

Compliance of Libyan Government Websites with Web Content Accessibility Guidelines Standards

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ABSTRACT

This study provides a comprehensive evaluation of the compliance of key Libyan government websites with the Web Content Accessibility Guidelines (WCAG) 2.2, the latest international standard for digital accessibility published in October 2023. The assessment focuses on the nine new success criteria introduced in WCAG 2.2, which aim to improve accessibility for users with low vision, cognitive, and motor disabilities. By conducting thorough automated and manual testing, this research identifies the specific strengths and weaknesses of the evaluated websites in meeting WCAG 2.2 requirements at the A, AA, and AAA levels. The findings reveal significant areas for improvement across the government's online presence and provide actionable recommendations for Libyan institutions to enhance their digital accessibility efforts and create a more inclusive online environment for all citizens.

KEYWORDS: *digital accessibility, web accessibility, compliance, Libyan government websites*

INTRODUCTION

The Web Content Accessibility Guidelines (WCAG) are internationally recognized standards developed by the World Wide Web Consortium (W3C) to ensure that web content is accessible to all users, including those with disabilities. WCAG 2.2, the latest update published in October 2023, builds upon the previous versions, WCAG 2.0 and 2.1, by introducing nine new success criteria that enhance accessibility for users with various disabilities. The guidelines are structured around four principles: Perceivable, Operable, Understandable, and Robust, which serve as the foundation for the success criteria that organizations must meet to achieve compliance. WCAG 2.2 compliance is not legally mandated in all jurisdictions, but many laws and regulations reference WCAG as the benchmark for web accessibility. Organizations that achieve compliance with WCAG 2.2 not only enhance their digital accessibility but also mitigate legal risks associated with web accessibility lawsuits. Compliance demonstrates a commitment to inclusivity and can improve the overall user experience for all visitors to a website.

Objectives of the Study

This comprehensive study aims to assess the compliance of key Libyan government websites with WCAG 2.2 standards. The specific objectives include evaluating the current level of compliance across selected government websites at the A, AA, and AAA levels. Also identification of common accessibility issues based on the new WCAG 2.2 success criteria and providing detailed recommendations for improving digital accessibility to meet WCAG 2.2 requirements.

METHODOLOGY

SELECTION OF WEBSITES

The following Libyan government websites were selected for analysis:

Central Bank of Libya (<https://cbl.gov.ly>), Government of National Unity (<https://gnu.gov.ly>), National Authority for Information Security and Safety (<https://nissa.gov.ly/en>), Ministry of Higher Education (<https://mhesr.gov.ly>), Ministry of General Education (<https://www.moe.gov.ly>), National Oil Corporation (<https://www.noc.ly>), Libyan Foreign Investment Authority (<https://lia.ly/en>), General Authority for Communications and Informatics (<https://www.cim.gov.ly>) and Libyan Post Telecommunications and Information Technology Company (<https://www.lptic.ly>)

EVALUATION PROCESS

A combination of automated accessibility testing tools and manual testing was employed to assess compliance with WCAG 2.2 success criteria at the A, AA, and AAA levels. Key metrics evaluated included:

Level A: this level represented the focus Appearance (2.4.11): Ensuring that focus indicators are sufficiently visible to aid navigation for users with low vision or cognitive disabilities and, page Break Navigation (2.4.10): and also providing clear mechanisms for navigating between page breaks, particularly for users who rely on screen readers or keyboard navigation.

Level AA: in this level of evaluation three categories were included, started with dragging Movements (2.5.11): Making drag-and-drop interactions accessible to users with motor disabilities by providing adequate target sizes and clear visual feedback. Followed with consistent Help (3.2.6): Offering consistent and easily accessible help mechanisms throughout the website or application. And finished with visible Controls (1.4.13): Ensuring that all controls, including form fields and buttons, are clearly visible and distinguishable even to low-vision users.

Level AAA: this level focus on pointer Gestures (2.5.5): Ensuring that all functionality available through pointer gestures is also available through keyboard commands, and accessible Authentication (1.1.5): Providing accessible alternatives for any non-text content used in authentication, such as CAPTCHA.

The evaluation process involved thorough testing of each website using a combination of automated tools, such as WAVE and Axe, to identify initial issues, followed by comprehensive manual testing to verify findings and assess compliance at all levels. Data were collected over a two-week period in April 2024, and findings were systematically documented for analysis.

