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نفاذ رقمي للجميع | digital access for all

An introduction to ICT Accessibility and Inclusive Design
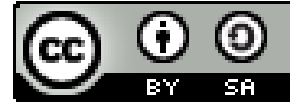
Unit 7 - Web Accessibility fundamentals

Inclusive Smart City

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Competencies

Mada ICT-AID Competency Framework

- – D5.1

Objectives

- Introduce the broad scope of web accessibility

- Explore web accessibility barriers and potential solutions

- Explain the essential components of web accessibility

- Introduce principles, standards and checks for web accessibility

Learning Outcomes

→ By the end of this unit, you should be able to:

— Describe the guiding principles of web Accessibility

— Identify major features of HTML Accessibility

— Review the essential components of web Accessibility

— Discuss approaches towards ensuring Web Accessibility

Content

1. Scope of Web accessibility

2. Components, principles and standards of Web Accessibility

3. Towards checking Web Accessibility

2. Components, Principles and Standards of Web Accessibility

Learning outcomes (2)

→   By the end of this section, you should be able to:

— Identify Features of Accessible Websites

— Review the essential components of web Accessibility

— Identify major features of HTML Accessibility

— Define the scope of the W3C accessibility standards

— Explain how W3C accessibility standards are developed

— List examples of WCAG adoption in policies internationally

1. Features of Accessible Websites (1/9)

Accessible websites are crucial for ensuring equal access to information for all users, regardless of their abilities or disabilities. The key features that make websites more accessible and inclusive:

1. **Alternative Text (Alt Text):** Alt text (alternative text), also known as alt tags or alt attributes, is a textual description that is added to HTML elements, primarily images, but also used for other non-text content like charts, diagrams, or multimedia elements. Alt text is essential for ensuring web accessibility as it provides a means for people with visual impairments or those who use screen readers to understand the content of images.

1. Features of Accessible Websites (2/9)

- **Key Guidelines for Writing Alt Text**

1. Be concise: Keep alt text brief while still providing enough descriptive information.

2. Be descriptive: Include relevant details that help convey the purpose and content of the image.

3. Avoid unnecessary details: Omit non-essential details that do not contribute to the understanding of the image.

4. Don't use "image of" or "picture of" in the alt text: Screen readers automatically identify images as such, so these phrases are redundant.

5. Avoid overusing keywords: Instead, focus on creating descriptive and meaningful alt text.

6. Be mindful of context: Consider the surrounding content and how the image relates to it.

1. **Features of Accessible Websites (3/9)**

2. **Color Contrast:** Color contrast refers to the difference in lightness and darkness between two colors used in design, particularly text and background. It plays a vital role in ensuring readability and accessibility of content on websites, especially for individuals with visual impairments or color vision deficiencies.

- The Web Content Accessibility Guidelines (WCAG) define specific color contrast ratio requirements to ensure accessibility.

- WCAG recommends a minimum contrast ratio of 4.5:1 for standard text and 3:1 for large text (18pt or 14pt bold) for most elements. However, certain components like logos or incidental text may have different requirements.

1. **Features of Accessible Websites (4/9)**

3. **Descriptive Links:** Descriptive links, also known as meaningful links or informative links, are hyperlinks on websites that provide clear and concise information about the destination or purpose of the link. Descriptive links improve usability, accessibility, and overall user experience by guiding users and helping them navigate through content more efficiently.

▪ **Examples of Non-Descriptive vs. Descriptive Links**

1. Non-Descriptive Link: "Click here to learn more."

   → Descriptive Link: "Learn more about our services."

2. Non-Descriptive Link: "Download the document."

   → Descriptive Link: "Download the user guide for XYZ software."

1. Features of Accessible Websites (5/9)

4. Skip Navigation Links

A Skip navigation link is a technique used in website design to provide an option for users to bypass repetitive or non-essential navigation menus and directly access the main content of a web page. They improve accessibility and make it easier for users who rely on screen readers or keyboard navigation to reach the core content without having to tab through lengthy navigation menus.

1. Features of Accessible Websites (6/9)

Characteristics of Skip Navigation Links

- **Clear and Visible:** Skip navigation links should be clearly visible at the top of the web page, preferably before the main content, allowing users to easily locate and interact with them. Use contrasting colors or underlines if necessary to make them stand out.

- **Accessible Focus:** Ensure that skip navigation links receive focus when users navigate using a keyboard or assistive devices. This helps users recognize that the skip link is active and available for use.

- **Concise and Informative:** Use descriptive text within the skip navigation link to indicate its purpose. For example, "Skip to Main Content" or "Jump to Section Navigation".

