Digital Government Authority
هـيـئـة الحكومة الرقمـيـة

Guideline

For Web Accessibility of Digital Channels Content to Serve People with Disabilities and the Elderly

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Contents

1. Introduction

The Digital Government Authority (DGA) seeks to issue regulations and constantly update them to keep pace with current and future requirements and to contribute to enhancing digital performance within government entities, raising the quality of services provided, and improving the experience of the beneficiary of those services, in line with the ambitious vision of the Kingdom of Saudi Arabia 2030, and strategic directions of the Digital Government Authority (DGA), which emphasize the importance of providing an effective and flexible regulatory environment that adapts to future changes.

The importance of accessibility for all segments of society and especially for elderly people and people with disabilities including but not limited to : (vision disability, hearing disability, mobility disability and cognitive disability) to access digital content through digital channels such as: websites, smart applications and digital portals, and in application of the principle “Digital by default”; One of the core principles of the regulatory framework for digital government, which states that the development of government digital services should be in an integrated and simplified way that makes it easy for beneficiaries to use, taking into account the ease and possibility of access and providing services with the same quality to all beneficiaries, including those unable to access them, and to achieve the principle of inclusivity that it aims to provide people with disabilities and the elderly with access to various digital channels to benefit from the digital government services provided.

DGA aims to provide government products to all beneficiaries, promote participation and raise awareness. DGA has released the second version of the 'Guidelines for Web Accessibility to Digital Content Channels for People with Disabilities and the Elderly' to comply with the accessibility and usability standards established by the World Wide Web Consortium (W3C) and the Web Content Accessibility Guidelines (WCAG). These guidelines are intended to be implemented on digital channels to enhance the overall understanding and approach towards meeting the internationally acceptable level of web accessibility. The document explains the guidelines, their scope, implementation methods, and provides illustrative examples.

2. Guideline Objectives

The Guidelines aim to achieve the following:

Improve the beneficiary experience of digital services by ensuring the platform is accessible to serve all target audiences.

Provide equal access to digital government services and information for all segments of society, including people with disabilities, and elderly people.

Increase beneficiary satisfaction with digital government services by providing an exceptional and specialized experience.

Raise the quality and maturity of the provided services and reinforce digital performance.

Reinforce the presence in the international rankings of the United Nations and strive to reach advanced positions in the field of accessibility.

3. Guideline Scope

This document covers Web Content Accessibility Guidelines (WCAG 2.2), and the success criteria for their application in addition to support government entities by providing digital content that is more accessible to all target audiences. The following details the scope of this guidelines document:

a. Web Content Accessibility Guidelines (WCAG 2.2): provides comprehensive information on the entirety of the Web Content Accessibility Guidelines (WCAG 2.2) by offering simplified descriptions, illustrative examples, an overview of the beneficiaries, and links to learn the technical implementation techniques, at a success criteria level.

b. Assistive Technologies: This document provides information on 13 popular assistive technologies and features to encourage teams to develop accessible web content.

4. Target Audience

This guide targets all government entities and the private sector that develop or operate digital government-related activities, including user interface designers, website and application developers, digital content administrators, and product owners, to enable them to make web content accessible for a variety of beneficiaries, including people with disabilities and the elderly.

5. Guideline Statement

5.1 Understanding Web Accessibility

5.1.1 What is Web Accessibility

Web accessibility refers to designing and developing web content to ensure equal access and usability for all people, especially people with disabilities. It emphasizes the importance of designing and developing digital channels to allow beneficiaries with disabilities to fully perceive, navigate, understand, and interact with the content.

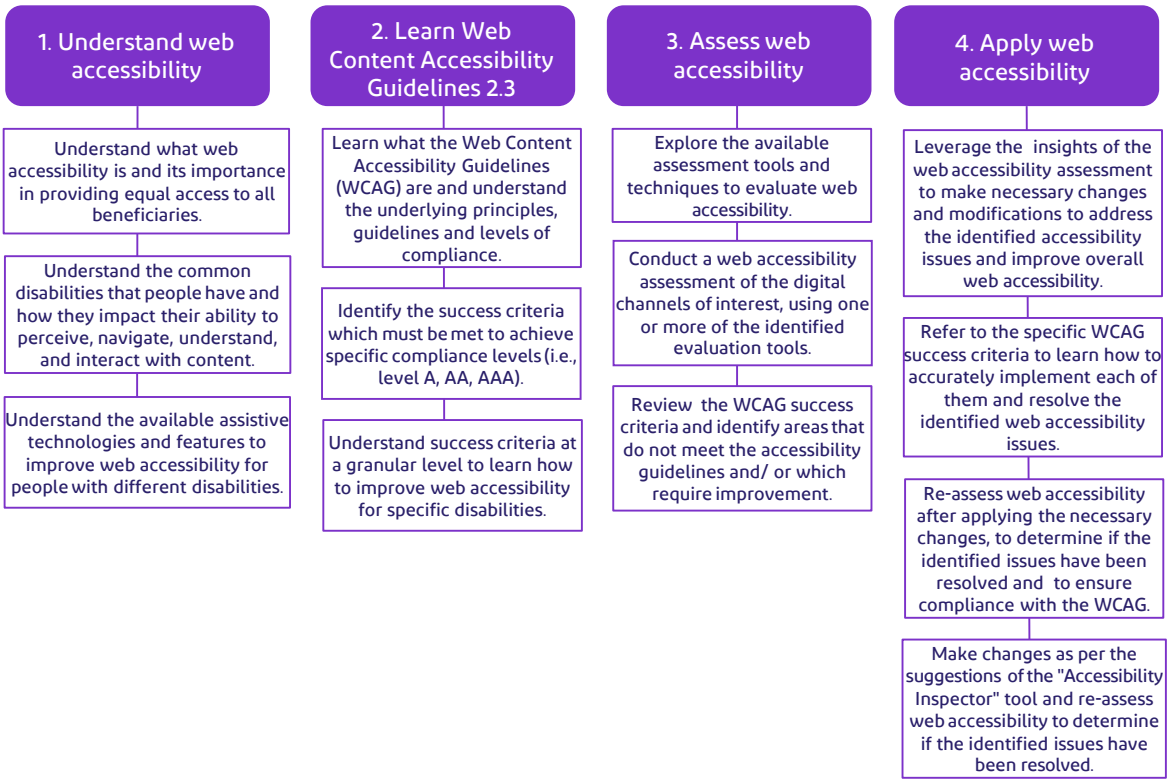
5.1.2 The Importance of Web Accessibility

Accessibility of web content is extremely important and must be given priority, especially since most of the world's population actively uses the internet; prioritizing web accessibility becomes essential to ensure that the needs and experiences of all beneficiaries, including people with disabilities, are met. Web accessibility not only promotes equal access but also enhances beneficiary experiences, expands the reach and impact of web content, and encourages compliance with regulatory requirements for accessibility..

5.2 Web Accessibility Framework

Web accessibility involves understanding the different accessibility success criteria, conducting consistent assessments of digital platforms and web content, leveraging the assessment results, and technically implementing the missing or inaccurately implemented accessibility criteria.

To inform the target audience on assessing and enhancing web accessibility across digital channels, the framework below has been developed. The framework provides 4 steps on how to use this document to better understand web accessibility and align web content with the international industry standard of web accessibility (WCAG 2.2 level AA).



Graph (1): Web Accessibility Framework

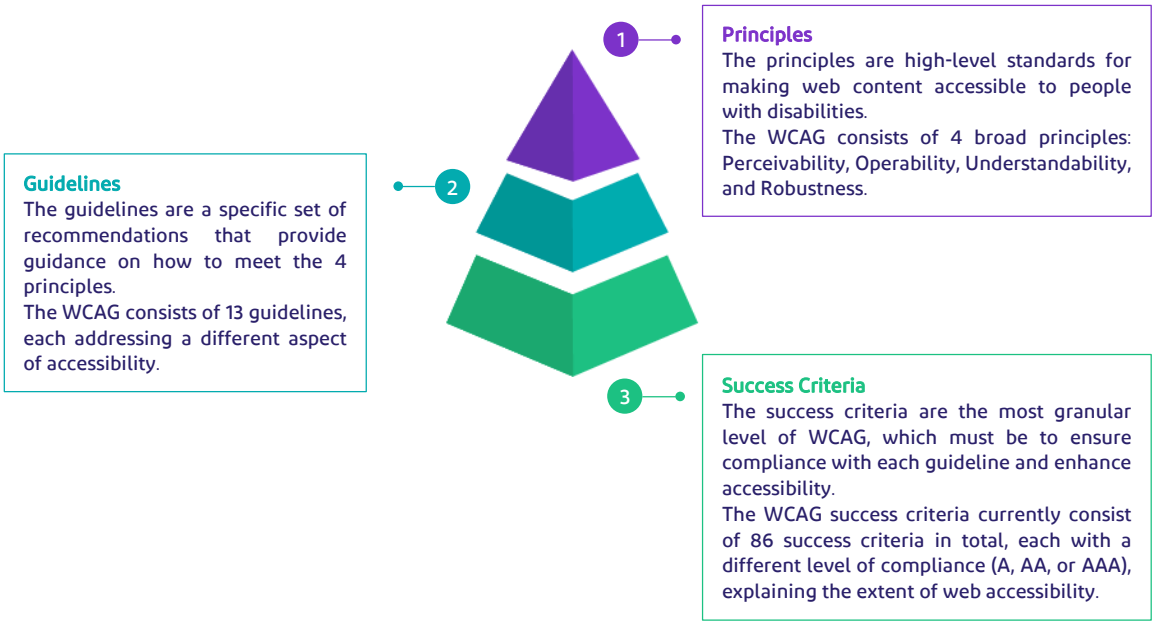
5.2.1 Web Content Accessibility Guidelines (WCAG 2.2)

5.2.1.1 Understanding the WCAG 2.2 Framework

The Web Content Accessibility Guidelines (WCAG 2.2) are international standards created by the World Wide Web Consortium (W3C) to ensure that web content is accessible to all individuals, including those with disabilities and elderly people.

