Prioritizing Digital accessibility for Inclusive Development: Position paper on digital accessibility in Nepal

Assessment of access to the public domain for persons with disabilities

Prayatna Nepal

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Table of Content

Executive Summary

Although the 2015 constitution of Nepal guarantees fundamental information rights to all, including persons with disabilities, the access to information for persons with disabilities is still sympathetic. Although the approach to disability has moved from a charity based to a rights-based approach, the existing social, communication, attitudinal, and environmental barriers deprive them of the fundamental rights they are entitled.

Digital accessibility is significant for an inclusive development. It is achieved when a website, mobile application, and electronic document can equitably be navigated and understood by all users regardless of their abilities, disabilities, and diversity. Accessibility is a prerequisite to ensuring full participation and realizing the fundamental rights and freedom of persons with disabilities equally as others. Access to the website does not happen by itself. To meet the international commitment to accessibility, developers need to follow the standard accessibility guidelines.

Recognizing the importance of accessibility and inclusion, in accordance with the principles of the United Nations Declaration of Human Rights (UDHR), the mandates of the United Nations Convention on the Rights of Persons with Disabilities (UNCRPD), as well as the objectives of the Sustainable Development Goals (SDGs), Prayatna Nepal has taken an initiative to assess the digital accessibility of the websites and mobile applications in Nepal. These digital platforms are the ones which the general people commonly use on a day-to-day basis. A comprehensive accessibility audit was conducted in compliance with web-content accessibility guidelines.

This report is the result of the accessibility assessment and provides a compilation of findings and recommendations following a review of selected digital platforms from March 2022 to April 2022. The testing was carried out by actual users and testers (who themselves have a disability and are the accessibility experts) and with the help of accessibility-testing tools such as AXE Dev Tool and Color Contrast Analyzer. Researchers observed that organizations made efforts to ensure the accessibility of these digital platforms. However, there were discrepancies concerning accessibility standards. For instance, the absence of meaningful, accessible text such as alt text, link text, accurate captions, sign language, transcript, audio description on multimedia content, inappropriate landmarks, heading styles and inaccessible colour contrast make these websites

harder to perceive, comprehend and operate by persons with disabilities. We recommend public service providers and others to adapt the WCAG standards to improve its accessibility criteria. The accessibility should also take into consideration all forms of disabilities.

Similarly, it was found that most websites had documents and other resources uploaded in traditional Nepali fonts such as 'Preeti', which is inaccessible to screen reader users. Today, Government offices have made the Unicode system mandatory for the exchange of public information. However, Unicode is found to be inaccessible when it is applied in PDF format. We recommend joint communication with Adobe, Government agencies and international agencies such as UN in resolving issues like this.

The practice of accessibility is gradually improving. This study was necessary to observe whether the most used online platforms considered issues of accessibility and to provide solutions and possible steps as recommendations to different stakeholders, including website owners and app developers reviewed through this assessment..

Rich Donovan, CEO of Return on Disability Group, mentioned that companies making concrete efforts to engage people with disabilities are, on average, outperforming their competitors.[1] Our findings state that the most of the websites are below average from the accessibility perspective, i.e. they are mostly inaccessible. Websites and other platforms are not perceivable, operable, understandable or simple to use. It means most of the information and communication platforms refuse a section of the society from participating in mainstream activities. In the digital age, we all know that information is power. Based on information persons with disabilities become able to make decisions about their life and control their future.

Our findings conclude that all the websites need to integrate a range of accessibility features in it. Prayatna Nepal, through the assessment of public domains, seeks to shed light on the digital accessibility status and promote digital accessibility in Nepal. To achieve these objectives, this assessment provides a comprehensive list of recommendations as listed below.

[1] Returns from Different Return on Disability, 2017

Acronyms

Alt	Alternative
App	Application
AT	Assistive Technology
GIFs	Graphics Interchange Format
HTML	Hyper Text Markup Language
ICT	Information, Communication and Technology
IT	Information Technology
NHRC	National Human Rights Commission
OPD	Organization of Persons with Disabilities
PDFs	Portable Document Format
SDGs	Sustainable Development Goals
UNCRPD	United Nations Convention on the Rights of Persons with Disabilities
URLs	Uniform Resource Locator
WCAG	Web Content Accessibility Guidelines
W3C	World Wide Web Consortium
WHO	World Health Organization
XML	Extensible Markup Language

Section 1: Introduction

1.1 Background

Persons with disabilities in Nepal are more likely to be left behind owing to social, communication, institutional, legal, and environmental barriers, along with discrimination and stigma based on disability.[2] The 2011 World report on disability noted that one in five of the world's poorest is persons with disabilities. The National Census 2011 shows 1.94 per cent of Nepal's population (in number: 513,321) to be persons with disabilities[3]. The National Living Standard Survey (2011) reported that 3.6 per cent of the total population lives with some form of disability. However, the World Bank and WHO reports show that 15 per cent of the world population are persons with disabilities, and 80 per cent lives in developing countries like Nepal[4].

The absence of accessibility measures prevents persons with disabilities from participation and inclusion, which is one of the reasons they are continually in the vicious cycle of poverty. Accessibility is a prerequisite for inclusion. Every individual has the right to engage in the family and community settings on an equal footing with others, regardless of their physical, intellectual, sensory or mental limitations. Every aspect of service delivery and facilities must be inclusive of creating an equitable environment for those with disabilities and ensuring their full participation in public life. Moreover, as persons with disabilities are a heterogeneous group and have numerous intersecting identities, including conditions of impairments, their accessibility needs differ based on disability type and its severity, thus impacting them in varying degrees.

Digital spaces are one of the core areas of accessibility. As we live in an increasingly digitized world, and especially given the rise of remote services after the pandemic, we have become more reliant on electronic means for all information and communication services. Daily activities like jobs, education, household supplies, travel, commute services and even medical services have moved online. Therefore, it is vital to ensure that these avenues incorporate the need of all persons and reach everyone equally.

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[2] https://www.unescap.org/sites/default/files/Accessibility_for_%20All_2016_final_0.pdf
[3] https://cbs.gov.np
[4] https://www.worldbank.org/en/topic/disability#:~:text=Results-,One%20billion%20people%2C%20or%2015%25%20of%20the%20world's%20population%2C,million%20people%2C%20experience%20significant%20disabilities.

Article 9 of the 2006 United Nations Convention on the Rights of Persons with Disabilities (UNCRPD) has mandated ensuring and promoting an accessible environment. Most people think of accessibility as a minor aspect of installing ramps and elevators, especially for people with mobility issues. However, it goes beyond that and covers a broader area. Persons with various forms of disabilities have varying accessibility requirements. Physical accessibility, for example, is more relevant to those with Physical impairment, whereas information and communication technology accessibility is more relevant to people with sensory impairments. Persons with Disabilities primarily benefit from the present advancement in information technology. It has helped improve people's lives considerably. As a result, everyone's life, including persons with disabilities, has become even more dependent on information and communication technology.

