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Indonesian News Website Accessibility Evaluation Based on WCAG 2.2 for Visually Impaired User

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Abstract

Web accessibility is essential to ensure equal access to online information for all users, including individuals with visual impairments. Despite the increasing reliance on online news platforms, the accessibility status of Indonesian news websites remains underexplored, particularly with respect to the latest Web Content Accessibility Guidelines (WCAG) 2.2. This study evaluates the accessibility compliance of the three most visited Indonesian news websites, namely Detik.com, Kompas.com, and Tribunnews.com, from the perspective of users with visual impairments. The evaluation was conducted using WCAG 2.2 as the accessibility standard, the Website Accessibility Conformance Evaluation Methodology (WCAG-EM) as the evaluation method, and three automated accessibility evaluation tools: WAVE, axe DevTools, and Siteimprove Accessibility Checker. The findings indicate that all evaluated websites still contain accessibility barriers that may hinder access for visually impaired users. Keyboard accessibility violations were identified as the most dominant issue, followed by violations related to non-text content and color contrast. The results also reveal that homepage pages generally exhibit more accessibility issues than article pages due to their higher complexity and larger number of interactive and advertisement-related components. Among the evaluated websites, Tribunnews.com demonstrated the best overall accessibility performance, followed by Kompas.com and Detik.com. Furthermore, advertisement and promotional components were found to contribute substantially to the identified accessibility issues. These findings highlight the need for Indonesian news website providers to prioritize accessibility throughout the design and development process to promote more inclusive access to online news content.

Keywords: Web Accessibility, WCAG 2.2, News Websites, Accessibility Evaluations, Visual Impairments

1. Introduction

The rapid development of technology has brought many changes to human life including the shift from conventional media to digital media as a source of information. The internet has become one of the primary sources of information, with news websites playing an important role in providing timely access to current events. The press and news media now utilize online technology by using website as their platform to spread information instead of just sticking to only conventional media like newspaper. A survey conducted by Reuters Institute even shows that nowadays, the majority of Indonesian people got their news and information through online media [1]. Even though any varieties of online media such as social media exist and also used as another source of information, online news media remain relevant on today's digital world, since many of information circulated in social media originates from trusted news sources [2].

Data from Indonesian Press Council shows that there are total of 1,711 verified media company in Indonesia, with 902 of it being online media company. Out of hundreds of online news portal accessed everyday by the people, there are three news website that were most frequently visited in Indonesia, based on data from Similareb. These websites are Detik.com, Tribunnews.com, and Kompas.com [3]. Other sources, [4], [5], [6], and [7] also consistently listed these three as the most visited news website in Indonesia although the ranking order may be slightly varied. Being the most visited news website in Indonesia means that these websites receive many traffics and seen by many every day.

As online news consumption continues to increase, ensuring equal access to information for all users has become increasingly important. Individuals with visual impairments, as one of the most detected disabilities in Indonesia according to [8], [9], often rely on assistive technologies such as screen readers and keyboard navigation to interact with web content. However, accessibility barriers such as missing alternative text, poor color contrast, improper focus management, and inaccessible form can significantly hinder their accessibility to access information [10]. Moreover, news websites mostly presented visual contents with text and images to present the information, and

when accessibility features are missing, individuals with visual impairments will be directly impacted. To address this issue, the World Wide Web Consortium (W3C) developed the Web Content Accessibility Guidelines (WCAG), which provide internationally recognized standards for creating accessible web content. The latest version, WCAG 2.2, introduces additional success criteria aimed at improving accessibility for users with disabilities.

Previous study has evaluated website accessibility across various types of websites using WCAG standards. A study by [11] evaluated Detik.com using WCAG 2.1 and identified several accessibility issues affecting website usability. Similarly, [10] analyzed Arabic news portals from the perspective of users with visual impairments and reported numerous accessibility barriers; however their evaluation was also based on WCAG 2.1. More studies by [12]-[17] also conducted accessibility analysis of webpage in different type of field such as public health and university website while still relies on the previous WCAG 2.0 and 2.1 version as the guideline. More recently, [18] and [19] adopted WCAG 2.2 to assess accessibility issues experience by visually impaired users, but their study focused on government and universities websites rather than online news website. These studies demonstrate the continues presence of accessibility issues across different website domains and highlight the importance of regular accessibility assessment.

