Accessibility for design teams

Australian Institute of Company Directors

Introduction

Acknowledgement of Country

I'd like to acknowledge the Traditional Owners of the lands on which we meet today, the Cammeraygal people of the Eora.
We pay our respects to Elders past and present, and extend that respect to all First Nations people present today.

Add some quick intros in chat:

- What's your current role?
- How long have you worked at AICD?

My name is Russ Weakley:

- 1995: Web Design and HTML
- 2002: CSS
- 2003: Accessibility
- 2012: Component libraries and Design systems

This is quite informal, so feel free to **interrupt and ask questions** any time.

Resources provided?

I'll provide a version of the slides at the completion of the session.

What will we cover?

Why should you care about accessibility?

Key reasons to care:

1. Legal responsibilities
2. Reputation
3. User Experience
4. Commercial incentives

Legal responsibilities

All public-facing digital products in Australia:

- Are required to comply with the Disability Discrimination Act 1992.
- Must conform to WCAG 2.0 AA via the Australian Human Rights Commission.

Reputation

Some recent examples

- 2019, USA: Guillermo Robles v. Domino's Pizza
- 2015, Australia: Gisele Mesnage v. Coles
- 2000, Australia: Bruce Maguire v. SOCOG

While there are financial risks associated with legal actions, the possible **damage to an organisation's reputation** is far more significant.

Dominoes

Domino's will likely forever be remembered as the brand that argued against the basic rights of a blind man - and lost.

Source

JetStar

A woman with a disability ended up crawling off a plane when staff refused her request to use an aisle wheelchair for free.

Source

User Experience

Features intended for people with disabilities often **improve the user experience for many other groups**.

Commercial incentives

Do you know the **percentage of people** who have some form of disability in Australia?

Some stats

- Australia: 17.7% of the population
- New Zealand: 24.3% of the population
- USA: 26% of the population

These estimates are known to be low, as many people **don't identify as having some form of disability**.

Can any organisation afford to **alienate potential customers**?

Any **questions or comments**?

The term “disability”

What does the term **“disability”** mean in Australia?

Persons are considered to have a disability if they have a limitation, restriction or impairment, which has lasted, or is likely to last, for at least six months and restricts everyday activities.
Source

Should we use the term **“disabled”** or is it better to use **“differently-**

abled”?

Emily Ladau

A passionate disability rights activist, writer, speaker, and digital communications consultant who educates people about her life with a physical disability.

A great book on this topic: [“Demystifying Disability - What to Know, What to Say, and How to Be an Ally” (15:40 - 17:52)]() by Emily Ladau.

Always ask

- People may have their own preferences regarding identity.
- Some people may not identify as having a disability at all.
- Always ask people for their preferences.

Things to avoid

- Avoid negative phrases
- Avoid sensationalisation
- Only mention when relevant
- Avoid terms like “normal”

Any **questions or comments**?

Let’s meet some people

We're going to look at how a range different people **interact with the digital world**.

1. People with no vision
2. People with low vision
3. People with reduced colour vision
4. People with limited movement
5. People with different learning or cognition
6. People with reduced or no hearing

1. People with no vision

Characteristics:

- Blindness
- Legally blind

May use:

- A keyboard - without a mouse
- Screen reader software (e.g. JAWS, NVDA, VoiceOver, Narrator)
- Refreshable braille devices (e.g. Stand-alone, Notetakers, Smart displays)

May need:

- The ability to navigate using the keyboard only
- Well structured content
- Alternatives for visual content
- Clearly labelled interactive components
- Accessible forms

2. People with low vision

Characteristics:

- Low visual clarity

- Light and glare sensitivity
- Contrast sensitivity
- Limited field of vision

May use:

- Screen magnifier software (e.g. ZoomText)
- Specific computer settings (e.g. Enlarge text sizes, magnify the display)
- Screen reader software (e.g. JAWS, NVDA, VoiceOver, Narrator)

May need:

- Good colour contrast
- Readable fonts
- The ability to magnify or zoom content
- The ability to customise the display

3. People with reduced colour vision

Characteristics:

- Typical *(Trichromacy)*
- Green-deficient *(Deuteranomaly)* and Green-Blind *(Deuteranopia)*
- Red-deficient *(Protanomaly)* and Red-Blind *(Protanopia)*
- Blue-deficient *(Tritanomaly)* and Blue-Blind *(Tritanopia)*
- Blue Cone Monochromacy *(Achromatomaly)*
- Monochromacy *(Achromatopsia)*