5.2.1.2 Hierarchical breakdown of the WCAG 2.2 framework

The Web Content Accessibility Guidelines (WCAG 2.2) framework is based on 4 principles (perceivable, operable, understandable, and robust), which encompass a total of 13 guidelines and 86 success criteria, spanning 3 levels of compliance (Level A, Level AA, and Level AAA).



Graph (2): WCAG 2.2 Framework

5.2.1.3 Levels of compliance of the WCAG 2.2 framework

The Web Content Accessibility Guidelines (WCAG 2.2) contain 3 levels of compliance (Level A, Level AA, and Level AAA), with each level building upon the previous one to ensure a higher level of accessibility for all people, but especially people with disabilities.

5.2.1.3.1 Table of Levels of Compliance of the WCAG 2.2 Guidelines

Level of Compliance	Requirements
Level A: Essential	Level A compliance requires that basic accessibility features are implemented to ensure that web content can be accessed by most people with disabilities.
Level AA: Recommended	Level AA compliance requires that more advanced accessibility features are implemented to ensure that web content can be accessed by a wider range of people with disabilities.
Level AAA: Optimal	Level AAA compliance requires that the highest level of accessibility standards and features are implemented to ensure that web content can be accessed by the widest range of people with disabilities, including those with very specific accessibility requirements.

5.2.1.4 Principles, Related Guidelines, and Success Criteria Breakdown of the WCAG 2.2 framework

The WCAG 2.2 framework consists of 4 principles: perceivable, operable, understandable, and robust Each principle is broken down into guidelines, which provide specific sets of recommendations to enhance web accessibility. Similarly, each guideline is further broken down into numerous success criteria, which act as benchmarks for achieving different levels of web accessibility compliance.

5.2.1.4.1 Principle 1- Perceivability

Principle 1 is concerned with the perceivability of content to ensure that all beneficiaries can accurately recognize content by relying on their senses, such as sight, hearing and/or touch. This principle currently encompasses 4 guidelines and 29 success criteria.			
Guidelines	**Success criteria breakdown per compliance level**		
	A	**AA**	**AAA**
• **Guideline 1.1 Text Alternatives**: Provide text alternatives for non-text content (such as images). • **Guideline 1.2 Time-based Media**: Provide captions and audio descriptions for multimedia. • **Guideline 1.3 Adaptable**: Design content that can be presented in different formats without losing relevant information or structures (such as ensuring content is still perceivable when zoomed in or displayed on different-sized screens, in different orientations and/ or across different digital platforms and devices). • **Guideline 1.4 Distinguishable**: Ensure content is clear and easily distinguishable for all beneficiaries.	9	11	9

5.2.1.4.2 Principle 2- Operability

Principle 2 is focused on the content's functionality(s), and interactivity to ensure that all beneficiaries can seamlessly interact with content and related functionalities. This principle currently encompasses 5 guidelines and 34 success criteria.			
Guidelines	**Success criteria breakdown per compliance level**		
	A	AA	AAA
• **Guideline 2.1 Keyboard Accessible**: Ensure that all content and related functionalities are operable through a keyboard interface. • **Guideline 2.2 Enough Time**: Provide beneficiaries with enough time to read and use content. • **Guideline 2.3 Seizures and Physical Reactions**: Design content in a way that doesn't cause seizures or adverse physical reactions. • **Guideline 2.4 Navigable**: Provide beneficiaries with clear and consistent navigation mechanisms. • **Guideline 2.5 Input Modalities**: Ensure that all functionalities are available to beneficiaries through a variety of input methods (such as keyboard or voice).	14	6	14

5.2.1.4.3 Principle 3- Understandability

Principle 3 is focused on the clarity and comprehensibility of the content to ensure that all beneficiaries are able to understand content without any difficulties. This principle currently encompasses 3 guidelines and 21 success criteria.			
Guidelines	**Success criteria breakdown per compliance level**		
	A	AA	AAA
• **Guideline 3.1 Readable**: Ensure that text content is easy to read and that all essential content can be read by assistive technologies. • **Guideline 3.2 Predictable**: Ensure that digital platforms behave consistently and predictably to reduce cognitive load and make navigation easier. • **Guideline 3.3 Input Assistance**: Provide assistance to beneficiaries when inputting information (such as autofill suggestions, error prevention and correction, and clear instructions).	7	6	8

5.2.1.4.4 Principle 4- Robustness

Principle 4 is concerned with the adaptability and compatibility of content across different platforms, devices, and (assistive web) technologies to ensure that all beneficiaries are able to perceive, interact, and understand content. This principle currently encompasses 1 guideline and 2 success criteria.			
Guidelines	**Success criteria breakdown per compliance level**		
	A	AA	AAA
Guideline 4.1 Parsing: Ensure that the code used to create web content is well-formed and can be correctly interpreted by assistive technologies.	1	1	0

5.2.1.5 Implementation Techniques of the WCAG 2.2 framework

The Web Content Accessibility Guidelines (WCAG 2.2) offer technical techniques for implementing each guideline and its related success criteria by providing different scenarios, relevant implementation techniques, common failures, and code exerts.

Technical Implementation Techniques

1. Sufficient implementation techniques which provide developers with ways to meet every accessibility success criterion.
2. Advisory implementation techniques which provide developers with recommendations to enhance web accessibility beyond the sufficient implementation techniques.

Developers are free to use any technical implementation techniques that lead to the successful implementation of the WCAG 2.2 success criteria.

The WCAG 2.2 implementation techniques address every success criterion across the following coding languages:

- **ARIA Techniques**: Improve accessibility of web content for assistive technologies by using ARIA attributes.
- **Client-Side Script Techniques (e.g., JavaScript)**: Create accessible web content by adding keyboard functionalities or changing the focus order.
- **CSS Techniques**: Enhance the representation of web content by creating high-contrast modes or hiding non-essential content (web design).
- **HTML Techniques**: Structure content to make it more accessible by using headings to create logical structures or providing text alternatives for non-text content.
- **PDF Techniques**: Create accessible PDFs by using PDF authoring tools to add tags to help assistive technologies navigate documents.
- **SMIL Techniques**: Synchronize multimedia content, such as synchronizing captions, audio descriptions, and other alternative content.
- **Plain-Text Techniques**: Provide text-only versions of web content to support people who use assistive technologies to access multimedia content.

Technical Implementation Failures

The WCAG 2.2 also provides information on the general and common failures that occur during the technical implementation of every success criterion.

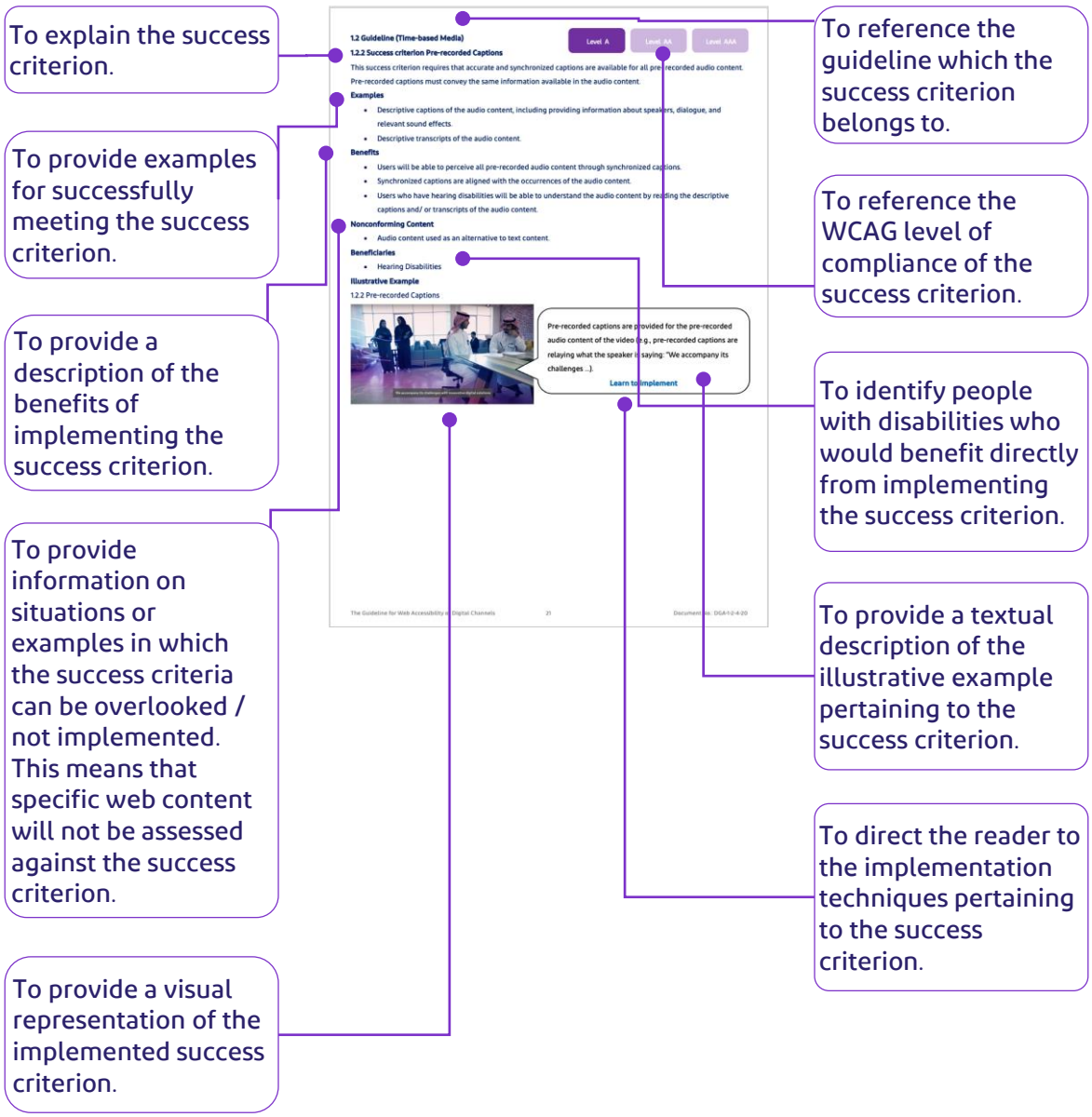
Code Snippets

Additionally, the WCAG 2.2 present code exerts for the technical implementation of every success criterion across the different implementation techniques listed above.