Despite these contributions, several research gaps remain. First, previous studies on news websites predominantly relied on WCAG 2.1, leaving limited evidence regarding accessibility compliance under the newer WCAG 2.2 guidelines. Second, studies focusing on Indonesian news websites have generally examined individual websites rather than providing a broader assessment of the country's most widely visited news platforms. Third, many accessibility evaluations rely on a single automated testing tool, which may not capture the full range of accessibility issues due to difference in detection capabilities among tools. Finally, existing studies often evaluate accessibility from general perspective without specifying examining barriers that affect users with visual impairments.

To address these gaps, this study evaluates the accessibility of three most visited news website in Indonesia according to Ahrefs, namely Detik.com, Tribunnews.com, and Kompas.com [7] based on WCAG 2.2 while focusing on visual impairment. The evaluation adopts the Website Accessibility Conformance Evaluation Methodology (WCAG-EM) [20] and combines the use of three automated accessibility assessment tools, WAVE, axe Devtools, and Siteimprove Accessibility Checker, to utilize the complementary strength of each tool. By focusing on WCAG 2.2 compliance and accessibility barriers relevant to visually impaired users, this study provides an updated assessment of accessibility in Indonesian online news media. The findings are expected to contribute to the development of more inclusive news websites and serve as a reference for future accessibility improvements.

Therefore, the objective of this study is to identify the accessibility conformance and accessibility issues on the most visited Indonesian news websites, determine the WCAG 2.2 success criteria relevant to visually impaired users that are most frequently violate, and provide recommendations to improve accessibility for users with visual impairments.

2. Research Methods



Figure 1. Research Method Diagram

This study evaluates the accessibility compliance of online news websites in Indonesia focused on accessibility requirements to users with visual impairments based on selected success criteria from WCAG 2.2 at levels A and AA. The methods adopted for this research is Website Accessibility Conformance Evaluation Methodology (WCAG-EM) developed by W3C as the evaluation framework to ensure a systematic and standardized assessment

process. This evaluation procedure consists of 5 main steps, as shown in Figure 1, including; Define the evaluation scope; Explore the target website; Select a representative sample; Evaluate the selected sample; and Report the evaluation findings. Additional steps of Generate recommendation based on the findings is done to provide recommendations that can improve the website accessibility for user with visual impairments.

2.1. Define the Evaluation Scope

This research is focusing on the three most visited online news website in Indonesia based on traffic engagement, using WCAG 2.2 as the guideline, and combine WAVE, axe Devtools, and Siteimprove as evaluation tools. While focusing on accessibility for user with visual impairments, some success criteria are chosen based on challenges faced by visually impaired users in using website found by study from Hadjuk [21]. These challenges includes difficulty of reading text due to size or contrast, the lack of color contrast, poorly structured contents that affect navigation, difficulty identifying images or font, inaccessible form or inputs, and difficulty navigating web pages. The problems then mapped and matched to the related WCAG 2.2 criteria [22]. Based on this mapping, six success criteria relevant to visually impaired users were selected for evaluation in this study. Furthermore, WAVE, axe Devtools, and Siteimprove were selected based on their capability to detect violations related to the chosen success criteria and their support for accessibility analysis. Table 1 presents the selected WCAG 2.2 success criteria and the corresponding evaluation tools used to assess each criterion.

