



ireland  
website design

# WEBSITE ACCESSIBILITY

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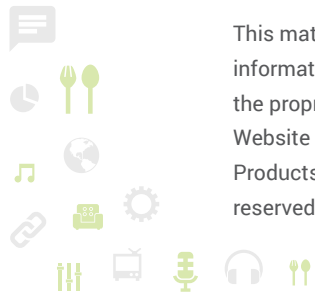
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## CONFIDENTIALITY INFORMATION

This material contained in our response and any material or information disclosed during discussions of the proposal represents the proprietary, confidential information pertaining to Ireland Website Design company services, methodologies and methods. Products and brand names are intellectual property and all rights reserved.



# Introduction

We appreciate the opportunity to inform your company about website accessibility. This document provides an overview of the benefits of accessible websites. In our whitepaper we will define the advantages of accessibility, the methodology we can implement and the outcomes you should expect.

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Our company recently focused on websites that are accessible for everyone. Our websites can be used by people with visual or hearing impairments without notable limitations. But it doesn't stop there. Well coded websites that keep up to certain standards also offer a better usability for users without disabilities. They are easier to understand and better to look at because of an improved usage of colours. Other advantages include better rendering by modern browsers because having accessible websites requires you to use clean code. Therefore programming those websites helps everybody in the end: The developer, the users and web browsers.

## WHAT WE DO

We put a lot of research into making websites accessible. We looked into standards created by the World Wide Web Consortium (W3C) and guidelines by associations of people with disabilities. This gave us an inside look and helped us understanding on which topics we have to focus. Since this is a very sensitive subject it is really important to get everything right. A lot of code we implement is intended to help seeing the content on the website better. It is important to clearly separate content, navigation and other elements on the website. This isn't only good for accessibility but is a better design in general. This helps understanding the website better. Other measures we take include using modern web coding standards making our websites future proof.

# Forms of Impairment

There are many unique forms of impairment that put a challenge to your website. It is difficult to give every viewer of your website the best experience possible but it is not impossible. We can't give everybody the experience to see a website the same way as most other people do, but we can help assistive technologies to understand the website. Screen readers and other software made big improvements over the last years and are now included in every major operating system. Even tablets and smartphones provide ways to scale text, optimise colours, use voice input and read text out loud. In fact, Apple received an award by a German organisation of the visually impaired in November 2015 for their efforts in making iOS usable by people with impairments.

There are four categories of impairment that are relevant for web design:

## Cognitive

People with a cognitive impairment might have trouble to fully understand every aspect of your website. It is therefore important to keep things simple and reuse well known items like icons, texts and images.

## Visual

A very important aspect because older people can also have trouble with fonts that are too small or colour combinations that are hard to see. Most of the things we do to increase accessibility fall into this area.

## Motor

Not everybody can use a mouse without problems. Therefore it's even more important to not rely on a mouse to use the website.

## Hearing

The ability to hear properly is also something that naturally decreases the older your visitors get. Websites that use a lot of videos should provide captions or transcripts to help understand the content of the video.

## Proper Coding

This is the main to ingredient for an accessible website. By using modern web technologies we make sure that screen readers and other assistive technologies can easily analyse the website. That lets them know where the content is, where the navigation is and what other elements might be important that would be worth reading out. The visitor can then easily use this software to navigate on the page, only look at articles or even save the important content to read it later. Again this also helps modern web browsers like Firefox that offer a reading mode that strips everything from the website except the main article.

## Meta Tags

Meta tags tell the browser more about the website. Because they are structured and standardized, search engines and other computer programs can analyse them. So using the right meta tags and descriptions even gives you an advantage for your search engine ranking. You should also specify the language of the website by using `<html lang="en">`. Formerly the language was much harder to memorize but HTML5 made it really simple. And that's not the only new thing in HTML5.

## HTML5 Elements

HTML5 is the latest instalment of the Hypertext Markup Language and brings tons of new web design features. Important for us is the ability to give containers a meaning. HTML5 comes with elements like `<nav>` that can be used the same way as `<div>` but should only be used to hold the main navigation of the website. This graphic gives you a better idea of the most important new containers:

<code>&lt;header&gt;</code>	
<code>&lt;nav&gt;</code>	
<code>&lt;section&gt;</code> Heading, Banner	<code>&lt;aside&gt;</code>
<code>&lt;article&gt;</code>	
<code>&lt;summary&gt;</code>	
<code>&lt;footer&gt;</code>	

## Benefits of Proper Coding

Sometimes developers just use `<span>` to style text in a way that it looks like a heading. This is bad practice and here is why: A normal visitor will not notice a difference between this and actual `<h...>` header. But it completely throws off assistive technologies that have lots of trouble structuring the website now. Most of the time this is a quick solution for the developer, but in the long run it even throws him off when he starts working on the code again after a while. A well structured page makes more sense to everybody.

And it doesn't end here: HTML elements are often not used the way as intended. Try structuring your page with basic HTML and then use CSS for styling. But be consistent and don't use unnecessary workarounds.

