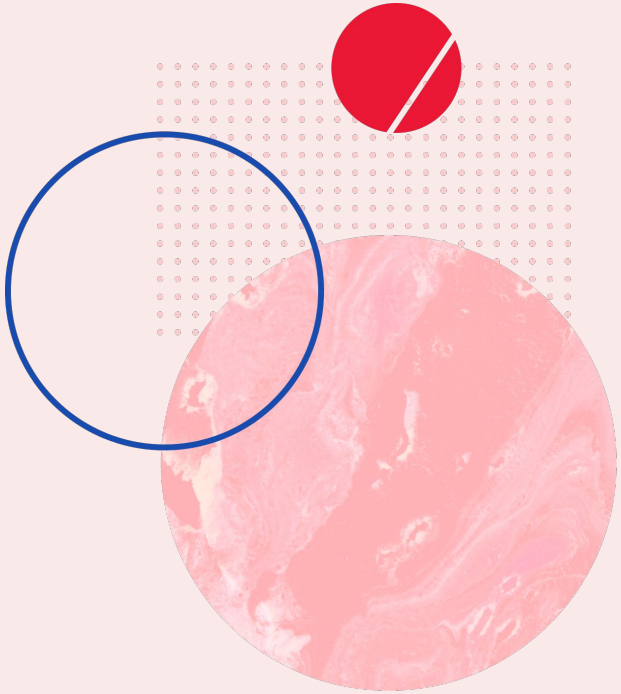


Making an Accessible App

annaecook.com | @annaecook

Anna E. Cook

Hi, I’m Anna 👋

- Senior Accessibility Designer at Northwestern Mutual
- Master’s Student studying design at the ATLAS Institute of CU-Boulder
- Artist, gamer, writer, and cat mom to Felix and Onyx.

What we will discuss

1. Why accessibility matters
2. Who do we consider in accessible design
3. How to meet accessibility standards

Part 1

Why Accessibility Matters

Why accessibility matters

- Drive innovation
- Increase usability and retention
- Capture overlooked market shares
- Improve competitive advantage
- Reduce potential legal risk
- Improve the lives of disabled people

> **The accessibility problems of today are the mainstream breakthroughs of tomorrow.**
>
> Eve Andersson,
> Director of Accessibility Engineering at Google

Inclusive design innovates.

Accessibility is a form of inclusive design that focuses on disabled users. It is shown to be better for all people and creates products more likely to innovate.

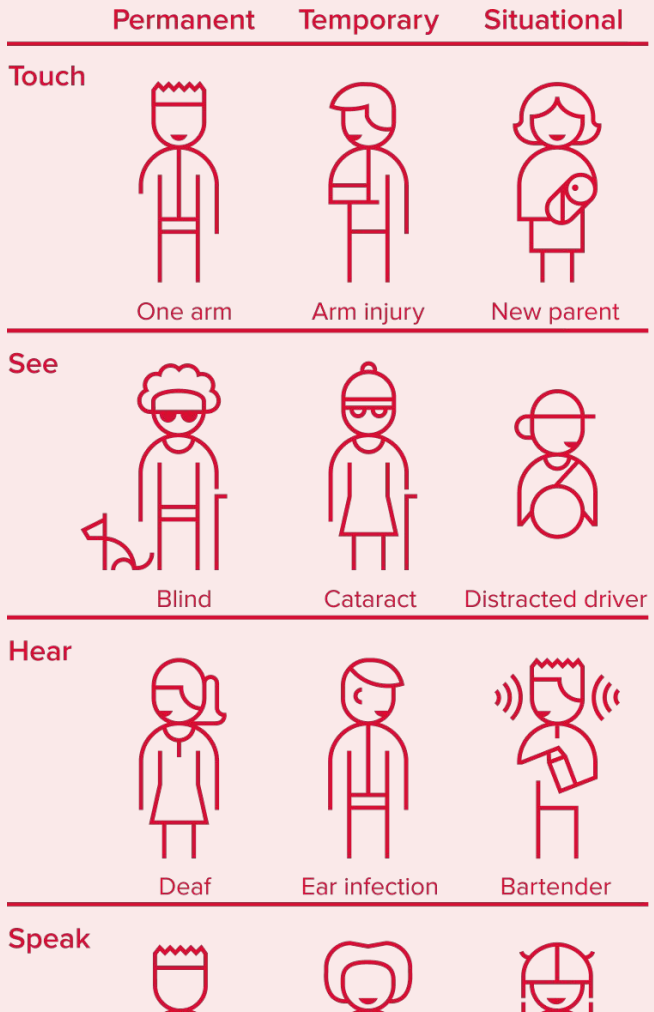
Image source: www.nike.com/flyease/go-flyease

15 – 20%

of people across the globe
have a reported disability

Anyone can be disabled.

