Accessibility Compliance Audit Report: Department of Information Technology (DoIT) Web Portal

Open Internet Nepal

Internet Society Nepal Chapter

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1. Executive Introduction

In the current era of digital governance, web accessibility is a prerequisite for inclusive public service and a fundamental pillar of digital equity. A government portal serves as the primary interface between the state and its citizens; therefore, ensuring its accessibility is not merely a technical checkbox but a critical requirement for democratic participation. When digital platforms are designed to be inclusive, they transition from passive information repositories to active instruments of service delivery that respect the rights of all individuals, regardless of their physical or cognitive abilities.

This report details the findings of a comprehensive accessibility audit conducted on the Department of Information Technology (DoIT) portal (www.doit.gov.np). This assessment was executed through a strategic collaboration between Open Internet Nepal and Diverse Patterns. The following sections outline the technical methodologies, specific compliance gaps, and the strategic roadmap required to align this portal with international standards.

2. Audit Objectives and Scope

This audit was commissioned to evaluate the portal's transition from a standard hosting environment to an environment of active, inclusive engagement. As the lead agency for IT in Nepal, the DoIT portal must serve as a benchmark for accessibility and technical excellence.

The audit was structured around three core technical objectives:

- **Identification of Compliance Strengths:** To verify existing features that currently meet accessibility standards, establishing a baseline of successful implementation.
- **Structural and Navigational Barrier Analysis:** To pinpoint specific technical obstacles ranging from code-level failures to architectural flaws that impede users with disabilities.
- **WCAG 2.2 Alignment Roadmap:** To provide a technical framework for remediating identified issues and achieving alignment with the Web Content Accessibility Guidelines (WCAG) 2.2.

These objectives provide the analytical framework for the subsequent findings and technical recommendations.

3. Comprehensive Audit Methodology

A robust accessibility assessment requires a multi-modal testing approach. While automated protocols are efficient at identifying high-volume code failures, manual expert review is indispensable for evaluating the nuances of user experience, such as logical information flow and the contextual accuracy of assistive technology feedback.

Testing Phase	Process Description
Automated Testing	Deployment of specialized scanning software to evaluate the portal's source code against global technical standards (WCAG) and identify systemic failures.
Manual Expert Review	Human-centric verification involving hands-on interaction with all interface elements to simulate real-world user flows and validate the context of automated findings.

The results of this assessment begin with the verified successes that form the portal's current accessibility posture.

4. Verified Accessibility Successes (Compliance Benchmarks)

The following features represent the foundational accessibility benchmarks currently met by the DoIT portal. These implementations facilitate a baseline of usability, ensuring that certain core functionalities are interpretable by assistive technologies.

Status: Compliance Requirements Met

Functional Area	Implementation Detail	WCAG 2.2 Alignment
Tab Navigation	Navigation follows a logical focus order without the use of forced tab index values, allowing for natural movement.	2.4.3 Focus Order (A)
Hidden Elements	UI elements designated as hidden are correctly excluded from the focus order, preventing screen reader "traps."	4.1.2 Name, Role, Value (A)
Image Text Optimization	Descriptions for images are concise and avoid redundant phrasing, improving screen reader efficiency.	1.1.1 Non-text Content (A)

Headings Structure	Page headings contain actual content, facilitating basic section navigation (though logical hierarchy requires improvement).	2.4.6 Headings and Labels (AA)
List Structure	Systematic use of proper HTML list formatting allows screen readers to convey group relationships accurately.	1.3.1 Info and Relationships (A)
Language Declaration	The primary language of the document is correctly declared in the metadata, ensuring correct screen reader pronunciation.	3.1.1 Language of Page (A)
Frames and Iframes	Embedded content frames include descriptive titles, providing necessary context for their purpose.	4.1.2 Name, Role, Value (A)
Page Titles	Unique and informative titles are present for each page, assisting with browser tab and history identification.	2.4.2 Page Titled (A)
Button Labels	Interactive buttons utilize proper accessible names, ensuring their functions are clearly communicated.	4.1.2 Name, Role, Value (A)
ARIA Implementation	Foundational ARIA roles and attributes are utilized to provide technical descriptors for page elements.	4.1.2 Name, Role, Value (A)
Viewport Settings	Browser scaling and zoom functionalities are enabled, permitting users to resize text without breaking functionality.	1.4.4 Resize Text (AA)

5. Analysis of Identified Accessibility Barriers

The audit revealed several systemic technical failures that compromise the user journey. Recurring issues, such as missing alternative text, improper landmark roles, and keyboard inaccessibility, create significant "dead ends" for citizens attempting to access government information.

