

Digital Accessibility and Public Works



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What is digital accessibility?

What is digital accessibility?

A measure of how easy it is for someone with a disability to use a digital product

How many people have a disability?



Australians with disability

- 0 – 5%
- 5 – 15%
- 15 – 25%
- Greater than 25%













18% of Australians have a disability

4.4 million people

Australian Census, 2016













But! It's complicated...

- What about disabilities that don't affect phone and computer use?

	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

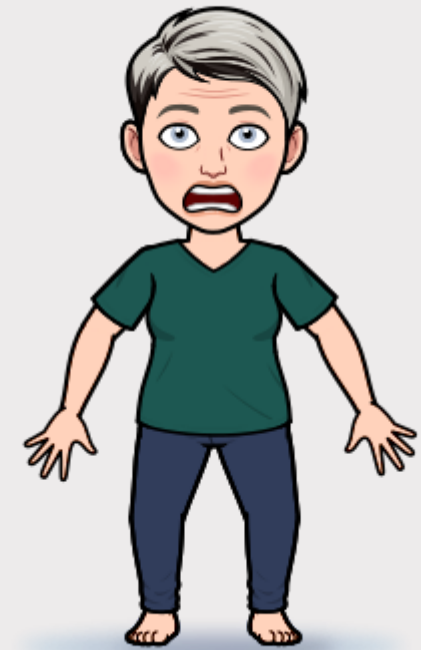
But! It's complicated...

- What about disabilities that don't affect phone and computer use?
- Or impairments that aren't disabilities?

	Permanent	Temporary	Situational
Touch	 One arm	 Arm injury	 New parent
See	 Blind	 Cataract	 Distracted driver
Hear	 Deaf	 Ear infection	 Bartender
Speak	 Non-verbal	 Laryngitis	 Heavy accent

And we're all getting older

Reductions in vision, hearing and mobility are common with increased age



Disability Discrimination Act 1992 (DDA)

"The Disability Discrimination Act 1992 (DDA) aims to provide a fair go for Australians with disabilities—it gives them the right to substantive equality of opportunity in areas like employment, education and the provision of goods and services."