Table 1. Chosen WCAG 2.2 Success Criteria for the Ressearch

Success Criteria	Level	Description	Tools to Check
1.1.1 Non-text Content	A	All non-text content that is presented to user has a text alternative that serves the equivalent purpose except for the listed situations.	WAVE
1.4.3 Contrast (Minimum)	AA	The visual presentation of text and images of text has a contrast ratio of at least 4.5:1 except for the listed situations.	WAVE
2.1.1 Keyboard	A	All functionality of the content is operable through a keyboard interface without requiring specific timings for individual keystrokes, except where the underlying function requires input that depends on the path of the user's movement and not just the endpoints.	axe Devtools
2.4.7 Focus Visible	AA	Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is visible	axe Devtools
2.4.11 Focus Not Obscured	AA	When a user interface component receives keyboard focus, the component is not entirely hidden due to author-created content. This ensures when an item gets keyboard focus, it is at least partially visible.	axe Devtools
2.5.8 Target Size	AA	The size of the target for pointer inputs is at least 24 by 24 except for the listed conditions.	Siteimprove

2.2. Explore the Target Website

This step aims to familiarize researcher with the structure, content, and functionality of each evaluated website. The website selected for analysis are Detik (<https://detik.com>), Kompas (<https://kompas.com>), and Tribunnews (<https://tribunnews.com>), chosen based on publicly available traffic statistic identifying them as three most visited news website in Indonesia. This preliminary exploration supports the selection of representative page samples, ensuring the analyzed pages reflect common user journeys and diverse content types.

2.3. Select a Representative Sample

Evaluating every webpage within a website is impractical due to the large volume of content. Therefore, representative page samples were selected from each website to enable an efficient and manageable evaluation process. In this study, two pages from each news website were selected for accessibility analysis.

2.3.1. Homepage

The homepage typically serves as the primary interface of a website, containing the main navigation menus, headlines, and links to various content sections. As the first point of interaction for many users, the homepage plays a crucial role in shaping users' perception of the overall website quality. Singh & Dalal [23] suggested that users often unconsciously evaluate a website based on their experience with its homepage. Similarly, Vermerr [24] identified the homepage of a news website as the main driver or traffic for news website. Given the role as the main navigation hub and entry point, the homepage was selected as one of the pages evaluated in this study for each of the three news websites.

2.3.2. Full News Article Page

The full news article page represents the primary content consumption experience on a news website, as it contains the main news content accessed by users. According to the Reuters Institute Digital News 2023, more than three quarters of news articles are accessed through external sources, such as social media and search engines, allowing users to directly enter the main content of news article without visiting the homepage first [25]. Therefore, analyzing single news article page is essential to ensure that the core news content remains accessible regardless of the user's entry path.

To choose the single news sample, there are some criteria that these pages must have, including; 1) Have standard article structure such as headline, date, body text, and image(s) to evaluate how assistive technologies interact with semantic HTML elements; 2. Includes at least one image, captions, or embedded media to assess the presence and quality of alternative text; 3. Has internal or external hyperlinks to allow evaluation of link clarity, keyboard navigation, and focus indicators; 4. Published within the range of the last 6 months to represent the current site design; 5. Accessible from homepage or Headline section on homepage to simulate typical user path.; and 6. Represent common article topics, preferably general news such as politic, economy, or social issues that might reach broader audience.

2.4. Evaluate the Selected Sample

In this step, each selected was evaluated using the selected tools to identify accessibility issues and asses conformance with the selected WCAG 2.2 success criteria. The three tools were used to complement one another by covering different aspect of accessibility and detecting broader range of potential issues rather than producing directly comparable results. All evaluations were conducted using Chrome Browser on the Windows 10 environment, with the corresponding browser extensions installed prior to the analysis.

For each evaluation,, the selected webpage was first opened and allowed to fully load to ensure a consistent analysis state. WAVE and Siteimprove analysis were performed by activating their respective browserextensions and reviewing the generated results. For axe Devtools, the browser's developer tools were opened, and the "Keyboard" evaluation option was selected within the axe Devtools tab to asses keyboard accessibility. The finding from each tool were subsequently documented and stored for further analysis.