Remember: Screen readers don't care about CSS. The page has to make sense to them by only seeing the plain HTML.

## Interaction

Interaction is what makes the difference between a website and a newspaper for example. This can be a challenge in terms of accessibility but it is also a huge advantage. A website which is well made gives you the ability to resize text, put usually invisible descriptions on images and in general gives you the ability to have different designs for different people.

## Keyboard Support

All site functionalities have to be achievable by keyboard. When clicking the Tab key on any website it cycles through the links which can be clicked on by pressing Enter. This is a functionality every browser and operating system supports and doesn't have to be implemented by the developer. But you can help by highlighting the selected element with `element:focus` in CSS. It is important that nothing on the website blocks keyboard input and everything that the user can click is affected by it. Sometimes this means when implementing JavaScript `onClick-Handlers` an additional `onKeyPress-Handler` has to be implemented.

## Hyperlinks

Links are what connects the web. So it's even more important to make them accessible to everyone. The purpose of the link shall be clear from it's styling. Use common styling for links to pages, files or external documents. Again this helps all users to better understand your website.

When using text links put the link on the word that describes the target. This means use *Click here for Context* instead of *Click here for Context*. The underlined text is the link. Screen readers emphasize the link, so it makes more sense to put the link on the actual target of the link. This is often done wrong and you can tell by searching for *click here* on Google. The second result is Adobe Reader because Google interprets the link text as a description of the target. For *click here* this is obviously wrong but Google doesn't now. And if you were wondering what the first result is, it's an article by the Web Consortium about how bad it is to use *click here* as Call to Action.

## Content

People use the internet to inform themselves about all kinds of things. Therefore good quality content is important. Regularly publishing new content on your website also gives you an advantage in the ranking at search engines. So you definitely don't want to make it hard for anybody to get access to your content.

## Text

The main form of content on the web is still text although the internet was a breakthrough in bringing many forms of content to the viewer. Text is rather simple to handle. By making use of the <article> elements, screen readers can easily find the relevant text and read it out loud. Usability is greatly improved by providing text also in different languages when this is beneficial for your audience. Define text size in em in the CSS. This lets viewers change the default font size in their browser. The current trend in design is to go for very slim fonts that are hard to read when you don't see perfectly. So try to find a good balance.

## Image

Images are used vastly on the internet. Unfortunately they are not accessible by people with strong visual impairments and there is nothing we can do about it. But we can help by following a few simple guidelines:

The alt attribute in an `<img>` tag was intended as a placeholder when the image can't be loaded for whatever reason. But it's also used by screen readers to quickly read out what the image displays. Therefore keep in mind to actually describe the image in the alt tag and not the function. So use *Flowers* instead of *Banner Homepage* for example. Keep it short! A few words is enough and it is not necessary to say *Picture of ...* because the screen reader already told the visitor that it's a graphic. If the alt tag is not enough to describe the image, for example if it's a chart or a map, place a description text close to the image.

You can still use icons as a replacement for text links. Those icons should have a common meaning, even across websites. A gear wheel is now used almost universally to resemble *Settings*. The alt tag of icons is different to the one on pictures. Use the functionality of the icon as alt tag and not a description of the image. This is especially important when you don't plan on putting a text link with the same functionality right next to the icon.

## Video and other forms

If your website makes use of a lot of videos, provide captions for the visually impaired and audio commentary for the hearing impaired. It is also good practice to provide transcripts, especially for podcasts.

Having multiple forms of the same content is highly beneficial. You are reaching a wider audience. Not only because some of your audience might not be able to access a specific form of content but also because people prefer different forms of content.



## Design and Colour

Design on accessible websites has to be simple with the elements spaced out. Since this is also generally seen as good design nowadays, it is nothing that should stop you from creating accessible websites.

Colour is what you should focus on. Colour-blindness is a rather common impairment but with a few tweaks on the colour scheme of your website you can greatly improve their experience.

Most colour-blind people have difficulties distinguishing between colours. The most common form is the disability to distinguish between certain shades of red and green. The next common form involves the colours blue and yellow. Only seeing in black and white is an extremely rare condition. The best way to improve the experience of all of them is to extensively test your website. Lots of online tools let you upload screenshots of your website to see how a person with colour-blindness might see it. This helps you identifying poor choices of font colour or weak contrasts.

Try to avoid those colour combinations: green & red, green & brown, blue & purple, green & blue, light green & yellow, blue & grey, green & grey, green & black. Try to use strong contrasts: You can achieve this by also changing the brightness of colours and not only the hue. Larger areas of colours are also easier to differentiate than small areas. When having a graph you can put a different texture on every colour. Changes in colour, for example when hovering over a link, might also be hard to spot. Giving those elements an outline in the hover state often works better.

In general, your website can't solely rely on colour to transport information. Charts should always have a proper description and colours that have a meaning for you, like red = warning might not be obvious to everybody else. So always include a label like *Warning* and don't just use a red background to imply something important has happened.

