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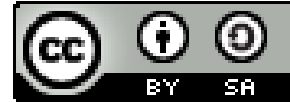
Unit 7 - Web Accessibility fundamentals

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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

3. Towards Checking Web Accessibility

Inclusive Smart City

Learning outcomes (3)

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

— Check web pages to identify potential accessibility features and barriers

— Explain how accessibility features fit under principle(s) and success criteria

— Discuss approaches towards ensuring Web Accessibility

1. Web Accessibility Checking (1/5)

Checking web pages for accessibility features and potential barriers involves a combination of manual evaluation and the use of automated tools. Here's a step-by-step guide to help you assess web page accessibility

1. Web Accessibility Checking (2/5)

- **Type of checking:**

1. Manual Testing (1/3)

Manual testing for websites refers to the process of manually evaluating and assessing a website's functionality, usability, compatibility, and performance. It involves the human tester actively exploring and interacting with the website, simulating end-user behaviors and scenarios. This type of testing is crucial to identify bugs, usability issues, and ensure a high-quality user experience. Some key aspects of manual testing for website accessibility:

- **Keyboard Navigation**: Verify that all interactive elements can be accessed and used using only a keyboard.

1. Web Accessibility Checking (3/5)

1. **Manual Testing (2/3)**

   - **Text Alternatives**: Check if images have descriptive alternative text and ensure that links and buttons have meaningful text.

   - **Color Contrast**: Evaluate the color contrast between text and background.

   - **Headings and Structure**: Confirm a logical heading structure is in place, using <h1> through <h6> tags appropriately.

   - **Forms**: Test forms for logical structure and ensure that all form fields have proper labels.

   - **Multimedia**: Check if multimedia content (audio, video) has captions and transcripts.

1. **Web Accessibility Checking (4/5)**

1. **Manual Testing (3/3)**

   ▪ **Focus Indicators**: Verify that focus indicators are visible and clear for keyboard users.

   ▪ **Link Purpose**: Ensure that the purpose of each link can be determined from its text or context.

   ▪ **Browser Zoom**: Test if the web page remains usable when zoomed in up to 200%.

   ▪ **Readable Font**: Confirm that the font size is adjustable, and text remains readable when enlarged.

1. **Web Accessibility Checking (5/5)**

2. **Automated Testing**

Automated accessibility testing for websites involves using specialized tools to assess the compliance of a website against accessibility standards and guidelines. These tools automate the process of inspecting website elements and identifying accessibility issues.

- **Accessibility Checker Tools:** Use automated tools like WAVE (Web Accessibility Evaluation Tool), Axe, or Google Lighthouse to scan your web page for accessibility issues.

- **Browser Developer Tools**: Use browser developer tools (e.g., Chrome DevTools) to inspect elements for accessibility properties and issues.

2. Principle and Success Criteria (1/4)

▪ **Accessibility features directly address the four core principles of accessibility:**

Accessibility features are guided by principles and success criteria defined in accessibility standards such as the Web Content Accessibility Guidelines (WCAG). How accessibility features align with the principles and success criteria:

1. **Perceivable**: Features like alt text for images, captions for videos, proper heading structure, and text alternatives for non-text content make information accessible to people with sensory disabilities.

2. **Operable**: Features like keyboard navigation, resizable text, clear focus indicators, consistent navigation patterns, and compatibility with assistive technologies enable people with physical or motor disabilities to interact with content effectively.

2. Principle and Success Criteria (2/4)

3. **Understandable**: Features like clear and consistent language, easy-to-follow instructions, and content organized logically enhance comprehension for people with cognitive or learning disabilities.

4. **Robust**: Features like proper HTML markup, use of ARIA attributes where required, compatibility with different browsers and assistive technologies, as well as resilience to errors, ensure accessibility for a wide range of users and devices.

2. Principle and Success Criteria (3/4)

Success criteria are specific guidelines within each principle that define the level of accessibility that should be achieved. They provide measurable criteria against which the accessibility of a website is evaluated. Each success criterion has a specific level of conformance (A, AA, and AAA) indicating the level of accessibility achieved.

- Accessibility features correspond to specific success criteria. For example, providing alternative text for images aligns with Success Criterion 1.1.1 (Non-text Content) which requires text alternatives for non-text content.

2. Principle and Success Criteria (4/4)

▪ Implementing accessibility features that address multiple success criteria helps to meet the desired level of conformance (A, AA, AAA) within each principle.

▪ The combination of various accessibility features across the principles collectively guarantees a more inclusive and accessible experience for all user groups.

3. Approaches Towards Ensuring Web Accessibility (1/3)

There are various approaches towards ensuring web accessibility. Here are some key approaches:

- **Designing with accessibility in mind:** One approach is to incorporate accessibility considerations from the initial stages of web design. This involves using accessible design principles, considering color contrast, providing alternative text for images, using proper heading structure, and ensuring keyboard accessibility. By proactively designing for accessibility, developers can create a more inclusive web environment.

- **Adhering to Web Content Accessibility Guidelines (WCAG):** WCAG provides a comprehensive set of guidelines and success criteria for web accessibility. Following WCAG ensures that web content is accessible to people with disabilities.

3. Approaches Towards Ensuring Web Accessibility (2/3)

- **Conducting accessibility audits and testing:** Regular accessibility audits and testing are crucial to identify any barriers or issues in web content. Audits can be done using automated testing tools, manual testing, and by involving users with disabilities through user testing sessions.

- **Providing accessibility training and resources:** Education and awareness play a significant role in ensuring web accessibility. By offering accessibility training to web developers, content creators, and designers, you can empower them with the knowledge and skills needed to implement accessibility features correctly. Additionally, providing accessible design resources and documentation can serve as references to guide developers in creating accessible web content.

3. Approaches Towards Ensuring Web Accessibility (3/3)

▪ **Promoting user feedback and continuous improvement:** Inviting user feedback and actively engaging with individuals with disabilities who use your web content can provide valuable insights. Users can provide feedback on the accessibility of your website and suggest improvements. Actively incorporating user feedback and continuously iterating upon the web content based on accessibility review and user input helps in improving overall accessibility.

Quizzes (3)

1. What are the main accessibility tools for automated testing?

2. What does it mean to design with accessibility in mind?

Final Evaluation

1. What are the key features of HTML that contribute to web accessibility?

2. What are the essential components for creating a fully accessible website?

3. How can user feedback contribute to enhancing web accessibility?

4. How do elements like headings, alt text, and semantic markup impact accessibility?

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Thank you

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