



# Web Accessibility 101

By Elohina Guevara

# What is accessibility (a11y)?

# What is accessibility (a11y)?



# What is accessibility (a11y)?



# Who are we talking about?

Vision

Hearing

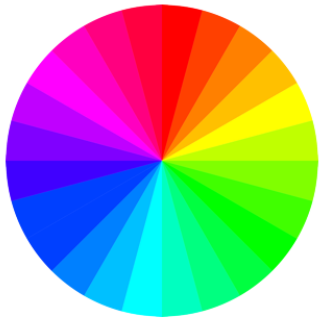
Cognitive

Mobility

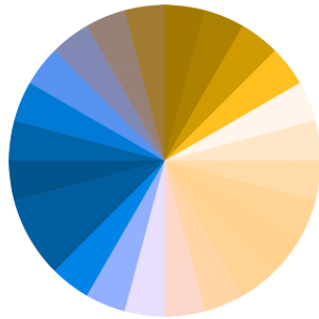
# Visual

## Obstacles - Color blindness

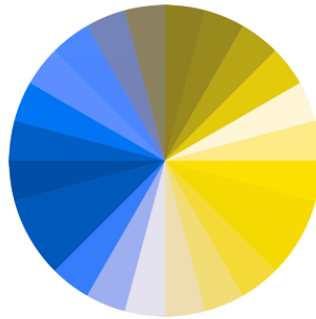
---



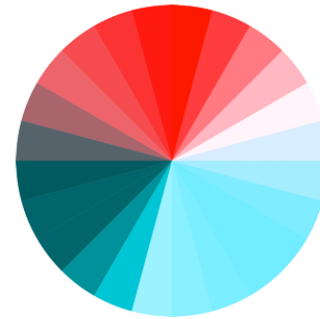
Regular vision



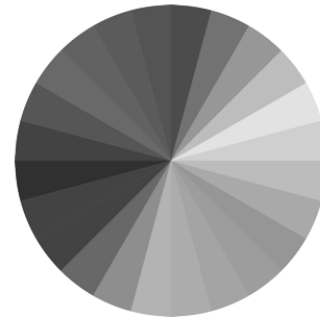
Deuteranopia



Protanopia



Tritanopia



Monochromacy



# Visual

## Obstacles - Low level vision



Tunel vision



Central field loss



Clouded vision

# Visual

## Obstacles - Blindness



# Visual

## How they use the web?

# Visual

## How they use the web?

- Enlarging or reducing text size and images

# Visual

## How they use the web?

- Enlarging or reducing text size and images
- Customizing settings for fonts, colors, and spacing

# Visual

## How they use the web?

- Enlarging or reducing text size and images
- Customizing settings for fonts, colors, and spacing
- Listening to text-to-speech synthesis of the content

# Visual

## How they use the web?

- Enlarging or reducing text size and images
- Customizing settings for fonts, colors, and spacing
- Listening to text-to-speech synthesis of the content
- Listening to audio descriptions of video in multimedia

# Visual

## Tips

# Visual

## Tips

1. Provide text equivalents for all non-text objects on the page

# Visual

## Tips

1. Provide text equivalents for all non-text objects on the page
2. Don't specify exact sizes for fonts or layouts



# Visual

## Tips

1. Provide text equivalents for all non-text objects on the page
2. Don't specify exact sizes for fonts or layouts
3. Use descriptive titles for every page

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## Tips

1. Provide text equivalents for all non-text objects on the page
2. Don't specify exact sizes for fonts or layouts
3. Use descriptive titles for every page
4. Ensure that tab key navigation works properly

# Visual

## Tips

1. Provide text equivalents for all non-text objects on the page
2. Don't specify exact sizes for fonts or layouts
3. Use descriptive titles for every page
4. Ensure that tab key navigation works properly
5. Use good contrast and don't rely only in color to give an information