1. **Features of Accessible Websites (7/9)**

5. **Form Accessibility:** Form accessibility refers to the design and development practices that make web forms usable and accessible to all users, including those with disabilities.

▪ **Characteristics of Accessible Forms (1/3):**

1. **Meaningful Field Labels:** Each form field should have a clear and descriptive label that is associated with the input element using appropriate HTML markup Labels and should be in close proximity to the corresponding fields providing context to help users understand the purpose of each input.

1. **Features of Accessible Websites (8/9)**

- **Characteristics of Accessible Forms (2/3):**

2. **Keyboard Accessibility:** Ensure that all form elements, including input fields, checkboxes, radio buttons, and buttons, can be accessed and interacted with using the keyboard alone. Users should be able to navigate through form elements in a logical order and easily select options or provide input.

   Designing websites that can be navigated using just a keyboard is essential for users who have motor disabilities and cannot use a mouse. Implement keyboard accessibility techniques, such as ensuring that all interactive elements can be accessed and activated using keyboard controls.

1. **Features of Accessible Websites (9/9)**

- **Characteristics of Accessible Forms (3/3):**

3. **Error Identification and Validation:** Clearly identify and describe any errors or validation requirements within the form. Provide concise and meaningful error messages that assist users in correcting their input.

4. **Assistive Technology Compatibility:** Test the form's compatibility with popular screen readers, keyboard-only navigation, and other assistive technologies.

5. **Clear and Simple Language:** Using plain and straightforward language enhances understanding for all users, especially those with cognitive disabilities, learning differences, or limited English proficiency. Strategies for clear and simple language include avoiding jargon, using short sentences, breaking content into smaller sections, and providing explanations for complex terms.

2. The Essential Components of Web Accessibility

- **Content:** This includes the text, images, videos, and other elements that make up a web page. Web content should be coded in a way that is accessible to people with disabilities.

- **Web Browsers and Media Players**

- **Assistive Technology**

- **users'** knowledge, experiences, and in some cases, adaptive strategies using the web.

- **Developers** encompass a wide range of individuals including designers, coders, authors, and more. This group also includes developers with disabilities as well as users who actively contribute content.

- **Authoring Tools:** These are the tools that people use to create web content.

- **Evaluation tools:** These are the tools that people use to test web content for accessibility.

3. Major Features of HTML Accessibility (1/3)

HTML accessibility refers to the practice of using HTML markup in a way that makes web content accessible to all users, including those with disabilities. By incorporating specific features and techniques, HTML can enhance the accessibility of web content.

- **Semantic Structure:** HTML provides a range of semantic elements that help convey the structure and meaning of content to assistive technologies. Elements like <header>, <nav>, <main>, <article>, <section>, and <footer> enable screen readers and other assistive technologies to navigate and understand the content more effectively.

3. Major Features of HTML Accessibility (2/3)

- **Heading Structure**: Properly structured and hierarchical headings (e.g., <h1>, <h2>, <h3>) are essential for users who rely on screen readers or require an overview of the content. Headings should reflect the information hierarchy and provide meaningful headings for each section of content.

- **Alternative Text for Images:** Include the alt attribute in <img> elements to provide alternative text for images.

- **Accessible Forms:** Use semantic form elements such as <form>, <input>, <label>, and <button>. Ensure that each form control has a corresponding <label> to provide context. Use the aria-label attribute when a visible label is not possible. Implement proper validation and error messages.

3. Major Features of HTML Accessibility (3/3)

- **Tables:** Use <table>, <thead>, <tbody>, <tfoot>, <th>, and <td> elements for creating tables. Provide a <caption> to summarize the purpose of the table. Use <th> for header cells and scope attributes to associate header cells with data cells.

- **ARIA Roles and Attributes:** Use ARIA roles and attributes to enhance the accessibility of dynamic content and custom widgets. Examples include role="navigation", aria-label, and aria-describedby. Use ARIA roles sparingly and in conjunction with semantic HTML.

- **Focus Management:** Ensure that the focus order follows a logical sequence. Use the tabindex attribute to control the order in which elements receive focus. Ensure that interactive elements (links, buttons, form controls) are accessible via keyboard navigation.

4. The Scope of the W3C Accessibility Standards (1/2)

The scope of the W3C (World Wide Web Consortium) Accessibility Standards refers to the range or extent of what these standards cover. These standards are developed by the W3C Web Accessibility Initiative (WAI) and aim to promote accessibility of the World Wide Web for people with disabilities. The scope of these standards includes:

- **Web Content Accessibility Guidelines (WCAG):** These guidelines provide recommendations for making web content more accessible to different disabilities, including visual, auditory, physical, speech, cognitive, and neurological disabilities.