5.1 Global Header & Navigation

The global header serves as the primary navigational anchor for the entire website. When this component fails, the user's ability to orient themselves and move through the site is immediately compromised. The absence of "Skip Links" and the presence of mouse-only menus are particularly disruptive; keyboard and screen reader users are forced to exhaustively tab through every single navigation item before reaching the main content, or find themselves entirely unable to access submenu items.

Issue	Location	Impact	Remedy	WCAG References
Missing Skip Links	Top of page	Forces keyboard and screen reader users to navigate through all header items repeatedly to reach the main content.	Implement a "Skip to Main Content" link that becomes visible upon keyboard focus to allow users to bypass navigation.	2.4.1 Bypass Blocks (Level A)
Logo missing alternative text	Header logo	Creates a perceptual barrier; screen reader users cannot identify the branding or the purpose of the primary home link.	Apply descriptive alternative text (e.g., "Department of Information Technology Home") to the logo image.	1.1.1 Non-text Content (Level A)
Unreadable Nepal Sambath text	Header text	Users cannot process information conveyed in unrecognized or poorly rendered scripts, leading to data loss.	Utilize standard Unicode fonts to ensure screen reader compatibility and improve visual readability.	1.1.1 Non-text Content (Level A)

Mouse-only menu access	Navigation menu	Entire sections of the site become "dark" to those who cannot use a mouse, violating the principle of operability.	Re-engineer the menu to be fully keyboard-operable with focus management and ARIA labels for submenus.	2.1.1 Keyboard (Level A)
Improper menu structure	Navigation menu	Screen readers cannot logically announce the relationship between items, breaking the user's mental model of the site.	Utilize the `<nav>` element and unordered lists (`<ul>`) to establish proper semantic landmarks and hierarchy.	4.1.2 Name, Role, Value (Level A)
Unclear menu collapse status	"More" button	Users cannot determine if additional content is hidden or revealed, leading to navigation uncertainty.	Incorporate the `aria-expanded` attribute to dynamically communicate the state of the menu to assistive technologies.	4.1.2 Name, Role, Value (Level A)
Limited language selector	Language dropdown	Non-visual users may fail to understand the options for switching site languages due to missing context.	Provide a clear "Select Language" label and ensure each option is explicitly defined in its native tongue.	3.1.1 Language of Page (Level A)
Unlabeled social media icons	Header icons	The destination and purpose of these links remain a mystery to screen reader users, preventing social engagement.	Assign descriptive `aria-labels` (e.g., "Follow us on Facebook") to each individual social media icon link.	1.1.1 Non-text Content (Level A)

Improper search form structure	Search area	Users relying on assistive technology cannot efficiently locate or utilize the search feature as a landmark.	Apply the "search" role to the form and ensure the container is semantically identified for quick navigation.	4.1.2 Name, Role, Value (Level A)
Inconsistent focus indicators	Throughout header	Keyboard users lose their visual "cursor," making it impossible to determine which element is currently active.	Implement high-contrast, distinct visual focus indicators (e.g., solid outlines) for all interactive header elements.	2.4.7 Focus Visible (Level AA)
Unlabeled form fields	Search input	The purpose of the input field is not announced upon focus, leading to confusion during critical data entry.	Attach explicit `<label>` elements or `aria-label` attributes to the search input and all other form fields.	3.3.2 Labels or Instructions (Level A)
Background image without description	Header background	If the image conveys branding or mission context, screen reader users are excluded from that institutional narrative.	If informative, use an `aria-label` or hidden text; if decorative, ensure it is hidden from assistive technology.	1.1.1 Non-text Content (Level A)

The structural failures identified in the header are mirrored in the site’s footer and contact elements, further complicating the user's ability to access institutional data and transparency resources.

