



User Personas as an Inclusive Design Tool

Carie Fisher

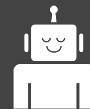
Senior Accessibility
Instructor & Developer



cehfisher



cariefisher



Helena McCabe

Senior Front-end Developer &
Accessibility Specialist

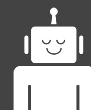


helenasue



@misshelenasue

@lullabot





1

Background

2

Personas

3

Takeaways

An aerial photograph of a city street intersection, likely in San Francisco, showing a yellow taxi, a white car, a black SUV, and a bicycle with passengers. A large blue circle is overlaid on the center of the image, containing the word "Background" in white text. The background image shows a street with white and yellow markings, a crosswalk, and a building with a sign that says "America's best network. Can your network say that? Better matters. verizon".

Background

13.7%

MOBILITY

Serious difficulty
walking or
climbing stairs



10.8%

COGNITION

Serious difficulty
concentrating,
remembering, or
making
decisions



6.8%

**INDEPENDENT
LIVING**

Difficulty doing
errands alone



5.9%

HEARING

Deafness or
serious difficulty
hearing



4.6%

VISION

Blindness or
serious difficulty
seeing



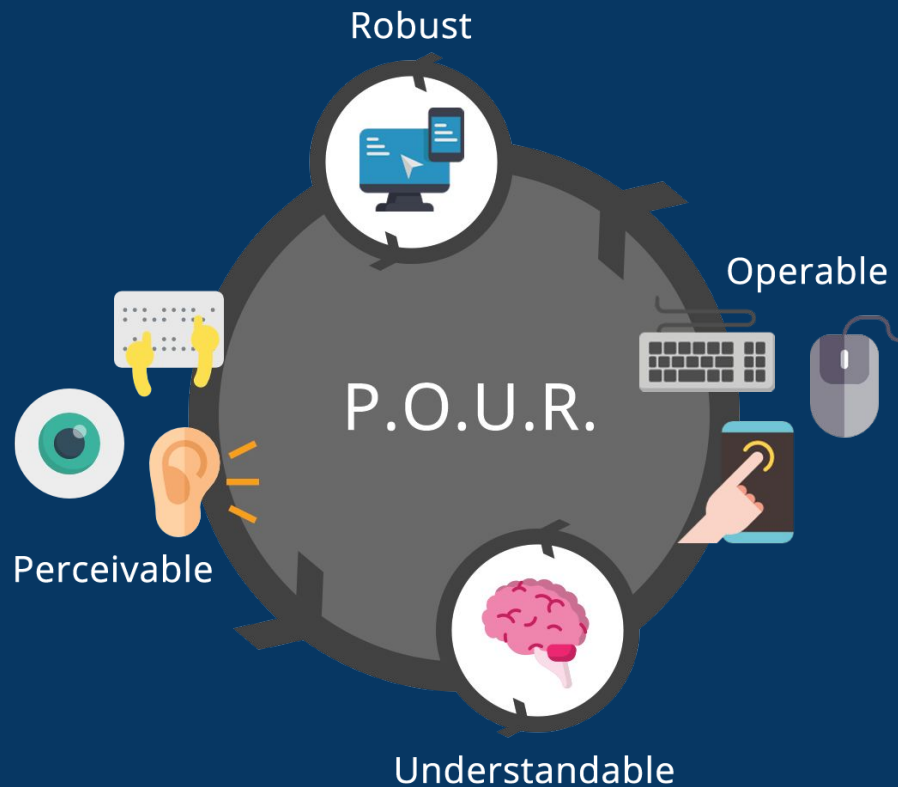
3.7%

SELF-CARE

Difficulty dressing
or bathing



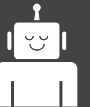
WCAG Guidelines



PERCEIVABLE



Ask yourself: Is there anything on our website or app that a person with a disability would not be able to perceive?