5.2.2 WCAG 2.2 success criteria

5.2.2.1 How to Read WCAG 2.2 Guidelines

This section of the document includes the detailed web content accessibility guidelines (WCAG 2.2). Each page encompasses a single success criterion, related examples, benefits, beneficiaries, WCAG levels of compliance, and a visual illustration.



5.2.2.2 Principle 1. Perceivability

The table below provides an overview of principle 1, its guidelines, success criteria, and levels of compliance.

5.2.2.2.1 Table of Principle 1. Perceivability

Principle 1 is concerned with the perceivability of content ensuring that all beneficiaries accurately recognize content by relying on their senses, such as sight, hearing, and/or touch.

#	Guidelines	Success Criteria	Level of Compliance
1.1	Guideline (Text Alternatives): Provide text alternatives for non-text content (such as images).	1.1.1 Non-text Content	Level A
1.2	Guideline (Time-based Media): Provide captions and audio descriptions for multimedia.	1.2.1 Audio-only and Video-only (Prerecorded) 1.2.2 Captions (Pre-recorded) 1.2.3 Audio Description or Media Alternative (Pre-recorded)	Level A
		1.2.4 Captions (Live) 1.2.5 Audio Description (Prerecorded)	Level AA
		1.2.6 Sign Language (Prerecorded) 1.2.7 Extended Audio Description (Prerecorded) 1.2.8 Media Alternative (Prerecorded) 1.2.9 Audio-only (Live)	Level AAA

1.3	Guideline (Adaptable): Design content that can be presented in different formats without losing relevant information or structure (such as ensuring content is still perceivable when zoomed in or displayed on different-sized screens, in different orientations and/or across different digital platforms and devices).	1.3.1 Info and Relationships 1.3.2 Meaningful Sequence 1.3.3 Sensory Characteristics	Level A
		1.3.4 Orientation 1.3.5 Identify Input Purpose	Level AA
		1.3.6 Identify Purpose	Level AAA
1.4	Guideline (Distinguishable): Ensure content is clear and easily distinguishable for all beneficiaries	1.4.1 Use of Color 1.4.2 Audio Control	Level A
		1.4.3 Contrast (Minimum) 1.4.4 Resize Text 1.4.5 Images of Text 1.4.10 Reflow 1.4.11 Non-Text Contrast 1.4.12 Text Spacing 1.4.13 Content on Hover or Focus	Level AA
		1.4.6 Contrast (Enhanced) 1.4.7 Low or No Background Audio 1.4.8 Visual Presentation 1.4.9 Images of Text (No Exception)	Level AAA

Level A | Level AA | Level AAA

1.1 Guideline (Text Alternatives)

1.1.1 Success criterion: Non-Text Content

This success criterion requires that text alternatives are available for all non-text content (such as images and videos). Text alternatives must convey the same information, be equivalent in content and function to the non-text content, and be perceivable to all beneficiaries.

Examples

- Text alternatives for all non-decorative visual content (such as images)
- Descriptive captions and transcripts for audio and video content
- Text labels for different data points in charts
- Clear and concise instructions for any interactive or non-text content (such as visual or audio tests, CAPTCHA, etc.)

Benefits

- All UI elements available within a web page will be perceivable through different senses.
- Beneficiaries who have vision, hearing and/or learning disabilities will be able to perceive non-text content by:
    - Hearing non-text content via screen readers.
    - Seeing/ reading non-text content on screen.
    - Receiving instructions explaining the non-text content
- Beneficiaries will be able to search for non-text content via text input.

- E.g., beneficiaries can click "ctrl + F" and type in the keyword of interest to be directed to the related element.

Nonconforming Content

- CAPTCHAs.
- Time-based media (refer to guideline 12 for detailed information on designing accessible time-based media content).
- Controls, Inputs (refer to guideline 4, success criteria 4.1.2 for detailed information on designing accessible controls, inputs).
- Tests/ Exercises.
- Sensory content.
- Decorative content.

Beneficiaries

- Vision Disabilities
- Hearing Disabilities
- Learning Disabilities

Illustrative Example

1.1.1 Non-Text Content

A text alternative is provided to explain the visual web content (e.g., a text alternative describes the contents of the images: "Traffic on a highway ...")

Learn to implement

Level A | Level AA | Level AAA

1.2 Guideline (Time-based Media)

1.2.1 Success criterion: Pre-recorded Audio-only and video-only

This success criterion requires that media alternatives are available for all pre-recorded audio-only and video-only content. Media alternatives must be synchronized with and convey the same information available in the pre-recorded audio-only and video-only content.

Examples

- Text alternatives of the audio-only content.
- Text descriptions of the video-only content.
- Audio tracks describing the video-only content.
- Visual illustrations (i.e., videos, animations, images, etc.) of audio-only content

Benefits

- Beneficiaries will be able to perceive pre-recorded audio and/or video content via text descriptions/ transcripts.
- Beneficiaries will be able to perceive text content via audio tracks and/or illustrative content, such as videos, animations, images, etc.
- Assistive technologies will be able to perceive non-text content, which encompasses text alternatives, and relay the information back to beneficiaries. E.g., screen readers can read the transcript of a video out loud.

Nonconforming Content

- Video and audio content are used as an alternative to text content.

Beneficiaries

- Vision Disabilities
- Hearing Disabilities
- Learning Disabilities

Illustrative Example

1.2.1 Pre-recorded Audio-only and video-only

A text description of the pre-recorded video is provided (e.g., a synchronized transcript of the video-only content is provided: "Also people with age-related disabilities...").

Learn to implement

Level A | Level AA | Level AAA

1.2.2 Success criterion: Pre-recorded Captions

This success criterion requires that accurate and synchronized captions are available for all pre- recorded audio content. Pre-recorded captions must convey the same information available in the audio content.

Examples

- Descriptive captions of the audio content, including providing information about speakers, dialogue, and relevant sound effects.
- Descriptive transcripts of the audio content.

Benefits

- Beneficiaries will be able to perceive all pre-recorded audio content through synchronized captions.
- Synchronized captions are aligned with the occurrences of the audio content.
- Beneficiaries who have hearing disabilities will be able to understand the audio content by reading the descriptive captions and/or transcripts of the audio content.

Nonconforming Content

Audio content is used as an alternative to text content.

Beneficiaries

Hearing Disabilities

Illustrative Example

1.2.2 Pre-recorded Captions

Pre-recorded captions are provided for the pre-recorded audio content of the video (e.g., pre-recorded captions rely what the speaker is saying: "We accompany its challenges ...).
Learn to implement

Level A | Level AA | Level AAA

1.2.3 Success criterion: Pre-recorded Audio Description or

This success criterion requires that audio descriptions or media alternatives are available for all pre- recorded video content. Pre-recorded audio descriptions or media alternatives must accurately describe the video content.

Examples

- Audio tracks describing the video content when the video content is not available.
- Text descriptions of the video content (e.g., scripts which can be read by screen readers).
- Synchronized audio and text descriptions of the video content, including contextual descriptions of both visual and audio content.

Benefits

- Beneficiaries will be able to perceive all pre-recorded video content through an alternative synchronized media such as:
  - Detailed text transcripts of the video.
  - Detailed audio explanations of all the occurrences of the video content, including descriptions in multiple languages.
- Beneficiaries who have vision disabilities and/ or difficulties following non-static visuals will be able to perceive video content by
  - Hearing audio descriptions
  - Hearing text transcripts read out loud by screen readers.
- Beneficiaries who have hearing disabilities will also be able to perceive video content through text descriptions of the video content.

Nonconforming Content

- Audio descriptions used as an alternative to text content.
- Media content (e.g., videos, images, etc.) used as an alternative to text content.

Beneficiaries

- Vision Disabilities
- Hearing Disabilities

Illustrative Example

1.2.3 Pre-recorded Audio Description or Media Alternative

A pre-recorded audio descriptions is provided between pauses in the main dialogue of the video content (e.g., when the main characters aren't having a conversation, an audio description of the occurrences of the video content is provided).
Learn to implement

Level A | **Level AA** | Level AAA

1.2.4 Success criterion: Live Captions

This success criterion requires that live captions are available for all live audio content Live captions must be accurate, easy to read, and synchronized to the audio content.

Examples

Synchronized live captions of the audio content, which clearly describe the audio content, including information about speakers, dialogue, and relevant sound effects, without obscuring media content (e g webcasts).

Benefits

- Beneficiaries will be able to perceive real-time audio content through live captions.
- Beneficiaries who have hearing disabilities will be able to engage with live presentations (e.g. digital conferences or live lectures) by reading live captions.

Nonconforming Content

N/A

Beneficiaries

Hearing Disabilities

Illustrative Example

1.2.4 Live Captions

Captions are provided in real-time (e.g., captions are generated synchronously with speakers, where beneficiary is able to view that “Umar Patel is speaking and saying: “Excellent…”).

Learn to implement

Level A | **Level AA** | Level AAA

1.2.5 Success criterion: Pre-recorded Audio Description

This success criterion requires that audio descriptions are available for all pre-recorded video content. Pre-recorded audio descriptions must convey necessary information and be synchronized with the audio and visual elements of the video content.

Examples

Synchronized audio descriptions of the pre-recorded video content, which describe the most important information portrayed in the pre-recorded video content.

- E.g., the narrator verbally describes the occurrences of a video when conversations are not occurring, such as when an action scene that doesn't include a conversation between characters is unfolding)

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to perceive pre-recorded video content through detailed audio descriptions.

- Detailed audio descriptions are synchronized with the occurrences and visuals presented in the video.

Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

1.2.5 Pre-recorded Audio Description

Narration sample:
A journalist holding a green and white microphone In front of a camera.
00:40
("Good morning to all our viewers...")

A pre-recorded audio description is provided between pauses in the main dialogue of the video content (e.g., when there is no dialogue, an audio description of the occurrences of the video content is provided, where the beneficiary is able to hear the audio description relay the events of the video: "A Journalist holding a green and white microphone Infront of a camera...").

Learn to implement

Level A | Level AA | **Level AAA**

1.2.6 Success criterion: Pre-recorded Sign Language

This success criterion requires that sign language interpretation be available for all pre-recorded audio content in videos. Pre-recorded sign language must be displayed simultaneously with the audio content.

