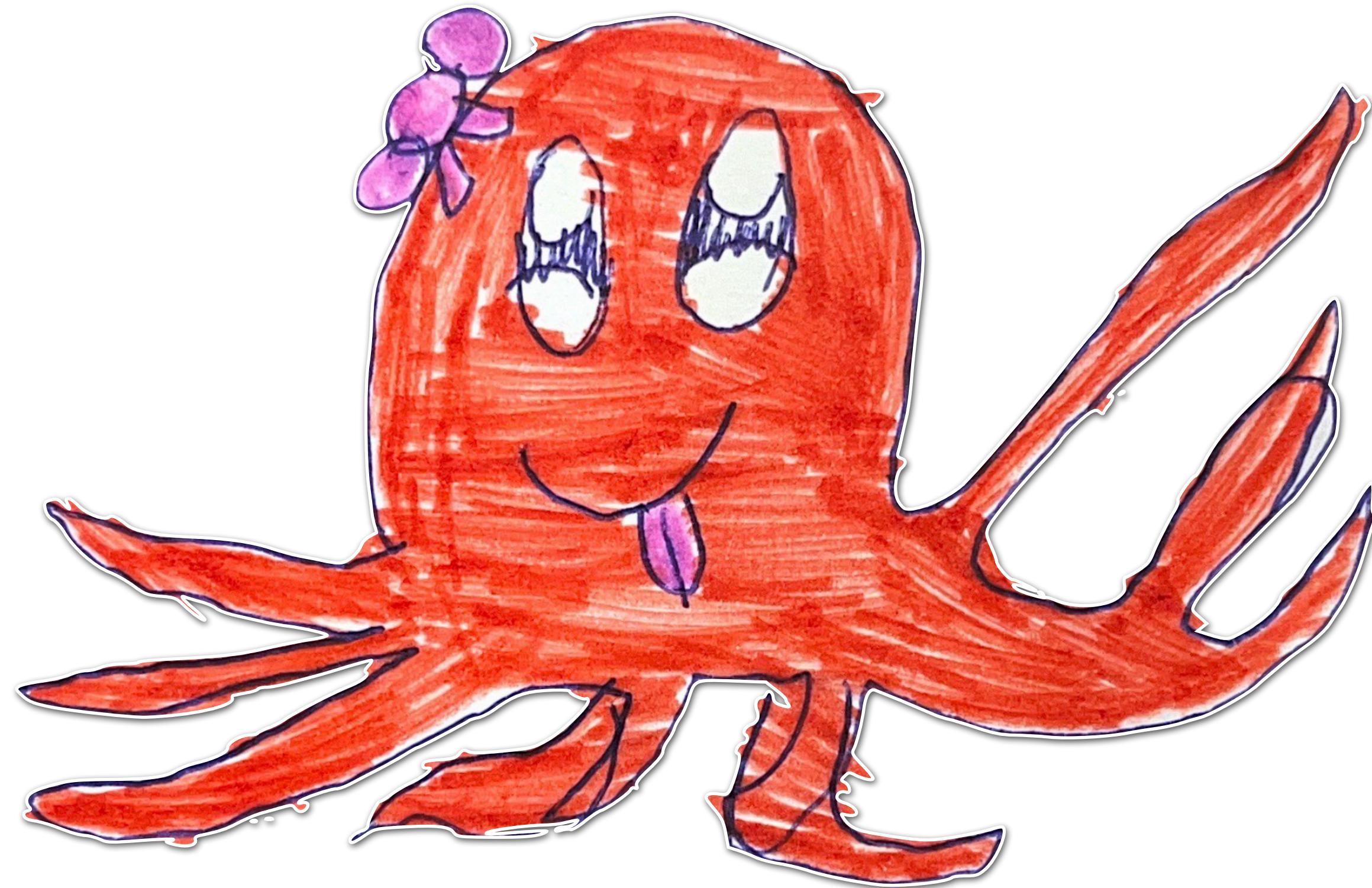
Cap. 7

¡A trabajar!