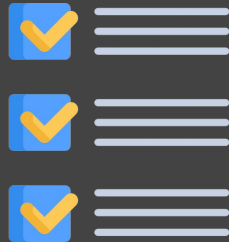
OPERABLE



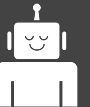
Ask yourself: Can users control interactive elements of our website/app? Does our website have any traps?



UNDERSTANDABLE



Ask yourself: Is all of the content clearly written? Are all of the interactions easy to understand? Does the order of the page make sense?



ROBUST



Ask yourself: Does our website only support the newest browsers or operating systems? Is our website developed with best practices? Does this work in both landscape and portrait orientation?



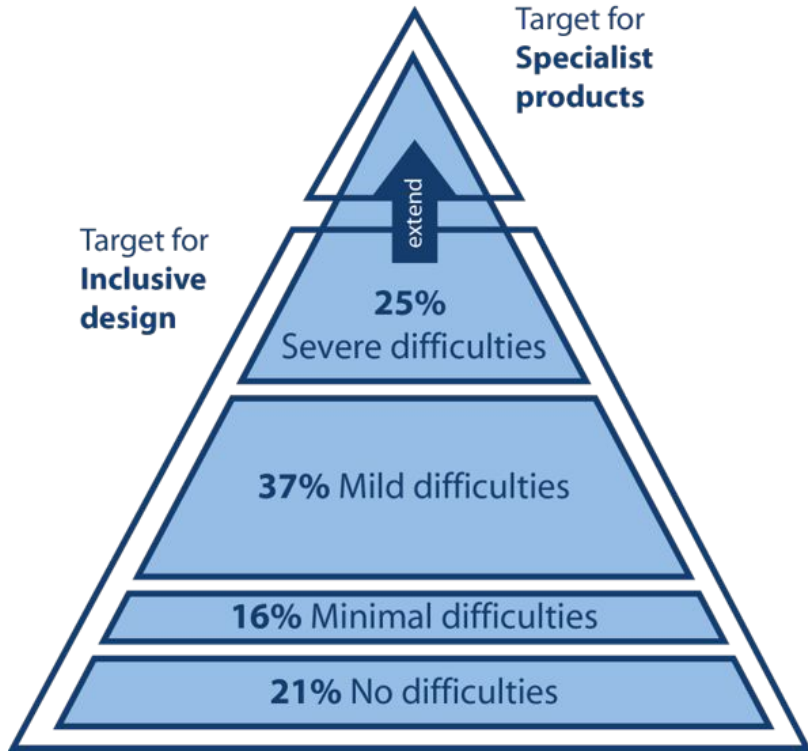


Fast Fact:

“a11y” is a numeronym that is short for “accessibility”

A -> [11 letters] -> Y

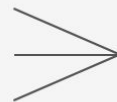




Inclusive Design & Development

Choosing an Inclusive Font

India
lettuce
l cat



The I, l, and 1
all look the same
in Gill Sans

b vs d
p vs q



The b/d and p/q
are mirror opposites
in Gill Sans

India
lettuce
1 cat



The I, l, and 1
all look unique
in PT Mono

b vs d
p vs q



The b/d and p/q
all have unique
identifiers in PT Mono



Black on White

Text to background ratio: 21:1
Large text: AA - Pass AAA - Pass
Small text: AA - Pass AAA - Pass

Gray on White

Text to background ratio: 7.46:1
Large text: AA - Pass AAA - Pass
Small text: AA - Pass AAA - Pass

White on Green

Text to background ratio: 3.24:1
Large text: AA - Pass AAA - Fail
Small text: AA - Fail AAA - Fail

White on Blue

Text to background ratio: 5.08:1
Large text: AA - Pass AAA - Pass
Small text: AA - Pass AAA - Fail

White on Orange

Text to background ratio: 3.13:1
Large text: AA - Pass AAA - Fail
Small text: AA - Fail AAA - Fail

White on Red

Text to background ratio: 4.62:1
Large text: AA - Pass AAA - Pass
Small text: AA - Pass AAA - Fail

White on Pink

Text to background ratio: 4.54:1
Large text: AA - Pass AAA - Pass
Small text: AA - Pass AAA - Fail

Thinking About Color & Contrast





Demo!