# Visual

<b>Address:</b>	<b>Apt.:</b>
<input type="text"/>	<input type="text"/>
<b>City:</b>	<b>State/Province:</b>
<input type="text"/>	<input type="text"/>
<b>Zip Code:</b>	<b>Country:</b>
<input type="text"/>	<input type="text"/>
<b>Primary Phone #:</b>	<b>Secondary Phone #:</b>
<input type="text"/>	<input type="text"/>

<b>Address:</b>	<b>Apt.:</b>
<input type="text"/>	<input type="text"/>
<b>City:</b>	<b>State/Province:</b>
<input type="text"/>	<input type="text"/>
<b>Zip Code:</b>	<b>Country:</b>
<input type="text"/>	<input type="text"/>
<b>Primary Phone #:</b>	<b>Secondary Phone #:</b>
<input type="text"/>	<input type="text"/>

# Hearing

## Obstacles

They will have problems with audio content without captions

# Hearing

How they use the web?

# Hearing

## How they use the web?

- Using captions in video content

# Hearing

## How they use the web?

- Using captions in video content
- Using closed captioning



# Hearing

## Tips



# Hearing

## Tips

1. Transcripts and captions of audio content



# Hearing

## Tips

1. Transcripts and captions of audio content
2. Provide options to adjust the text size and colors of captions



# Hearing

## Tips

1. Transcripts and captions of audio content
2. Provide options to adjust the text size and colors of captions
3. Options to stop, pause, and adjust the volume of audio content



# Mobility

## Obstacles

# Mobility

## Obstacles

- Difficulty making the exact hand movement required to use a mouse

# Mobility

## Obstacles

- Difficulty making the exact hand movement required to use a mouse
- Paralyzed

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- Difficulty making the exact hand movement required to use a mouse
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# Mobility

## Obstacles

- Difficulty making the exact hand movement required to use a mouse
- Paralyzed
- Old age hardware limitations



# Mobility

Tips

# Mobility

## Tips

1. Provide buttons rather than text for navigation to provide a larger 'target' area

# Mobility

## Tips

1. Provide buttons rather than text for navigation to provide a larger 'target' area
2. Clear consistent layouts and navigation

# Mobility

## Tips

1. Provide buttons rather than text for navigation to provide a larger 'target' area
2. Clear consistent layouts and navigation
3. Don't think everybody uses a mouse

Obstacles

Cognitive

## Obstacles

# Cognitive

- Mental illness

# Obstacles

## Cognitive

- Mental illness
- Learning disabilities



## Obstacles

# Cognitive

- Mental illness
- Learning disabilities
- And many more...

# Cognitive

Tips

# Cognitive

## Tips

1. Clearly structured content

# Cognitive

## Tips

1. Clearly structured content
2. Consistent labeling of forms, buttons, and other content parts

# Cognitive

## Tips

1. Clearly structured content
2. Consistent labeling of forms, buttons, and other content parts
3. Predictable link targets, functionality, and overall interaction

# Cognitive

## Tips

1. Clearly structured content
2. Consistent labeling of forms, buttons, and other content parts
3. Predictable link targets, functionality, and overall interaction
4. Simpler text that is supplemented by images, graphs, and other illustrations

**Is a11y important in our projects?**

# Is a11y important in our projects?

Let's see the numbers!



# Worldwide

World Health Organization

# Worldwide

World Health Organization

*About 15% of the world's population  
lives with some form of disability*



## Media centre

### New world report shows more than 1 billion people with disabilities face substantial barriers in their daily lives

Governments should step up efforts to enable access to mainstream services and to invest in specialized programmes to unlock the vast potential of people with disabilities

News release

9 JUNE 2011 | NEW YORK - WHO and the World Bank today revealed new global estimates that more than one billion people experience some form of disability. They urged governments to step up efforts to enable access to mainstream services and to invest in specialized programmes to unlock the vast potential of people with disabilities.

