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Report

**Advanced web Authoring**

8/8/2022

# Accessibility

All stages of the development process conformed to accessibility standards and recommendations. The main reason for developing under WCAG is that a wide range of users may encounter difficulties reaching the website content and functionality based on a set of disabilities or cognitive limitations. Making a website accessible will also make it easier for regular users to use, and sometimes more modular.

Accessibility is based on four pillars: perceivable characteristics, operability, understandability, and robustness.

## Perceivable

Every image and icon used has a descriptive alternative attribute, allowing people with disabilities that are using screen readers to understand its meaning. Image elements that are already displayed visually are outlined through image captions.

The pre-recorded video within the main page has a paragraph containing equivalent details about its purpose, making its content description available for blind users using screen readers.

Within the form, each input is preceded by an explanatory label. Form box is elevated with the box shadowing technique, making it easier to be spotted by the users.

The contrast ratios between foreground text elements and their background have a ratio of a minimum of 4.5:1. And the text spacing was designed according to w3x accessibility initiative guidelines criteria.

## While the interactive project elements based on text have a minimum height/width of 42–72 pixels, the few based on visual elements have a least height/width of 44 by 44 pixels, making them easier for any user to target. The only exceptions are the book's section drop-down menu and the 19th-century card buttons, which would appear confusing if they were larger.

## Operable

The functionality and content of each individual page are operable and keyboard available, and it does not require specific timing for individual keystrokes except for the expandable menus that require keystroke space to expand the navigation menu. The use of a scripting language could have enhanced this navigation menu experience.

Keyboard navigation is intuitive and follows a sequential tab order from top to bottom and from left to right.

It is easy to distinguish each element on the page that is being focused from the other elements because each one has a distinctive indicator. All the interactive elements apart from form inputs are highlighted accordingly with a yellow background and a black colour for text and outline, enhancing the visibility. A black line separates the focusable but non-interactive content elements from the other elements, making them stand out clearly.

There is no animation that will produce any physical reactions or obstruct the website's content.

All the web page titles are denoted with descriptive names, and each link within the site is descriptive and succinct. Navigation links have descriptive titles and provide an easy way to navigate and find content. The current page’s link is highlighted to let the user know at any time its current location within the set of pages.

Section headings are used to organize the content and are surrounded by a delimiter border.

Secondary headings are used through the website to describe topics accurately and organize content within the same topic.

The skip navigation link is used to allow users to skip irrelevant content like the navigation bar when he wants to navigate directly to the significant content within the page.

## Understandable

The **colour** scheme is uniform and primarily composed of the primary colour green.

The text within the website is readable, not ambiguous, and does not use any abbreviations. Navigation through the website content is predictable and simple.

Input elements that require user interaction are preceded by labels, if there are errors within the input field the error is automatically detected on the focused field, and the input container is highlighter correspondingly. Before form submission, a validation is checked, offering the user the opportunity to correct the errors prior to submission if so.

The table was used to display tabular data and was specifically designed for screen readers. The scope attribute is used to define column groups, columns, and rows. The table is designed according to w3x accessibility initiative guidelines.

## Robust

The webpage is entirely supported and compatible with the last version of Google Chrome, Mozilla Firefox, and Internet Explorer 11,10, and 9.

To obtain cross-browser compatibility a wide range of vendor prefixes were used.IE9 compatibility was achieved, by using internet explorer conditional comments, that will execute a legacy style sheet, entirely design just for IE9 browsers.

Three different media queries were used to achieve responsive design, allowing the content to flow naturally across a wide range of different screen sizes and devices.

## Weaknesses

Green is the primary colour most often used for headings, icons, and links; however, approximately 8% of the population suffers from a red-green colour deficiency. Another colour could have been used as the primary colour to avoid this problem.

However, because SASS and SCSS use variables, it might only require a small amount of work to change a website’s colour scheme. Changing the primary colour within the variable’s module it will cause to completely replace it throughout the entire project.

The use of a scripting language could have improved the navigation bar experience, especially for keyboard users who what to interact with navigation menus.

The webpage is fully responsive down to 275px wide which will support even the Samsung galaxy fold device but afterward, the layout will start to break down.

On small mobile devices resizing the text by up to 200 percent may break down the layout.

The menus could have been extended on focus to improve the operability of the navigation bar, which would have been more predictable for keyboard users. However, this functionality was skipped due to IE9's incompatibility with using focus within pseudo classes and the reasoning for maintaining consistency across different browser vendors. A scripting language could be used as a workaround to dynamically integrate this feature.

## EXTRA

The markup and styling were developed by following [BEM — Block Element Modifier](http://getbem.com/)

The project was structured following the [7-1 Sass Architecture (learnhowtoprogram.com)](https://www.learnhowtoprogram.com/user-interfaces/building-layouts-preprocessors/7-1-sass-architecture)

## Mock-ups (mobile, tablet, desktop)

<https://share.balsamiq.com/c/iQkjamfiKdf9qbFA1Sqghj.png>

<https://share.balsamiq.com/c/9HXPrLkUGpFTn4thLr9CEd.png>

<https://share.balsamiq.com/c/bdjXjVPbKJJtNLuELcGR8d.png>