- **Authoring Tool Accessibility Guidelines (ATAG):** These guidelines address the accessibility of authoring tools that are used to create web content. It ensures that these tools have features and functionalities that support the creation of accessible content.

4. The Scope of the W3C Accessibility Standards (2/2)

- **User Agent Accessibility Guidelines (UAAG):** These guidelines focus on the accessibility of user agents, which are software applications that retrieve and render web content. It includes web browsers, media players, assistive technologies, and other tools that enable interaction with web content.

- **Accessible Rich Internet Applications (ARIA):** ARIA provides a set of attributes and properties that enhance the accessibility of web content and web applications. It helps developers in creating more interactive and dynamic content that can be properly interpreted by assistive technologies.

5. How W3C Accessibility Standards are Developed (1/5)

- **Working Groups:**

The development process begins with the formation of a dedicated Working Group within the W3C. These Working Groups consist of experts from various organizations and stakeholders who have expertise in different aspects of accessibility.

- **Charter:**

The Working Group creates a charter that outlines the scope, goals, and deliverables of the standardization effort. The charter also defines the timeline and expectations for the group's work.

5. How W3C Accessibility Standards are Developed (2/5)

- **Public Input:**

During the development process, the Working Group seeks public input on draft documents and proposals. This input can come from a variety of sources, including individuals, organizations, and public comment periods. This helps ensure that multiple perspectives and requirements are considered in the standards development.

- **Drafting:**

The Working Group drafts the proposed accessibility standards, guidelines, or specifications. This involves analyzing existing research, best practices, and technical considerations to create a comprehensive and effective set of standards.

5. How W3C Accessibility Standards are Developed (3/5)

- **Review and Iteration:**

The drafts are then reviewed by the Working Group members and other stakeholders, including experts and representatives from organizations. Feedback is gathered, and the drafts are iterated upon based on these reviews and discussions. The Working Group aims to address any issues, resolve conflicts, and refine the specifications to ensure they are of high quality and meet the stated goals.

5. How W3C Accessibility Standards are Developed (4/5)

- **Candidate Recommendation:**

Once the working draft is considered mature and stable, it advances to the Candidate Recommendation stage. This signifies that the Working Group believes the specification is ready for widespread implementation and testing. It is often at this stage that implementation experience and interoperability evaluations are sought.

- **Testing and Implementation:**

During and after the Candidate Recommendation stage, the accessibility standards are implemented by software developers and organizations to validate their effectiveness and practicality. This implementation feedback is crucial in identifying any remaining issues and refining the standards further.

5. How W3C Accessibility Standards are Developed (5/5)

▪ **Maintenance and Updates:**

Once a standard is published, it generally undergoes ongoing maintenance to address emerging issues, provide clarifications, and incorporate new technologies or practices. The Working Group may release updated versions or supplementary guidelines to ensure the accessibility standards remain relevant in the face of evolving technologies and accessibility needs.

6.   Examples of WCAG Adoption in Policies Internationally (1/3)

Many countries and organizations around the world have indeed adopted WCAG as part of their policies to promote digital accessibility. Several examples of WCAG adoption in various countries are as follows:

- **United States - Section 508:** Section 508 of the Rehabilitation Act requires federal agencies to ensure accessibility of their electronic and information technology for individuals with disabilities. The U.S. Access Board has recently revised the Section 508 standards to correspond with WCAG 2.0.

- **European Union - Web Accessibility Directive:** The EU has embraced the Web Accessibility Directive, which mandates accessibility for public sector websites and mobile applications. This directive references the EN 301 549 standard, which is based on WCAG 2.0.

6. Examples of WCAG Adoption in Policies Internationally (2/3)

- **Canada – Common Look and Feel (CLF) Standards:** The Canadian government has put into effect the Common Look and Feel (CLF) Standards, which include guidelines for web accessibility. These standards are in accordance with WCAG 2.0 and aim to guarantee accessibility of websites belonging to federal government entities.

- **United Kingdom – Public Sector Bodies Accessibility Regulations:** The United Kingdom has implemented the Public Sector Bodies Accessibility Regulations, which require public sector websites and mobile applications to adhere to specific accessibility standards. Compliance with WCAG 2.1 is referenced as the standard for meeting these regulations.

6. Examples of WCAG Adoption in Policies Internationally (3/3)

- **Australia - Digital Service Standard:** Accessibility is an essential requirement within Australia's Digital Service Standard, which uses WCAG as the benchmark for achieving accessibility. Government websites and digital services are obligated to adhere to these standards.

Quizzes (2)

1. Provide examples of features that contribute to the accessibility of a website.

2. Provide examples of countries or regions that have adopted WCAG (Web Content Accessibility Guidelines) in their policies.

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Thank you

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