



BRICKFIELD

Education Labs

Part 1. Accessibility
introduction

Accessibility, usability, and inclusion are closely related aspects in creating a web that works for everyone.

A person with a disability can ...

- 1. Acquire** the same information
- 2. Engage** the same interactions
- 3. Enjoy** the same services

In an equally effective, equally integrated manner,
with substantially equivalent ease of use,

As a person without a disability.

Accessibility means

Availability

Inclusion

Usability

Standards

Predictability

Reducing negative impact of
disabilities on access



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The landscape is changing













About disability

(...) disability is a **conflict** between someone's **functional capability** and the **world we have constructed**.

Sarah Horton, *A web for everyone*.

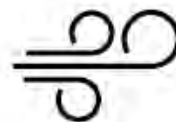
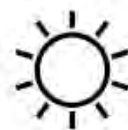
Ability + Barrier = Disability

Permanent, Temporary & Situational scenarios

	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

Conditions

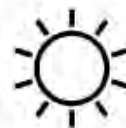
Weather



Temperature



Time of the day



Persona spectrum

Accessibility persona spectrum: intellectual disability

Permanent



Cognitive
disability

Temporary



Learning, drugs,
distress

Situational



Interruption,
distraction

Accessibility Statistics

Country	People with any degree of disability
UK	13,9 million
Ireland	643.000
Europe	+80 million, 1 in 6 people

Sources:

UK: Family Resources Survey
2016/17

Ireland: 2016 Census

Accessibility Statistics Top Level

It is expected that in 2020 approximately 120 million persons will have any kind of disability.

Source: European Council, 2015

Over a billion people live with some form of disability (about 15% of the world's population).

Source: World Health Organization, 2017

Principle 4: Make the internet affordable and accessible to everyone



Not everyone has an arrow on their head!



Objectives

- Perceivable
- Operable
- Understandable
- Robust

Perceivable

- Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, Braille, speech, symbols or simpler language.
- Provide alternatives for time-based media.
- Create content that can be presented in different ways (for example, simpler layout) without losing information or structure.
- Make it easier for users to see and hear content including separating foreground from background.

Operable

- Make all functionality available from a keyboard.
- Provide users enough time to read and use content.
- Do not design content in a way that is known to cause seizures.
- Provide ways to help users navigate, find content, and determine where they are

Understandable

- Make text content readable and understandable.
- Make Web pages appear and operate in predictable ways.
- Help users avoid and correct mistakes.

Robust

Maximise compatibility with current and future user agents, including assistive technologies.

Personas



Persona 1. Lee, online shopper with color blindness (red and green)



Problems:

- Websites and apps with inadequate color contrast of text and images.
- Color alone is used to indicate required fields and sale prices.
- Both red and green color combinations look brown to him.
- It's difficult for him to make product choices when color swatches are not labeled with the name of the color.

Solutions:

- Online content use adequate contrast and allow him to adjust contrast settings in his browser.
- He is also better able to recognize when information is required when asterisks are used.
- Color label names are included in the selection options rather than color swatches alone.

Persona 2. Martine (62yo), online student who is hard of hearing



Problems:

- The university she attends provides sign language interpreters and Communication Access Realtime Translation (CART) writers who provide written verbatim text interpreting of spoken language for her courses. However, Martine has encountered barriers when video and other media content are not captioned.

[W3C Stories of web users](#)

Solutions:

- The university provides captioned media and transcripts for audio content on university websites, including all course content in learning management systems.
- The university has found that the use of captions and transcripts has added benefits:
 - Facilitate easier production of subtitles in a number of languages
 - Improve the indexing of online content.
- The university follows WCAG guidelines in providing the captioned content.

Persona 3. Ilya, senior staff member who is blind (context)



Context:

- Ilya uses a screen reader and mobile phone to access the web. Both her screen reader and her mobile phone accessibility features provide her with information regarding the device's operating system, applications, and text content in a speech output form.
- When accessing web content, the screen reader indicates aloud the structural information on a webpage such as headings, column and row headers in tables, list items, links, form controls, and more that enable her to better navigate the page, complete and submit forms, and access information in an effective manner. She is able to listen to and understand speech output at a very high speed.

Persona 3. Ilya, senior staff member who is blind (problems/solutions)



Problems:

- Websites that are **not properly coded** and do **not include alt text descriptions** on images. These sites are un navigable and require large amounts of time to read text from the top of the page to the bottom without navigation cues.
- Occasionally she finds herself trapped in areas on a webpage **unable to move** to another area and must abandon the page altogether.

Solutions:

- As a senior member of her organization, Ilya provides training to employees in online environments with
 - video conferencing applications,
 - document and slide sharing apps
 - chat rooms.
- Ilya and her staff evaluated training tools to find an effective application with accessibility features that meet the needs of a diverse staff with diverse abilities.

Persona 4. Preety, middle school student with attention deficit hyperactivity disorder and dyslexia



Problems:

- Preety's experience with websites varies greatly. Some sites use graphics in a way that helps her to focus on the sections and content to read, while other sites have a lot of advertisements and moving content, it's very distracting.
- Navigation not evident with online content, multiple means of navigation.
- Preety needs assistance in searching and locating material physically in the library.
- Preety still struggles with spelling.

Solutions:

- Using online digital textbooks. Use of text-to-speech software that highlights the text on the screen as it reads it aloud. It helps to focus on the content.
- Provide multiple means of navigation (nav bar, search box, bread-crum trail).
- New online library catalog with improved accessibility let her search the catalog on her own using her mobile, tablet, or laptop.
- Search functionality that suggest alternative spellings and provide error corrections are very helpful.