5.2 Global Footer & Contact Elements

The footer plays a strategic role in providing institutional transparency, housing essential contact information, and secondary navigation. For many users, this is the "final destination" for finding direct support or physical address details. Failures here, particularly regarding the

chatbot, represent a failure of real-time grievance redressal, a key metric for digital government services.

Issue	Location	Impact	Remedy	WCAG References
Missing logo alternative text	Footer logo	Prevents screen reader users from confirming they have reached the bottom of the official agency site.	Provide descriptive alternative text that mirrors the agency name and branding in the footer.	1.1.1 Non-text Content (Level A)
Unreadable office timings	Footer text	Citizens with low vision cannot ascertain when offices are open, leading to wasted physical travel.	Increase text-to-background contrast to at least 4.5:1 and use clear, sans-serif formatting for legibility.	1.4.3 Contrast (Minimum) (Level AA)
Unlabeled social media links	Footer social media icons	Users cannot distinguish between different social platforms, causing accidental redirects to the wrong services.	Add unique and descriptive `aria-labels` to every social link to clarify the specific platform destination.	1.1.1 Non-text Content (Level A)
Undescribed contact icons	Address, email, and phone icons	These vital contact methods are "silent" to screen readers, obscuring the primary ways to reach the agency.	Use `aria-label` attributes to describe the function of each icon (e.g., "Phone Number:", "Email Address:").	1.1.1 Non-text Content (Level A)
Inaccessible chatbot	Footer chatbot	Users with assistive technologies are locked out of real-time support, creating a disparity in service speed.	Re-engineer the chatbot using ARIA live regions and ensure the "Send" and "Close" buttons are keyboard-accessible.	4.1.2 Name, Role, Value (Level A)

The inability to interact with support tools or read office timings creates a significant communication gap. These global issues set a problematic stage for the content found on the Homepage, which serves as the agency's primary information portal.

5.3 Homepage & Dynamic Content

The Homepage serves as the "digital front door" for the DoIT. To ensure equal access to government updates, dynamic elements such as sliders and progress dashboards must be designed inclusively. Currently, visual-heavy content on the homepage excludes screen reader users from receiving the latest data, official missions, and visual gallery updates.

Issue	Location	Impact	Remedy	WCAG References
Inaccessible slider text	Main information slider	Critical government announcements embedded within images are invisible to non-visual users.	Implement a text-based alternative or overlay that is accessible to screen readers for every slider frame.	1.1.1 Non-text Content (Level A)
Unclear link descriptions	Throughout homepage	Generic links like "Read More" offer no context when navigated in isolation, confusing screen reader users.	Use descriptive link text that includes the title of the article or destination (e.g., "Read more about [Topic]").	2.4.4 Link Purpose (In Context) (Level A)
Undisclosed new window links	Various links	Unexpectedly opening new tabs can disorient users, particularly those using screen readers who lose their "Back" history.	Append a warning to the link text or use an icon with an `aria-label` stating "(opens in new tab)."	3.2.2 On Input (Level A)

Missing image descriptions	Our Services section	Users cannot understand the scope of services offered, hearing only uninformative filenames like "service1.png."	Replace filenames with meaningful alternative text describing each specific service category.	1.1.1 Non-text Content (Level A)
Unlabeled contact icons	Officials section	Methods of contacting specific government officials are hidden from screen reader users, preventing accountability.	Apply explicit labels to the call and email icons associated with each official's profile.	1.1.1 Non-text Content (Level A)
Poor text contrast	Official position text	Low-vision users struggle to identify the titles and roles of staff, undermining the site's transparency.	Adjust color values to meet the 4.5:1 contrast ratio for normal text and 3:1 for large text.	1.4.3 Contrast (Minimum) (Level AA)
Redundant links	Latest News section	Navigational "noise" is created as users must tab through the image, title, and "read more" for the same story.	Wrap the entire news card in a single link and use `aria-hidden` on redundant sub-elements to streamline navigation.	2.4.4 Link Purpose (In Context) (Level A)
PDF-only documents	Document section	Information stored exclusively in untagged PDFs remains "locked" away from screen reader users.	Provide accessible HTML versions of documents alongside the PDF downloads to ensure universal access.	1.1.1 Non-text Content (Level A)