Examples

Synchronized sign language interpretation of pre-recorded audio content in videos without obscuring the visual information in videos.

- E.g., adding a pre-recorded sign language interpretation video to a live online lecture.

Benefits

Beneficiaries who have hearing disabilities and whose main language is sign language will be able to perceive pre-recorded audio content in videos and live presentations by

- Understanding the pre-recorded sign language interpretation of the audio content

Nonconforming Content

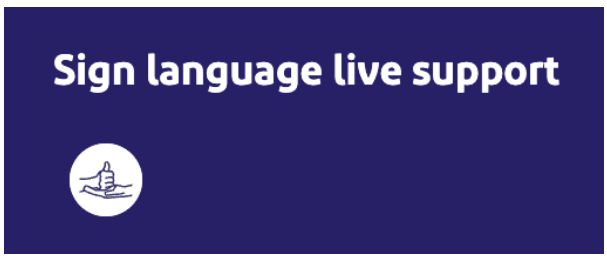
N/A

Beneficiaries

Hearing Disabilities

Illustrative Example

1.2.6 Pre-recorded Sign Language



A pre-recorded sign language interpretation video is available for audio content.
Learn to implement

Level A | Level AA | Level AAA

1.2.7 Success criterion: Pre-recorded Extended Audio Description

This success criterion requires that extended audio descriptions of pre-recorded video content are available. Pre-recorded extended audio descriptions must convey all the relevant information of the visual content that is not presented in the primary audio track or the initial audio description.

Examples

Synchronized pre-recorded extended audio descriptions of all the information portrayed within the pre-recorded video content.

- Speaker gestures,
- Tone
- Sound effect
- Setting of the scenes
- Etc.

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to perceive pre-recorded video content by listening to extended audio descriptions.

Nonconforming Content

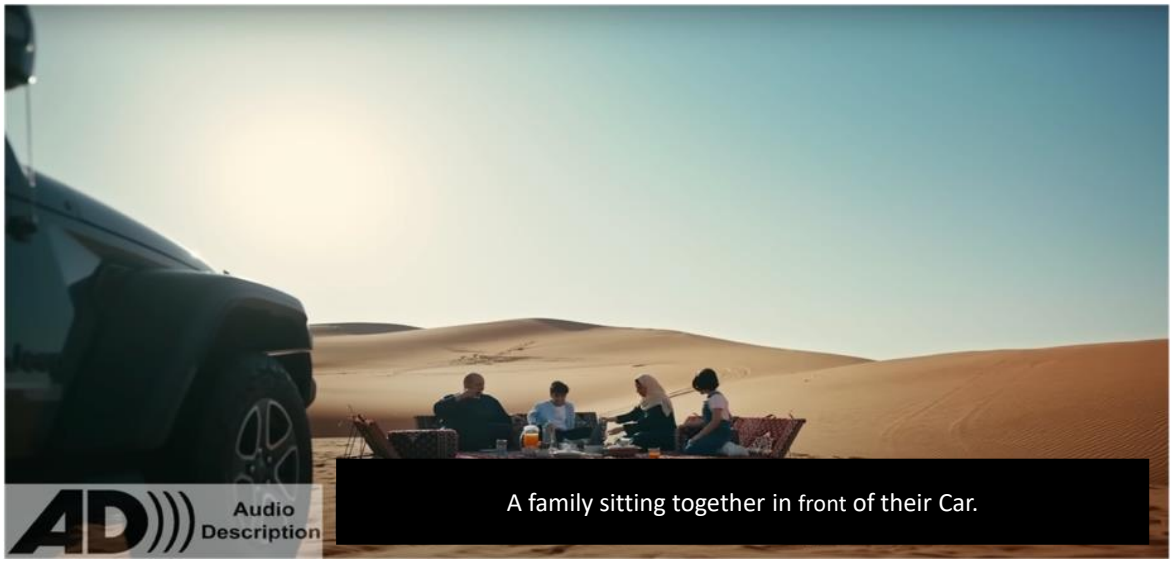
N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

1.2.7 Pre-recorded Extended Audio Description



Video content with pre-recorded extended audio descriptions is automatically paused to play the extended audio description (e.g., visually impaired beneficiaries are able to perceive the video content, as the video is automatically paused after every scene to audibly describe the entirety of the scene: “A family sitting together in front of their car….”).

Learn to implement

Level A | Level AA | Level AAA

1.2.8 Success criterion: Pre-recorded Media Alternative

This success criterion requires that a media alternative be available for any pre-recorded audio-only or video-only content. Pre-recorded media alternatives must convey all/ detailed information presented in the audio-only or video-only content.

Examples

- Audio tracks describe all the available information and visual cues in video content.

- E.g., gestures, expressions, non-speech sounds, etc.

- Text descriptions of the video content, which describe every visual cue displayed in the same sequence as shown in the video-only content.
- Synchronized audio and text descriptions of the video content, which play in real-time, including contextual descriptions of both visual and audio content.

Benefits

- Beneficiaries will be able to perceive all pre-recorded video-only and/or audio-only content through an alternative synchronized media such as
  - Detailed text transcripts
  - Detailed audio explanations of all the visual elements in the video-only content, including providing descriptions and/or narrations in multiple languages.
- Beneficiaries who have vision and/or hearing disabilities will be able to understand pre-recorded audio-only and/or video only content through the availability of media alternatives.

Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Hearing Disabilities

Illustrative Example
1.2.8 Pre-recorded Media Alternative

VIDEO

PSA: Ransomware

Public service announcement warning of the dangers of ransomware and how to avoid them.

Video Transcript

Man: Ms. Stevens, I just wiped malware off our system. People have gotta stop clicking unsolicited e-mail links and downloading free software unless it's from a trusted source.

Ms. Stevens: Sounds great.

Man: We need a data back-up plan in a separate location in case we get hacked.

Ms. Stevens: We need to focus on making profits, not spending them.

Voiceover: Learn to protect yourself from ransomware. If you become a victim, contact your local FBI office.

A text transcript of the video-only content is provided as a pre-recorded media alternative.
Learn to implement

Level A | Level AA | **Level AAA**

1.2.9 Success criterion: Live Audio-only

This success criterion requires that live captions or transcripts are available for live audio-only content. Live captions or transcripts must be synchronized with the live audio-only content.

Examples

- Synchronized live captions describing the live audio-only content.
- Synchronized live text transcripts describing the live audio-only content.

Benefits

Beneficiaries who have hearing disabilities will be able to perceive and engage with the live audio only content through reading live captions and/or live transcripts.

Nonconforming Content

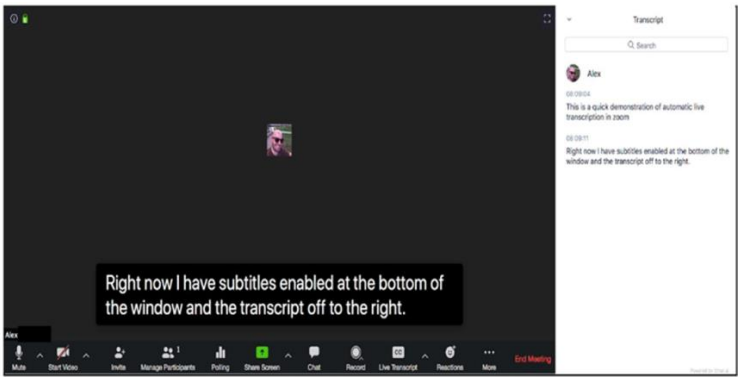
N/A

Beneficiaries

Hearing Disabilities

Illustrative Example

1.2.9 Live Audio-only



Text transcripts for the live audio-only content are provided in real-time (e.g., live transcripts are provided for an online meeting).
Learn to implement

Level A | Level AA | Level AAA

1.3 Guideline (Adaptable)

1.3.1 Success criterion: Info and Relationships

This success criterion requires that web content is structured using headings, lists, and other content structuring techniques. Structured web content must clearly communicate the relationship between different parts of the content and be perceivable by all beneficiaries.

Examples

- Structuring web content and demonstrating relationships between different information through:

- Visual cues.
- E.g., using the color red to draw beneficiaries' attention to important sections.

- Text alternatives of visual cues
- Auditory cues

- E.g., using the sound "ping" to draw beneficiaries' attention to a specific section.

- Programmatically determining the web structure, information, and relationships.

- E.g., programming visual cues, which are used to structure web content and demonstrate relationships between different information.

Benefits

Beneficiaries who have vision and/or hearing disabilities will be able to better perceive web content by understanding the structure of information and the relationships between the different UI elements and web content

Nonconforming Content

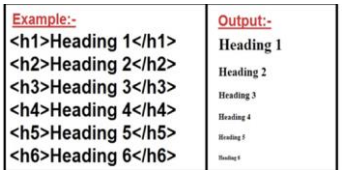
N/A

Beneficiaries

- Vision Disabilities
- Hearing Disabilities

Illustrative Example

1.3.1 Info and Relationships



Headings are used to provide a specific and easily identifiable structure of information.
Learn to implement

Level A | Level AA | Level AAA

1.3.2 Success criterion: Meaningful Sequence

This success criterion requires that web content follow a logical and meaningful sequence. The Web content's sequence must be easily understood by all beneficiaries and assistive technologies (such as screen readers).

Examples

- Determining the sequence of content programmatically

- E.g., HTML markup ensures that main content appears before sidebar content, allowing assistive technologies to read content in the intended order.

- Providing a linear order for content, in which a change in sequence impacts the intended meaning.

- E.g., changing the order of videos in an instructional video series, where each video's concepts build upon the other, will disrupt the intended learning progression and the understanding of the content.

- Designing the navigation mechanism in a way that does not impact the sequence and meaning of content.

- E.g., in a menu bar on a website, navigation options are organized in a logical order that doesn't impact contextual flow or content meaning.

Benefits

Beneficiaries who have vision disabilities and/or who rely on assistive technology will be able to perceive web content more easily when a meaningful sequence of web content is implemented.