A vibrant fairground scene with a large blue circular overlay containing the word "Personas". The background shows a colorful building with orange and teal sections, a Ferris wheel, and people walking. The word "Personas" is written in white, sans-serif font within the blue circle.

Personas

Personas ARE

- Based on real user data
- Supported by all departments
- Communicated early and often
- A toolset to create empathy

Personas ARE NOT

- Real people or stereotypes
- Colorful artwork for your wall
- A substitute for user testing
- Useful if not actually used





Isaiah Smith

Occupation: Eighth Grader

Culture: Deaf

Goal: Watch an online video





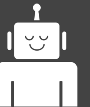
Demo!





How do you resolve this?

- Make sure videos have captions and/or transcripts
- Hand-captioning is best, but automatic captioning is better than nothing at all
- Transcripts and captions are different, both are important



Farrah Ali

Occupation: SysAdmin

Disability: Loss of Dexterity

Goal: Using only a keyboard





Fast Fact:

More people in the United States
have a mobility disability than live
in the state of California

They outnumber California
residents by nearly three million





Demo!

How do you resolve this?

- Plan out heading and page structure - make sure it makes sense to all users and devices
- Place important actions at the top or bottom of the page
- Use skip links and don't forget your focus indicators



Owen O'Connor

Occupation: Botany student

Disability: Colorblind

Goal: Analyze graphed data





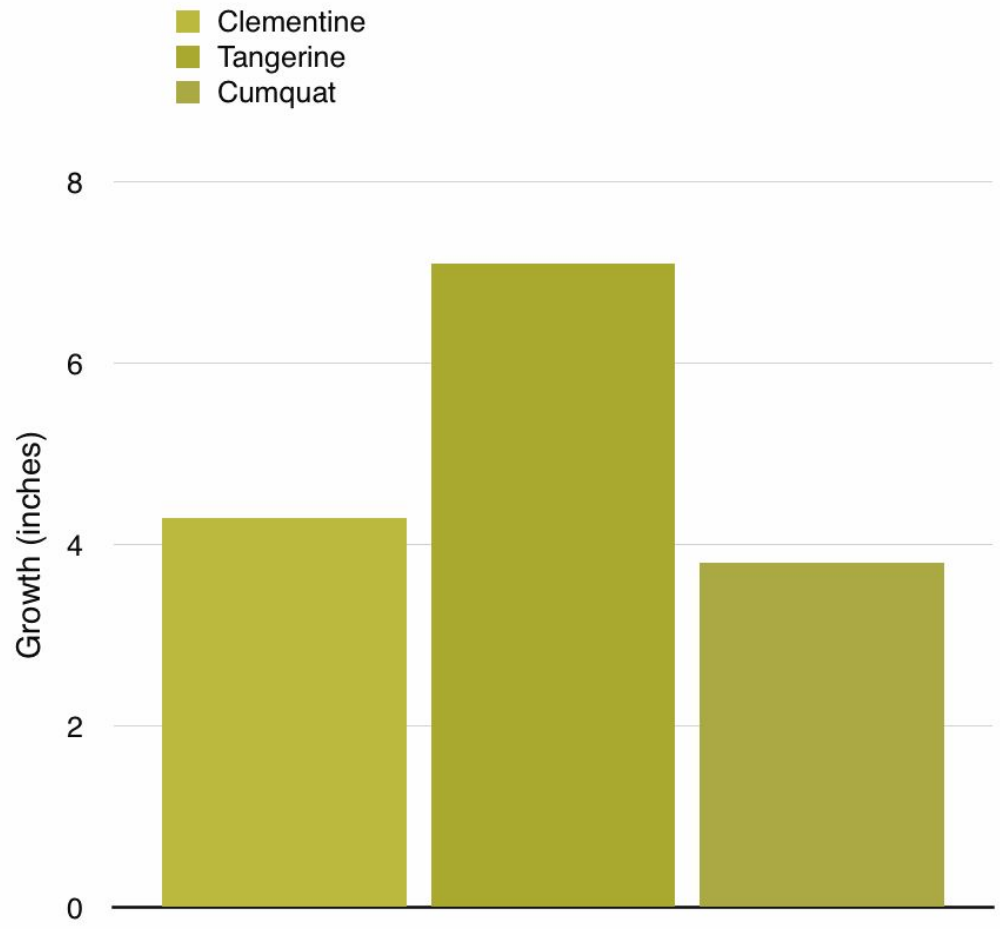
Fast Fact:

1 in 12 men have some type of
colorblindness

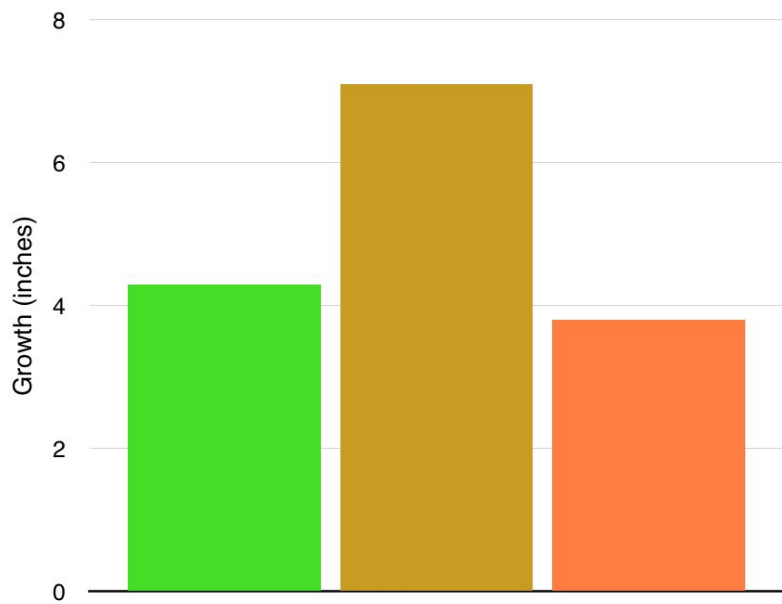




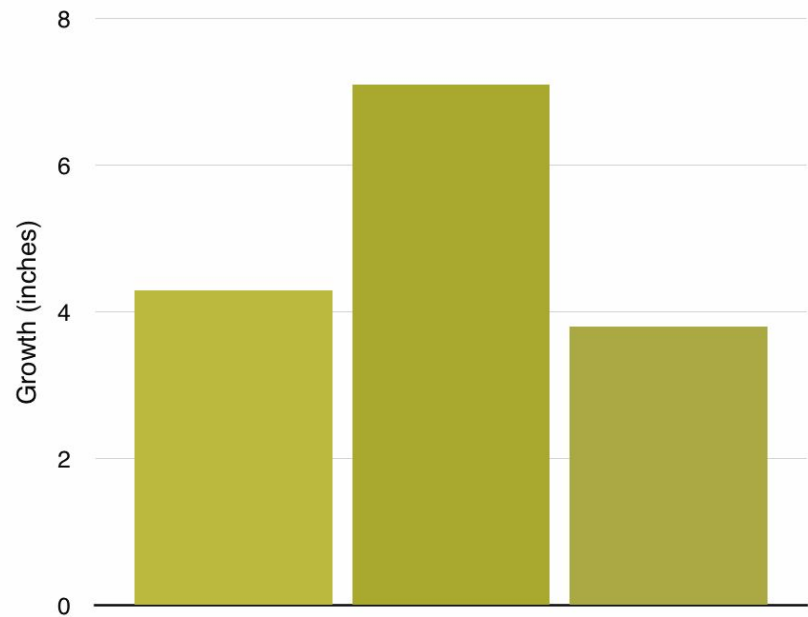
Demo!



■ Clementine
■ Tangerine
■ Cumquat



■ Clementine
■ Tangerine
■ Cumquat



How do you resolve this?