2.5. Report the Evaluation Findings

Following the evaluation, the identified accessibility issues were compiled and mapped to the corresponding WCAG 2.2 success criteria. The findings were then analyzed and documented to determine the accessibility performance of each evaluated website. The result of this analysis were used to draw conclusions regarding the accessibility conformance of the websites and to formulate recommendations for accessibility improvements.

2.6. Generate Recommendation

Based on the accessibility issues identified during the evaluation process, practical recommendations were formulated to improve website accessibility, particularly for users with visual impairments. The recommendation were tailored to address the specific type of violation that are detected during the analysis. This step aims to provide website developers and administrator with a guidance for improving accessibility conformance in accordance with WCAG 2.2.

3. Results and Discussions

3.1. Accessibility Analysis Findings

The accessibility analysis of the sample of three popular news website in Indonesia shows that there are still many accessibility issues detected that can affect user with visual impairments. Almost all of the selected success criteria issues are found on all sample pages. The non-text content issues found from all pages usually come from thumbnail or illustration images that does not have proper alternative text attribute, form control and button that does not have accessible name for assistive technologies, and advertisement banner that does not have proper alternative text. This kind of issue can significantly affect visually impaired user that often rely on assistive technology such as screen reader while navigating through the page. When alternative text or accessible names are not provided, screen reader will only announce the element type only (i.e. "button" or "image") without conveying its nae, purpose, or content. As a result, user may experience difficulties understanding page content, navigating the interface, and interacting with the website features effectively. Figure 2 and Figure 3 shows the example of missing alternative text issues and missing form label issues found on Detik.com homepage that are associated with SC 1.1.1 Non-text Content.



Figure 2. Missing Alternative Text Issue Example Found on Detik Homepage

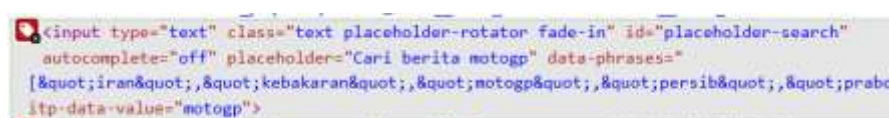


Figure 3. Missing Form Label Issue Example Found on Detik Homepage

For color contrast issues, the error came from subtitle, category, and timestamp text that does not meet the minimum 4.5:1 contrast ratio. The element that causes this error usually in the color grey or other light-colored text on white background. Insufficient color contrast can create significant accessibility barriers for users with low vision, as the text may appear faint and difficult to distinguish from the background. Furthermore, users with color vision deficiencies may struggle to perceive differences between foreground and background colors when contrast level are low. This can reduce content readability and difficulties in locating contextual information such as article categories, publication times, and supporting text. Figure 4 shows the example of color contrast issue on Detik homepage.

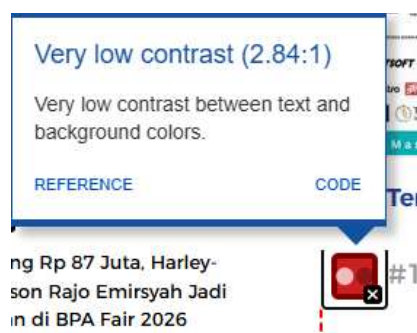


Figure 4. Color Contrast Issue Example Found on Detik Homepage

Meanwhile, the keyboard issues came from many elements on the page such as thumbnail, sidebar and submenu, and some button. Some buttons cannot be accessed by keyboard focus making the functionality cannot be fully performed using keyboard, while some submenu and modal can be activated using keyboard, but the keyboard focus did not move to the items inside and stuck on the background. This creates keyboard trap and also make the function cannot be fully performed using keyboard and impact the usability of users that rely on keyboard navigation. As for keyboard focus error that only found on Kompas homepage, the error came from element on header that does not have proper focus indicator that shows the keyboard focus position on the page. Figure 5 shows example of component with keyboard issues on Kompas homepage and Figure 6 shows example of component with keyboard focus error on Kompas Homepage.