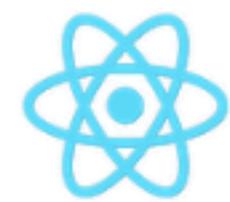


Demo time

React Testing Library



react-testing-library



React



Cypress



Testcafe



Svelte



Vue



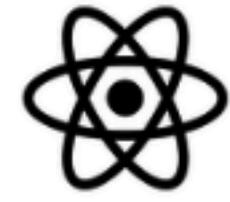
Angular



ReasonReact



Puppeteer



React Native



Preact

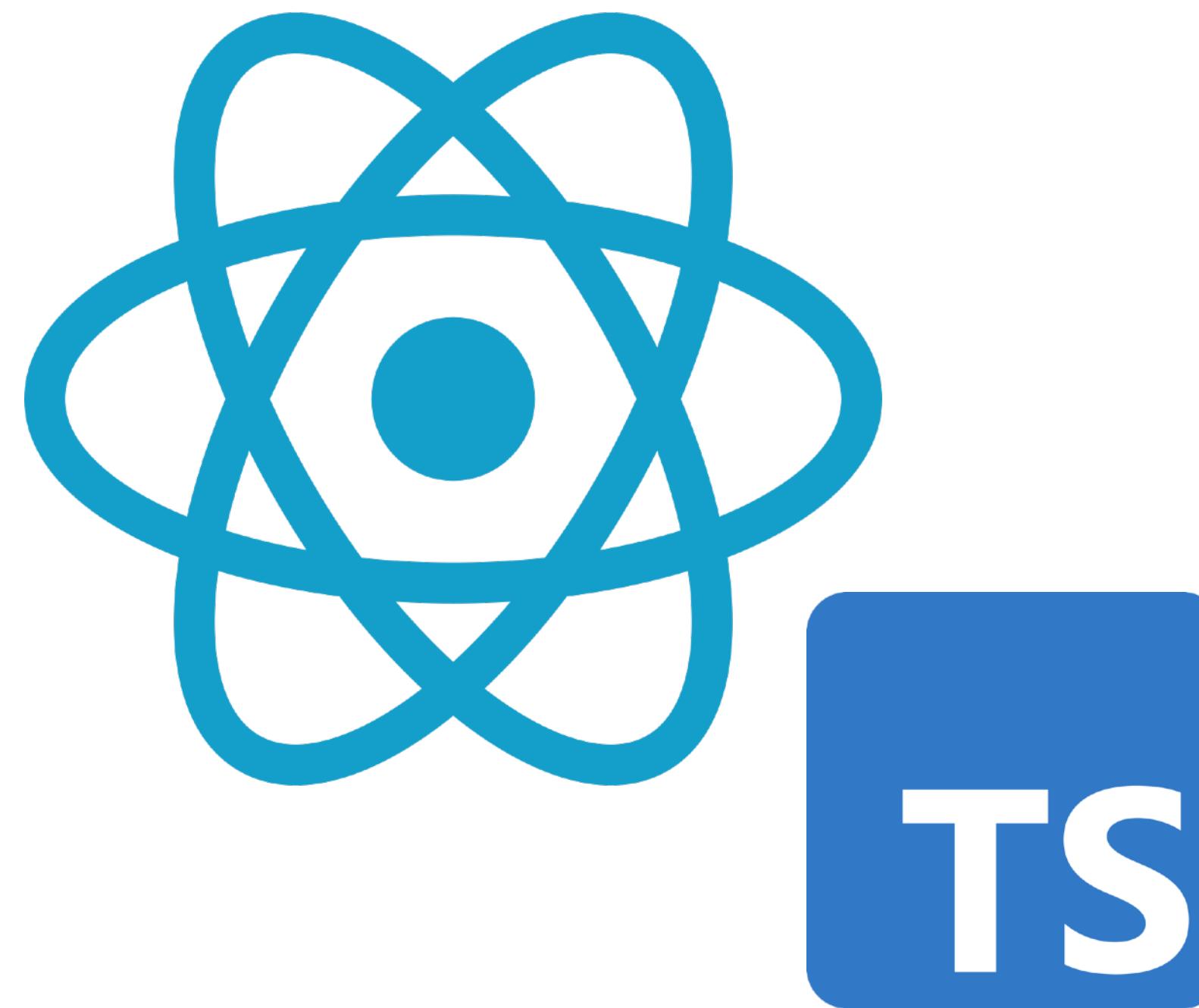


Nightwatch



And more...

