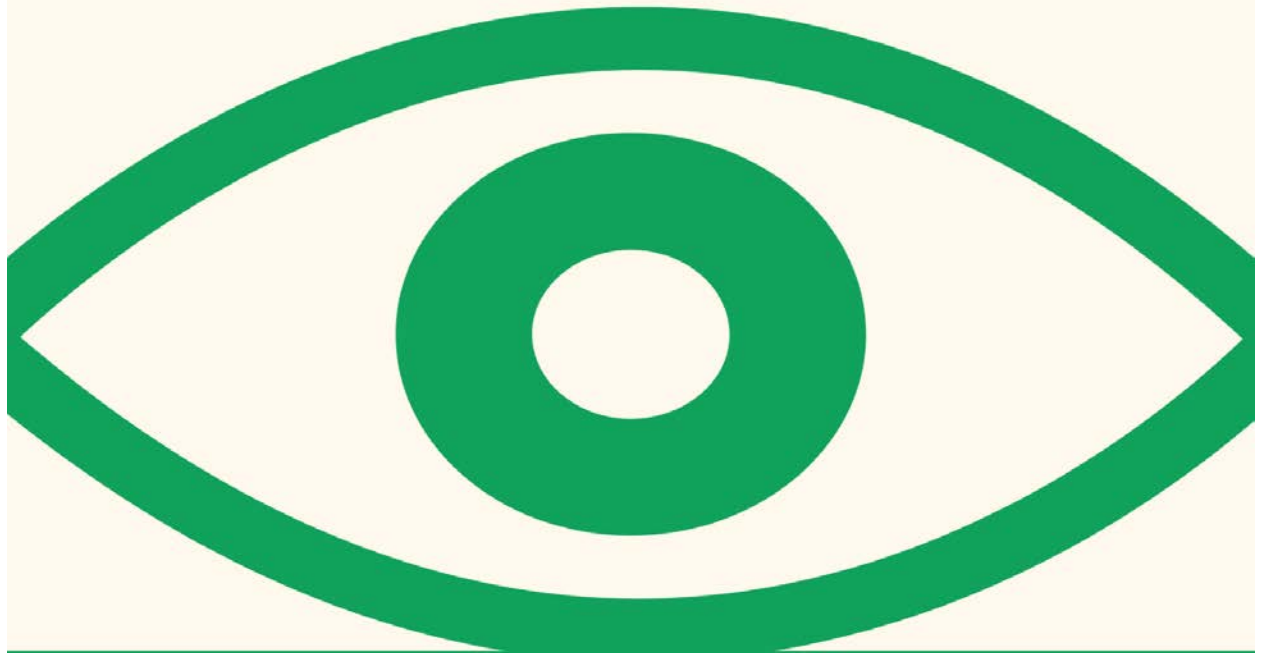# The Ultimate Guide to Accessibility
Chapter 1 - Visual Impairments

AEL DATA SERVICES LLP

THE ULTIMATE GUIDE TO ACCESSIBILITY

CHAPTER 1- VISUAL IMPAIRMENTS

Table of Contents

Introduction

Imagine that you are going to your favourite artist's concert. However, it's in a remote place getting public transport there is next to impossible. You might take a rain check to go there.

What if the place was near or virtual and had public transport availability? You will plan out everything and might even include your friends in the plan too.

That's exactly what's happening with the digital content. People with visual impairments can't use most websites because it's not accessible to them.

We do more online today than ever before. We order food on the go, chat with our long-lost friends on social media, share memes with our best friends, book tickets online for concerts and much more. Even the universities started embracing online classes due to the Covid-19. The internet is gradually changing the way we perceive, react and take decisions.

However, despite all its benefits, the internet has one major flaw, availability to people with disabilities also known as digital accessibility.

Digital Accessibility is a way of making sure that the web is equally accessible to people with or without disabilities.

One might think….

Is it really important?

Or

Do people with disabilities also use the internet?

Spoilers:

Yes, they do.

Let's break it down.

Many people often don't recognize a disability until they see it or experience it first-hand.