Figure 5. Component with Keyboard Issue Example Found on Kompas Homepage

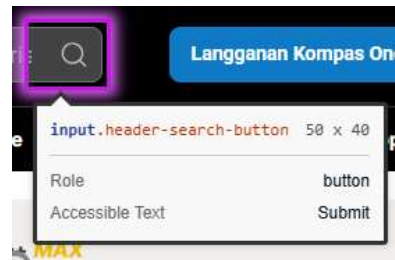


Figure 6. Component with Keyboard Focus Issue Example Found on Kompas Homepage

As for element size issues, it is primarily associated with advertisement option button, some slider elements, and texts from breadcrumb and category. The minimum size of an interactive element, stated on the 2.5.8 Target Size success criteria is 24x24 pixel, or if smaller it should have a sufficient spacing so its not intersect with another interactive element. Target size violations found on the evaluated websites may affect usability since elements with size too small can make it harder to be seen in interacted with. This not only affect visually impaired users, but also can negatively impact the overall website usability. Figure 7 shows element with target size less than 24 x 24 pixel found on Detik homepage.

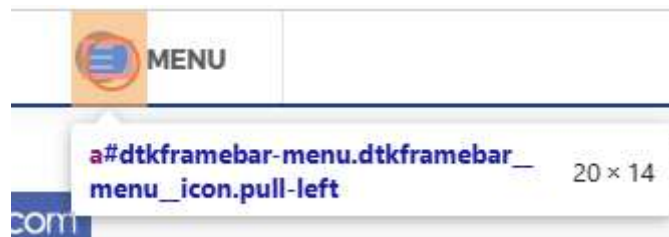


Figure 7. Component with Size Less than 24 x 24 pixels Found on Detik Homepage

3.2. Overall Violation

After thorough evaluation and analysis, the result of total violation found on the selected sample pages of the three most visited news website in Indonesia are shown on Table 2 below.

Table 2. Overall Accessibility Issues Found on the Page Samples

Success Criteria	Errors Found					
	Detik		Kompas		tribunnews	
	Homepage	Single News	Homepage	Single News	Homepage	Single News
1.1.1 Non-text Content	91	39	29	36	4	6
1.4.3 Contrast (Minimum)	42	45	28	20	8	2
2.1.1 Keyboard	420	291	250	247	425	183
2.4.7 Focus Visible	0	0	28	0	0	0
2.4.11 Focus Not Obscured (Minimum)	0	0	0	0	0	0
2.5.8 Target Size	2	8	1	8	13	3
Total	555	383	346	311	450	194

From Table 2, it can be seen that the three popular news websites in Indonesia still have low conformance of accessibility compliance. The accessibility issues that are found are not evenly distributed across the selected WCAG 2.2 success criteria. Instead, the findings indicate a clear concentration of errors in several key success

criteria that are closely related to visual accessibility, namely non-text content (SC 1.1.1), color contrast (1.4.3), and keyboard (2.1.1).

Among these, keyboard accessibility issues were clearly become the most dominant violation found across all three websites as it takes around 81% from the total issues found on all sample pages. Most violations involved interactive elements that could not be fully operated using keyboard input alone, such as thumbnails, navigation menus, sidebars, modal dialog, and interactive buttons. Several interactive elements could not be accessed using keyboard alone, resulting in functionality that was not fully operable without a mouse. Several interactive elements even relied solely on mouse hover interaction. On the other hand, some modal could be opened through keyboard interaction, however keyboard focus did not move to the newly displayed content and remained on background element. This behavior may create keyboard traps and prevent users from effectively interacting with the interface. Since visually impaired users commonly rely on keyboard navigation together with screen readers, these issues may prevent access to important website functions and content, creating significant barriers for users in navigating the website efficiently and independently.