Nuestro stack

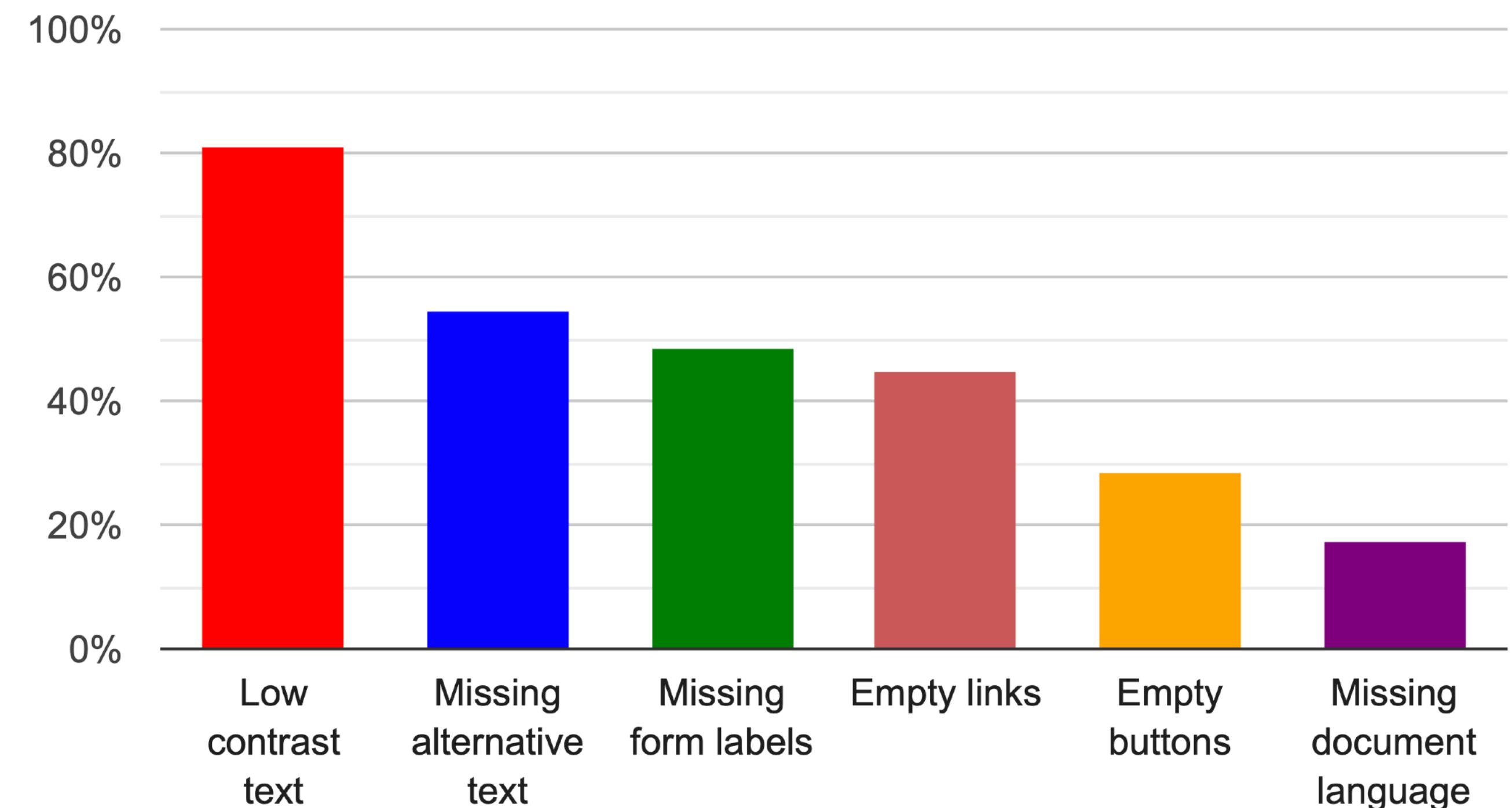


```
pnpm create vite . --template react-swc-ts
```

6 categorías

% de home pages

1. Bajo contraste
2. Falta de textos alternativos
3. Falta de etiquetas de formulario
4. Enlaces vacíos
5. Botones vacíos
6. Falta de atributos de idioma



Bajo contraste (81%)

Afectados

- Problemas de visión
- Reflejos en la pantalla
- Dispositivo en modo ahorro
- Pantallas/dispositivos con brillo bajo

Bajo contraste (81%)

```
it("should has proper AA contrast level", () => {
  render(<Contrast />);

  const target = screen.getByText(/I am red text/);
  const computed = getComputedStyle(target);
  const textColor = computed.getPropertyValue("color");
  const bgColor = computed.getPropertyValue("background-color");
  const fontSize = parseInt(computed.getPropertyValue("font-size"));

  const ccc = new ColorContrastChecker();
  expect(ccc.isLevelAA(textColor, bgColor, fontSize)).toBe(true);
});
```

Falta de textos alternativos (55%)

Afectados

- Usuarios de lector de pantalla
- SEO
- Usuarios con mala conexión

Falta de textos alternativos (55%)

```
it("should find empty (not missing) image alt text", () => {
  render(<AltText />);

  // Comprobación texto alternativo sin definir
  expect(screen.getByRole("img", { name: "" })).toBeInTheDocument();
});
```

Falta de etiquetas de formulario (49%)

Afectados

- Usuarios de lector de pantalla
- Usuarios cansados
- Usuarios con poca retención
- Usuarios con TDAH

Falta de etiquetas de formulario (49%)

```
it("should check associated labels with inputs", async () => {
  userEvent.setup();

  render(<Labels />);

  // Obtenemos el input por su label
  const nameInput = screen.getByLabelText("Nombre");
  expect(nameInput).toBeInTheDocument();

  // Comprobamos que podemos escribir en el input
  await userEvent.type(nameInput, "John Doe");
  expect(nameInput).toHaveValue("John Doe");

  // Comprobamos que el input tiene el foco
  nameInput.focus();
  expect(nameInput).toHaveFocus();

  // Comprobamos que al hacer tab el input pierde el foco
  await userEvent.tab();
  expect(nameInput).not.toHaveFocus();
});
```