Digital accessibility is generally accepted as being the quality of a mainstream technology such as a computer, mobile phone, self-service kiosk, piece of software or any device that acts as a digital content holder, to be used by the wide range of users possible, regardless of their abilities or disabilities[5]. To ensure equal access and opportunities to navigate digital platforms like websites, technologies like mobile applications, and electronic documents, these must be designed to allow any person with either hearing, visual, motor or cognitive impairments to use them efficiently and effectively.

Among the pre-existing barriers, communication is one of the most significant barriers faced by persons with disabilities. The internet has revolutionized communication to the extent that it is our preferred medium of everyday communication. Due to the increasing use and access to the internet, the internet medium or digital platforms have become a critical source of information. However, that information is mostly not available in a way that it can be used, understood, and interacted with by all kinds of people. This has created a problem, especially for the Persons with Disabilities.

In this context, all the concerned agencies, sectors and stakeholders must ensure the information, communication, technology, and all the contents uploaded on the internet are accessible for all, including persons with disabilities. Hence, following the universal design by adhering to accessibility guidelines to promote inclusive development is crucial. Acknowledging the fact, Prayatna Nepal has taken the initiative to examine the accessibility issues in the websites and

[5] CBM Digital Accessibility Toolkit

mobile applications commonly used by the people in Nepal. This report provides recommendations based on the findings and conclusions to ensure digital accessibility for all, including Persons with Disabilities.

1.2 National Policies and Legislative measures that address Right to Information

The **Constitution of Nepal** under article 27 guarantees every citizen the right to demand and receive information on any matter of his/her interest or public interest. However, no one shall be compelled to provide information on any matter of which confidentiality must be maintained in accordance with the law. In line with the contention of a constitutional provision and UNCRPD, the Act related to Rights of Persons with Disabilities 2017 and Accessibility Guideline 2013 includes indicators for accessible information.

The '**act on Rights of the Persons with Disabilities – 2017'** in article 17 mentions the right to information. Sub-article 1 of article 17 states that persons with disabilities have the right to receive information from multimedia in an accessible manner. Moreover, sub-article three mentions that the information targeted to the general public should be available to persons with disability without extra charges in a friendly and accessible format and technology. This Act was promulgated to domesticate CRPD in Nepal by fully recognizing the principles on which the CRPD was founded. However, the Act cannot fully recognize and address the barriers faced by different disability groups.

Accessible Physical Structure and Communication Service Directive for People with Disabilities 2013 has stated mandatory provisions for making public places accessible for people with disabilities both physically and from a communication perspective. With time, there is a need for change in the directive. In wide consultation with government agencies, civil society organizations, persons with disabilities and concerned agencies to align with existing national and international accessibility standards, the directive is revised[6]. The revised guideline is yet to be endorsed by the cabinet.

[6] https://nfdn.org.np/guideline-review-report

The **15th National Plan FY 076-077** identified the concerns of persons with disabilities and acknowledged that inaccessible information, communication, and technology exist as the root of the challenges for persons with disabilities. For this, catering for accessible information, communication and technology and providing required devices/equipment have been incorporated.

According to the **Communication and Information Technology Policy – 2015**, special measures are to be adopted for the promotion of accessible ICT and promoting the access of persons with disabilities to those technologies to ensure access to public services and promote independent, dignified and autonomous living.

In the guidelines on developing and managing the websites of government bodies, published by t**he Ministry of Communication and Information Technology in Nepal's gazette in 2021,** it is directed that the websites should be developed in an accessible manner for the persons with disabilities. The website developers and content designers need to focus on the universal design and follow the worldwide guidelines on accessibility to promote inclusion in the ICT sector.

Article 9 of the **United Nations Convention on Rights of Persons with Disabilities (UNCRPD)** has vividly stated that the nations should adopt appropriate techniques to ensure that the persons with disabilities have equal access to information, communication technology and systems to enable the persons with disabilities to participate in every aspect of their lives. The article also advocates promoting the design, development, production, and distribution of accessible information and communication technology and systems to make those technologies and systems available at a reasonable cost. Similarly, Article 21, on the right to information, reiterates the necessity of incorporating accessibility in ensuring the right to information of persons with disabilities. The Convention also recognizes that persons with disabilities are highly vulnerable during times of disasters and, therefore, stipulates that all public information, communication and technology must integrate the needs of persons with disabilities.

The article of CRPD has provisioned the rights to access information and the right to freedom of thoughts and expression. Section (A) of this article stands for the timely availability of information targeted to the general public, including persons with disabilities, in an accessible format and

technology appropriate for all persons with disabilities without additional costs. CRPD also recognizes disability as an ever-evolving concept, and accessibility is a primary reason for it.

The **Incheon Strategy- 2012** (the strategies prepared for the practical implementation of the rights of persons with disabilities in the Asia Pacific), in its expected outcome (3), has mentioned increased access to physical structures, public transportation, information, and communication. Its Goal 3 C states that all information and communication services should be user-friendly, considering all persons with disabilities. Similarly, indicator 3.4 under the critical indicators of the strategy has emphasized monitoring whether there is a numerical improvement in the websites and accessible public documents fulfilling the internationally accepted criteria related to accessibility. On the other hand, the indicator 3.9 also discusses identifying if the member states have determined the compulsive legal provisions and technical measures following the internationally accepted standards while providing the information and communication services, making the websites barrier-free for the persons with disabilities, and also for the monitoring agency to evaluate whether efforts are made following those standards.

In the **World Disability Conference, held in the United Kingdom in 2018,** where Nepal was a part, the utilization of technology and neo-promotion was one of the critical subjects among the seven topics discussed. The different countries, international negotiating bodies, and other non-government organizations expressed their commitments to developing user-friendly information, communication and technology for persons with disabilities.

Despite the country's constitutional provisions, acts, policies, regulations and international instruments guaranteeing equitable information and communication services for all, persons with disabilities continue to face hurdles in availing equitable services that hinder their participation and inclusion. This could be due to ineffective implementation and monitoring plans. Due to a lack of procedural and system compliance, little change is observed in the accessibility practice. The unavailability of the National program and budget has halted the implementation of the Act. To implement accessibility practice, it should be well reflected in the annual policy and program of the Government with a budget allocated for implementation. It is observed that less attention is given while adhering to the universal design, considering the accessibility need of persons with disabilities. The gap also lies in collecting and compiling digital accessibility status-related

information in Nepal. Relevant data and information help raise awareness and carry advocacy efforts regarding significant issues and barriers to digital accessibility. For that reason, Prayatna Nepal, through the assessment of public domains, seeks to shed light on the digital accessibility status and promote digital accessibility in Nepal.

1.3 Objectives of the study

Digital accessibility is a relatively new concept that attempts to address issues related to access to ICT and digital literacy. A very few accessibility-related researches in Nepal have mostly emphasized physical accessibility. It is hard to find articles and research presenting the status of digital accessibility in the public domain for persons with disabilities in Nepal. This study aimed to examine and evaluate the usability of the commonly used public domain with the following specific objectives:

- To determine the gaps and challenges experienced by persons with disabilities while perusing government websites.
- To provide suggestions and recommendations to make the existing Government websites in line with the principles of universal design and the Web-Content Accessibility Guidelines (WCAG).
- To outline barriers to digital accessibility, solutions and possible next steps to ensuring digital accessibility.