### World report on disability provides global estimates

The first-ever *World report on disability* provides the first global estimates of persons with disabilities in 40 years and an overview of the status of disability in the world. New research shows that almost one-fifth of the estimated global total of persons living with disabilities, or between 110-190 million, encounter significant difficulties. The report stresses that few countries have adequate mechanisms in place to respond to the needs of people with disabilities. Barriers include stigma and discrimination, lack of adequate health care and rehabilitation services; and inaccessible transport, buildings and information and communication technologies. As

## Key facts

- Over a billion people have some form of disability
- Between 110 million and 190 million adults have significant difficulties in functioning
- Rates of disability are increasing due to population ageing and increases in chronic health conditions, among other causes.

# UK

**Family Resources Survey: financial year 2017/18**

# UK

Family Resources Survey: financial year 2017/18

*21% (13.3 million) of people reported a disability in 2017/18*

[Home](#)

National Statistics

# Family Resources Survey: financial year 2016/17

Results from the Family Resources Survey for financial year 2016 to 2017, providing information on income and circumstances of UK households.

Published 22 March 2018

From: [Department for Work and Pensions](#)

## Key facts

- 8% of children are disabled
- 18% of working age adults are disabled
- 44% of pension age adults are disabled



## Documents



### [Family Resources Survey 2016/17](#)

PDF, 463KB, 12 pages

This file may not be suitable for users of assistive technology. [Request an accessible format.](#)

## Related content

[Disability prevalence estimates 2002/03 to 2011/12 \(Apr to Mar\)](#)
[Family Resources Survey](#)
[Family Resources Survey: financial year 2015/16](#)

# Ireland

Central Statistics Office

# Ireland

Central Statistics Office

*643,131 people stated they had a disability in April 2016, accounting for 13.5% of the population.*



## Key facts

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- 6.7% of the population aged under 20 had a disability
- 49.5% of the population aged 75 and over had a disability

**Why does a11y matter?**

# Why does a11y matter?

- It's the right thing to do 👍

# Why does a11y matter?

- It's the right thing to do 👍
- It has a positive impact on usability 📱

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- It's the right thing to do 👍
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- We want more customers 💰

# Why does a11y matter?

- It's the right thing to do 👍
- It has a positive impact on usability 🧑🏻📱
- We want more customers 💰
- We don't want to get our customers sued 🧑🏻⚖️

# Domino's case

Is your website or app not accessible?





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# Supreme Court hands victory to blind man who sued Domino's over site accessibility

PUBLISHED MON, OCT 7 2019•9:40 AM EDT | UPDATED TUE, OCT 8 2019•6:31 PM EDT



**Tucker Higgins**

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# EU Web Accessibility Directive

## National Disability Authority

*Directive (EU) 2016/2102 of the European Parliament and of the Council... requires public bodies to ensure their websites and apps are accessible to persons with disabilities. All websites created after 23 September 2018 will have to be accessible by 23 September 2019. Existing websites will have to comply by 23 September 2020.*

# Gravity



# Buildit Gravity pattern library (Staging for Next)

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Gravity is [Buildit @ Wipro Digital](#)'s design system. This pattern library showcases all of Gravity's styles and components for web-based projects, which are provided by the [@buildit/gravity-ui-web NPM package](#).

As long as you have Gravity's CSS integrated into your project, all you need to do to "use" a component you find here is to copy the HTML markup shown in this pattern library. For complete setup and usage instructions, please refer to [@buildit/gravity-ui-web's documentation](#) on GitHub.

(In future, we plan to make the underlying Nunjucks templates directly available via another NPM package. Until then, you need to produce your own markup though)

## Package versions

The following Gravity package versions were used to build this pattern library:

# Cycle 7

**A seven week lean understanding and rapid  
prototyping process**



Pinpoint and answer  
the unknown,  
important questions.



Run lean impactful  
experiments tested  
directly with users.



Build realistic  
propositions from  
data driven insights.

# **My work in Gravity**

# Automated tests

## axe-core

Accessibility testing engine for websites and other HTML-based user interface



Web Content Accessibility Guidelines

**Thank you!**

**Gracias!**

**Go raibh maith agat!**

**Arigato!**

**Obrigado!**

**Köszönöm!**

**Dziękuję Ci!**