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# Accessible Content Management Systems (CMS)

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**Abstract**
This study assesses the accessibility barriers in widely used Content Management Systems like Drupal and WordPress and discusses how to make these more accessible to people with disabilities. Since most of the CMS platforms do not have any in-built accessibility features, people with auditory, visual, cognitive or motor impairments are unable to access digital content. It aims to be able to offer support in terms of recommending improvements to the CMS system to raise accessibility while ensuring user inclusiveness as well as legal compliance.

**Keywords:** CMS, Drupal, WordPress, ARIA, WCAG, Content management, Digital Accessibility, WAVE, UDT.

## 1. Introduction

### 1.1 Background

CMS stands for accessible and user-friendly platforms which suit people from all walks of life, it is majorly to reach out to persons with different disabilities. Websites are available on the net with no more coding knowledge and are thus highly used by firms and business persons. Since the popular CMS platforms of today lack internal accessibility features, their web content is mostly not usable for people having sight, hearing, or movement-related disability, or having other difficulties in cognitive or mental impairments [1]. Non-accessible sites and pages restrict the delivery of essential services and information on the internet, and this affects a company's outreach and its chances to be compliant with international regulations of accessibility on the web. Some of the countries have accessibility legislation on the books, like the Americans with Disabilities Act in the United States, and others include the Web Content Accessibility Guidelines in other nations. If CMS platforms are imbued with accessibility features, users will be able to access and interact with the content, forms, and menus for navigation, as well as multimedia objects within the digital space [2].

The developer as well as the content creator can utilize the use of various tools, best practices and plugins to make CMS platforms accessible. WP Accessibility is one such plugin to enhance the accessibility of WordPress, whereas Drupal provides modules like CKEditor Accessibility Checker. All these enhance or add the main functions that are a key feature in accessibility are keyboard navigation, colour contrast, screen reader compatibility as well as Accessible Rich Internet Applications (ARIA) landmarks [3]. Besides the plugins, all contributors can follow best practices that range from providing alternate text to images or the correct structure of headings so all the interactive elements may be accessible from the keyboard. The use of accessible themes plus the best practices contributed to the content will serve not only to bring about a match with the requirements specified in the WCAG guidelines but also provide users with a more accessible experience whatever their abilities [4].

### 1.2 Research Aim

The study's aim is to examine and recommend tactics for enriching accessibility in Content Management Systems (CMS) like Drupal and WordPress, concentrating on accessible plugins, best practices and themes for content creation to upgrade inclusivity for people or users with impairments.

### 1.3 Research Objectives

- To assess the existing accessibility guidelines and standards, like Web Content Accessibility Guidelines (WCAG), that CMS platforms must comply with in order to align the requirements of individuals with disabilities.
- To examine the present accessibility features given by famous CMS platforms, like Drupal and WordPress, assessing their limitations and effectiveness.
- To evaluate and determine themes and plugins designed to upgrade accessibility, examining their ease of use, functionality and compatibility with accessibility standards.
- To develop best practices and ways for content creators utilising CMS platforms to affirm content is available to various audiences, involving considerations for text formatting, navigation and multimedia.
- To provide a checklist or framework for continuous accessibility testing mainly within CMS platforms to affirm continuous improvement and compliance in accessibility features.
- To recommend actionable suggestions for CMS developers to amplify accessibility in the CMS platform's future versions, concentrating on functional, structural and user interface developments.

### 1.4 Significance

The importance of accessible content management systems is in allowing for the creation of an accessible digital landscape. Individuals, businesses, and organizations are using Content Management Systems such as WordPress and Drupal to build and host websites, handle content and engage with their audiences in high numbers. With the incorporation of accessibility features, accessibility features enable free navigation and interaction on digital content by people, including those with impairments, without any restriction [5]. Accessibility is not just a benefit for users with impairments but also enhances general usability because accessible sites generally show better navigation, readable layout, and keyboard-friendly interface. In a more general sense, the significance of making CMSs accessible makes a business or organization touch more people, enhances their experience, and obeys legal standards like Web Content Accessibility Guidelines (WCAG) as well as different national laws on accessibility that ensure it avoids potential legal concerns [6].

Accessible CMS platforms foster social responsibility as well as maintain digital equity. As life takes its stride online-from educational issues to health care to getting a job accessibility emerges as the key to full participation in modern society. Through the provision of available add-ons, themes, and design tips that merge accessibility, developers, content creators and designers are able to create websites that are easily used by everyone [7]. It creates a sense of community and makes it easier for people who need assistive technology, such as screen reader or keyboard-only navigation, to participate in the online sphere. Making content management systems accessible is therefore a dedication to responsible online development that emphasizes inclusivity, equal chances, as well as universal design principles rather than just being about compliance.

## 2. Literature Review

Accessibility standards like WCAG serve as guidelines in any type of digital content in its creation to bec-

ome accessible by any kind of user. Features of CMS such as Drupal and WordPress possess characteristics, though normally reliant on plug-ins and personalizations implemented by users to effectively activate such features. The two common types of CMS feature and thematic applications for accessibility purposes although their testing process has to be done at all times in order not to disregard updates in its systems platforms.