1.4 Rationale of the study

Even though the 2015 Constitution guarantees the right to information as one of the fundamental human rights, there is widespread discrimination against persons with disabilities affecting their access to the digital world. Constitution states that every citizen has the right to access any public information. Every citizen has the right to know about their essential services and facilities and has equal access to any government or agency's public concerns and documents. Today, the sources of such information are means of communication. It means people can access information whenever they need it. Although social media platforms are helpful for regular interactions and general information, the official website of any organization or agency, or the smartphone applications established by that institution, are equally important to access the most reliable and

essential sources of accurate information or confirmed facts. However, these official channels of verifiable details have been identified to be developed in a way that does not address the issue of digital accessibility for different disabilities with varied problems and challenges. This refers to the difficulty in browsing or visiting the site or app, reading, watching, referring to information (contents), navigating, and switching to and from different sections comfortably. Due to this, persons with visual disabilities, hearing disabilities, deaf-blindness and intellectual disabilities have been majorly impacted.

UNCRPD frames accessibility as a necessary condition for the fulfilment of the fundamental human rights of persons with disabilities. Acknowledging the social definition of disability, the Convention emphasizes the elimination of all obstacles and barriers to accessibility for meaningful participation and inclusion. In line with this, Prayatna Nepal, in its strategic paper 2022-24, has emphasized the promotion of digital accessibility as one of the major priority areas.

For the realization of equal rights to information and communication, easy and barrier-free access to websites and web contents, including those of public organizations, companies, or agencies such as news portals, banks, government bodies, and other social and economic institutions, as well as popular and vital mobile applications, is critical. This study was necessary to observe whether the government agencies considered issues of accessibility; to see if the lagging factors made websites, applications, and their contents inaccessible; to provide solutions and possible steps as recommendations to website owners and app developers.

On the one hand, identifying good practices could serve as a motivational tool for real-time implementations. In contrast, the identified gaps, on the other hand, could point to areas where modifications and adaptations are required. The study will provide a clear and actionable checklist to improve accessibility compliance of the assessed websites and ensure adherence to web accessibility guidelines. Therefore, an accessibility audit of the websites and mobile applications of public interest is a significant initiative to present both the service providers and users to assess the state of accessibility and its impact on persons with disabilities' right to independence, freedom and violation of human rights.

1.5 Limitations of the study

The accessibility audit was well planned; however, the process was not without limitations. The accessibility assessment of applications and online portals is a complex process. The assessment attempted to use automated testing and user testing. It applied a commonly used WCAG AA (double) standard. Although WCAG AAA (triple) standard is already available, it is globally identified as the hardest. The user testing approach to audit required using internationally acclaimed standard software.

Besides, the testers mainly were persons with visual impairment trained on digital accessibility. Nepal Government has classified disability into ten types, but we could incorporate testers from visual impairment group.

Although the research intended to include public websites and mobile applications from different sectors, only 20 public domains were feasible for the study. Due to the limited time frame and resources, limited platforms were selected for the study. Nevertheless, we could cover portals of government agencies, business houses, universities and non-governmental organizations to study the trend.

Section 2: Methodology

This report is based on a comprehensive study of the accessibility status of selected websites and mobile applications of government agencies, business houses, universities and non-governmental organizations; and user testing of these digital platforms between March 2022 to April 2022. Persons with disabilities and IT professionals purposively selected the sample websites and mobile applications to gather rich information on the trends in digital accessibility. The research planned to include different sectors, such as government offices, educational institutions, digital shopping platforms, business corporations, media houses, health sectors, and financial sectors, to picture Nepal's digital accessibility accurately.

Considering the time frame and limited resources, only 20 websites and ten mobile applications were assessed. The researcher mainly carried out an accessibility audit with the help of accessibility testing software (automated testing) and through user testing. In the user testing, a total of four; all from visual impairment group tested the accessibility of the selected public platforms. They were trained and experienced to use the software before the assessment was carried. The assessment team developed an assessment framework to structure the analysis and interpret the findings. Findings from testing were put in Excel and analyzed using Qualitative analysis.

Accessibility audit complied with web-content accessibility guidelines, focusing on universal design. These accessibility guidelines contain criteria for any internet content, such as written content, graphical, audio content, and interactive elements, to make them accessible so that they can be read, watched, listened to, understood, and interacted with anyone without difficulty. As previously stated, the actual users assessed the websites and mobile applications for accessibility using two methods.

2.1 Testing with the help of software (accessibility-testing tools):

Under this method, an accessibility audit was carried out using internationally valid software and tools such as AXE Dev Tool and Color Contrast Analyzer. With these tools' help, we could identify the errors in the programs and elements of the applications and websites.

2.2 Testing by the actual users:

Under this method, the real users, i.e. persons with disabilities, were asked to navigate and explore different pages and contents of the apps and sites. With their first-hand experiences, the users identified the accessibility considerations and lagging issues. Moreover, the accessibility experts also identified errors based on the principles and guidelines of WCAG and success criteria. In total five persons with disabilities were involved in real testing led by the digital accessibility expert consultant. Two the testers were visually impaired, one had hearing difficulties and one has physical difficulties. 3 of them are certified accessibility auditor by Vision India and others have gained practical knowledge of testing digital accessibility from working in several projects.

Web-content accessibilities guidelines (WCAG)

The World Wide Web Consortium (W3C), an international internet-regulatory organization, established web-content accessibility guidelines as a guiding principle for making websites and programs accessible to everyone. The 2.1 version of these guidelines are currently in use. This guideline has four principles, thirteen guidelines, and around seventy success criteria. This means that for a platform and content to be accessible, the program's photos, videos, messages, and objects must be available to users of all kinds. For instance, an alternative text to the graphics placed must be inserted for visual information so that persons with visual impairments can understand what the picture conveys.

The WCAG 2.1 has outlined four accessibility principles, or POUR: perceivable, operable, understandable and robust, for providing a foundation for accessibility[7]. According to the guideline, digital platforms and content must adhere to four principles of accessibility;

Perceivable –Information and user interface components must be presentable to users in ways they perceive. This means that users must be able to perceive the information being presented (it can't be invisible to all of their senses)

[7] https://www.w3.org/TR/WCAG21/

Operable – interactable: The application or website must be accessible to all users. Users should be able to go to any software section and interact with any elements, such as filling out forms. If necessary, users should be able to interact using assistive tools and technology.

Understandable: This approach is more concerned with the material used in the program or website than its technology. The uploaded content should be presented so that people can easily understand it. Persons with learning disabilities should be able to access and benefit from knowledge products. Suppose complicated and lengthy materials are presented with shorter and easy words using simple pictorial representations. In that case, this will be considered understandable to persons with intellectual disabilities and those unable to read or write.

Robust: With assistive technology, sites should be simple to use. Users should be able to access programs and web pages through various applications and technologies. They may use audio players, eBook readers, braille displays, sign languages, mobile phones, desktops, laptops and other devices. Whatever the device or application, platforms and content should be compatible through all digital means.