The result presented in Table 2 also indicate that among the three popular news websites, Tribunnews demonstrated the highest level of accessibility compliance. Tribunnews consistently exhibited fewer accessibility violations than Kompas and Detik across both homepage and the news article page, particularly in non-text content and contrast related success criteria. This finding suggest that Tribunnews may employ more accessibility-conscious design practices, such as improvised contrast management and more structured content organization. In contrast, Detik recorded the highest number of violations across nearly all evaluated success criteria, indicating more significant accessibility challenges. Kompas's exhibited intermediate performance with fewer violations than Detik but still showing substantial accessibility issues, particularly in keyboard accessibility, non-text content, and target size requirements.

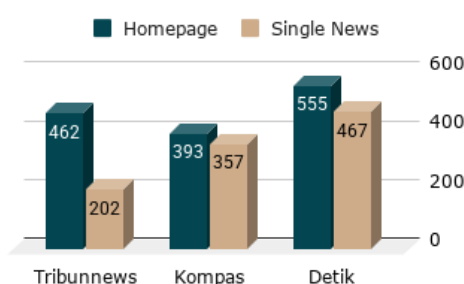


Figure 8. Issues Count Comparison on Homepage and Single News Page

In addition to differences among the evaluated websites, notable variations were also observed between homepage and single article pages within the same website. As illustrated in Figure 8, single news page consistently exhibited fewer accessibility violations than homepages across all three websites. This difference is likely connected to the greater functional complexity of homepage layouts. Homepages typically incorporate numerous interactive components such as news sections, article thumbnails, featured topics, content sliders, promotional banners, and third-party advertisements, resulting in a larger number of elements and a higher likelihood of accessibility issues. In contrast, single news page are primarily designed to present news content and generally include fewer interactive elements, such as images, tags, comment sections, recommended articles, and advertisement. Consequently, fewer accessibility violations were detected on these pages. Nevertheless, despite exhibiting fewer violations, single news page still contain accessibility barriers that may affect users with visual impairments, indicating that accessibility improvements remain necessary across all evaluated page types.

A closer examination of the identified violations revealed that a substantial proportion of accessibility issues originated from advertisement and promotional components embedded within the evaluated news websites. Many violations of SC 1.1.1 (Non-text Content) were associated with advertisement banners, image-based links, article thumbnails, and sponsored content that lacked meaningful text alternatives. Similarly, violation of SC 2.1.1 (Keyboard) frequently occurred in interactive advertisement components, such as pop-ups and dynamically generated content, which could not be fully accessed or operated using keyboard input alone. In addition, several SC 2.5.8 (Target Size Minimum) violations were identified in advertisement-related controls, particularly option menus and close buttons that did not satisfy the minimum size or spacing requirements. These findings suggest that the integration of third-party advertisements and promotional content contributes significantly to the overall accessibility problems observed in Indonesian news websites. Since visually impaired users commonly rely on

screen reader, keyboard navigation, and other assistive technologies, inaccessible advertisement components may disrupt navigation, restrict access to content, and negatively affect the overall user experience.

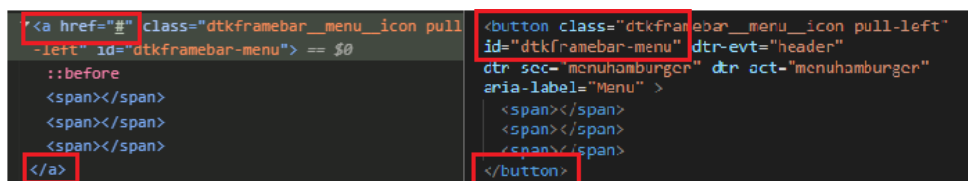
The observed differences in accessibility performance among the evaluated websites may be at

The differences in accessibility performance among the evaluated websites may be attributed to variations in layout complexity, advertisement density, and interaction design. Websites that incorporate a larger number of advertisement and dynamic interface components tend to introduce more accessibility barriers, particularly for users with visual impairments. The findings indicate that the overall accessibility conformance of the three most visited Indonesian news websites remains limited, as none of the evaluated websites fully satisfied the selected WCAG 2.2 success criteria. Nevertheless, Tribunnews demonstrated relatively better accessibility performance compared to the other evaluated websites, suggesting that improved accessibility is achievable even in highly dynamic news environments. These findings highlight the importance of prioritizing accessibility not only within core news content but also in embedded advertisements, promotional materials, and third-party components. Addressing issues such as missing text alternatives, inadequate keyboard support, and insufficient color contrast could substantially improve accessibility conformance and promote more inclusive access to online news for visually impaired users.