Disabled people are the only marginalized group we can join at any time. Accessibility helps all people and people with a range of disabilities.



Source: “Inclusive: A Microsoft Design Toolkit”

Access is a human right.

Disability is created by inaccessibility. Every time we leave accessibility out, we leave people out. Everyone we exclude becomes disabled.

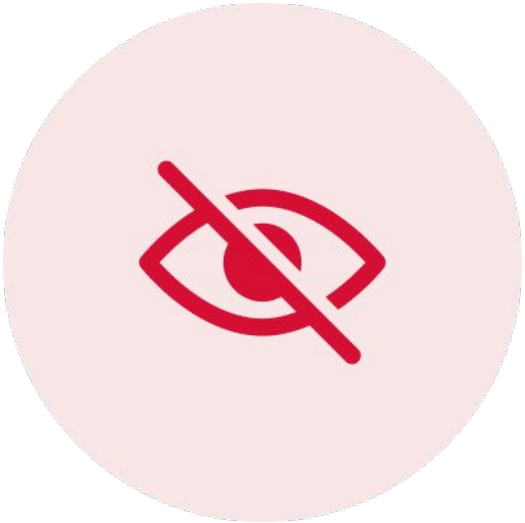
Part 2

Who do we consider in accessible design

Reference: webaim.org/projects/million/

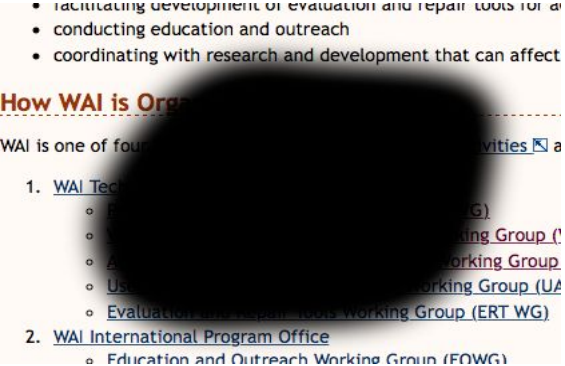
People with Vision Disabilities

- Blindness
- Degenerative vision loss
- Color blindness
- Low vision (e.g. cataracts, diabetic retinopathy, glaucoma, etc...)

