![mada logo - digital access for all / نفاذ رقمي للجميع]

An introduction to ICT Accessibility and Inclusive Design

Unit 5 - ICT Accessibility standards

IoT

VR

AI

5G

3D

Inclusive Smart City

This course entitled "An Introduction to ICT Accessibility and Inclusive Design" was prepared and designed by Mada Center, Qatar.
This work is licensed under a Creative Commons Attribution-Share Alike 4.0 International License.
http://creativecommons.org/licenses/by-sa/4.0/

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

Promoting Digital Inclusion of Persons with Disabilities

Inclusive Smart City

Learning outcomes (1)

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

— Demonstrate understanding of Inclusion and benefits of ICT

— Recognize accessible ICT role for peoples' inclusion in society

— Identify key principles for driving digital inclusion of persons with disabilities

1. Inclusion of ICT for Everyone (1/4)

- **Understanding Inclusion:**

Inclusion refers to the practice of ensuring that all individuals, regardless of their abilities, backgrounds, or characteristics, are able to fully participate and engage in various aspects of society, including education, employment, and social interactions. It is a fundamental human right and an essential aspect of creating a diverse and equitable society.

- **Benefits of ICT in Inclusion (1/2):**

Information and Communication Technology (ICT) plays a crucial role in promoting inclusion by providing tools and platforms that enable equal access to information, communication, and opportunities. Some key benefits of ICT in fostering inclusion:

1. Inclusion of ICT for Everyone (2/4)

- **Benefits of ICT in Inclusion (2/2):**

1. Access to Information

2. Communication and Collaboration

3. Employment Opportunities

4. Economic Empowerment

1. Inclusion of ICT for Everyone (3/4)

key principles and strategies related to fostering inclusion through ICT:

- **Bridging the digital divide**: Addressing the gap in access to and use of ICT between different groups of people.

- **Promoting digital literacy**: Equipping individuals with the skills and knowledge necessary to use ICT effectively.

- **Developing accessible technologies**: Designing and implementing ICT systems and tools that are usable by everyone, including people with disabilities.

- **Creating inclusive environments**: Building online and offline spaces where everyone feels welcome and can participate fully.

1. Inclusion of ICT for Everyone (4/4)

Applications of inclusive practices in various domains using ICT:

- **Education**: Utilizing digital learning tools, e-learning platforms, and assistive technologies to create inclusive learning experiences for students with disabilities.

- **Employment**: Implementing accessible hiring practices and workplace technologies to provide equal opportunities for people with disabilities.

- **Social services**: Leveraging online platforms and tools to connect people with disabilities to essential services and resources.

- **Governance and decision-making**: Utilizing ICT to ensure that the voices of people with disabilities are heard and their needs are addressed in policy and decision-making processes

2. The Accessible ICT Role in Society (1/8)

Accessible Information and Communication Technology (ICT) plays a crucial role in promoting inclusion in society, ensuring that everyone, including individuals with diverse abilities, can participate fully in various aspects of life. Here are several accessible ICT roles that contribute to people's inclusion:

- **Web Accessibility**:

  - **Role**: Ensure that websites, web applications and platforms are designed and developed to be accessible to people with disabilities.

  - **Implementation**: Use standards like the Web Content Accessibility Guidelines (WCAG) to create web content that is perceivable, operable, understandable, and robust.

2. The Accessible ICT Role in Society (2/8)

- **Assistive Technologies**:

  - **Role**: Develop and support the use of assistive technologies that help individuals with disabilities interact with ICT.

  - **Examples**: Screen readers, magnification software, speech recognition, and alternative input devices.

- **Accessible Document Formats**:

  - **Role**: Create and distribute documents in formats that are accessible to individuals with various needs.

  - **Implementation**: Use accessible document formats, provide text descriptions for images, and structure documents properly for screen readers.

2. The Accessible ICT Role in Society (3/8)

- **Captioning and Subtitling**:

  - **Role**: Ensure that multimedia content, including videos, is accessible to individuals with hearing impairments.

  - **Implementation**: Add captions or subtitles to videos to convey spoken content and relevant audio information.

2. The Accessible ICT Role in Society (4/8)

- **Accessible Mobile Applications**:

  - **Role**: Design mobile applications to be inclusive and usable by people with diverse abilities.

  - **Implementation**: Follow mobile accessibility guidelines, provide alternative text for app elements, and ensure compatibility with assistive technologies.