Section 3: Results & findings

3.1 Findings from Accessibility Audit of Websites

The findings have been summarized in the form of four principles of digital accessibility judged by users through accessibility testing tools applied to 20 websites and ten mobile applications from different public sectors. In this section, the users' perspective on whether the contents are presented in a way they can be perceived (Perceivable); whether the users can easily interact with the elements in the site (Operable); if the contents are easy to understand (Understandable); and if it is simple to use (Robust) is explained. The observations suggest that most websites provided heading levels, landmarks, discernible text for links and buttons, descriptive headings and labels, unique page titles, and keyboard operability. Despite these efforts, none of the websites met the level AA criteria of Web Contents Accessibility Guideline, which are the approved international standards. The accessibility-related issues found through accessibility testing are presented under the following four categories as per the principles of digital accessibility.

3.1.1 Perceivable

This principle targets content availability[8]. All information on these platforms should be presented in a way that users with different impairments can perceive. All information must be available to persons with disabilities, even if it requires alternative methods and modification. This includes, for instance, providing sign language interpretation (live or prerecorded) for audio content so that persons with hearing disabilities can also receive the same information as others without hearing disabilities. Following accessibility issues were observed:

No alt text provided: Almost all the websites did not have alt text. Some websites tried to provide alt text, but they were not meaningful. In addition, most websites did not provide discernible text for the actionable image, including buttons. It deprives the visually impaired users of perceiving the information delivered through images. Consequently, these users face difficulties in interacting with the elements.

[8] https://www.w3.org/WAI/WCAG21/Understanding/intro#understanding-the-four-principles-of-accessibility

Audio/video materials: Although most of the reviewed websites included video materials, none of the video materials had captions incorporated. These videos had no sign language, transcript or audio description. As a result, a person with a hearing disability, a visual disability, and deaf-blindness are deprived of the information shared by those audiovisual contents.

Inappropriate landmarks: Landmarks aid screen reader users in locating the different sections of the page, but many websites do not have logically and systematically presented landmarks. Hence, the lack of appropriate landmarks prevents screen reader users, especially users with visual impairment and deaf-blindness, from locating different page sections, including the header section, main content, and footer section.

Inappropriate heading structures: This review observed that none of the websites had provided heading structures in a logical hierarchical order. Also, some websites did not provide the heading levels. The users, especially users with visual impairment, get confused about the headings and the sub-headings because of the absence of logical hierarchical orders in heading levels.

Insufficient colour contrast: All elements on the 'websites' pages have a colour contrast ratio of less than the minimum requirement of 4.5:1. Comprehending and accessing these contents are essential for people with low vision and colour-blindness.

Inaccessible tables: Nearly all tables in most of the reviewed websites were designed in an accessible way; however, some websites could not ensure the accessibility of tables. The header row was not defined. Websites did not provide a description and caption of a table. As a good practice, it is important to mention "Not available or NA" in blank cells; however, none of the websites did so.

3.1.2 Operable

Principle of Operable states that the "user interface components and navigation must be operable." This principle ensures that users can easily navigate a website without running into limited functionality or time limits. It includes the components such as keyboard operable, time-based media, navigation, and input modality. Following accessibility issues were observed in regards to operability:

No keyboard access: Most persons with disabilities find it hard to use a mouse, so they use a keyboard to navigate. It was observed that many websites were fully keyboard accessible. However, some elements in a few websites could not be accessed through the keyboard. Also, some websites contained popups which could not be recognized through a keyboard. It brought difficulties to keyboard users, including visual impairment, motor-related disabilities and other users who depend entirely on the keyboard.

No pause option: Some websites had image slide shows with moving content. This image slide show did not have the mechanism to pause or stop the content in motion, creating problems for users with visual impairment, motor-related disabilities and cognitive-related disabilities.

No mechanism to skip repetitive content: The *skip to main content* does not seem to work on most websites. Skip link should be provided at the top of the page to avoid repetitive content, but most websites do not have such a function. Some websites, such as the Lalitpur and Nagarjun municipalities, did have the skip link function, but they were not functional. Unavailability of this mechanism, the users dependent on the keyboard to operate the website must go through all the repetitive contents each time to access the main content.

No unique page title: Most websites provide a unique page title on each page. However, some websites have the same page title on different pages. The absence of a unique page title creates confusion for the screen reader users regarding the page they are interacting with.

Issues related to meaningful link text: It is best to give the link more descriptive text. It was observed that almost all the websites did not provide link text as per the context. Some of the links did not have meaningful and descriptive texts. Additionally, on some websites, the links were kept without assigned names. Some links had the same names, although their destinations were different. Similarly, some links had texts such as “See more”, “Click here”, “View all”, and so on, which does not make sense. Unavailability of link text as per the context makes its different groups of users, including visually impaired, hearing impaired, cognitive and learning-related disabilities and other keyboard users, hard to access and interact with those links.

No multiple ways option provided: It was also observed that some websites did not provide multiple ways options for locating the website's different pages. The absence of multiple options limits the users accessing and interacting with different pages.

3.1.3 Understandable

This principle refers to the processing of the content[9]. Content on all platforms must be easily readable. All persons with disabilities using the communication channel should be able to receive the same message as any other reader and grasp its meaning. For instance, when using industry-specific jargon, a mechanism should be in place to provide the jargon's meaning. Following accessibility-related issues were observed relating to Understandability:

Inaccessible documents: On most websites, the notices and publications were uploaded in Preeti font using an image/PDF version, which is entirely inaccessible for visually impaired users. Also, the file name of those publications was not meaningful, which could confuse the visually impaired and other users.

Inappropriate error suggestions and input ID: It was observed that some of the websites did not provide appropriate error suggestions or error identifications in form field elements. Also, clear instructions were not provided on some websites. This creates confusion among users with visual impairment.

Language of page and part: As per the international practice, the language of each page should be specified. If the paragraph contains a different language than the specified page language, it should also be specified. However, on most of the websites, the language was not specified on the page nor within a paragraph of a page.

3.1.4 Robust

This principle looks at the adaptability of the content and platform[10]. Persons with disabilities use various assistive devices to access a platform or content; therefore, these documents and platforms

[9] https://www.w3.org/WAI/WCAG21/Understanding/intro#understanding-the-four-principles-of-accessibility
[10] https://www.w3.org/WAI/WCAG21/Understanding/intro#understanding-the-four-principles-of-accessibility

should be compatible with the assistive devices. For example, a person without arms might use special devices to access content which must remain compatible when the device is used.

From the accessibility audit, it was observed that ID attributes for the elements were not unique on some websites. On some websites, such as National Human Rights Commission, various tags were repeated on the webpage, including the DOCTYPE declaration and body. On the E-pustakalaya website, ARIA roles don't conform to valid values, while on the Department of Health Service website, ARIA hidden elements contain focusable elements. Similarly, on the website of Nepal Rastra Bank, IDs used in ARIA and labels are not unique, and on the website of Press Council Nepal, the Aria label is not used correctly.

Various form elements, including radio buttons and text input fields, did not have labels. Almost all the websites have forms, but in most of them, the screen reader does not announce a status message after the form submission. It creates confusion among screen reader users about whether the form is submitted.