Nonconforming Content

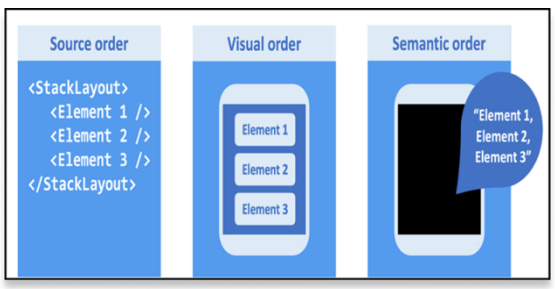
N/A

Beneficiaries

Vision Disabilities

Illustrative Example

1.3.2 Meaningful Sequence



A meaningful sequence for web content is determined both programmatically and visually.
Learn to implement

Level A | Level AA | Level AAA

1.3.3 Success criterion: Sensory Characteristics

This success criterion requires that alternative media is available for web content, which relies on sensory characteristics for interpretation. Sensory characteristics must not be used alone to convey information.

Examples

- Providing descriptive labels for content that is perceived via sensory characteristics.

- E.g., adding a text label to a shape so that the shape is perceivable via a screen reader, providing text-based alternatives for audio content.

- Providing visual alternatives for text-based content

- E.g., using infographics or charts to represent complex textual information.

Benefits

Beneficiaries who have vision and/or learning disabilities will be able to perceive and interact with web content by interpreting it via different senses.E.g., using a screen reader to listen to the written contents of a survey instead of reading it (in this instance, the beneficiary uses their sense of hearing instead of sight)

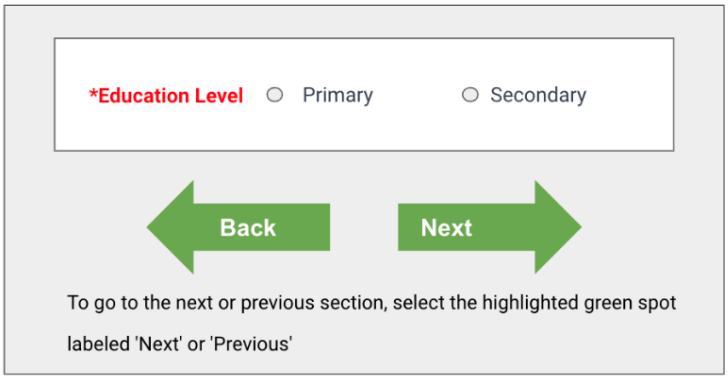
Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example
1.3.3 Sensory Characteristics



A descriptive label is added to a UI element, which essentially only relies on sensory characteristics to communicate information (e.g., adding a text label to the arrow in green, which is intended to communicate “Next” via visual sense, specifically via color perception, makes the shape more perceivable, as a beneficiary with a vision disability will also be able to interpret the UI element through hearing the label out loud via a screen reader).

Learn to implement

Level A | Level AA | Level AAA

1.3.4 Success criterion: Orientation

This success criterion requires that the orientation of content be flexible. Orientation of content must be adjustable to meet beneficiaries' preferences.

Examples

Displaying web content in portrait and/or landscape orientation based on the beneficiary's preference.

Benefits

- Beneficiaries will be able to display web content in their preferred orientation (i e, portrait or landscape).
- Beneficiaries will be able to perceive content across different screen sizes and devices.
- Beneficiaries with vision and/or mobility disabilities will be able to better perceive web content by adjusting how content is displayed to match their preferences.

Nonconforming Content

Content for which orientation is display affects its perceivability, such that adjusting the orientation will obscure accurate interpretation of the content.

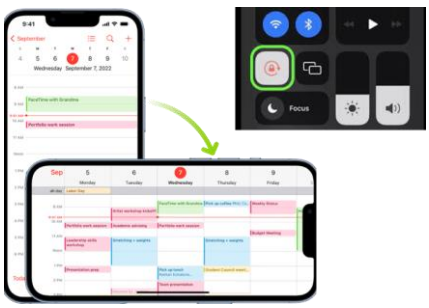
- E.g., bank cheques must be displayed in a specific orientation.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example

1.3.4 Orientation



Content orientation is adjustable and adaptable as per the beneficiary's chosen orientation display (e.g., the beneficiary disables the orientation display lock on their device so that content orientation automatically adjusts to the device's position).
Learn to implement

Level A | **Level AA** | Level AAA

1.3.5 Success criterion: Identify Input Purpose

This success criterion requires that input fields or functions have clear and concise descriptions.

Examples

Programmatically determining the function of input fields

- E.g., programmatically determining the type of inputs for fields that ask beneficiaries to input their personal information like name, email, etc.

Benefits

- Beneficiaries will be able to fill out forms more easily through options like autofill / autocomplete.
- Programmatically determined input field functions will enable beneficiaries to better perceive.
  - Intended purpose of input fields
  - Type of data to be entered for the input fields.

Nonconforming Content

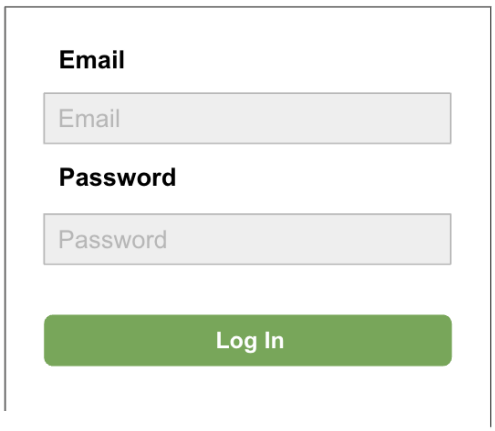
N/A

Beneficiaries

- Cognitive Disabilities
- Mobility Disabilities

Illustrative Example

1.3.5 Identify Input Purpose




```
<label for="Email">Email:</label>
<input type="Email" id="Email" name="Email">
<label for="Password">Password:</label>
<input type="Password" id="Password" name="Password">
```

The purpose of each input field is determined programmatically (e.g., input field for "Email" is coded to specify the input type as "Email").
Learn to implement

Level A | Level AA | **Level AAA**

1.3.6 Success criterion: Identify Purpose

This success criterion requires that web content have clear and concise titles, headings, and labels which accurately describe the purpose of the different UI components.

Examples

- Programmatically determining the purpose of the different UI components.

- E.g., buttons, links, and fields.

- Text labels describing the UI components and their intended purpose.

- E.g., adding a text label saying "Add to cart" next to an icon of a shopping cart.

Benefits

- Beneficiaries who have cognitive disabilities will be able to perceive the purpose of the different UI components when clear text labels are provided and the purpose is programmatically determined.
- Assistive technologies will be able to perceive Interoperable symbols.
  - E.g., screen readers can read out loud the label associated with an icon and/or describe an interoperable symbol.
  - E.g., screen readers can understand and inform beneficiaries that WIFI is available by identifying the interoperable WIFI symbol.

Nonconforming Content

N/A

Beneficiaries

Cognitive Disabilities

Illustrative Example

1.3.6 Identify Purpose


```
<button type="submit" aria-label="Search" title="Search" class="btn oe_search_button
btn-primary"><i class="fa fa-search"></i></button>
```

The purpose of each UI element is determined programmatically, and text labels are also provided for the UI elements (e.g., the search icon has the text label “search” and is programmatically determined to redirect the beneficiary to the search results page).

Learn to implement

Level A | Level AA | Level AAA

1.4 Guideline (Distinguishable)

1.4.1 Success criterion: Use of Color

This success criterion requires that alternative mechanisms to color-coding are available for conveying information. Web content must not solely rely on color to convey information or meaning.

Examples

- Providing text labels as alternatives for color-coded web content

- E.g., a text label is provided to explain that a red-colored input field is mandatory in a form.

- Inverting foreground and background colors makes it easier to distinguish between the differently colored UI elements.
- Applying a color contrast ratio of 3:1 allows beneficiaries to differentiate between the colored UI elements.

Benefits

- Beneficiaries who have vision disabilities, including color blindness, will be able to perceive web content through alternative mechanisms and/or enhanced color-coding.
    - E.g., text labels, which are read aloud via screen readers.
    - E.g., inverted color modes
    - E.g., higher color contrast
- Elderly people who have difficulty interpreting different colors will be able to perceive web content through reading and/or hearing text labels, applying inverted color modes and/or increasing color contrast.

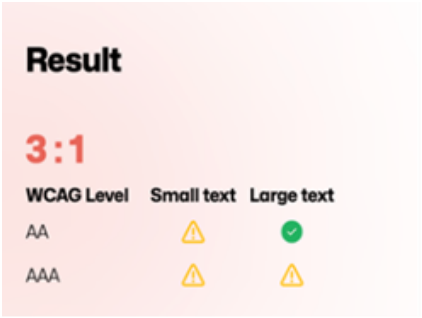
Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Elderly

Illustrative Example
1.4.1 Use of Color



Text labels and a high color contrast ratio are used to clearly distinguish between content, instead of solely relying on color to convey information (e.g., text heading, body and background colors contrast each other and are clearly distinguishable with a contrast ratio of 3:1. Additionally, text labels are provided for input fields, distinguishing input fields from other web content and UI elements).

Learn to implement

Level A | Level AA | Level AAA

1.4.2 Success criterion: Audio Control

This success criterion requires that audio control is available for web content, which includes audio that plays for more than 3 seconds. Audio content volume and play/ pause options must be adjustable.

Examples

- Providing an independent mechanism for controlling the volume of audio content, which plays for more than 3 seconds.
  - E.g., lowering the volume of the audio content on a web page without lowering the overall volume of the device.
- Providing an independent mechanism for playing and/or pausing audio content which plays for more than 3 seconds.
  - E.g., pause/ play button, which allows beneficiaries to independently control audio content on web pages.

Benefits

- Beneficiaries who have vision disabilities will be able to interpret web content through their screen readers without obstruction caused by uncontrollable audio content.
- Beneficiaries who have difficulties concentrating on different sensory cues will be able to better perceive visual web content by pausing/ playing audio content as per their preference.

Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example

1.4.2 Audio Control

A separate control mechanism for audio content is provided, enabling beneficiaries to pause/play audio content as per their preference.

Learn to implement

Level A | **Level AA** | Level AAA

1.4.3 Success criterion: Minimum Contrast

This success criterion requires that the visual presentation of text and images of text have a minimum contrast ratio with the background. Minimum contrast ratio must be 4.5:1 to ensure that web content is readable.