Empty heading links	Section headers	Screen reader users encounter non-functional "ghost" links, causing confusion and navigational delays.	Remove the empty link wrappers from within `<h1>-<h6>` tags to clean up the accessibility tree.	4.1.2 Name, Role, Value (Level A)
Undescribed progress dashboard	Progress dashboard section	Visual data visualizations are entirely lost, excluding non-visual users from key departmental metrics.	Add a detailed `alt` description or a hidden table summarizing the data trends shown in the dashboard.	1.1.1 Non-text Content (Level A)
Unclear pagination	Tab sections	Users hear only the word "link" for page numbers, making it impossible to track their location in a list.	Provide clear ARIA labels for pagination controls (e.g., `aria-label="Go to Page 2 of 5"`).	2.4.4 Link Purpose (In Context) (Level A)
Redundant publication links	Publications section	Repetitive links to the same publication content clutter the tab order and frustrate screen reader users.	Unify the publication entry into a single interactive element, removing multiple redundant focus points.	2.4.4 Link Purpose (In Context) (Level A)
Missing Mission images alt text	Our Mission section	The department’s core values and mission context, if visual, are not communicated to blind citizens.	Add descriptive alternative text that conveys the conceptual meaning of the mission-related imagery.	1.1.1 Non-text Content (Level A)

Missing photo descriptions	Photos section	While titles are present, the actual content and context of the photos are missing for screen reader users.	Add meaningful `alt` text to gallery photos that describes the event or subject while retaining the caption.	1.1.1 Non-text Content (Level A)
Inconsistent heading structure	Throughout homepage	The lack of a logical nesting hierarchy (H1 > H2 > H3) prevents users from skimming content effectively.	Restructure the page to follow a logical hierarchy where heading levels reflect the importance of the content.	1.3.1 Info and Relationships (Level A)

While the homepage introduces the user to the agency, the internal pages and document management systems are where the actual utility of the site is tested.

5.4 Internal Pages & Document Management

Internal page utility is hampered by a significant irony: specialized tools like text-to-speech and resizing controls, designed specifically for accessibility, are themselves inaccessible. When the very features meant to aid users with disabilities are unlabeled, they become unusable artifacts.

Issue	Location	Impact	Remedy	WCAG References
Unlabeled text-to-speech button	Main content	Blind users cannot find or activate the feature intended to provide them with an auditory version of the text.	Add a proper `aria-label` to the button (e.g., "Play text-to-speech") to identify its function to screen readers.	4.1.2 Name, Role, Value (Level A)

Unlabeled text resize controls	Content area	Users with low vision cannot identify which buttons help them enlarge text, rendering the tool useless.	Provide clear, descriptive labels for each resizing button (e.g., "Increase font size," "Reset font size").	3.3.2 Labels or Instructions (Level A)
Redundant notice links	Related Notices section	Repeated links to the same notice frustrate screen reader users by forcing them to listen to redundant audio cues.	Implement a single, unified link structure for each notice item to reduce keyboard tabbing and audio repetition.	2.4.4 Link Purpose (In Context) (Level A)

Beyond functional controls, the management of publications remains a core area of concern regarding document accessibility and digital permanence.

5.5 Publication Page

In a government context, document accessibility is a critical legal requirement. Relying exclusively on non-tagged PDFs creates an insurmountable barrier for citizens using assistive technologies. To ensure content longevity, responsiveness across devices, and superior search engine optimization (SEO), the site must move toward providing HTML alternatives as the primary format.

Issue	Location	Impact	Remedy	WCAG References
PDF-only content	All publications	Information is "locked" in formats that are often incompatible with mobile screen readers and reflow tools.	Transition to providing HTML versions of all publications to ensure broad compatibility and readability.	1.1.1 Non-text Content (Level A)

Inaccessible embedded PDFs	Throughout page	Content viewed via embedded browsers is often invisible to assistive technology "virtual cursors."	Provide direct links to properly tagged, accessible PDF versions alongside a native HTML alternative.	1.1.1 Non-text Content (Level A)

The exclusion found in publications extends into foundational civic documents, such as the Citizens Charter.

5.6 Citizens Charter Page

The Citizens Charter is a document of immense legal and civic importance. It defines the relationship between the department and the public. It is essential that this information is legible to all, including those with low vision who may need to scale text for readability. Adherence to WCAG 1.4.4 is a fundamental requirement to ensure no citizen is denied their right to understand government obligations.