3.2. Findings from Accessibility Audit of Mobile Applications

Accessibility audits of 10 mobile applications from diverse areas were carefully performed. It was observed that all the mobile applications did their best to ensure accessibility. Most of the accessibility features were ensured. However, some accessibility-related problems were also identified. Those accessibility issues are as follows:

- Some mobile applications did not have both portrayed and landscape mode (orientation). This makes it harder for some of the users who have motor-related disabilities.
- Many buttons were unlabeled. This constrained the screen reader users while operating the mobile application.
- Many of these mobile applications lacked alternative text features in images.
- Proper usage of colour and colour contrast was not found in this application.
- The buttons were smaller. It is hard for people with some severe form of disability to tap or click small buttons.

- Another major problem identified was that there were no messages or notifications after submitting a form or a query. It makes it difficult for persons with visual impairment to understand if the forms are submitted.

Section 4: Recommendations

Developing accessible content and platform is about reducing basic barriers to comprehension. It only requires a few simple steps that can be dealt with effortlessly. When content is easy to understand, operate and perceive, every user, including persons with disabilities, benefits. Based on the findings, we have made two types of recommendations. Firstly, technical recommendations have been provided to improve the accessibility of the reviewed platforms. Next, recommendations are made to the different stakeholders about their roles in promoting digital accessibility to ensure all platforms and contents are more accessible to all persons with disabilities in the coming days.

4.1 Recommendations for making the websites accessible to all

- Alternative text should be provided in all the graphics. If the images are just for decorative purposes, they should be marked as decorative. Alt text should be clear, meaningful and descriptive, but alt text should not be long. Similarly, the actionable images such as "Search Button" should use discernible text.
- Captions are required in all the audio and video materials. Along with the caption, sign language and transcript should also be included in the audiovisual materials.
- The headings should be clear and meaningful. Heading levels should be given in a logical hierarchical order.
- Landmarks should be provided semantically. The best way is that header sections should be put under the navigation landmark, the main section should be under the main landmark, and the footer section should be under the content-info landmark.
- Multiple options are to be provided to locate different pages of a website quickly. This may include a navigation menu, search button, and sitemap.
- Sufficient colour contrast should be ensured in all the elements. The colour contrast ratio should be 4.5:1 for the font size up to 14, and it should be 3:1 higher for 14.
- A pause/Stop button should be provided if there is an image slideshow.
- Link purpose in context should be clear. Each link should have a meaningful and descriptive name. The link name should be different if the destination is different. Link names such as "See

more", "View all", and "Click here" should not be used. The adjacent link should not receive a two-tab focus.

- The link name of all the downloadable files should be the original name.
- The website should be accessed and operated through the keyboard. The interactive elements should receive tab focus, and no keyboard trap should be there.
- The mechanism to skip a repetitive block of contents, i.e., skip link, should be provided at the top of each page and function properly.
- Each page should provide a unique page title.
- The language of the page should be specified. Also, it should be specified if the page contains a different language than the original page language.
- The form field elements should be clear. The label of form elements should be visible and descriptive. Instructions should also be provided if users need to meet specific requirements. Error identification and suggestions should be clear, visible and accessed even by a screen reader.
- The HTML tag elements and use of Aria should be proper. Name, role, value, status, and properties should be specified while using Aria.
- Status messages are to be provided so that the screen reader should automatically announce them.
- Nepali documents should always be prepared in Unicode font and provided in an accessible word version. The notices and publications should not be uploaded in an image/PDF version. To make the Nepali PDF documents accessible using Unicode, we must advocate with Adobe collectively.

4.2 Recommendations for Making the Mobile Applications Accessible for All

- All the buttons should be labelled, and the click area should be large.
- Alt text should be provided in all the images.
- The mechanism to operate the app even in landscape mode should be ensured.
- A pause/hide/stop function should be provided in any moving images.
- Errors suggestion and error identification must be provided in all forms.
- Colour contrast should be maintained.

4.3 General Recommendations for Stakeholders for promotion of Digital Accessibility

In addition to the technical recommendations provided in the earlier section, there is a crucial need for different stakeholders to work to create sustainable solutions for digital accessibility. We have highlighted a few of such measures that various stakeholders can implement.

Government Agencies

- The federal government of Nepal should amend relevant laws/policies such as website standards, guidelines for accessible infrastructures, and communication, 2069 to incorporate the detailed component of digital accessibility.
- The government should do access audits of all the government websites and mobile applications and make them accessible based on the recommendations received through digital accessibility audits. The audit process should be continuous and should be carried out at regular intervals.
- The government should increase the capacity of the IT staff and other staff who lead communication and information sections on digital accessibility. Similarly, the government should sensitize all teams on making documents accessible for all users, including persons with disabilities.
- The government must develop and conduct awareness activities to promote digital accessibility across all sectors.
- The government should add the components of digital accessibility in school/ICT-based CTEVT courses.

Private Sectors and Civil Society Organizations

- All the private sectors and civil society organizations should do access audits of their websites and other digital platforms and make them accessible based on the recommendations received through audits.
- The private sectors and civil society organizations should develop the capacity of their staff for digital accessibility.
- The private sectors and civil society organizations should develop internal policies on digital accessibility and implement them strictly.

- The private sector can invest their CSR budget in the innovation/promotion/research on digital accessibility, while the civil society organizations can initiate a campaign to promote digital accessibility.

IT/software companies

- The IT/software companies should follow the basic standards of WCAG to develop any websites and mobile applications.
- The IT/software companies must hire a digital accessibility auditor/tester for the accessibility testing to ensure the accessibility from the inception phase.
- The IT/software companies should increase the capacity of their staff on the concept, principles, and techniques of digital accessibility.

Organization of Persons with Disabilities (OPDS)

- The OPDS should strictly ensure digital accessibility in all digital platforms and products.
- The OPDs should conduct awareness-raising activities to promote digital accessibility.
- The OPDs should do regular advocacy to ensure digital accessibility at the policy level and implementation and provide required support when required.
- The OPDs should research generating evidence and do advocacy based on those evidence to promote digital accessibility.

Universities

- The universities that offer ICT/computer-related courses should integrate the components of digital accessibility into their curriculums.
- The universities should provide students with practical skills on digital access as other skills.
- The universities should make all the digital platforms and products accessible for all ensuring the provisions of digital accessibility.

Section 5: Conclusion

Digital technologies constitute a crucial means of communication and a gateway to access information in today's world. Many routine and essential activities are now carried out digitally. However, persons with disabilities are often excluded from these platforms and technologies due to various barriers, including inaccessible features of online platforms and content. This prevents them from receiving vital information. Therefore, to ensure the reach of these communication channels and ensure their information is available to all, accessibility principles must be adopted in the design of these platforms and their contents to assist in easy and equal participation of all, including persons with disabilities.

The digital accessibility concept is relatively new. Lack of awareness limits access to information, communication and technology. Without such information, people are not aware that if they interact with accessible sites and content, their day-to-day life would be easier. As a result, the promotion and implementation of digital accessibility are weaker.