Examples

- Text content on digital platforms, including placeholder text and text shown with hover-over, should have a ratio equal to or greater than 4:5:1.
- Images of text where the image contains text intended to be read should have a ratio equal to or greater than 4:5:1.

Benefits

- Beneficiaries who have vision disabilities will be able to better perceive web content, which has a higher color contrast between foreground and background UI elements.

Nonconforming Content

- Large-scale text and images of large-scale text should have a contrast ratio of 3:1
- Decorative content.
- Text, or images of text, which are part of inactive UI elements.
- Text which is part of a picture that includes other visual components.
- Text which is part of a logo or brand name.

Beneficiaries

- Vision Disabilities
- Elderly

Illustrative Example

1.4.3 Minimum Contrast

Higher color contrast provides better perceivability.
Learn to implement

Level A | **Level AA** | Level AAA

1.4.4 Success criterion: Resize Text

This success criterion requires that text size be adjustable without losing functionality or content. Beneficiaries must be able to resize text up to 200%, without assistive technologies, and the resized text must be readable.

Examples

- Zooming into text content on digital platforms via on-screen zoom icons, a keyboard interface and/or a mouse/ trackpad
  - E.g., magnifying glass icon, (+) / (-) keyboard keys, scroll wheel on mouse, double tap and/or two-finger zoom on the trackpad.

Benefits

Beneficiaries who have vision disabilities will be able to better perceive web content by enlarging the size of the text.

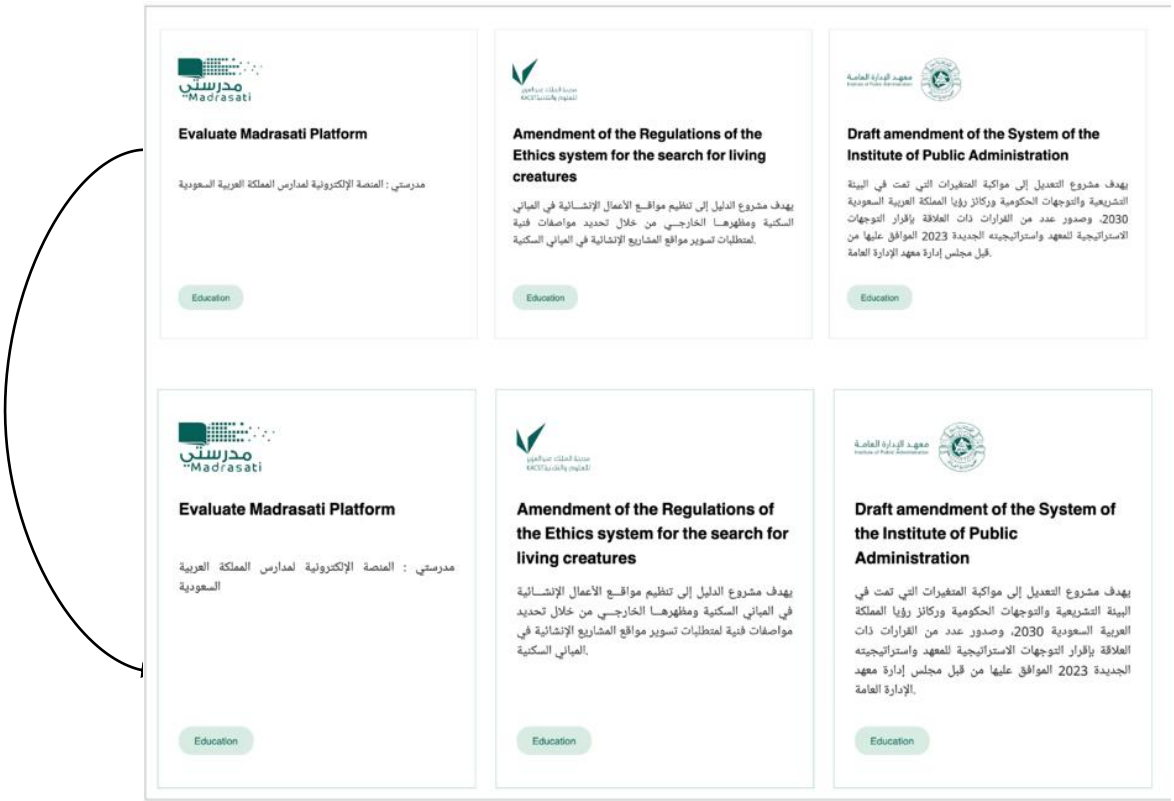
Nonconforming Content

- Captions
- Images of text

Beneficiaries

Vision Disabilities

Illustrative Example
1.4.4 Resize Text



Ability to resize text through on-screen zoom icons (e.g., beneficiary clicks on the icon to enlarge text up to 200%).
Learn to implement

Level A | Level AA | Level AAA

1.4.5 Success criterion: Images of text

This success criterion requires that images of text only be used if they are essential to convey meaning.

Examples

- Text (i.e., using text instead of images of text)
  - E.g., displaying quotes using text and parentheses instead of images containing the quotes.
- Text and icons (i.e., combine text content with icons instead of images of text)
- Programmatically designing text (i.e., using CSS to style headers instead of using images with the header text)
- Programmatically determined UI elements (i.e., using HTML buttons with text directly embedded in them instead of images for buttons with text labels)

Benefits

- Beneficiaries who have vision and/or cognitive disabilities will be able to:
  - Better interpret web content that is presented as text rather than images of text, as they will be able to easily interact with and/or customize the display of the content to meet their preference.
  - E.g., zooming into text is less likely to obstruct beneficiary's ability to read the content, whereas zooming into an image of text will lead to pixelation and, thus, is more likely to render the text unreadable.

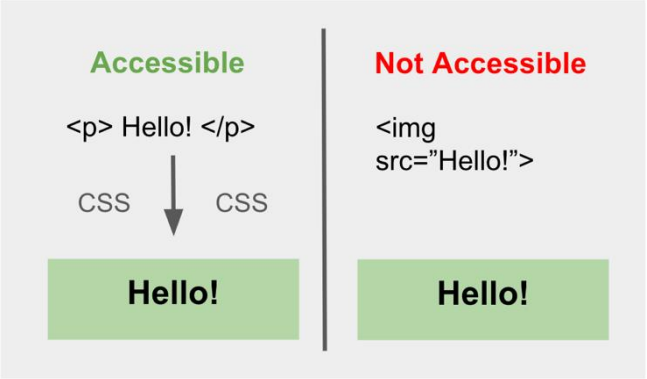
Nonconforming Content

- Images of text, which are visually customizable to fit the beneficiaries' requirements.
- Images of text, which are essential to convey the meaning of the content (e.g., text in logos and branding).

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example
1.4.5 Images of text



Text is used to convey the same meaning presented via images of text (e.g., instead of using an image of the text: "Hello ...", the text itself is programmatically designed using CSS to display the same look and feel of the image of the text).
Learn to implement

Level A | Level AA | **Level AAA**

1.4.6 Success Criterion: Enhanced Contrast

This success criterion requires that the visual presentation of text and images of text have a higher contrast ratio with the background. Enhanced contrast ratio must be 71 to ensure that web content is readable.

Examples

- Text content on digital platforms, including placeholder text and text shown with hover-over, should have a contrast ratio of 7:1.
- Images of text where the image contains text intended to be read, should have a contrast ratio of 7:1.

Benefits

Beneficiaries who have vision disabilities, especially people with contrast sensitivity, will be able to better perceive web content, which has a contrast ratio of 7:1 for text and images of text.

Nonconforming Content

- Large scale text and images of large-scale text should have a contrast ratio of 4:5:1 Decorative content and/or invisible content.
- Text or images of text, which are part of inactive UI elements.
- Text which is part of a picture that includes other visual components.
- Text which is part of a logo or brand name.

Beneficiaries

Vision Disabilities

Illustrative Example

1.4.6 Enhanced Contrast

A color contrast ratio of 7:1 is provided for text and images of text.
Learn to implement

Level A | Level AA | Level AAA

1.4.7 Success Criterion: Low or No Background Audio

This success criterion requires that background pre-recorded audio content be low or turned off. Background pre-recorded audio content must be adjustable to avoid interference with the foreground audio.

Examples

- Providing an independent mechanism for controlling background audio content
  - E.g., turning off/ lowering the volume of the audio content on a web page without lowering the overall volume of the device.
- Background pre-recorded audio content should be quieter than foreground audio content (i e, background audio content is at least 20 decibels lower than foreground speech content)
  - E.g., if background music is playing while a person is giving a speech, the background music volume should be lower than the speaker's volume.
  - E.g., if background music is playing while a person is giving a speech, a mechanism for turning off/ lowering the background music should be provided.

Benefits

- Beneficiaries who have hearing disabilities will be able to separate the primary foreground audio from the background audio content by having the ability to control background audio content.
  - E.g., the beneficiary who is hard of hearing will be able to hear a speech over background noise.

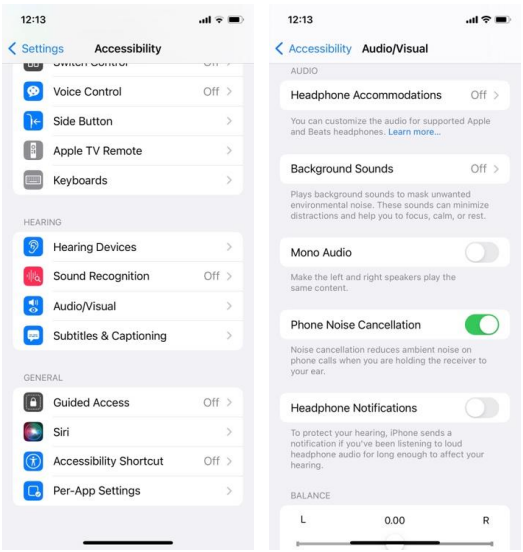
Nonconforming Content

- Audio CAPTCHAs.
- Audio logos.
- Music/ Singing

Beneficiaries

Hearing Disabilities

Illustrative Example
1.4.7 Low or No Background Audio



A mechanism is available to lower the volume of and / or turn off background audio (e.g., beneficiary is able to control background audio volume from the device through lowering the volume and / or increasing noise suppression).
Learn to implement

Level A | Level AA | **Level AAA**

1.4.8 Success Criterion: Visual Presentation

This success criterion requires that blocks of text have adequate spacing, alignment, and indentation to ensure improved readability.