- Productivity Commission review of the Act

Maguire v
Sydney Olympics



Everything is online now



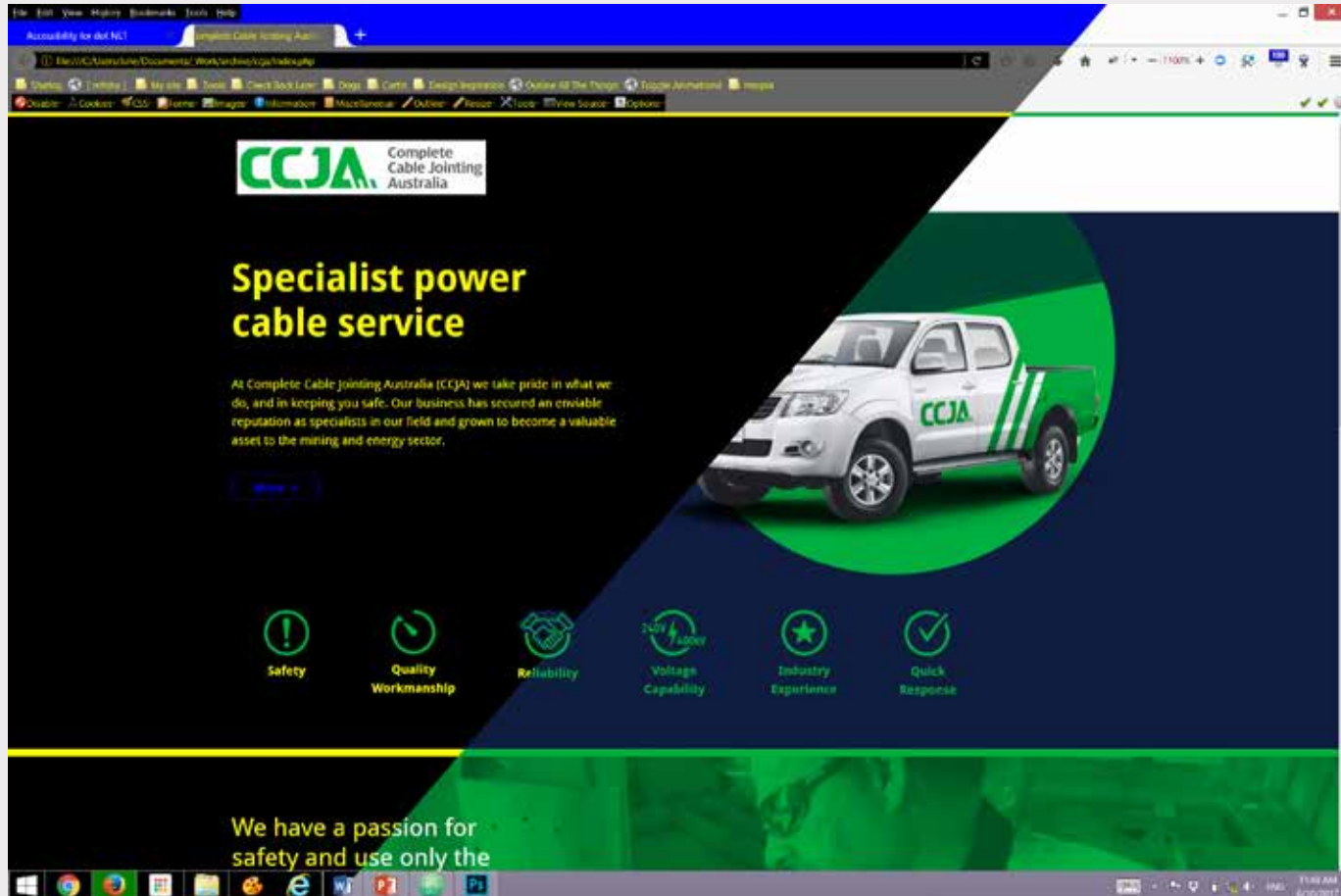
Assistive technology

Any tool used to increase, maintain, or improve the functional capabilities of persons with disabilities

Screen readers



Settings for low vision or dexterity



Keyboards and keyboard alternatives



Built-in to your device

Your phone > Settings > Accessibility

How do we check accessibility?

1. Test against a standard

Web Content Accessibility Guidelines

<https://www.w3.org/WAI/standards-guidelines/wcag/>

WCAG Structure




- Principles
 - Guidelines
 - Success Criteria

WCAG Principles





- Perceivable







WCAG Principles

- Perceivable  
- Operable 

WCAG Principles

- Perceivable  
- Operable 
- Understandable 

WCAG Principles

- Perceivable 
- Operable 
- Understandable 
- Robust 

WCAG Levels



WCAG standard

Hundreds of pages of technical jargon

The image shows a screenshot of the 'Understanding WCAG 2.1' document. On the left is a table of contents titled 'UNDERSTANDING PAGES' with a scrollable list of sections. The main content area on the right has a header with the title 'Understanding WCAG 2.1' and a 'W3C' logo. Below the header is a list of authors, editors, draft link, official version link, and file issues link. A copyright notice is present below the list. The 'Abstract' section follows, explaining the document's purpose and providing a link to the overview. The 'Status of This Document' section states it is the official version and provides instructions for commenting.

UNDERSTANDING PAGES

- Introduction to Understanding WCAG 2.1
- Understanding Techniques for WCAG Success Criteria
- Perceivable
 - 1.1 Text Alternatives
 - 1.1.1 Non-text Content
 - 1.2 Time-based Media
 - 1.2.1 Audio-only and Video-only (Prerecorded)
 - 1.2.2 Captions (Prerecorded)
 - 1.2.3 Audio Description or Media Alternative (Prerecorded)
 - 1.2.4 Captions (Live)
 - 1.2.5 Audio Description (Prerecorded)
 - 1.2.6 Sign Language (Prerecorded)
 - 1.2.7 Extended Audio Description (Prerecorded)
 - 1.2.8 Media Alternative (Prerecorded)
 - 1.2.9 Audio-only (Live)
 - 1.3 Adequately Perceivable
 - 1.3.1 Info and Relationships
 - 1.3.2 Meaningful Sequence
 - 1.3.3 Sensory Characteristics
 - 1.3.4 Orientation
 - 1.3.5 Identify Input Purpose
 - 1.3.6 Identify Purpose
 - 1.4 Distinguishable

Understanding WCAG 2.1

Updated 12 July 2019

W3C

- **Authors:** Accessibility Guidelines Working Group
- **Editors:** Alastair Campbell, Michael Cooper, Andrew Kirkpatrick
- **Editors' Draft:** <https://w3c.github.io/wcag/understanding/>
- **Official Version:** <https://www.w3.org/WAI/WCAG21/Understanding/>
- **File Issues:** <https://github.com/w3c/wcag/issues/>

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Abstract

Understanding WCAG 2.1 is a guide to understanding and using Web Content Accessibility Guidelines (WCAG) 2.1 [[WCAG21]]. It is part of a set of documents that support WCAG 2.1. Please note that the contents of this document are informative (they provide guidance), and not normative (they do not set requirements for conforming to WCAG 2.1). See [Web Content Accessibility Guidelines \(WCAG\) Overview](#) for an introduction to WCAG, supporting technical documents, and educational material.