Issue	Location	Impact	Remedy	WCAG References
Small text size	Throughout page	Essential civic information is difficult or impossible to read for users with visual impairments.	Increase the base font size to at least 16px and ensure the layout supports 200% zoom without loss of content.	1.4.4 Resize Text (Level AA)

While text legibility is a core component of readability, the perceptibility of organizational structures must also be addressed.

5.7 Organogram Page

The Organogram is a visual representation of the Department's hierarchy. While visual charts are useful for some, they are entirely opaque to screen reader users. To provide equal access

to the department's structure, these visual maps must be translated into meaningful, semantically structured text that reflects reporting lines.

Issue	Location	Impact	Remedy	WCAG References
Inaccessible chart	Organization chart	Screen reader users cannot perceive the structure, roles, or hierarchy of the department from an image.	Provide an ordered (`<ol>`) or unordered (`<ul>`) list that represents the hierarchy in a nested, text-based format.	1.1.1 Non-text Content (Level A)

The theme of providing textual alternatives to visual or locked formats is most prevalent in the Resources Section.

5.8 Resources Section

The Resources section is intended to be a repository of knowledge for the public. However, this knowledge currently remains locked behind inaccessible PDF formats, rendering the section effectively unusable for citizens who rely on screen readers or mobile-only access.

Issue	Location	Impact	Remedy	WCAG References
PDF-only resources	Resource listings	Critical technical resources are inaccessible to users who cannot process untagged, non-reflowable PDF files.	Ensure all resource documents are available in HTML or other accessible, text-based formats.	1.1.1 Non-text Content (Level A)

Inaccessible embedded PDFs	Single resource pages	Embedded PDF viewers act as a "black box," blocking assistive technology from the underlying text.	Provide properly tagged, high-accessibility PDF versions alongside accessible HTML alternatives.	1.1.1 Non-text Content (Level A)

Moving from information consumption to direct interaction, we must evaluate the accessibility of the Contact Page.

5.9 Contact Page

The Contact Page is essential for facilitating citizen-government interaction. However, the reliance on third-party embeds, such as Google Maps, without proper labeling can disorient users. Without contextual anchors, users may struggle to identify office locations or the purpose of specific icons.

Issue	Location	Impact	Remedy	WCAG References
Untitled map iframe	Google Map embed	Screen reader users encounter a generic "iframe" and have no context regarding the map's contents.	Add a descriptive `title` attribute to the iframe (e.g., `title="Department Location Map"`).	4.1.2 Name, Role, Value (Level A)
Unlabeled contact icons	Throughout page	Visual icons for phone and email provide no context to non-visual users, making it unclear how to connect.	Use descriptive `aria-label` attributes for all contact icons to explicitly identify the contact method.	1.1.1 Non-text Content (Level A)

Orientation is only the first step; the actual communication occurs through the functionality of the Contact Form.

5.10 Contact Form Section

Form accessibility represents the apex of user interaction. When a form fails to provide status messages (such as "Form Submitted"), it leads to user frustration, uncertainty, and potential data loss. Citizens must be informed of the result of their interaction in real-time, especially when errors occur or success is achieved.

Issue	Location	Impact	Remedy	WCAG References
Inaccessible notifications	Form submission	Users are left wondering if their message was sent successfully, leading to repeated, redundant submissions.	Implement ARIA live regions (e.g., `aria-live="polite"`) to announce submission status without shifting focus.	4.1.3 Status Messages (Level AA)
Improper button implementation	Form buttons	Screen readers may fail to identify submission triggers correctly, preventing the completion of the contact process.	Use native HTML `<button>` elements with proper types and roles to ensure they are correctly identified.	4.1.2 Name, Role, Value (Level A)

Finally, we address the inclusive visual storytelling aspects of the department's digital presence.

5.11 Photo Gallery

Inclusive storytelling is vital for government transparency. Without alternative text, a photo gallery is an empty experience for blind users. For a gallery to be truly inclusive, it must

distinguish between functional "Alt Text" for identification and descriptive "Captions" for narrative context.