3.3. Adjustment Recommendation

Based on the findings, several improvements are recommended to enhance the accessibility of Indonesian news website. Website developers should pay attention to the most common violations identified including inaccessible keyboard navigation, missing focus indicators, missing alternative text, missing form label, insufficient color contrast, and insufficient target sizes for interactive elements.

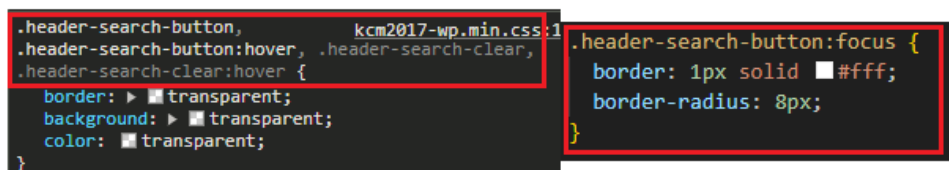
As for the adjustment, first website developers should prioritize keyboard accessibility throughout the design and development process, as violations related to SC 2.1.1 Keyboard were the most frequently identified. Interactive elements should be made to be fully operable using keyboard input by ensuring the proper use of semantic HTML elements for each component. Proper focus management within dialogs and modal components should also be done to ensure all functions can be done fully using keyboard and avoiding keyboard traps. The ideal flow of focus management is moving focus to the first active element on the dialog when its opened and moving the focus back to the triggering element when the modal is closed. Figure 9 shows the example of recommendation for element with keyboard focus issue. Visible focus indicators should also be given to all interactive elements within the page by defining `:focus` state styling to show the focus position on the page properly. The example of focus indicator recommendation is shown in Figure 10.



```
<a href="#" class="dtkframebar__menu_icon pull-left" id="dtkframebar-menu"> == $0
::before
<span></span>
<span></span>
<span></span>
</a>

<button class="dtkframebar__menu_icon pull-left" id="dtkframebar-menu" dtr-evt="header" dtr-sec="menuhamburger" dtr-act="menuhamburger" aria-label="Menu">
<span></span>
<span></span>
<span></span>
</button>
```

Figure 9. Recommendation Example of Keyboard Inaccessible Component



```
.header-search-button, .kcm2017-wp.min.css:1
.header-search-button:hover, .header-search-clear,
.header-search-clear:hover {
border: transparent;
background: transparent;
color: transparent;
}

.header-search-button:focus {
border: 1px solid #fff;
border-radius: 8px;
}
```

Figure 10. Recommendation Example of Focus Indicator Styling

Second, meaningful text alternatives should be provided for all informative non-text content, including article thumbnails, illustrations, and advertisement banners. The implementation can be done on the content management system to automatically assign article titles or image name as default alternative text while also allowing the creator to modify it to give more accurate description. Form controls and interactive elements should also be assigned descriptive labels or accessible names to ensure compatibility with screen readers and other assistive technologies. Figure 11 shows the recommendation example for missing alternative text error.



Figure 11. Recommendation Example for Missing Alternative Text

Finally, sufficient color contrast and adequate target size should be incorporated during interface design phase to improve readability and usability for users with low visions and color vision deficiencies. Particular attention should be given to advertisement and third-party components, as these elements were found to contribute substantially to the identified accessibility issues. Website providers should therefore ensure that both internal and externally sourced content comply with WCAG 2.2 requirements before deployment. Figure 12 shows the recommendation example for color contrast error and Figure 13 shows recommendation example for interactive element with insufficient size.