Status of This Document

This is the official version of "Understanding WCAG 2.1", and is referenced by [Web Content Accessibility Guidelines 2.1](#). This resource is maintained as needed to update interpretive guidance and reference techniques to meet the guidelines.

To comment, [file an issue in the W3C WCAG GitHub repository](#). Although the proposed Success Criteria in this document reference issues tracking discussion, the Working Group requests that public comments be filed as new issues, one issue per discrete comment. It is free to create a GitHub account to file issues. If filing issues in GitHub is not feasible, send email to public-advisory-comments@w3.org (comment archive).

WCAG standard in plain language

WebAIM's WCAG checklist

<https://webaim.org/standards/wcag/checklist>

Automated testing

- Will catch 20 to 50% of issues
- [aXe DevTools](#) by Deque
- [ARC Toolkit](#) by TPGi
- Android Accessibility Scanner app by Google
- Accessibility Insights for Android app by Microsoft

Manual testing

- [Accessibility Insights for Web](#) by Microsoft
 - Use the Assessment feature
- Your friendly local accessibility auditor

2. Test with people with disabilities

User testing is great...



... but user testing by
people with disabilities is gold

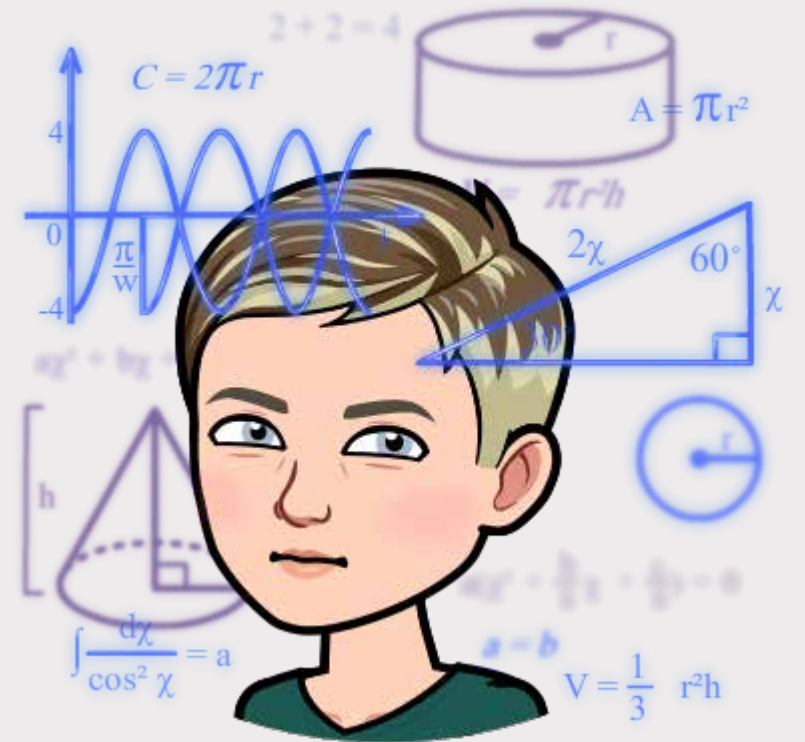


Common ground

1. Technical compliance isn't enough



Our work fits into a larger context



Consequences of mistakes

- New barriers
- Lack of participation
- Exclusion from community

Consequences of success



Consequences of success

- Previously overlooked demographics are included in community
- Increased diversity in public life

2. It's cheaper to do it early



3. Functional can be beautiful

Ed Roberts Campus

- Ramps
- Wide corridors
- Curved hallways
- Automated doors and lights



Lessons to share

1. All fixes help someone

What's your specialty?

- [Comica11y](#) by Paul Spencer
- [Accessible Astronomy](#) by Yuma Decaux
- [ThisAbles](#) for Ikea



2. Shift left

Project process



Start anywhere



Shift left



More left



The goal



3. Co-design for specific audiences

Wheelchairs



Freedom Leverage Wheelchair



**“Nothing about us,
without us.”**

Disability activists

Thankyou, let's chat

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