The accessibility audits of public domains and platforms are essential, especially for ensuring equal and easy access to information, communication, and technology. The gap lies in collecting and compiling digital accessibility status-related information in Nepal. Relevant data and information will help raise awareness and provide a basis for advocacy efforts regarding the significance of digital accessibility. The accessibility audit of major websites of public agencies and organizations and smartphone applications has been carried out by Prayatna Nepal.

The Government of Nepal, civil society organizations, and persons with disabilities should ensure that the policies and international commitments regarding the right to information are translated to practice to address digital accessibility needs. Findings suggest discrepancies in the platforms and contents while comparing it with the web accessibility standards. This can be improved by following simple accessibility guidelines. It is also important to note that ensuring accessibility does not always require huge resources and capital-intensive large-scale interventions. Accessibility can begin with making gradual changes to different services with the participation and deliberation of all stakeholders. It is important to involve different stakeholders to inform

about their roles in promoting digital accessibility to ensure all platforms and contents are more accessible to all, including persons with disabilities.

Annex

A. Public Websites

i. Association of INGOs Nepal

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website must pass through all the repetitive contents each time while entering the main content.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users when locating the different pages of the website.
- The website has many headings under different heading levels, which are not kept in logical order. Therefore, screen-reader users face difficulties understanding the logical structures of the headings and sub-headings.
- Landmarks have not been provided systematically and logically, making it hard for screen-reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1, which creates problems for people with low vision and colour-blindness to access and understand the content.
- The web page has an image slide show which is moving content. Still, there is no mechanism to pause or stop the moving content, which creates problems for users with visual impairment, motor-related disabilities, and cognitive-related disabilities.
- The links after navigational landmark and under "Follow Us On" headings don't have discernible text. Similarly, the buttons above the "know more" link are not labelled, so the screen-reader users cannot understand those buttons and links.
- Error suggestion for invalid inputs ID is inappropriate, creating confusion for the users.

- The screen-reader does not announce the status message after submitting forms, which creates confusion among the screen-readers users regarding whether the form is submitted or not.

ii. Body and Data

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate computers must pass through all the repetitive contents each time while entering the main content.
- The links under the "FOLLOW OUR SOCIAL MEDIA" heading and after "Designed and developed by Kefir." don't have discernible text, creating confusion among the screen reader users to navigate those links.
- Landmarks have not been provided systematically and logically, making it for screen reader users hard to locate the contents.
- The website has many headings under different heading levels, which aren't kept in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1, which creates problems for people with low vision and colour-blindness to access and understand the content.
- The graphic link and the link text adjacent to each other are receiving a 2-tab focus, which creates confusion among the keyboard users in whether they are adjacent.
- ID attribute for the elements is not unique, so the screen reader users can't understand them properly.
- The name of downloadable files is not meaningful and repetitive, which confuses the users.

iii. Inland Revenue Department

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate computers must pass through all the repetitive contents each time to reach the main content.
- Caption for the videos title "समृद्ध नेपाल हाम्रो रहर, विद्युतीय भुक्तानी गर्ने तरिका, प्रविधि मैत्री बन्दै कर प्रशासन- आन्तरिक राजस्व बिभाग 2077, A SHORT MOVIE ABOUT TAX DEFAULTER IN NEPALESE TAX SYSTEM" is not available. The transcript, audio sign language and audio description have also not been provided.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings.
- Landmarks have not been provided systematically and logically, making it hard for screen reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- Lang attribute with respective value is not provided for the page to determine the page language.
- ID attribute for the elements is not unique.
- The <iframe> and <frame> elements don't have accessible names, creating confusion among screen reader users.
- The link text "Click Here" is repeated within the tables thus, makes hard to distinguish among the links.
- The publications are put in unreadable formats.
- Each page doesn't have a unique title, creating confusion for screen reader users.

iv. National Human Rights Commission

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on a keyboard to operate the website must pass through all the repetitive contents each time to reach the main content.

- Some links and buttons don't have discernible text, creating problems for the screen readers and keyboard users to perceive and navigate the links and buttons.
- The images don't have descriptive and meaningful alternative text. The image description is given as a text without using the alt attribute. It deprives the screen reader users of perceiving the information delivered through images.
- A caption is not available for all the videos on the site. Also, the sign language, transcript and audio description have not been provided. It deprives the users with visual impairment, hearing impairment and deaf-blindness of receiving the information delivered through video materials.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Landmarks have not been provided in systematic and logical ways, making it hard for screen reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- There are various texts in the Nepali language, but parts' language has not been defined.
- ID attribute for the elements is not unique, which causes problems among the different users to perceive and interact with the elements.
- Various tags are repeated on the webpage, including the DOCTYPE declaration and body.
- The error during the form input is not detected and reported to the users, which creates problems for the different groups of users to fill the form and submit it correctly.
- Error suggestion for invalid inputs ID is not provided to the users, which creates problems for the different groups of users to fill the form and submit it correctly.
- Various form elements, including radio buttons and text input fields, don't have labels which make it screen reader users hard to interact with the form elements.
- The screen reader does not announce the status message after the form submission, which creates confusion for the screen reader users whether the form is submitted.
- The Nepali publications are prepared in Preeti font and uploaded in PDF versions which are completely inaccessible for screen reader users.

- Many links have the same names creating confusion among the users.
- Each page doesn't have a unique page title.

v. National Inclusion Commission

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate computers must pass through all the repetitive contents each time to reach the main content.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- The images don't have descriptive and meaningful alternative text. The image description is given as a text without using the alt attribute. It deprives the screen reader users of perceiving the information delivered through images.
- Landmarks have not been provided systematically and logically, making it hard for screen reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- The web page has an image slide show that moves content, but there is no mechanism to pause or stop the moving content. As a result, users with visual impairment, hearing impairment, cognitive disabilities and other types of disabilities face problem accessing the content.
- There are various links with the text "read more," which does not convey the exact meaning of the links and creates confusion for the screen reader users.
- Lang attribute with respective value is not provided for the page to determine the page language.
- Various texts are written in the Nepali language, but the language has not been defined.
- ID attribute for the elements is not unique, creating confusion for the different groups of users to perceive and operate the elements.

- The error during the form input is not detected and reported to the user except in the email input field. This makes it difficult for the screen reader users to interact with the form elements.
- Error suggestion for invalid inputs ID is not provided to the users, so users face difficulties filling the form correctly.
- The screen reader does not announce a status message after submitting the form, which creates confusion for the screen reader users whether the form is submitted or not.
- While scrolling to the home page, the screen reader automatically receives focus on the Twitter box, which hinders the website's operation. Also, the dialogue box is automatically open, and the close button doesn't receive focus on the close button.

vi. Nepal Law Commission

- The website logo 'doesn't have alternative text.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates a problem for people with low vision and colour-blindness to access and understand the contents.
- Various links don't convey the exact meaning of the links, making it hard for screen reader users to understand and interact with them.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings. For instance, sub-headings under 'More Seller Stories' have the wrong heading structure. 'More seller stories' and its subheadings are all marked with the same heading level as heading 3.
- The close button of the product remove confirmation dialogue box is not keyboard operable. Thus, it is unable to close the dialogue box. It causes problems for keyboard users.

