COS60004
Creating Web Applications

Analytical Report on Web Accessibility

Full name: Thi Thanh Thuy Tran

Student ID: 103514782

Executive Summary

This report presents the findings of the accessibility analysis conducted for GreenTech web application. The objective of this analysis was to assess the website's compliance with the Web Content Accessibility Guidelines (WCAG) introduced by the World Wide Web Consortium (W3C) (World Wide Web Consortium (W3C), 2019). This report will give an overview of the analysis technique, tools, and data acquired as well as discuss, highlight areas of strength, areas for improvement and recommendations will be provided to enhance the website's accessibility.

Introduction

GreenTech application is a website developed with the aim of providing a user-friendly and inclusive experience for all visitors. I have conducted a comprehensive analysis to assess the web accessibility of the application. Web accessibility is critical in ensuring that people with impairments can access and use the programme efficiently. The purpose of this analytical research is to identify the areas where GreenTech excels in satisfying accessibility criteria and to make recommendations for further improving its accessibility features. The report begins with an overview of the website and its purpose, followed by a structure outline.

Accessibility Analysis

2.1 Method of analysis

The analysis was carried out in a systematic manner, utilizing both manual testing and automated technologies. Manual testing included a thorough examination of various areas of the website's functionality, while automated techniques were used to detect potential accessibility concerns. The analysis focused on evaluating the website against the four key principles of WCAG: perceivability, operability, understandability, and robustness.

2.2 Tools Used for Analysis

Several tools were utilized during the analysis process. In designing and creating static web pages, it is essential to ensure that the HTML and CSS code used follows industry standards and best practices. One important aspect of this is validating the HTML code against the W3C HTML5 validator. The W3C HTML5 validator is a powerful tool that checks the markup validity of web documents and ensures that they conform to the HTML5 specification. By validating the HTML code, I can identify any errors or discrepancies that might exist in the structure or syntax of the web pages. Manual testing was conducted solely which involved a meticulous evaluation of various aspects of the website's functionality. User simulations involving individuals with disabilities were also conducted to gain valuable insights into their experiences while navigating the website.

2.3 Accessibility Analysis of the Website

The website was evaluated using the previously specified WCAG principles. The availability of alternate text for photos and sufficient color contrast were used to assess perceivability. The capability of keyboard navigation and interactive features was tested for operability. The structure and content organization of the website were reviewed for understandability.

Robustness was determined by taking into account compatibility with assistive technology and various web browsers.

2.4 Data and Information Collected in the Analysis

Extensive data and information were gathered throughout the analysis. This comprised automated testing tool reports, manual testing observations, and feedback from user simulations. These sources provided useful information about the current state of web accessibility within GreenTech.

2.5 Findings of the analysis

The investigation revealed some positive aspects regarding GreenTech's web accessibility. Notably, by providing alternative text for photos and maintaining suitable colour contrast ratios, the website displayed a significant dedication to perceivability. Non-text content, such as images, was accompanied by comprehensive text alternatives ensuring that all users had equal access to information. Keyboard navigation was fully enabled, allowing users who rely on keyboard navigation to smoothly explore the website. Furthermore, the layout and organization of the website contributed to its understandability, making it accessible to visitors of various backgrounds.

2.6 Discussion of Findings

The positive outcomes illustrate GreenTech's dedication to web accessibility. However, due to cost and time limitations, there are areas that could be improved to further enhance the website's accessibility. These include providing text alternatives for non-text content, prioritizing user-centric keyboard navigation, ensuring user-friendly time-based content, improving content organization and clarity, and conducting regular code validation for compatibility.

Conclusion:

Based on the findings of the analysis, it can be concluded that GreenTech has made significant progress in terms of web accessibility. The positive aspects observed highlight the commitment to inclusivity. However, there are still areas where enhancements can be made to provide a more accessible experience.

Recommendations for Improvement:

To improve the web accessibility of GreenTech, several recommendations are provided. These include implementing the following actions:

1. Improvement for Responsive Web: In addition to accessibility analysis, it is essential to consider responsive web design principles. Responsive web design guarantees that the website adjusts to various screen sizes and devices, resulting in a consistent and user-friendly experience. GreenTech can improve user experience across devices, increase engagement, and expand accessibility for users visiting the website via mobile or smaller screens.
2. Sustaining Optimal Color Contrast: Regularly review and adjust the color contrast across the website to meet WCAG 2.1 standards (World Wide Web Consortium (W3C), 2018). This will ensure that text is easily readable.

3. Conducting Regular Code Validation for Compatibility: Regularly validate the website's codebase to ensure compatibility with assistive technologies and different web browsers. By using W3C HTML5 validator, this will help identify and address any coding issues that may hinder accessibility.
4. Continuous Improvement in Providing Alternative Text for Non-Text Content: Expand the provision of text alternatives for non-text content, including videos, audio files, and interactive elements. This will enable users who cannot access or interpret the non-text content to understand its purpose and functionality.
5. Prioritizing User-Centric Keyboard Navigation: Conduct a comprehensive review of the website's keyboard navigation to ensure that all interactive elements, menus, and forms can be accessed and operated using the keyboard alone. This will benefit users who rely on keyboard navigation due to motor disabilities or other limitations.

By implementing these recommendations, GreenTech application will further enhance its web accessibility and provide an inclusive experience for all users.

In conclusion, the analysis of GreenTech's web accessibility revealed both strengths and areas for improvement. The positive findings reflect the commitment to accessibility, while the recommendations outlined in this report provide actionable steps to address any identified shortcomings. By implementing these recommendations, the company will reinforce its commitment to inclusivity and create a more accessible online environment for all users, regardless of their abilities or disabilities.

References

1. World Wide Web Consortium (W3C). (No date). Web Content Accessibility Guidelines (WCAG) 2.1 Quick Reference. [Online] Available at: https://www.w3.org/WAI/WCAG21/quickref/

2. World Wide Web Consortium (W3C). (2018). Web Content Accessibility Guidelines (WCAG) 2.1. [Online] Available at: https://www.w3.org/TR/WCAG21/

3. World Wide Web Consortium (W3C). (No date). About the W3C Markup Validation Service. [Online] Available at: https://validator.w3.org/about.html