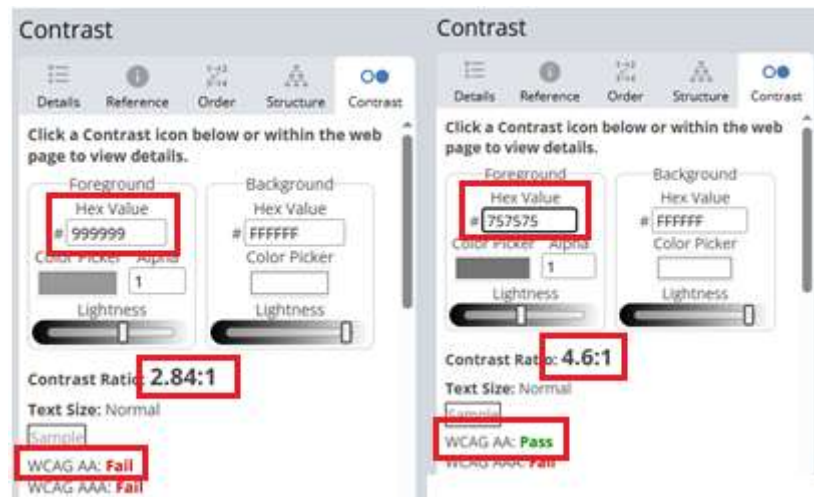


Figure 12. Recommendation Example for Insufficient Color Contrast



Figure 13. Recommendation Example for Insufficient Size Component

In addition to efforts from website providers and developers, government initiatives are also essential to promote inclusive design practices across all public information websites in Indonesia. Previous research [26] has highlighted the absence of clear and enforceable national standards for digital accessibility in Indonesia. Although existing regulations generally guarantee equal access to information and prohibit discrimination, detailed technical guidelines for web accessibility based on internationally recognized standards, such as WCAG, have not yet been formally established. The adoption of comprehensive accessibility regulations and technical guidelines could encourage the development of ore accessible website and improve digital inclusion for people with disabilities in Indonesia.

Implementing these recommendations may improve accessibility conformance, enhance overall usability, and promote more inclusive access to online news content especially for users with visual impairments.

4. Conclusion

This study evaluated the accessibility compliance of the three most visited Indonesian news website, namely

Detik.com, Kompas.com, and Tribunnews.com, using WCAG 2.2 as the evaluation standard, WCAG-EM as the evaluation methodology, and WAVE, axe Devtools, and Siteimprove Accessibility Checker as the evaluation tools. The results revealed that all evaluated websites still exhibit accessibility barriers that may restrict access for users with visual impairments. Among the three websites, Tribunnews demonstrated the best overall accessibility performance, followed by Kompas and Detik. The analysis further demonstrated that homepage generally shows more accessibility violation than single news page due to their greater structural complexity and the presence of numerous interactive and advertisement-related elements. The most frequently identified accessibility issues were related to keyboard accessibility, non-text content, and color contrast with keyboard accessibility dominating 81% of the findings. Furthermore, a substantial number of violations were associated with advertisement and promotional components, highlighting the impact of third-party content on overall accessibility conformance. Based on these findings, news website providers should prioritize accessibility throughout the design, development, and maintenance process. Particular attention should be given to providing meaningful alternative text, ensuring sufficient color contrast, implementing proper keyboard navigation and focus management, and complying with target size requirements. In addition, regular accessibility evaluations based on recognized standards such as WCAG 2.2 should be integrated into the development lifecycle to identify and address accessibility barriers at an early stage. By adopting these improvements, online news websites can provide more inclusive access to information for users with visual impairments. This research has contributed in findings the accessibility conformance of popular Indonesian news websites and the dominant violation found on the pages. The research also found patterns of violations across the websites. However, this research still has limitation since it only uses automatic tools to evaluate the page. Future research may combine automatic with manual testing to find any violations, and even involves individual with visual impairment in usability testing to provide a more comprehensive understanding of real-world accessibility challenges by adopting approach used by [27] which involves task scenarios, interviews, and questionnaires. This approach may give more comprehensive results in analyzing accessibility of Indonesian news websites.

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