Enlaces vacíos (45%)

Afectados

- Usuarios de lector de pantalla
- SEO

Enlaces vacíos (45%)

```
it("should show all links with content", () => {
  render(<EmptyLinks />);

  // Caso inicial
  expect(screen.getByText(/Yo si tengo contenido/)).toBeInTheDocument();

  // Mejoramos con links
  expect(screen.getByRole("link")).toBeInTheDocument();

  // Añadimos capa de accesibilidad
  expect(
    screen.getByRole("link", { name: /Yo si tengo/ })
  ).toBeInTheDocument();

  // Verificamos que el botón está oculto
  expect(
    screen.getByRole("link", { name: "Edit", hidden: true })
  ).toBeInTheDocument();

  // Juego de links ocultos y visibles
  expect(screen.getAllByRole("link", { hidden: true })).toHaveLength(2);
  expect(screen.getAllByRole("link", { hidden: false })).toHaveLength(1);
});
```

Botones vacíos (28%)

Afectados

- Usuarios de lector de pantalla
- SEO

Botones vacíos (28%)

```
it("should check that any button is empty", () => {
  render(<EmptyButtons />);

  // Caso base
  expect(screen.getByText("Guardar")).toBeInTheDocument();

  // Añadimos capa de accesibilidad
  expect(screen.getByRole("button")).toBeInTheDocument();

  // Mejoramos la capa de accesibilidad
  expect(screen.getByRole("button", { name: "Guardar" })).toBeInTheDocument();

  // Verificamos que el botón está oculto
  expect(
    screen.getByRole("button", { name: "Guardar", hidden: true })
  ).toBeInTheDocument();

  // Juego de botones ocultos y visibles
  expect(screen.getAllByRole("button", { hidden: true })).toHaveLength(2);
  expect(screen.getAllByRole("button", { hidden: false })).toHaveLength(1);
});
```

Falta de atributos de idioma (17%)

Afectados

- Usuarios de lector de pantalla
- SEO

Falta de atributos de idioma (17%)

```
it("should check lang defined", () => {
  render(<Lang />);

  let topParent = screen.getByRole("heading", {
    name: "Languages",
    level: 2,
  });

  while (topParent.parentElement) {
    if (topParent.getAttribute("lang")) {
      break;
    }
    topParent = topParent.parentElement;
  }

  expect(topParent).toHaveAttribute("lang", "en");
});
```

Resumen

- No dejes la accesibilidad para el final
- Pide mucho feedback
- Sé consciente de tus sesgos y posición en la rueda de privilegio
- Empatiza, no lo hagas por obligación legal
- No repitas los errores mas comunes:
 - Bajo contraste
 - Sin “Alt” en imágenes
 - Sin “Labels” en formularios
 - Enlaces y/o botones vacíos
 - Sin “Lang” en el documento
- Corre la voz, contagia lo aprendido

“Ser como la leche de almendras”

Cleyra Uzcategui



INGREDIENTS:

Filtered water, Tapioca Syrup,
Roasted Almond Paste (2.65%),
Sunflower oil, Sunflower lecithin,
Sea salt, Sodium Bicarbonate
(Baking soda), Gellan Gum.

Progress Over Perfection



Meryl
Evans





Gracias

Gracias



jorditurull.me/mundo-unicornio/

Links

Referencias

- Citas cocina: <https://www.lflegal.com/2020/05/accessibility-is-delicious/>
- Equality, Equity and Justice Source: Tony Ruth from Maeda (2019): https://www.researchgate.net/figure/Equality-Equity-and-Justice-Source-Tony-Ruth-from-Maeda-2019_fig2_354087577
- Tipos de discapacidad: <https://daresay.co/2023/10/03/inclusive-design/>
- Shift to left: <https://saucelabs.com/resources/blog/best-practices-for-shifting-accessibility-testing-left>
- Accesibilidad en todo el proceso: <https://devops.com/embedding-accessibility-into-the-devops-process/>
- Rueda del privilegio: <https://ccrweb.ca/en/anti-oppression>
- Million project: <https://webaim.org/projects/million/>

Links

Imágenes

- <https://www.pexels.com/photo/cream-ice-cream-in-cone-1294943/>
- <https://www.pexels.com/photo/close-up-photography-of-chocolate-cupcake-90609/>
- <https://www.pexels.com/photo/eggs-in-tray-on-white-surface-1556707/>
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- <https://www.pinterest.com/pin/patricia-hill-collins-b-1948--4433299618603618/>