- **Universal Design**:

  - **Role**: Integrate universal design principles into the development of ICT to create products and environments usable by the widest range of people.

  - **Implementation**: Consider diverse user needs from the outset, designing interfaces and interactions that are intuitive and adaptable.

2. The Accessible ICT Role in Society (5/8)

- **Inclusive Social Media Platforms**:

  - **Role**: Ensure that social media platforms are designed to be accessible and inclusive for individuals with disabilities.

  - **Implementation**: Provide features for adding alternative text to images, ensure keyboard accessibility, and offer customizable display settings.

2. The Accessible ICT Role in Society (6/8)

- **Online Learning Accessibility**:

  - **Role**: Create accessible online learning environments that cater to diverse learning needs, styles, and abilities.

  - **Implementation**: Use learning management systems (LMS) e.g. that comply with accessibility standards, provide alternative formats for course materials, Implement the Universal Design for Learning UDL principles, and support assistive technologies.

- **Accessible E-Government Services**:

  - **Role**: Ensure that government services provided online are accessible to all citizens.

  - **Implementation** Follow accessibility guidelines for government websites, provide alternative means for communication, and offer support for individuals with various needs

2. The Accessible ICT Role in Society (7/8)

- **Digital Inclusion Initiatives**:

  - **Role**: Implement initiatives that promote digital inclusion, providing access and training to underserved populations.

  - **Implementation** Offer workshops, training programs, and resources to help individuals develop digital literacy skills.

2. The Accessible ICT Role in Society (8/8)

- **Telecommunication Accessibility**:

  - **Role**: Ensure that communication services, including telephone and video calls, are accessible to individuals with hearing or speech impairments.

  - **Implementation**: Provide relay services, captioned telephone services, and support for text-based communication.

- **Accessible Gaming**:

  - **Role**: Develop video games with features that accommodate players with diverse abilities.

  - **Implementation**: Include customizable controls, subtitles, and audio cues to enhance the gaming experience for individuals with disabilities.

3. Key Principles for Driving Digital Inclusion of Persons with Disabilities (1/3):

There are several key principles for driving digital inclusion of persons with disabilities. These principles aim to ensure accessibility, equal opportunities, and inclusive practices.

- **Universal Design:**

 Implementing universal design principles to ensure that digital technologies can be used by individuals of all abilities without the need for customization or specialized adaptations.

- **Accessibility standards:**

Following international accessibility standards ensures consistent and reliable accessibility across platforms and formats. International accessibility standards advise on how to make digital content, websites, apps, and other technologies accessible to all users, including those with disabilities.

3. Key Principles for Driving Digital Inclusion of Persons with Disabilities (2/3):

- **Policy and Legislation:**

Developing and implementing policies and legislation that promote digital inclusion and accessibility for persons with disabilities. This can involve enforcing standards and guidelines for accessibility, providing funding for assistive technologies, and ensuring equal opportunities for persons with disabilities to access and use digital technologies.

3.   Key Principles for Driving Digital Inclusion of Persons with Disabilities (3/3):

- **Awareness and Advocacy:**

Raising awareness about the importance of digital inclusion for persons with disabilities and advocating for their rights to access and use digital technologies on an equal basis with others. This includes promoting inclusive design practices and challenging discrimination and barriers faced by individuals with disabilities in the digital realm.

Quizzes (1)

1. Define the inclusion and benefit of ICT?

2. How to ensure multimedia content, including videos, accessibility to individuals?

References (1/3)

— Yesilada, Y., & In Harper, S. (2019). Web accessibility: A foundation for research.

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

— Cook, A., Polgar ,J., & Encarnação,P. (2019). Assistive Technologies: Principles and Practice

— Yesilada, Y., & In Harper, S. (2019). Web accessibility: A foundation for research.

— Gould, M., Leblois, A., Cesa Bianchi, F., Montenegro, V., & Studer, E. (2014). Convention on the Rights of Persons with Disabilities 2012 ICT Accessibility Progress Report. Survey Conducted in Collaboration with DPI—Disabled Peoples' International.

— Cook, A., Polgar ,J., & Encarnação,P. (2019). Assistive Technologies: Principles and Practice

References (2/3)

— G3ict, The Global Initiative for Inclusive ICTs – Homepage. (https://g3ict.org/)

— 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)

References (3/3)

— International Organization for Standardization – Homepage. (https://www.iso.org/home.html)

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

— International Telecommunication Union – Homepage. (https://www.itu.int)

— 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

شكراً لكم