Did you know that **only 20% of disabilities** are actually noticeable?
Colour blindness might not sound like a big deal, but it's a huge liability when it comes to surfing websites.

In this handbook, we will talk about disabilities or impairments associated with visuals and how to ensure that your website is accessible to them.

How do people with visual impairments navigate the web?

1. People with low vision and colour blindness

They don't rely on any specific software, they do it in the usual way. However, they aren't free from barriers preventing them from using it. The usual suspects are

- Small fonts
- Low contrast
- Banners, charts and other images that rely on colour to communicate the information

2. Blind People

They use software known as screen readers. Screen readers true to their name, read out loud the content of a webpage. It is a text-to-speech software that navigates the website by identifying headings, images, etc. Blind people also rely on keyboard buttons such as the tab and enter to navigate through the page manually.

A well-structured content with a smooth navigation system will make it easier for blind people to access any website. However, that is not enough to make your website accessible.

We have divided visual impairment accessibility into five categories for easy understanding

- Colour and contrast
- Smooth Content Navigation
- Images and Graphs
- Forms and links
- Readability and language

So let's take a look at how to make your site accessible for the visually impaired.

1. Colour and Contrast
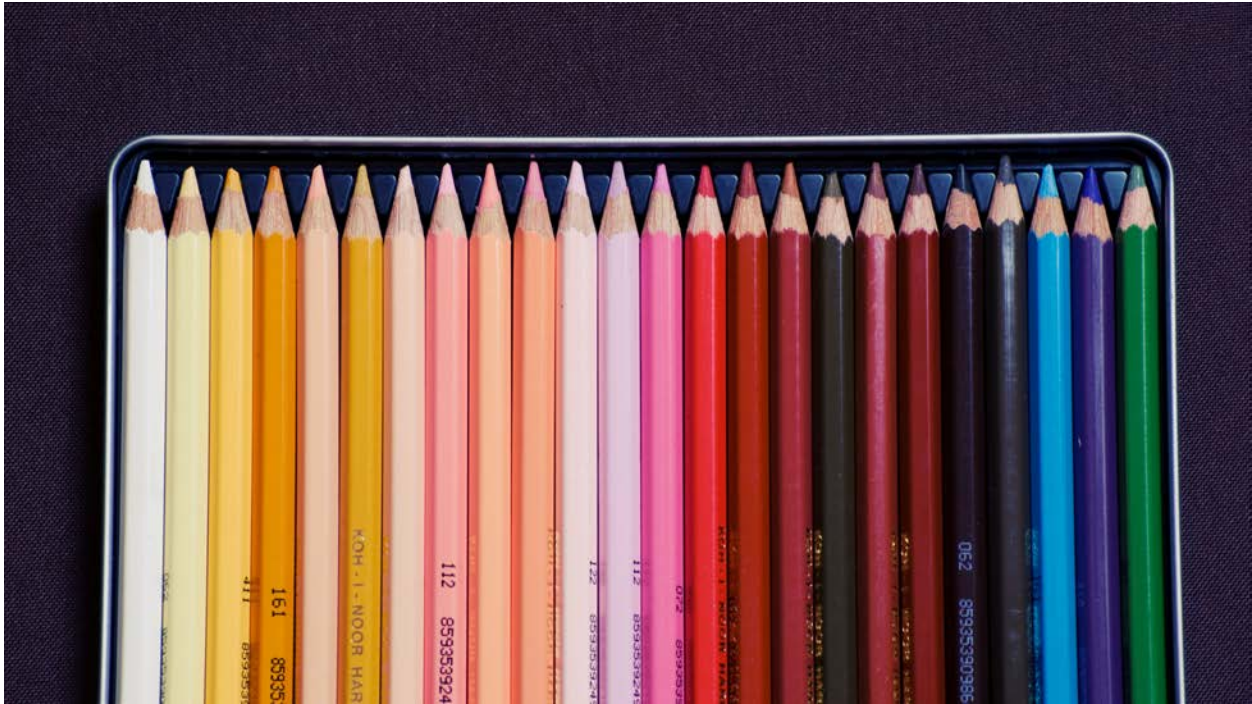
It doesn't make much difference for people without colour blindness. However, people with colour blindness will have a lot of difficulties if the information or response required is only dependent on the colour.