- Lang attribute with respective value is not provided for the page to determine the page language.

vii. Public Service Commission

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on a keyboard to operate computers need to pass through all the repetitive contents each time to reach in main content.
- The link at the top of the page does not have discernible text, which creates confusion for the screen reader users.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- The images don't have alternative text. Thus, screen reader users get deprived of getting the information delivered through images.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined, so screen reader users face difficulty operating the website comfortably.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- The input field to enter Nepali date doesn't have the label, creating confusion for the screen reader users.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the contents.
- The web page has an image slide show that moves content, but there is no mechanism to pause or stop the moving content. As a result, users with visual impairment, hearing impairment, cognitive disabilities and other types of disabilities faces problem in accessing the content.

- The specified page language in <html> tag is wrong. The web page is in Nepali, but the "en-GB" language code is used, which means the page is in English UK.
- Various texts are written in the Nepali language, but the language has not been defined.

viii. Social Welfare Council

- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings. For stance, sub-headings under "Spokesperson" have the wrong heading structure. Its subheadings are all marked with the wrong heading label.
- Some of the links don't have a meaningful name. There are various links with the text "read more" and some random numbers that do not give the exact meaning of the links. There is a link with the text "446", which does not give the exact meaning of the link. It causes users with visual impairment problems interacting with those links.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- The frame that shows the Nepali date doesn't have an accessible name.
- Caption for the videos title "११२औँ अन्तर्राष्ट्रिय महिला दिवस मूल समारोहको प्रत्यक्ष प्रसारण" and " ४१ औँ सामाजिक सेवा दिवस मूल समाराेह" is not available. Also, transcript, sign language and audio description have not been provided.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined, so screen reader users face difficulties operating the website.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the contents.
- The web page has an image slide showing moving content, but there is no mechanism to pause or stop the moving content. As a result, users with visual impairment, hearing impairment, cognitive disabilities and other types of disabilities faces problem in accessing the content.

- Various texts are written in Nepali, but the language has not been defined.
- The <iframe> and <frame> elements don't have accessible name.
- Error suggestion for invalid inputs ID is not provided to the users cause difficulties for screen reader users and other users to fill the form correctly.

ix. Teachers Service Commission

- The website logo 'doesn't have alternative text.
- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate computers must pass through all the repetitive contents each time to reach the main content.
- The links on the header and footer don't have discernible text, which causes problems for the screen reader users to understand and interact with the links.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- The web page has an image slide showing moving content, but there is no mechanism to pause or stop the moving content. As a result, users with visual impairment, hearing impairment, cognitive disabilities and other types of disabilities faces problem in accessing the content.
- The webpage is in Nepali, but "en" English language code has been used to define the webpage language.
- The heading "हाम्रो बारेमा " is closed after the </p> tag. Therefore, the paragraph is treated as a heading by screen readers, which causes difficulties in understanding the contents for screen reader users.

- Some of the buttons are not labelled. For stance, the buttons after the "Teachers Service Commission" heading are not labelled, which causes problems for the screen reader users to understand and interact with those buttons.
- The error during the form input is neither detected nor reported to the user. Also, error suggestion for invalid inputs ID is not provided to the users. It creates difficulties for the screen reader users and other users to interact with the form elements and fill the form correctly.
- The screen reader does not announce a status message after submitting the form, which creates confusion for the screen reader users whether the form is submitted or not.
- The notices/results and other publications in the Nepali language are written in Preeti font and uploaded in an image/PDF version. It deprives the screen reader users of perceiving the information.

x. Tribhuvan University

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate computers must pass through all the repetitive contents each time to reach the main content.
- The links on the header don't have discernible text, which causes problems for the screen reader users to understand and interact with those links.
- The images don't have alternative text, so screen reader users get deprived of the information delivered through images.
- The website has many headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- There are links with the text read more and click here, which don't convey the exact meaning, causing problems for the screen reader users to perceive and interact with those links.

- The heading "22,798" is not descriptive, creating confusion for the screen reader users.
- Various texts are written in the Nepali language, but the language has not been defined.
- The <iframe> and <frame> elements don't have accessible name

xi. Family Planning Association of Nepal

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive contents each time to reach in main content.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined.
- Some of the links don't have discernible text. For stance, in the footer section, the names of social media links are not provided. Similarly, in most of the links, "Read more" is written, which is not an accessible name. It creates confusion among the screen reader users to perceive and interact with those links.
- The website has various pages and contents, but multiple ways to locate those pages are not present, which causes problems for all the users to locate the different pages of the website.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- The website has many sub-headings under different heading levels, which are not put in logical order. Also, many headings are not descriptive. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings.
- The images don't have alternative text, so screen reader users get deprived of the information delivered through images.
- The screen readers don't announce anything while navigating the interactive elements in the main section using the tab key. It causes trouble to the users who are entirely dependent on the keyboard.
- The screen reader does not announce the status message after submitting the form, which creates confusion for the screen reader users whether the form is submitted or not.

xii. E-Pustakalaya

- Mechanism to avoid the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive content each time to reach the main content.
- Each page doesn't have a unique page title.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- The website has many headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- ARIA roles used don't conform to valid values
- An ID attribute value is not unique
- Links must have discernible text
- A select element doesn't have an accessible name
- Form elements don't have a visible label
- Zooming and scaling are disabled
- Some of the images don't have alt text.

xiii. Department of Health Service

- It is tough to navigate the website through the keyboard.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties understanding the logical structures of the headings and sub-headings.
- The notices and publications are prepared in Preeti font and uploaded in an image/PDF version, which is inaccessible.

- The "Search Button" doesn't have discernible text. Also, some links haven't been provided with the discernible text.
- The images don't have alt text that deprives the screen reader users of perceiving those images.
- ARIA hidden element contains focusable elements.
- The ID attribute value is not unique.
- ARIA dialogue and alert dialogue nodes don't have an accessible name
- Landmarks have not been provided systematically and logically, making it for screen reader users hard to locate the contents.
- All the elements the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.

xiv. Lalitpur Metropolitan City

- The links under the navigation menu can not be used through the keyboard, depriving keyboard users of interacting with those elements.
- The website has "Skip to Main Content", but it is not working anymore. It causes difficulties for the keyboard users to skip the repetitive contents and reach directly into the main content.
- Many links have been provided same names, and some of the links don't have meaningful names, creating confusion for the screen reader and other general users.
- The documents are written in Preeti font and uploaded in PDF version; thus, they are inaccessible, especially for screen reader users. It deprives screen reader users of accessing and understanding that information.
- Some of the images 'don't have alt text. Also, images having alt text are not delivering the information rightly as they are not meaningfully written.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.

xv. Nagarjun Municipality

- Many images don't have alt text that deprives the screen reader users of perceiving the information delivered through images.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Some of the elements under "Navigation Menu" are not keyboard operable, which makes it keyboard users hard to interact with those elements.
- The video uploaded on the website doesn't have captioning and sign language. Also, transcript or paragraph text or audio description have not been provided.
- The website has "Skip to Main Content", which is not working anymore. It creates problems for the keyboard users to avoid the repetitive contents and reach into the main contents.
- The reports put under "Report" section can't be accessed through the keyboard.
- The documents are prepared in Preeti font and uploaded in PDF/image format, which is entirely inaccessible, especially for screen reader users.
- The screen reader does not announce the status message after the form submission, which creates confusion among the screen reader users about whether the form is submitted.
- Under the Polling section, clicking the vote button automatically opens a new page about FY 75/76 report, creating confusion among the users.

xvi. Nepal Rastra Bank

- The links under the header section can't be navigated through the keyboard because the keyboard users can't access and interact with those elements.
- A Mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive content each time to reach the main content.
- Meaningful names have not been provided in social media links, creating confusion for the screen reader and other users.