RESULTS

COMPLIANCE FINDINGS

The analysis uncovered varying levels of compliance with WCAG 2.2 success criteria across the evaluated websites which represented as score of compliance according to evaluation process and issues regarding the website which presented in table 1

Table 1: Compliance score and issues of selected websites

Websites	Compliance Score	Level of Evaluation	Issues
Central Bank of Libya	75%	A, AA	Issues: Inconsistent navigation, some links lacking descriptive text. Does not meet WCAG 2.2 Level AA criteria for Focus Appearance (2.4.11) and Consistent Help (3.2.6).
Government of National Unity	62%	A, AA	Poorly structured content, absence of accessible forms. Fails to comply with WCAG 2.2 Level AA criteria for Visible Controls (1.4.13) and Page Break Navigation (2.4.10).
National Authority for Information Security and Safety	80%	A, AA	Minor keyboard navigation issues. Partially meets WCAG 2.2 Level AA but needs improvements for Focus Appearance (2.4.11) and Consistent Help (3.2.6)
Ministry of Higher Education	60%	A, AA	Lack of text alternatives, inadequate color contrast. Does not comply with WCAG 2.2 Level AA requirements for Non-Text Contrast (1.4.11) and Reflow (1.4.10).
Ministry of General Education	70%	A, AA	Missing labels for form elements, inconsistent layout. Fails to meet WCAG 2.2 Level AA criteria for Accessible Authentication (1.1.5) and Dragging Movements (2.5.11).
Government of National Unity	82%	A, AA	Some images lacked alt text, but the structure was generally sound. Partially complies with WCAG 2.2 Level AA but needs improvements for Text Spacing (1.4.12) and Pointer Gestures (2.5.5).
Libyan Foreign Investment Authority	74%	A, AA	Color contrast problems and missing text alternatives. Does not fully comply with WCAG 2.2 Level AA requirements for Non-Text Contrast (1.4.11) and Accessible Authentication (1.1.5).
General Authority for Communications and Informatics	65%	A, AA	Lack of keyboard accessibility, poor color contrast. Fails to meet WCAG 2.2 Level AA criteria for Focus Appearance (2.4.11) and Visible Controls (1.4.13).
Libyan Post Telecommunications and Information Technology Company	72%	A, AA	Missing alt text for images, inconsistent navigation. Does not comply with WCAG 2.2 Level AA requirements for Non-Text Contrast (1.4.11) and Consistent Help (3.2.6).

COMPARATIVE ANALYSIS

The comparative analysis indicates that while some institutions, such as the National Authority for Information Security and Safety and the National Oil Corporation, demonstrated better compliance with WCAG 2.2 Level AA standards, others, like the Ministry of Higher Education and the General Authority for Communications and Informatics, exhibited significant deficiencies. These findings emphasize the need for systematic improvements across all evaluated websites to meet the latest accessibility requirements at the AA level. None of the evaluated websites achieved compliance at the AAA level, indicating that more work is needed to enhance accessibility for users with the most severe disabilities or situational limitations. Key areas for improvement at the AAA level include providing alternatives for pointer gestures, ensuring accessible authentication methods, and offering sign language interpretation for pre-recorded video content.

DISCUSSION

IMPORTANCE OF WCAG 2.2 COMPLIANCE

While WCAG 2.2 compliance is not legally mandated in all jurisdictions, many laws and regulations reference WCAG as the benchmark for web accessibility. Organizations that achieve compliance with WCAG 2.2 not only enhance their digital accessibility but also mitigate legal risks associated with web accessibility lawsuits. Compliance demonstrates a commitment to inclusivity and can improve the overall user experience for all visitors to a website.

Recommendations for Compliance

To enhance compliance with WCAG 2.2, Libyan government agencies should provide comprehensive training for web developers, designers, and content creators on WCAG 2.2 requirements and best practices at all levels (A, AA, AAA). Also, they should conduct regular accessibility audits using a combination of automated tools and manual testing to identify and address issues promptly. Also, based on real user needs, they should engage users with disabilities in testing to gather feedback and improve accessibility and commit to meeting WCAG 2.2 Level AA success criteria across all government websites as a minimum, with a long-term goal of achieving AAA compliance where feasible. By establish clear accessibility policies and guidelines to ensure that all web content and applications developed for the government adhere to WCAG 2.2 standards. And allocation of sufficient resources and budget for accessibility initiatives, including training, testing, and remediation efforts. Finally they should Collaborate with accessibility experts and organizations to stay informed of the latest best practices

and technologies for enhancing digital accessibility. In few words, Libyan government institutions can create a more inclusive digital environment that effectively serves all citizens, including those with disabilities by prioritizing WCAG 2.2 compliance and implementing these recommendations.

CONCLUSION

This comprehensive study underscores the importance of WCAG 2.2 compliance in enhancing the digital accessibility of Libyan government websites. The findings reveal significant areas for improvement across the government's online presence, with most websites failing to meet the WCAG 2.2 Level AA success criteria in key areas such as focus appearance, consistent help, and accessible authentication. By addressing the identified issues and implementing the recommended strategies, Libyan institutions can ensure that their online presence is accessible to users with disabilities, in line with international standards. Achieving WCAG 2.2 compliance not only benefits individuals with disabilities but also improves the overall user experience for all visitors to government websites. As technology continues to evolve and the importance of digital accessibility grows, it is crucial for Libyan government agencies to prioritize WCAG 2.2 compliance as part of their commitment to inclusivity and equal access to information and services for all citizens.

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