People with poor eyesight cannot distinguish letters or words on the website if the contrast is too high or low. Therefore, optimal contrast should be provided. The ratio of contrast or contrast ratio of text and background should always be equal or greater than 4.5:1 for small text and 3:1 for large text.

We often have difficulties in selecting the right colour. Here are some tools that can help you to test out colour combinations

- Accessible Colour Palette Builder
- Contrast Grid
- WebAIM's Colour Contrast Checker
- Sketch plugin to identify the contrast ratio.

There are more people with sight conditions such as cataracts, glaucoma, etc who have trouble navigating through websites. Maintain an accessible contrast ratio to create an all-inclusive website that will make everyone happy to visit your website.

2.   Smooth Content Navigation

There is a common misconception among people that screen readers easily read out every content that is visible on the website. Unfortunately, no, your site needs to have easily navigable content to help screen readers do their job flawlessly.

Every page on your website needs to have structured content by making use of standard heading formats such as (H1, H2, H3) in the right order. This helps screen readers to distinguish various headings and helps visitors to land on the right content.

For example, imagine that you are a website that sells almond and cashew. A blind person is on your website to know about cashew pricing. However, if your content isn't structured, the screen reader may skip the cashew part and the person might end up going to another website.

3.   Images and Graphs

As it's difficult for vision impaired people to access images and graphs. There is a workaround for them to understand it.

Alt-text:

Alt text or alternative text is conveying the relevant information about an image through texts. This helps in two ways

- Helps screen readers to convey the meaning of the image
- Even in the case of unstable internet or poor connection, everyone can understand the image's meaning.

Coming to the graphs, as colour blind people cannot understand graphs that are based on colours. One should ensure that all graphs or even charts have texture in them for everyone to easily understand.

4.   Forms and links

Forms should follow the same contrast ratio as explained in the colour and contrast category. Some websites just use placeholder text for filling up forms, for example

This layout makes it difficult for people with low vision to understand the form.

The placeholder text must be always avoided wherever possible. Labels and hints should be used outside the boxes for easy understanding. Autofill should also be enabled for faster filling up of forms which will also help people without disabilities.

As we told you before, everything that conveys information only through colour is always a barrier for people with low vision. Hence all links/hyperlinks/anchor texts should always be bigger, bolder or have an underline for a clear understanding.

5.   Readability and language

Imagine that you are reading a book that uses big and complicated words to make you understand the concept. Unless you know most of the words, it is difficult to understand the concept without a dictionary. What if there is another book that explains the same theory in a much easier way with simpler words? You will obviously prefer to read the book with simple text.

Similarly, if your website doesn't have clear and concise language, the chances are that you have already lost your visitor. Maintaining a simple language on your website benefits everyone irrespective of their disabilities.

Here are some common mistakes to avoid on your website

•   Avoid dashes as much as possible for ranges. For example try saying it as A to H, instead of A-H
•   Avoid acronyms and abbreviations as much as you can. For example, try saying it as the United States, instead of the US
•   Capitalize every word of the hashtag as the screen reader can read it as different words. For example, try writing it as #JusticeLeague, instead of #Justiceleague.

At AEL Data, we aim to remove barriers that prevent everyone from entering your website. We will analyze your website and come with a simple and budget-friendly plan that can easily fix all the accessibility issues on your website.

Our dream is to ensure every website has an inclusive design in the near future that welcomes everyone and can benefit irrespective of their impairments.

Here is a checklist for visual impairment:

Does your site have

- A contrast ratio of 4.5:1
- Clear and concise site navigation
- A sensible content hierarchy and headings
- A font size of at least 14px across all pages
- Left or centrally aligned text
- No unnecessary capitalization

- Understandable forms
- Accessible links
- Alt text on images
- Accessible graphs
- Clear language
- Expanded abbreviations
- Extended acronyms (at least once per page)
- Correctly capitalized hashtags