- Heading labels are not provided for the headings under the footer section.
- The images don't have alt text that deprives screen reader users of perceiving the information delivered through images.
- Some links have the same names, but their destination is different, which confuses all users.
- The information and publications are written in Preeti font and put in pdf/image formats which are entirely inaccessible for screen reader users.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- Informs that errors can't be identified through the keyboard.
- ARIA attributes 'don't conform to valid values
- IDs used in ARIA and labels are not unique
- Some of the form elements don't have labels.
- Landmarks have not been provided systematically and logically, which makes it for screen reader users hard to locate the contents.
- "Search Button" doesn't have discernible text.

xvii. Press Council Nepal

- As soon as the website is opened, a popup dialogue appears, depriving the screen reader users of perceiving the information. Screen reader users can't read the content in the popup dialogue.
- Some of the links mentioned in the header and footer sections don't have discernible text, creating confusion among many users.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Some of the interactive elements, such as "काउन्सिल" and "सुचनापाटि", can't interact through a keyboard.
- Important landmarks, including main, navigation, and content info landmark, are not semantically defined.

- A mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive contents each time to reach in main content.
- The download links given for downloading results don't have any names
- Some links don't have meaningful names, and the same name is used for different links. Also, "सबै हेर्नुहोस्" type of name is given for some links. It makes screen reader users hard to access and understand the information.
- Some contents have been put without giving any particular headings, creating more confusion for the users

.

- The important notices, information and other publications are uploaded in Preeti Font and in PDF/image versions. It deprives the screen reader users of accessing and understanding the information.
- Aria label is not used correctly.

xviii. Online Khabar

- Some of the links don't have meaningful names. The name of social media links has not been provided in the footer section.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Landmarks have not been provided systematically and logically, which makes it for screen reader users hard to locate the contents.
- A Mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive contents each time to reach in main content.
- There are many links on the website which are not meaningful.

xix. Nepal Stock Exchange

- A Mechanism to bypass the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive contents each time to reach in main content.
- The website has many sub-headings under different heading levels, which are not put in logical hierarchical orders. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Landmarks have not been provided systematically and logically, making it hard for screen reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for people with low vision and colour-blindness to access and understand the content.
- A header row is not defined, creating problems for screen reader users navigating the table.
- Various links have the same name, creating confusion among the users.
- Alt-text is not meaningful. It confuses the screen reader to perceive the information delivered through an image.
- Elements have not used allowed ARIA attributes.
- ARIA commands and frames don't have an accessible name.
- Some buttons don't have discernible text.
- IDs of active elements are not unique
- The scrollable region 'doesn't have keyboard access
- The page doesn't have a unique page title.

xx. CAN Federation Nepal

- Mechanism to avoid the repetitive block of content is not present. Thus, the users dependent on the keyboard to operate the website need to pass through all the repetitive contents each time to reach in main content.
- The website has many sub-headings under different heading levels, which are not put in logical order. Thus, screen reader users face difficulties in understanding the logical structures of the headings and sub-headings.
- Each page doesn't have a unique page title which confuses the screen reader users.

- The images don't have alternative text. Thus, screen reader users get deprived of getting the information delivered through images.
- Some of the links don't have a meaningful name. There are various links with the text "read more" and some random numbers that do not give the links' exact meaning. It causes users with visual impairment problems interacting with those links.
- The header row is not defined correctly in the table, creating confusion for the screen reader users.
- ARIA input fields don't have an accessible name
- The ID attribute value is not unique
- Landmarks have not been provided systematically and logically, making it hard for screen reader users to locate the contents.
- All the elements on the page have a colour contrast ratio of less than the minimum requirement of 4.5:1. It creates problems for persons with low vision and colour-blindness to access and understand the content.
- Headings labels have not been provided in some headings/titles.

B. Mobile Applications

i. E-Sewa

- The app shows various advertisements in a home as a slideshow which is moving content, but there is no mechanism to pause or hide that content.
- Some of the buttons on the home page aren't labelled
- Error suggestion for invalid inputs ID is not appropriate
- The app can't be operated in landscape mode.
- The touch target for the button is smaller, so it is hard to tap on them.
- Colour contrast is not maintained on images, text, and background.

ii. Nepal Police

- The welcome screen is inaccessible. The screen reader does not read the information shown on the screen.

- Various buttons like in notification screen, setting screen, and FAQ screen are unlabeled in the app.
- The screen reader does not recognize the buttons on various screens. Thus, users cannot close those screens with the help of the screen reader: mainly in the close button on 'what's a new screen, notification screen, and emergency number screen.

iii. Nagarik App

- Some buttons are not labelled.
- The app can't be operated in landscape mode.
- The touch target for the button is smaller, so it is hard to tap on them.
- Colour contrast is not maintained on images, text, and background.

iv. Daraz

- Some of the buttons are not labelled.
- Alt-text is not provided in most of the images.
- The touch target for the button is smaller, so it is hard to tap on them.

v. Tootle

- Some buttons are not labelled.
- It can't be operated in landscape mode.

vi. Mero Share

- Some buttons are not labelled.
- The app can't be operated in landscape mode.
- The table for a portfolio is not fully accessible.
- The images used don't have the proper alt tags.

vii. Hamro Patro

- No alt text is provided in images.
- Interactive items are not described and labelled.

- Buttons are not marked.
- The clickable area is too small.
- No skip option is found after the advertisement start playing.
- Colour contrast is not accurate in many parts of the app.
- No indications are provided for dynamic elements like the opening menu or other alerts to the screen reader.
- Use of several movable elements without the feature to pause.

viii. Foodmandu

- Some elements do not have proper names.
- The clickable area is too tiny for tapping.
- Homepage Banners scroll automatically without the ability to pause.
- No alternative text is provided for images and other graphics.
- Forms elements validation is not accessible.
- Colour contrast needs to be improved.

ix. Ujyaalo

- Many buttons do not have descriptive text.
- The screen reader does not receive the play/pause option after clicking on to live Radio button.
- Colour contrast needs to be improved.
- Alt-text is not provided for images and other graphical items.

x. Khabar Garau

- The link and image with the same destination are not wrapped with the adjacent link.
- No alt text is provided in some photos.
- The information is put in the Tab panel, but they do not have a meaningful name.
- The form elements are not accessible.
- Low colour contrast.

- Movable parts without the ability to pause.
- Clickable items are small.

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