Examples

- Color contrast between foreground and background (i.e., high color contrast between text and background)
- Width for blocks of text should be equal to or less than 80 characters (and equal to or less than 40 if CJK)
- Line spacing should be equal to or greater than 1.5 within paragraphs.
- Paragraph spacing should be equal to or greater than 1.5x the line spacing.
- Text should not be fully justified.
- Adjustable text size, which can be resized up to 200% without requiring horizontal scrolling when reading lines of text.
- Text wrapping of words shouldn't be longer than half the width of the full screen to avoid the need for horizontal scrolling when reading lines of text.

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to better perceive web content due to improved readability based on enhanced text spacing, alignment, and contrast.

Nonconforming Content

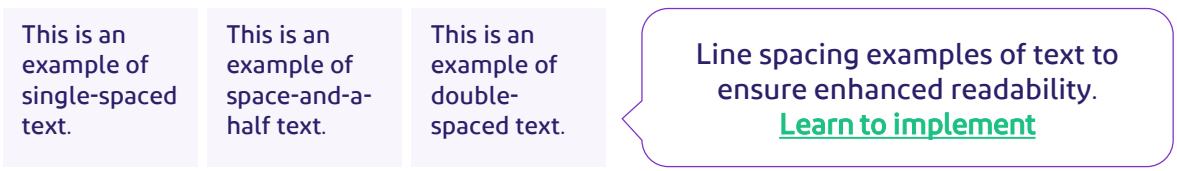
N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

1.4.8 Visual Presentation



Level A | Level AA | **Level AAA**

1.4.9 Success Criterion: Images of Text (No Exception)

This success criterion requires that images of text are not used except in a few exceptional cases (such as logos or where the images convey essential information).

Examples

- Live text (i.e., programmatically including text content instead of images of text)
  - E.g., displaying quotes using text in HTML instead of images containing the quotes.
- Programmatically designing text (i.e., using CSS to style text and add special effects instead of using images with text)
- Scalable vector graphics (SVG) for graphical text to ensure that text will be rendered crisply at any size.

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to better interpret web content which is presented as text rather than images of text, as they will be able to customize the display of the content to meet their preference.

- E.g., zooming into an SVG with text is less likely to obstruct beneficiaries' ability to read the content, whereas zooming into an image of text will lead to pixelation and, thus, is more likely to render the text unreadable)

Nonconforming Content

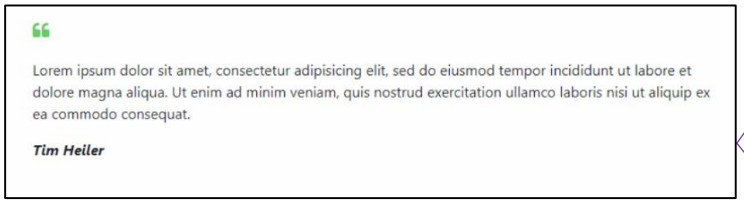
- Images of text for purely decorative purposes.
- Images of text that are essential to convey information (e g, logos or charts)

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

1.4.9 Images of Text (No Exception)



Live text is provided instead of an image of the text (e.g., quote is programmatically integrated as text in HTML).
Learn to implement

Level A | Level AA | Level AAA

1.4.10 Success Criterion: Reflow

This success criterion requires that web content is able to reflow and adapt to different screen sizes and orientations without losing functionality or content. Reflow for vertical scrolling must adhere to a width of 320 CSS pixels, whereas reflow for horizontal scrolling must adhere to a height of 256 CSS pixels.

Examples

- Content should be presented in a single column when enlarged to exceed 200%.
- Content visibility should be adjusted at different scales (i.e., when web content is enlarged, less important UI elements are hidden)
- Content should be adaptable to different screen sizes, platforms, and orientation displays.
  - E.g., content size adapts to fit mobile screen sizes and/or adjusts to portrait/ landscape orientation.

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to better perceive web content by adjusting text content to match their preferences.

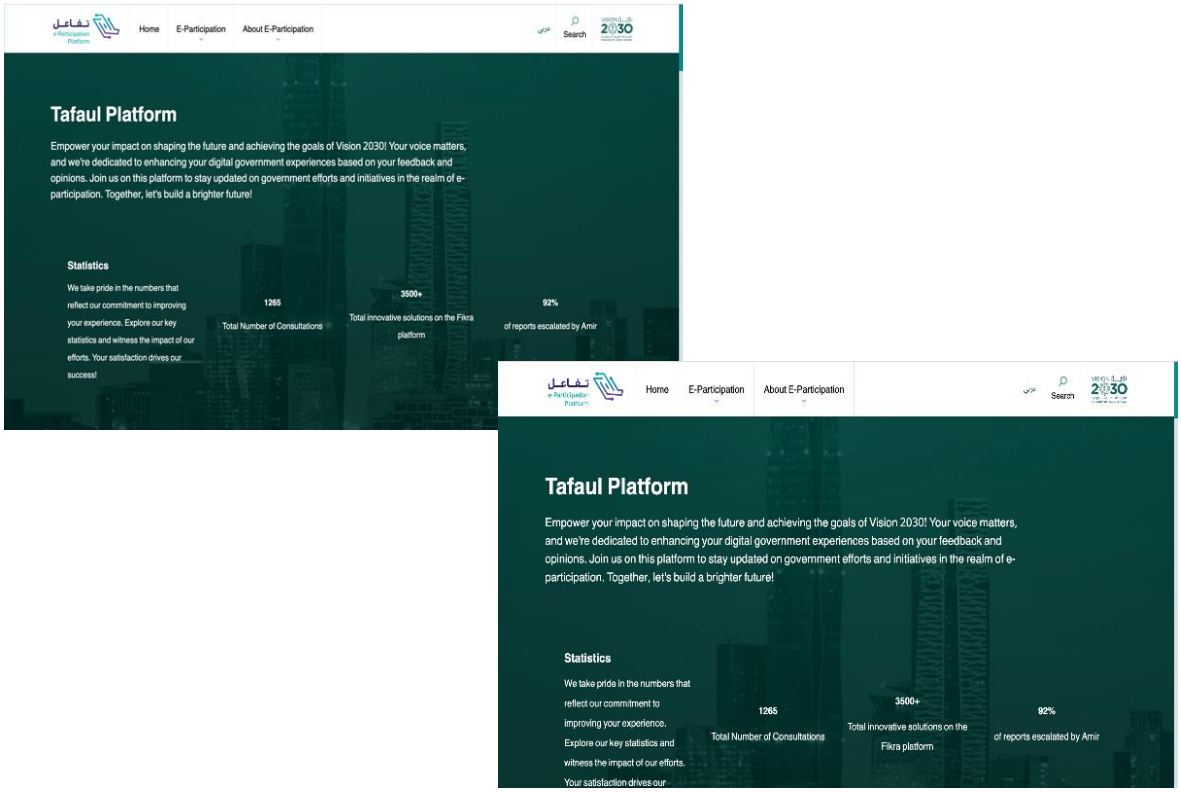
Nonconforming Content

- Content requiring 2D layouts (e g, maps, videos, graphics, or complex data tables).
- UI elements that permit content to be edited (e.g., toolbars).

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example
1.4.10 Reflow



Reflow of zoomed-in content maintains a logical structure of web content without loss of functionality and/or obstruction of important information and UI elements (e.g., when zoomed in to 200%, the web page adapts and displays the most essential UI elements such as the main menu and search functionality and hides others).

Learn to implement

Level A | **Level AA** | Level AAA

1.4.11 Success criterion: Non-text Contrast

This success criterion requires that UI elements have a sufficient contrast ratio with the background. Non-text and UI elements (such as icons, buttons, and graphs) must have a contrast ratio of at least 3:1.

Examples

- Contrast of active UI elements with adjacent colors should follow a ratio equal to or greater than 3:1.
  - E.g., a button indicating on/ off, hyperlinks, user input fields, etc.
- Contrast of UI elements, which encompass text with boundaries, should follow a ratio equal to or greater than 4:5:1.
- Color adjustment (luminance) of UI elements and graphical objects should achieve a contrast ratio equal to or greater than 3:1.
- UI elements in focus should have a contrast ratio equal to or greater than 3:1.
- Contrast ratio should be evaluated based on the color of the foreground element and the color of the underlying background.

Benefits

Beneficiaries who have vision disabilities will be able to better perceive web content through higher color contrast, which makes UI elements easily distinguishable.

Nonconforming Content

- Inactive UI elements
- Graphical objectives, which are essential to convey information (e g, heat maps)
- UI elements in which the appearance is determined by a user agent.

Beneficiaries

Vision Disabilities

Illustrative Example

1.4.11 Non-text Contrast

Color contrast of 3:1 is used to clearly distinguish between UI elements and the background (e.g., name field is clearly distinguishable from the blue background).
Learn to implement

Level A | **Level AA** | Level AAA

1.4.12 Success criterion: Text Spacing

This success criterion requires that text have sufficient spacing between characters and lines to improve readability.

Examples

- Text should fit within the boundaries of its dedicated section without being cut off and/or overlapping with other sections.
- In text style properties, line spacing should be equal to or greater than 1.5x the font size.
- In text style properties, paragraph spacing should be at least 2x the font size.
- In text style properties, letter-spacing (tracking) should be equal to or greater than 0.12 times the font size.
- In text style properties, word spacing should be greater than or equal to 016 times the font size.

Benefits

Beneficiaries who have vision disabilities and/or who suffer from dyslexia will be able to better perceive web content by adjusting text displays to match their preferences.
E.g., beneficiaries can change the font type to a style they prefer.

Nonconforming Content

Human language and scripts don't adhere to the text style properties.