May need:

- Good colour contrast
- Information that is conveyed using methods other than colour-alone

4. People with limited movement

Characteristics:

- Limited strength
- Limited reach or range
- Limited dexterity

May use:

- Voice recognition software (e.g. Dragon NaturallySpeaking)
- Eye or head tracking software (e.g. Dynavox, Apple iOS)
- Head pointer
- Sip and puff
- Head switches
- Mouth stick

May need:

- The ability to navigate using the keyboard only
- Efficient methods of navigating content
- Enough time to complete tasks

5. People with different learning or cognition

Characteristics:

- Limited or no literacy/numeracy
- Limited understanding of complex language
- Limited focus and/or memory
- Limited planning and execution
- Limited emotional control
- Debilitating mental health conditions

May use:

- Spelling and grammar software (e.g. Grammarly, MS Word)
- Screen masking software (e.g. Read&Write)
- Text to speech (e.g. Speechify)
- Screen reader software (e.g. JAWS, NVDA, VoiceOver, Talkback, Narrator)

May need:

- Content that is clearly written and presented
- Navigation that is easy to understand
- Help to avoid mistakes
- Limited distractions
- Processes that do not rely on memory

6. People with reduced or no hearing

Characteristics:

- Muffling of speech and other sounds
- Difficulty understanding words, especially in crowds
- Total inability to hear

May need:

- Captions and transcripts
- Sign language translations
- A choice of communication methods

Disabilities and barriers

Disabilities may vary

- Disabilities are often spectrums

- Some people have multiple disabilities
- Some disabilities change over time
- Some disabilities change from day to day

People may experience temporary barriers

- A broken arm
- Temporary hearing loss
- Concussion
- Stroke

People may experience situational barriers

- Unable to see a screen due to sunlight
- Unable to hear audio due to a local noise
- Unable to use a mouse while holding a baby

Regardless, any of these people **could be your customers** today or tomorrow!

Any **questions or comments**?

Accessibility user profiles

How can we plan, design and build for **all these different types of disabilities**?

One solution is to create a set of **user profiles** that follow the broad categories we just reviewed.

1. A person with no vision
2. A person with low vision
3. A person with reduced colour vision
4. A person with limited movement
5. A person with different learning or cognition
6. A person with reduced or no hearing

These user profiles help you focus on **people and their individual experiences** rather than broad abstract concepts.

For example, how would each of these user profiles **engage and interact with the following scenarios**?

- A user-journey (e.g. Getting an insurance quote)
- A process (e.g. Making a payment)
- A page (e.g. Filling in a form)
- A component (e.g. Choosing a date from a date picker)

User profiles and different roles

Designers

- When journey mapping (Highlighting how each user profile might experience the journey)
- When planning interviews, surveys, user testing, split testing and card sorting (Are all your user profiles included, and at which times?)
- Throughout the UX and UI design processes

POs, IMs, BAs

- When defining requirements?
- When sprint planning?

- As part of user stories?
- To help determine “Definition of done”?
- To help estimate effort?

Engineers and testers

- When building and testing new components
- When creating and testing pages

Design systems

- When designing and building new components (How would each user profile interact with the component)
- When documenting the accessibility requirements for using components
- When reviewing existing components

Content creators

- When deciding on reading levels
- When checking for complex language, acronyms

As a starting point, you could review the Gov.UK accessibility user profiles.

Design systems: Accessible design

Use personas at the **earliest possible stage** to check design concepts.

Be aware of **native vs non-native** when designing components - and the

impact on accessibility.

For layouts and components, **simple is always better** - for everyone.

Be aware of how users **interact with notifications** - are they announced, do they recieve focus?

Design includes considering **focus order and focus management**.

Design includes **all possible states**.

Handover to developers should include **key accessibility features**. What and how do you annotate?

Design systems: Accessible engineering

Use personas at the **earliest possible stage** before beginning development.

Run through all test cases at the earliest possible stage before beginning development.

Build so that developers who use the system **cannot break accessibility**.

Conduct **rigorous accessibility unit testing** on all components before releases.

Design systems: Documentation

Documentation should include **accessibility usage** associated with each component.

Documentation should include concepts that **cannot be baked into components** - focus management, error management.

Questions/discussion?