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نفاذ رقمي للجميع digital access for all

An introduction to ICT Accessibility and Inclusive Design

Unit 5 - ICT Accessibility standards

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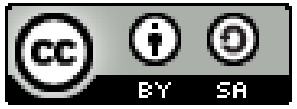

Competencies

Mada ICT-AID Competency Framework

- D2.3.1, D2.3.2, D2.3.4.

Objectives

- Introduce accessibility barriers and features in ICTs
- Describe the general standardization framework and benefits
- Feature W3C Web Accessibility Initiative (WAI)
- Explore major examples of ICT Accessibility Standards and standards making bodies

Learning Outcomes

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

- Identify ICT barriers for persons with disabilities
- Identify accessibility features in ICT
- Recognize standardization aims and benefits in ICT accessibility
- Describe major examples of ICT Accessibility standards and standards making bodies
- Describe the W3C Web Accessibility Initiative (WAI) standardization framework
- Explain the guiding principles of web Accessibility

Content

1. Promoting digital inclusion of persons with disabilities
2. Accessibility features in ICT
3. ICT accessibility standards
4. Standardization aims and benefits

ICT Accessibility Standards

Learning outcomes (3)

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

- Describe major examples of ICT Accessibility Standards
- Describe the W3C Web Accessibility Initiative (WAI) standardization framework
- Explain the guiding principles of web Accessibility

1. The Most Important ICT Accessibility Standards (1/2)

ICT accessibility standards are technical specifications that define how information and communication technologies (ICT) should be designed, developed, and implemented to be usable by everyone, regardless of their abilities or disabilities. These standards aim to remove barriers and ensure equal access to information and communication for all.

- **Web Content Accessibility Guidelines (WCAG)**:

Developed by the World Wide Web Consortium (W3C), WCAG is the most widely used international standard for web accessibility. It provides guidance on how to make web content accessible to people with disabilities, including those with visual, auditory, motor, and cognitive impairments.

1. The Most Important ICT Accessibility Standards (2/2)

- **Section 508 of the Rehabilitation Act:**

This U.S. law requires that federal agencies' electronic and information technology be accessible to people with disabilities. The U.S. Access Board has developed technical standards to implement Section 508, known as the Section 508 Standards.

- **European Accessibility Act (EAA):**

This EU directive requires that all member states make certain public websites and mobile apps accessible to people with disabilities. The EAA is based on WCAG 2.1.

2. The W3C WAI Standardization Framework (1/2)

The W3C Web Accessibility Initiative (WAI) is a global effort to develop standards and supporting materials that make the web accessible to everyone, regardless of their abilities or disabilities. Its standardization framework provides a comprehensive set of guidelines and specifications for ensuring web content, web applications, and web technologies are accessible to all users.

2. The W3C WAI Standardization Framework (2/2)

Important components of the Web Accessibility Initiative:

- **Web Content Accessibility Guidelines (WCAG)**: WCAG is the flagship standard, defining criteria for making web content accessible. It includes three levels (A, AA, AAA) with increasing levels of accessibility compliance.
- **Authoring Tool Accessibility Guidelines (ATAG)**: ATAG ensures authoring tools used to create web content are themselves accessible.
- **User Agent Accessibility Guidelines (UAAG)**: UAAG focuses on making web browsers and other user agents accessible.
- **Accessible Rich Internet Applications Suite (WAI-ARIA)**: WAI-ARIA defines roles, states, and properties for web content to enable better accessibility for assistive technologies.

3. The Guiding Principles of Web Accessibility (1/4)

1. **Perceivable**: Information and user interfaces must be presented in ways that are perceivable through different senses.
    - **Visual**: Providing adequate color contrast, alternative text for images, and options for different font sizes.
    - **Auditory**: Providing audio descriptions for videos, transcripts for audio content, and compatibility with assistive listening devices.
    - **Touch**: Ensuring keyboard navigation is possible, providing tactile feedback for interactive elements, and making interfaces operable with touchscreens.
    - **Cognitive**: Using clear and concise language, structuring content logically, and providing multiple ways to access information.

3. The Guiding Principles of Web Accessibility (2/4)

2. **Operable**: Users must be able to interact with and control web interfaces effectively.

   - **Keyboard accessibility**: Ensuring all functionalities are accessible through the keyboard and not solely reliant on mouse interaction.
   - **Focus management**: Ensuring keyboard focus is clearly visible and follows a logical order.
   - **Time-based media**: Providing transcripts, captions, and ways to pause, rewind, and replay audio or video content.
   - **Seizure prevention**: Avoiding flashing lights and patterns that could trigger epileptic seizures.

3. The Guiding Principles of Web Accessibility (3/4)

3. **Understandable**: Information and the operation of web systems must be understandable.

   - **Readability**: Using clear and concise language, avoiding jargon, and structuring information in a logical way.
   - **Predictability**: Ensuring consistent behavior and visual cues throughout the interface.
   - **Meaningful error messages**: Providing clear and actionable error messages that explain problems and how to fix them.
   - **Compatibility with assistive technologies**: Ensuring compatibility with screen readers, magnification software, and other assistive technologies.

3. The Guiding Principles of Web Accessibility (4/4)

4. **Robust**: Web content and technologies must be reliable and compatible with a wide range of assistive technologies and user agents.
    - **Compatibility**: Ensuring content can be accessed and rendered correctly across different browsers, operating systems, and assistive technologies.
    - **Future compatibility**: Designing for forward compatibility with future technologies and accessibility standards.
    - **Graceful degradation**: Ensuring essential information and functionality remain accessible even when assistive technologies are not present or fail.

Quizzes (3)

1. What are the major examples of ICT Accessibility Standards?

2. What does WAI-ARIA stand for?

References (1/3)

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— Meyer, A., H Rose, D., & T Gordon, D. (2014). Universal design for learning: Theory and Practice.

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— World Wide Web Consortium - Curricula on Web Accessibility. (https://www.w3.org/WAI/curricula/)

— IAAP Educational Training Database – Homepage. (https://a11yetd.org/)

— International Association of Accessibility Professionals - Homepage. (https://www.accessibilityassociation.org/)

— Coursera - An Introduction to Accessibility and Inclusive Design. (https://www.coursera.org/learn/accessibility)

— edX-W3Cx: Introduction to Web Accessibility. (https://www.edx.org/learn/web-accessibility/the-world-wide-web-consortium-w3c-introduction-to-web-accessibility)

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— European Telecommunications Standards Institute – Homepage. (https://www.etsi.org/)

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— EUR-Lex - DIRECTIVES PDF.(https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32019L0882)

— Section 508 – Homepage. (https://www.section508.gov/)

— U.S. Access Board – Homepage. (https://www.access-board.gov/)

— edX - Information and Communication Technology (ICT) Accessibility (https://learning.edx.org/course/course-v1:GTx+ICT100x+3T2017)

Thank you

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