### 2.1 Accessibility Standards and Guidelines

CMS platforms should follow the principles of the W3C's Web Content Accessibility Guidelines, which ensure the accessible nature of digital content is shared with the users who are using assistive devices [8]. WCAG collects these four main categories under the acronym POUR (Perceivable, Operable, Understandable, and Robust). As such, the principles could be collected in simple success criteria: text of images must be readable by any screen reader, images of objects shall have alternative information as well as keyboard navigation [9]. Compliant with the WCAG, CMS is also vital for legal compliance as well as for an accessible digital experience. In such a way, any given CMS platform will be fully able to ensure that each one of its users with all possible kinds of impairments such as visual, auditory, cognitive, motor and learning disabilities can also gain access to and use all such information efficiently.

### 2.2 Current Accessibility Features in CMS Platforms

Many popular CMS platforms, for example, such as Drupal as well as WordPress, have provided a number of accessibility features, though differing from each other in limitations and effectiveness. For instance, WordPress offers accessibility-ready themes and support for keyboard navigation but mostly depends on plugins to provide advanced functionalities for accessibility [10]. Drupal modules help enable accessibility and include a theme layer that supports semantic HTML5, which is much more readable in screen readers. However, at the same time, there are often options in configuring these features that aren't included by default. Given these improvements, their current reliance on third-party integration and the necessity for even a moderately tech-savvy user to do further configuration makes achieving 100% accessibility more difficult with these platforms [11].

### 2.3 Accessibility Plugins and Themes

Plugins and themes developed with the aim of improving accessibility within CMS platforms are very important, as they improve functionality and work well with accessibility standards. For instance, WP Accessibility is a WordPress plugin that brings in features like colour contrast checking, ARIA landmarks as well as font resizing [12]. CKEditor Accessibility Checker, on the other hand, is a Drupal plugin that makes it easier to check the level of accessibility of the website. Accessibility-ready themes make content WCAG compliant easier to produce, due to preconfigured accessibility in the themes [13]. Useful in their own right, of course, they differ highly in functionality and problems might arise from core platform upgrades, so regular testing in order to guarantee long-time accessibility is needed.

## 3. Best Practices for Accessible Content Creation

Best practices would thus be an important step in ensuring accessibility of content to its authors because they include descriptive alt-texts on images, providing multimedia with captions and also transcripts, proper structuring of texts by the use of correct headings, as well as designing the navigation so as to be keyboard-friendly [14]. Other considerations are that animations are not excessive as well as colour contrast is enough to suit the accessibility criteria for individuals with visual impairment. Similarly, content developers should be using plain language so users with cognitive impairments do not find difficulty in going through it. In such aspects, the best practice guides the developers to produce content

that is accessible to everyone as well as the guidelines from WCAG [15].

## 4. Framework for Accessibility Testing

Continuous accessibility testing is also very important to keep abreast of CMS compliance as well as to improve on the accessibility features. The recommended frameworks or checklists can be used with automated tools like WAVE or Axe for catching problems, and some time is also spent doing it by hand to ensure the keyboard navigation, functionality on a screen reader, as well as sufficient color contrast [16]. Testing should take place at every stage of the development process as content and sites are built, particularly after changes or major updates. For instance, user testing can be conducted by individuals with various types of disabilities to make recommendations. The framework ensures that accessibility is continually improved with the identified gaps as the features in a CMS change [17].

## 5. Recommendations for CMS Developers

The structural, functional, and interface elements of CMS development will be improved in future versions, making the site accessible. ARIA landmarks as well as semantic HTML5 built into the page make it more accessible for the screen reader. Improved functionality features may include amplified keyboard navigation with more options for changing settings that are usually customized through the accessibility option [18]. Usability can be improved through clearer labels and more intuitive controls of the user interface for every user. Additionally, there should be accessibility testing tools built into the platforms to assist users to better maintain compliance [19]. Enhancement of CMS platforms in these areas will make them more accessible to use out of the box. Third-party solutions will be needed fewer, and most users will be able to establish highly inclusive sites with the CMS.

## 6. Theoretical Framework

### 6.1 Universal Design Theory (UDT)

This theory lines up well with accessible CMS platforms because it emphasizes the design of products as well as environments that are usable by everybody, regardless of potential. Applying the principles of UDT to CMS evolution means that platforms such as Drupal, as well as WordPress, can design universally accessible features and tools, from plugins and themes to the options for creating the content itself [20]. This sets up CMS systems to be fundamentally inclusive. Every individual, regardless of impairment, will be able to use digital content effectively, unaided by special adjustments, thus making online interaction equal, and user-friendly. UDT applied to CMS web design platforms also makes the content-creation process since developers and web designers come into contact with accessible and ready-to-use plugins and themes, as well as with content-editing capabilities [21]. The method not only creates easier building of accessible Web pages but also equips the content creators with devices that naturally fit the adopted accessibility standards, like the WCAG. The integration of UDT in the development of CMS platforms makes them inherently inclusive, supports diverse user needs, and makes the digital environment more equitable and user-friendly for everyone.

## 7. Conclusion

It is concluded that the availability of CMS platforms is going to make the digital landscape more accessible and create an inclusive environment for all users. The integration of accessibility tools directly into the development of CMS reduces dependence on third parties, enhances the experience of the user,

and satisfies legal as well as social responsibility. The commitment to the principles of universal design that underpin CMS accessibility helps in promoting fair access and enriching the experience that each member will enjoy online.

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