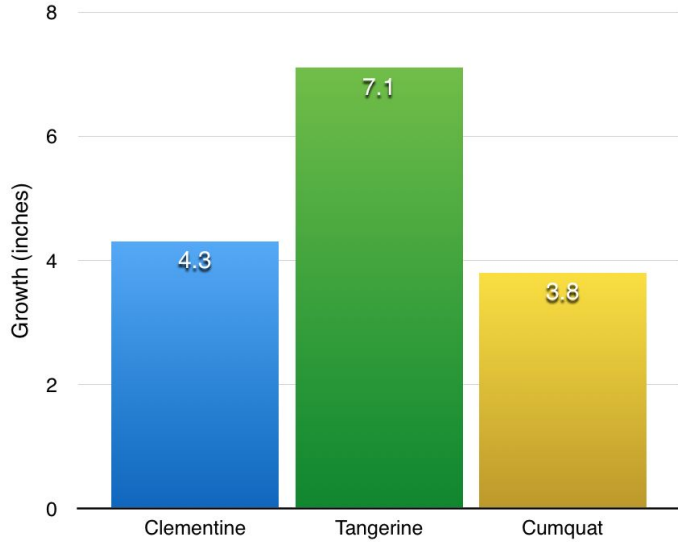
- Make sure color is not the only identifier
- Use tools to simulate what your site or app would look like for different types of color blindness
- Test color contrast levels for grayscale too



Findings

	Clementine	Tangerine	Cumquat
Growth (inches)	4.3	7.1	3.8

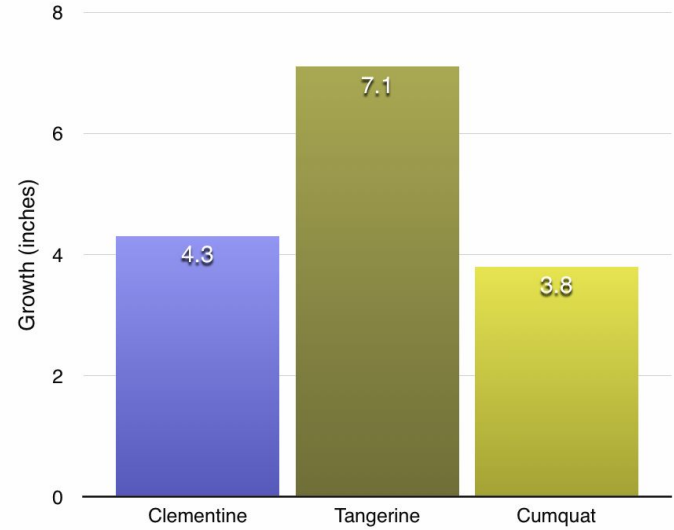
- Clementine
- Tangerine
- Cumquat



Findings

	Clementine	Tangerine	Cumquat
Growth (inches)	4.3	7.1	3.8

- Clementine
- Tangerine
- Cumquat



Eddie Moss

Occupation: Web Developer

Disability: Blind

Goal: Chat with friends on Twitter





Demo!


```
// Bad example.
```

```

```



```
// Good example.
```

```

```



```
// Please never do this. Not even if the SEO guy tells you to.  

```





abdul 
@Advil

Follow



HE HAS MY VOTE [#electionday](#)

1:11 PM - 8 Nov 2016



abdul ✓
@Advil

Follow



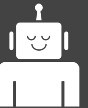
HE HAS MY VOTE #electionday



1:11 PM - 8 Nov 2016

How do you resolve this?

- Turn on “Compose image descriptions” on in your Twitter account: Settings > Accessibility
- Add context to image posts on all social media platforms
- Think about alt text like a tweet. Aim to briefly convey as much information as possible





Melissa Taylor

Occupation: Business Owner

Disability: Dyslexia

Goal: Taking an online class

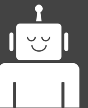




Demo!

How do you resolve this?