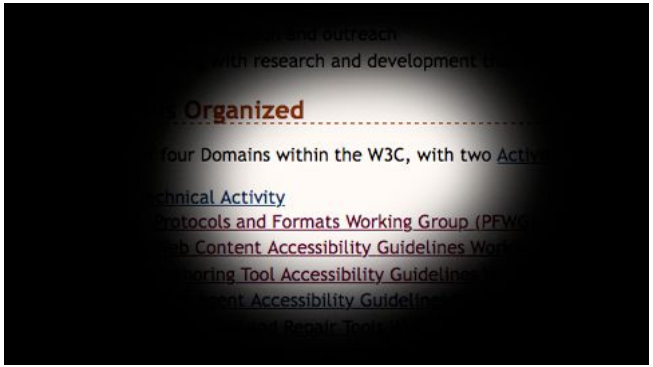


Using a screen reader

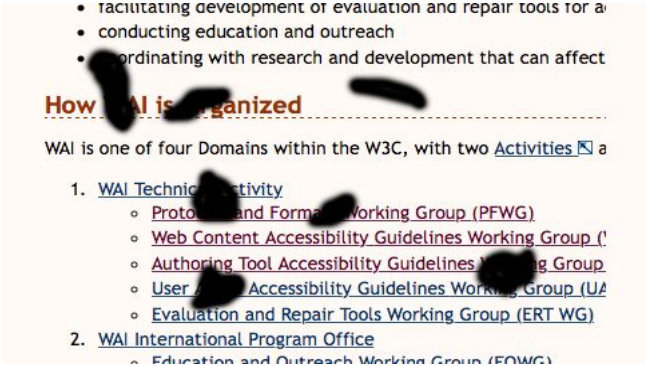
Field of vision



Example of central field loss



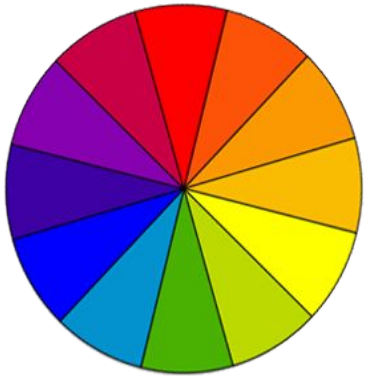
Example of peripheral field loss



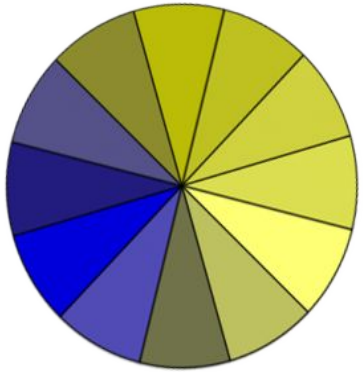
Example of other field loss

Reference: www.w3.org/TR/low-vision-needs

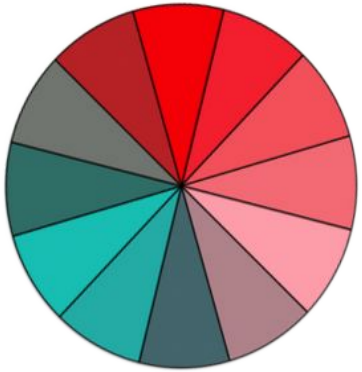
Color vision



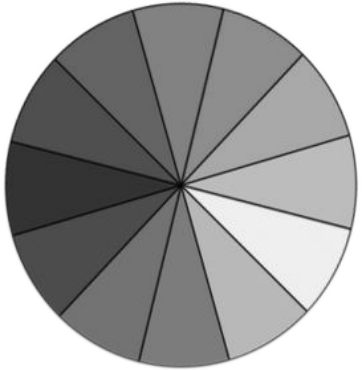
Full color perception



Red-green color blindness



Blue-yellow color blindness



No color perception (rare)

People with Auditory Disabilities

- Cognitive hearing loss
- Neural hearing loss
- Deafness

Captions and Sign Language

People with Motor Disabilities

- Paralysis
- Muscular and joint conditions
- Reduced dexterity
- Nerve injury

Using a mouth stick

People with Speaking Disabilities

- Muteness
- Stuttering
- Apraxia
- Dysarthria
- Cognitive disorders which affect speech

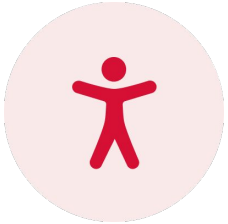
Speech to text

People with Cognitive Disabilities

- Memory impairments
- Learning disabilities
- Attention disorders
- Seizure disorders
- Reading disorders

Part 3

Following web accessibility standards



Web Content Accessibility Guidelines

The Web Content Accessibility Guidelines (WCAG) are universally accepted standards describing how to make online materials more accessible to disabled people.

The four “POUR” Principles

1. Perceivable

Removing any barriers to accessing your content by providing alternative methods of access

2. Operable

Content, along with anything that is interactive on it, can be controlled through a variety of tools.

3. Understandable

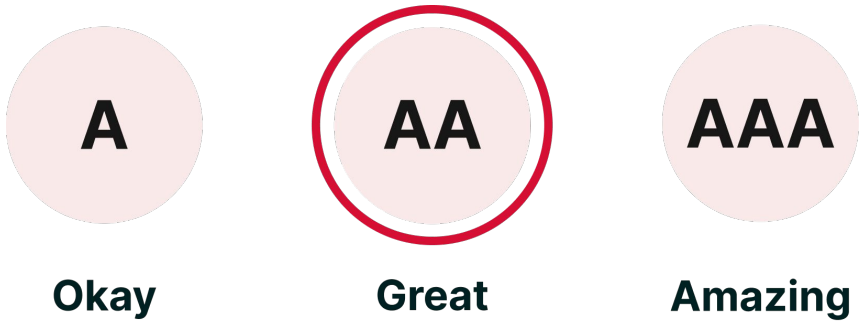
Use language and functionality that is easy to comprehend and consistent