UK Home Office Examples



Dos and don'ts of designing for users with accessibility needs including:

- Autism
- Blindness
- Low vision
- D/deaf or hard of hearing
- Mobility
- Dyslexia

[From Gov.uk](https://www.gov.uk/guidance/accessible-uk)

Designing for users on the autistic spectrum

Do...	Do this.	Don't...
Use simple imagery		Use bright, contrasting colours
Write in plain English		Use icons of objects and actions
Use simple symbols and labels		Use a wall of text
Make buttons meaningful		Make buttons repeat and unpredictable
Build simple and consistent layouts		Build complex and cluttered layouts

Designing for users of screen readers

Do...	Do this.	Don't...
Describe images and provide transcripts for video		Only show information for an image or video
Follow a linear layout where possible		Spread content all over a page
Minimise content using HTML		Only use text size and placement for structure
Build for keyboard use only		Focus areas or screen size
Write descriptive links and headings	Contact us	Write unhelpful or vague headings

Designing for users with low vision

Do...	Do this.	Don't...
Use good colour contrast and a readable font size		Use low-contrast colours and small font size
Provide all information on text input		Hide information to distinguish
Use a combination of colour, shapes and text		Only use colour to convey meaning
Follow a linear layout		Spread content all over a page
Use labels and instructions on controls		Hide actions from their context

Designing for users with physical or motor disabilities

Do...	Do this.	Don't...
Make large clickable buttons		Control precision
Give items extra space		Click boundaries together
Design for keyboard or screen only use		Make dynamic content that requires a lot of mouse movements
Design with motion and feedback in mind		Have short time-out periods
Provide shortcuts		Have users with lots of buttons and scrolling

Designing for users who are Deaf or hard of hearing

Do...	Do this.	Don't...
Write in plain English		Use complicated words or figures of speech
Use subtitles or provide transcripts for videos		Get content to scroll or video only
Use a linear layout		Make complex, repetitive content
Break up content with sub-headings, images and icons		Make users read long blocks of content
Let users expand and collapse for appointments		Don't make important the only means of expansion with users

Designing for users with dyslexia

Do...	Do this.	Don't...
Use images and diagrams to support text		Use large blocks of heavy text
Align text to the left and use a consistent layout		Underline words that have or write in capitals
Consider providing content in other formats (e.g. audio, video or video)		Have users to memorize things from previous pages - give reminders and prompts
Keep content short, clear and simple		Only use simple content or icons to provide suggestions
Use users change the content between and general use text		Don't use extra information in one place

Take a moment to consider how
accessibility impacts your practice

Main items to work in accessibility

- **Structure:** use headings and styles to structure your document.
- **Colour and contrast:** Consider the colours you use and the contrast between text and background.
- **Use of images (and Media):** Use alternative (alt) text on your images. Provide captions, subtitles and transcripts of multimedia elements.

Main items to work in accessibility - 2

- **Links (hyperlinks):** Describe your link, never use click here.
- **Plain English:** use clear uncomplicated language with no jargon.
- **Table structure:** use simple tables without merged or split cells.

The basic six things to consider when creating accessible information

Structure
(heading styles)



Colour & contrast



Use of images
+Media



Links
(hyperlinks)



Plain English



Table structure



S

C

U

L

P

T

Use headings and styles to structure your document

Consider the colours you use and the contrast between text and background

Use alternative (alt) text on your images



Describe your link, never use click here

Use clear uncomplicated language with no jargon

Use simple tables without merged or split cells

www.worcestershire.gov.uk/sculpt



 **Link Tips** 

- 1 Descriptive and unique.**
Ensure each link on the page is unique and descriptive. For example, avoid using "Click here" or "download".
- 2 Page title instead of URL as link text.**
Use the name of the page / site in a link text rather than the URL itself. Use plain, concise, and consistent language for your link text.
- 3 Links should look like links.**
Context links should be styled to look different to text. Ensure you use adequate colour contrast and underlining on hyperlink text.

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Moodle and Accessibility



Layers

1. Student Content
2. Teacher Content
3. Course Navigation
4. Site Configuration
5. Theme
6. Application Framework
7. Browser / App
8. Device

Why

1. Student Content
2. Teacher Content
3. Course Navigation
4. Site Configuration
5. Theme
6. Application Framework
7. Browser / App
8. Device

What

1. HTML and Files
2. HTML and Files
3. Naming, Structure
4. Naming, Structure
5. Navigation, Branding
6. Architecture, Design
7. Settings / Features
8. Settings / Features

Moodle is designed to be accessible
by default to the widest possible
audience.

Accessibility Statement

- Established practices
- Screen-reader support
- Conformance to standards
- WCAG 2.0 , ATAG 2.0, ARIA 1.0, Section 508 (US)
- Discussions
- Known issues
- Areas of ongoing development
- - See <https://docs.moodle.org/en/Accessibility>

Development Guidelines



- Moodle publishes guidelines on our documentation for developers - <https://docs.moodle.org/dev/Accessibility>


Timing Overrides


Quiz – Overrides

▼ **Override**

Override user ⓘ

Require password ? [Click to enter text](#)  

Open the quiz  Enable

Close the quiz  Enable

Time limit ? Enable

Attempts allowed

Assignment – Overrides

Week 1 Assignment

▼ Override

Override user



No selection

Search



Allow submissions from

13

October



2016



00



00



Enable

Due date

20

October



2016



00



00



Enable

Cut-off date

11

May



2017



04



25



Enable

Revert to assignment defaults

Save

Save and enter another override

Cancel