- Use an inclusive font in relative units like rems and ems
- Make sure to add enough margins, padding, and line spacing to your text
- Break text into small pieces or use bullet points/numbers





Camila Garcia

Occupation: Retired from Army

Disability: Aphasia

Goal: Purchase a ticket to the zoo





Fast Fact:

More people have a cognitive disability than the populations of Texas and Missouri combined

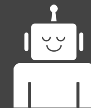




Demo!

How do you resolve this?

- Use icons along with text on important features
- Make sure there is enough white space on the page and minimize or eliminate distractions
- Give users enough time to complete tasks





Raymond Kiet

Occupation: Concert promoter

Disability: Vestibular disorder

Goal: Visit a new band's website

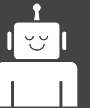




Demo!

How do you resolve this?

- Do not automatically play your media or slideshows
- Allow the user to take control of media-based features
- Be careful of gifs, animations, and other “delights” that may trigger vertigo and seizures



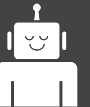


Takeaways

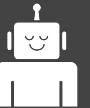
Persona Recap



Mockup/Sketch



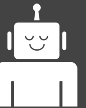
Mockup/Sketch



Prototype Code



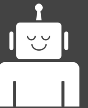
Prototype Code



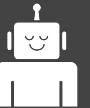
Content/Copy



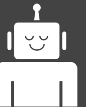
Content/Copy



Production



Production



Posters

bit.ly/a11yresources

Designing for users on the autistic spectrum

Do...	Don't...
use simple colours	use bright contrasting colours
write in plain English	use figures of speech and idioms
use simple sentences and bullet points	create a wall of text
make buttons descriptive	make buttons vague and unrecognizable
build simple and consistent layouts	build complex and cluttered layouts

Designing for users of screen readers

Do...	Don't...
describe images and provide transcripts for video	only show information in an image or video
follow a linear, logical layout	spread content all over a page
structure content using HTML5	rely on text size and placement for structure
build for keyboard use only	force mouse or screen use
write descriptive links and headings	write uninformative links and headings

Designing for users with low vision

Do...	Don't...
use good colour contrasts and a readable text size	use low colour contrasts and small text size
publish all information on web pages	bury information in downloads
use a combination of colour, shapes and text	only use colour to convey meaning
follow a linear, logical layout	spread content all over a page
put buttons and notifications in context	separate actions from their context

Designing for users with physical or motor disabilities

Do...	Don't...
make large clickable actions	demand precision
give form fields space	batch interactions together
design for keyboard or speech only use	make dynamic content that requires a lot of mouse movement
design with mobile and touchscreens in mind	have short time out windows
provide shortcuts	use users with lots of typing and scrolling

Designing for users who are Deaf or hard of hearing

Do...	Don't...
write in plain English	use complicated words or figures of speech
use subtitles or provide transcripts for video	put content in audio or video only
use a linear, logical layout	make complex layouts and menus
break up content with sub-headings, images and videos	make users read long blocks of content
let users request an interpreter for appointments	don't make telephone the only means of contact with users


Designing for users with dyslexia

Do...	Don't...
use images and diagrams to support text	use large blocks of heavy text
align text to the left and keep a consistent layout	underline words, use italics or write in capitals
consider producing materials in other formats for example, audio or video	force users to remember things from previous pages - give reminders and prompts
keep content short, clear and simple	rely on accurate spelling - use auto-correct or provide suggestions
let users change the content between background and text	put too much information in one place

Resources

bit.ly/a11yresources

- A11y Rocks Color Palette
- Accessibility Style Guide
- ChromeLens
- Colour Contrast Analyser
- Funkify

The image features a quote by Tim Berners-Lee centered on a blue circular background. The background of the entire image is a sunset over a beach, viewed from a wooden walkway with a railing. The sky is filled with orange and yellow hues, and the ocean is visible in the distance. The quote is written in white text.

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

Tim Berners-Lee

THANK YOU!

<https://events.drupal.org/seattle2019/sessions/using-personas-inclusive-design-tool>