Issue	Location	Impact	Remedy	WCAG References
Missing image descriptions	Gallery images	The visual narrative of the department's work is completely lost on blind or low-vision users.	Provide concise, descriptive alternative text for every image in the gallery that conveys the core subject.	1.1.1 Non-text Content (Level A)
Incomplete image information	Gallery captions	Providing only a title/caption often leaves out the visual context that brings the image to life for non-visual users.	Supply both functional `alt` text for screen readers and visible captions for general context.	1.1.1 Non-text Content (Level A)

Addressing these 11 critical areas is the mandatory first step toward achieving WCAG 2.2 compliance for the DoIT. By rectifying these barriers, the department can ensure that its digital presence is truly accessible and inclusive for every citizen.

6. User Experience Impact Assessment

Technical failures translate directly into functional exclusion for citizens. When a government portal fails a compliance check, it denies service to segments of the population.

- **Visual Impairments:** The absence of alternative text and the use of unrecognized scripts like "Nepal Sambath" create significant cognitive load or total information blocks. For a screen reader user, an unlabeled icon is simply announced as "button" or a filename, rendering mission-critical features like "Search" or "Officials" unusable.
- **Motor Disabilities:** Without a "Skip to Main Content" link, keyboard users must tab through dozens of navigation items on every page load, leading to interaction fatigue. The lack of keyboard access for the main menu prevents these users from reaching any internal pages.

- **Auditory Disabilities:** The current lack of Nepali Sign Language (NSL) and captions for multimedia content prevents the Deaf and hard-of-hearing community from accessing video-based government announcements.
- **Cognitive & General Usability:** Redundant links and illogical heading hierarchies prevent users from building a coherent mental map of the site, leading to confusion during information retrieval.

7. Strategic Technical Recommendations

Remediation should be managed as an ongoing commitment to digital maintenance. We recommend the following holistic improvements:

1. **Prioritize HTML Alternatives:** Transition from a PDF-centric document model to HTML-first or Tagged PDF formats for all resources.
2. **Integrate ARIA Landmark Roles:** Properly define header, main, footer, and search regions using HTML5 landmarks to improve navigation for assistive technologies.
3. **Mandate Universal Keyboard Access:** Remediate the main menu to ensure every submenu is navigable and operable without a mouse.
4. **Standardize Heading Hierarchies:** Implement a logical H1-H6 structure site-wide to facilitate structural skimming.
5. **Enhance Focus Visibility:** Implement a site-wide focus indicator style that is high-contrast and consistent across all interactive elements.
6. **Optimize Form Feedback:** Provide explicit labels for all inputs and utilize ARIA live regions for real-time status updates and notifications.
7. **Multimedia Inclusivity:** Integrate Nepali Sign Language (NSL) and synchronized captions for all official video content.
8. **Target Size (Minimum) Compliance:** Increase the touch-target size of all buttons and icons to at least 24x24 CSS pixels to accommodate users with motor disabilities (WCAG 2.5.8).
9. **Standardize Link Disclosures:** Use descriptive link text that explicitly warns users when a link will trigger a new window or tab.
10. **Continuous Human Validation:** Establish a recurring protocol for testing new content with native screen reader users before deployment.

8. Priority Remediation Roadmap

Certain issues represent absolute "blockers" to core functionality and must be prioritized for immediate intervention.

Priority Areas for Immediate Attention:

- **Navigation Integrity:** Repairing the keyboard-inaccessible main menu and adding skip links.

- **Document Accessibility:** Providing HTML or accessible text alternatives for PDF resources.
- **Form Labeling:** Ensuring the search and contact forms are fully usable by assistive technologies.
- **Structural Logic:** Correcting the heading hierarchy and applying landmark roles.
- **Visual Content:** Adding descriptive alternative text to all logos, slider text, and mission-critical images.

9. Conclusion and Compliance Outlook

The Department of Information Technology (DoIT) has established a commendable baseline in viewport scaling and foundational ARIA implementation. However, the systemic barriers identified, particularly in navigation, document access, and script compatibility, currently prevent the portal from achieving WCAG 2.2 compliance. By executing the recommendations in this report, the Department has the opportunity to become a model of digital inclusion in Nepal, ensuring that government services are truly accessible to every citizen.

10. References

- Web Content Accessibility Guidelines (WCAG) 2.2
- Automated Accessibility Checker Report for DoIT
- WebAIM: Color Contrast Checker