4. Robust

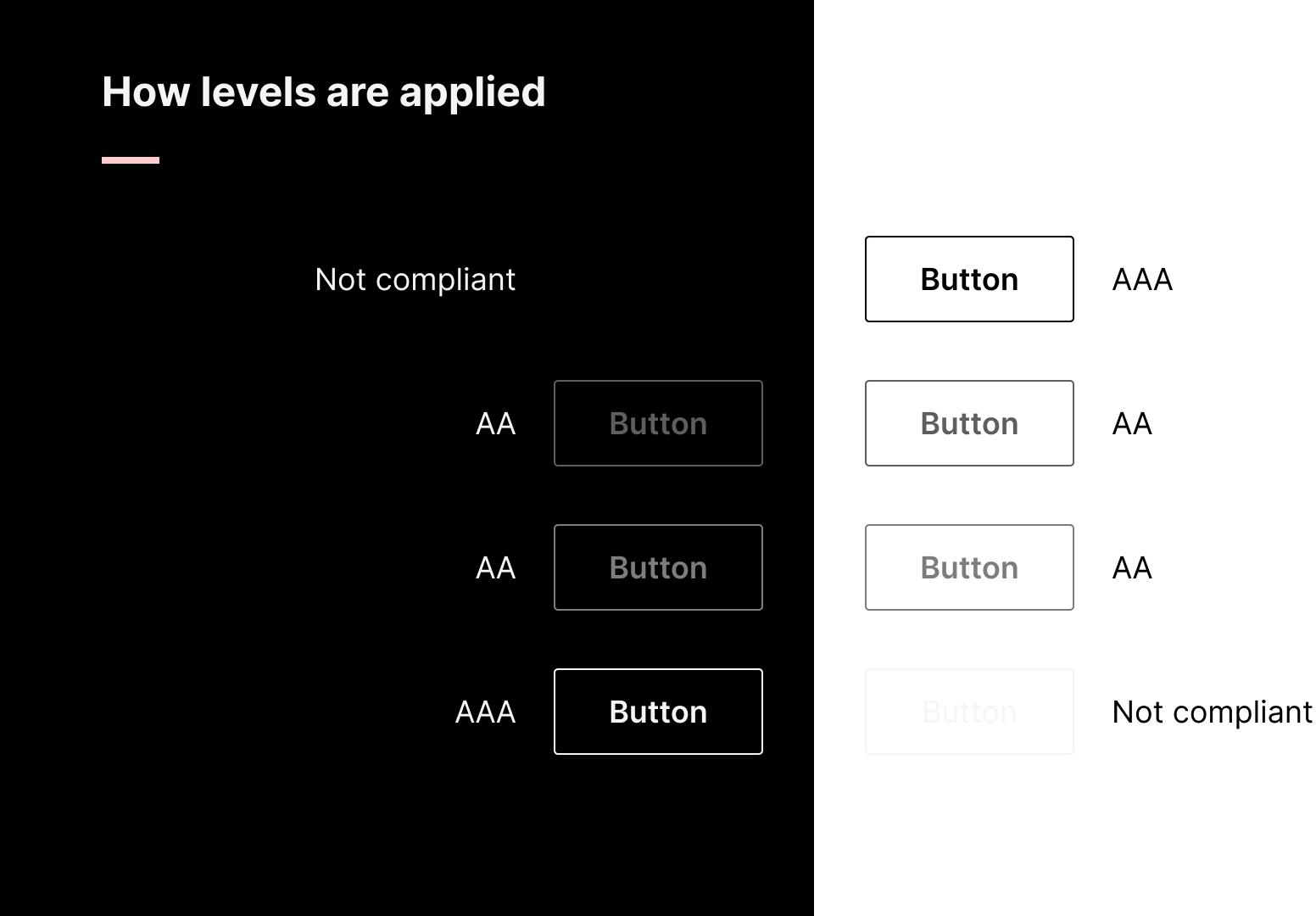
Content should work well across different platforms, technology and devices

WCAG acceptance levels

The A, AA, and AAA ratings are a system used to indicate compliance to WCAG, with A being the minimum level and AAA the maximum level.



How levels are applied



Tools & Resources

- Use WCAG's Quick Reference: www.w3.org/WAI/WCAG21/quickref
- The A11y Project: www.a11yproject.com
- Accessibility API Mappings: www.w3.org/TR/core-aam-1.1
- Applying WCAG to non-web tech: https://www.w3.org/TR/wcag2ict/
- Accessibility requirements for ICT products and services (PDF):

Remember:

You don’t have to be perfect.

Thank you EDW!

Reference for Slide 7

- “15% of people across the globe have reported disabilities” World Health Organization, World Report on Disability 2011
- “25% of people in the U.S. have reported disabilities” Centers for Disease Control and Prevention, Disability Impacts All of Us.

Note for Slide 7

You may notice that these percentages have a significant difference and wonder why. There are no short answers to this question, and while I have hypotheses about it, I cannot definitively say why. Perhaps the U.S. has more interest in gathering data about disabled people. Perhaps they have a broader understanding of the meaning of “disability. The data gathered from the U.S. is more recent, so perhaps it’s more accurate. There are many possible reasons that these percentages have huge differences. Regardless, 15-25% is the minimum number of disabled users according to current standards of disability globally and in the U.S. Perhaps in time, we will have a better understanding of disabilities to close this gap. Only time will tell. 🙂