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example

1.4.12 Text Spacing

```
/* Wide spacing * /
.wide-spacing {
Line-height: 1.5em; /* 1.5 times the font size * /
Margin-bottom: 2em; /* 2 times the font size */
Letter-spacing: 0.12em; /* 0.12 times the font size */
Word-spacing: 0.16em; /* 0.16 times the font size */
}
```

Sufficient text spacing ensures enhanced readability (e.g., letter spacing is programmatically determined to be equal to 0.12x font size).
learn to implement

Level A | Level AA | Level AAA

1.4.13 Success criterion: Content on Hover or Focus

This success criterion requires that content that appears on hover or focus is dismissible, hoverable, and persistent. Content on hover must not obscure the visibility of other content.

Examples

- Content on hover or focus should be dismissible without moving the pointer hover or keyboard focus.
  - E.g., pressing the "esc" key on the keyboard to close a pop-up.
- Content on hover should remain visible as long as the mouse pointer is on the related content and/or UI element.
  - E.g., hovering over a hyperlink provides a description of the content, which can be found upon clicking the hyperlink.
- Content on hover or focus should remain visible until the beneficiary dismisses it.
  - E.g., the beneficiary clicks escape to close the pop-up.
- Content on hover or focus should remain visible until it becomes invalid.
  - E.g., the email input field displays the message "Enter email address" when in focus or hover, but the message disappears when the beneficiary enters their email address in the input field.

Benefits

- Beneficiaries who have vision and/or mobility disabilities will be able to better perceive web content by interacting with content on hover or focus without moving the pointer or keyboard focus.

Nonconforming Content

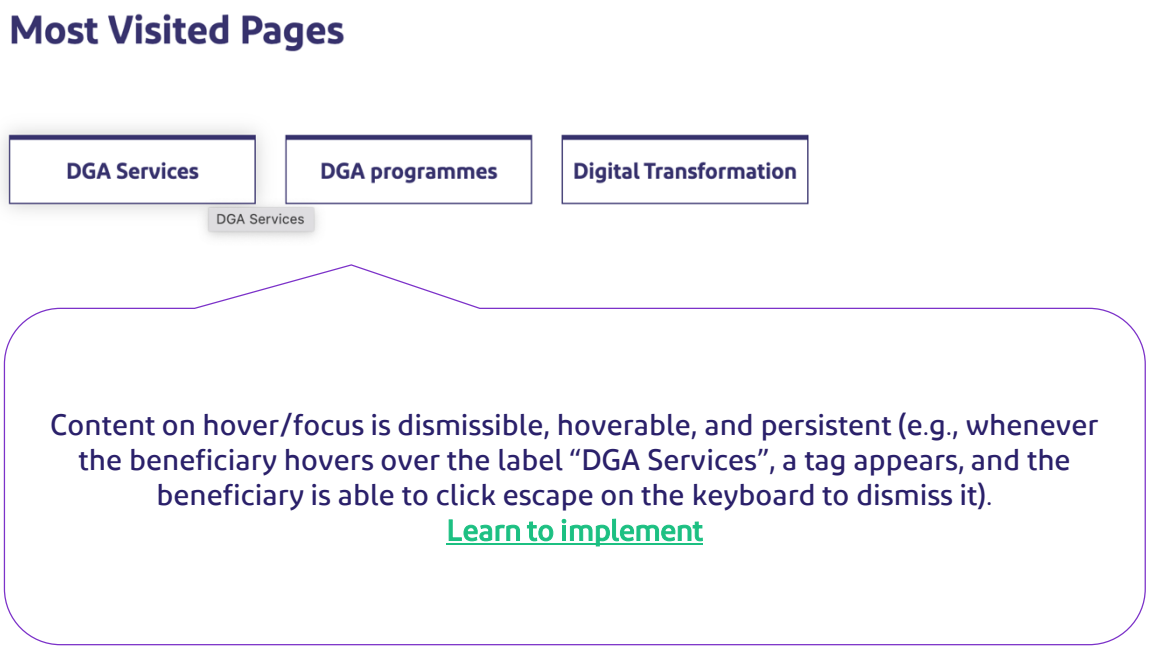
- Content on hover or focus displaying input error should not be dismissible.
  - E.g., if a beneficiary doesn't fill out a mandatory input field, the error message that appears will not be dismissible until the beneficiary correctly inputs the required information.
- Decorative content
- Content on hover or focus, which is present in white space.

Beneficiaries

Vision Disabilities

Illustrative Example

1.4.13 Content on Hover or Focus



5.2.2.3 Principle 2. Operability

The table below provides an overview of principle 2, its guidelines, success criteria, and levels of compliance.

5.2.2.3.1 Principle 2. Operability

Principle 2 is focused on the functionality(s) and interactivity of the content to ensure that all beneficiaries are able to seamlessly interact with content functionalities.

#	Guidelines	Success Criteria	Level of Compliance
2.1	Guideline (Keyboard Accessible): ensure that all content functionality is operable through a keyboard interface.	2.1.1 Keyboard 2.1.2 No Keyboard Trap 2.1.4 Character Key Shortcuts	Level A
		2.1.3 Keyboard (No Exception)	Level AAA
2.2	Guideline (Enough Time): Provide beneficiaries with enough time to read and use content.	2.2.1 Timing Adjustable 2.2.2 Pause, Stop, Hide	Level A
		2.2.3 No Timing 2.2.4 Interruptions 2.2.5 Re-authenticating 2.2.6 Timeouts	Level AAA
2.3	Guideline (Seizures and Physical reactions): Design content in a way that doesn't cause seizures or adverse physical reactions.	2.3.1 Three Flashes or Below Threshold	Level A
		2.3.2 Three Flashes 2.3.3 Animation from Interactions	Level AAA

2.4	Guideline (Navigable): Provide beneficiaries with clear and consistent navigation mechanisms.	2.4.1 Bypass Blocks 2.4.2 Page Titled 2.4.3 Focus Order 2.4.4 Link purpose (In Context)	Level A
		2.4.5 Multiple Ways 2.4.6 Headings and Labels 2.4.7 Focus Visible 2.4.11 Focus Not Obscured (Minimum)	Level AA
		2.4.8 Location 2.4.9 Link Purpose (Link Only) 2.4.10 Section Headings 2.4.12 Focus Not Obscured (Enhanced) 2.4.13 Focus Appearance	Level AAA
2.5	Guideline (Input Modalities): Ensure that all content functionality is available to beneficiaries through a variety of input methods (such as keyboard or voice).	2.5.1 Pointer Gestures 2.5.2 Pointer Cancellation 2.5.3 Label in Name 2.5.4 Motion Actuation 2.5.7 Dragging Movement 2.5.8 Target Size (Minimum)	Level AA
		2.5.5 Target Size 2.5.6 Concurrent Input Mechanisms	Level AAA

Level A | Level AA | Level AAA

2.1 Guideline (Keyboard Accessible)

2.1.1 Success criterion: Keyboard

This success criterion requires that all functionalities be operable through keyboards or keyboard alternatives (such as on-screen keyboards, voice recognition, etc.), without requiring specific timings for individual keystrokes (i e, specific timings require beneficiaries to repeat keystrokes or hold down keys to perform action).

Examples

- Actions like pointing, clicking, selecting, and moving objects.
- Actions like resizing, positioning, rotating, dragging, and dropping objects (e g, drag and drop can be achieved through keyboard keys for cut and paste).

Benefits

Beneficiaries who have vision and/or mobility disabilities will be able to interact with web content and easily carry out activities by:

- Performing actions through a keyboard or a keyboard alternative (such as speech-to-text).

Nonconforming Content

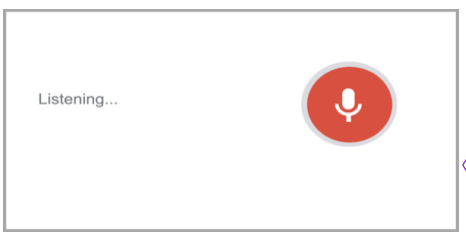
Actions that require an independent beneficiary movement path (e.g., freehand drawing on paint)

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example

2.1.1 Keyboard



Interactions via keyboard and keyboard alternatives are provided (e.g., the beneficiary is able to interact with and navigate through content using a keyboard alternative such as voice command).
Learn to implement

Level A | Level AA | Level AAA

2.1.2 Success criterion: No Keyboard Trap

This success criterion requires that keyboard focus be transferable to all interface components. Keyboard focus must never be trapped.

Examples

Focus via keyboards should be movable to the different UI elements within the digital platforms.

- E.g., the beneficiary is able to move keyboard focus from the URL tab of the website to the main navigation menu to the sub-navigation menu, etc.

Benefits

- Beneficiaries who have vision and/or mobility disabilities will be able to interact with web content and carry out activities by:

- Shifting focus via a keyboard or a keyboard alternative (such as speech-to-text) from and to the different UI components and web content of interest.

- Beneficiaries who rely on a keyboard to perform actions will be able to seamlessly navigate through the different web content and UI elements.

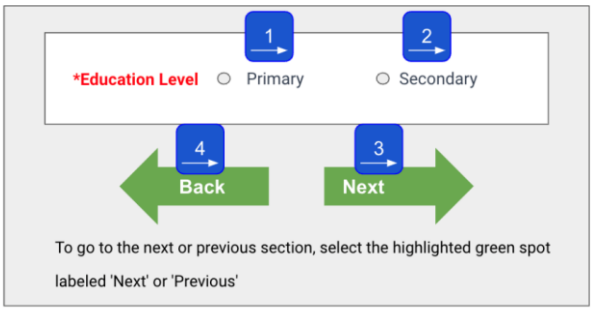
Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example
2.1.2 No Keyboard Trap



No keyboard trap ensures that navigation via a keyboard is seamless (e.g., the beneficiary is able to easily navigate between UI elements and/or web content (1, 2, 3, 4) while using a keyboard, without the navigation becoming stuck on one of the UI elements and/or web content).

Learn to implement

Level A | Level AA | **Level AAA**

2.1.3 Success criterion: No Keyboard (No Exception)

This success criterion requires that all functionalities be operable using a keyboard or a keyboard alternative without exception. Functionalities must be operable through a keyboard without requiring specific timings for individual keystrokes.

Examples

All actions and/or activities should be operable via a keyboard interface.

Benefits

Beneficiaries who have vision and/or mobility disabilities will be able to interact with web content and carry out activities by performing actions through a keyboard or a keyboard alternative (such as speech-to-text).

Nonconforming Content

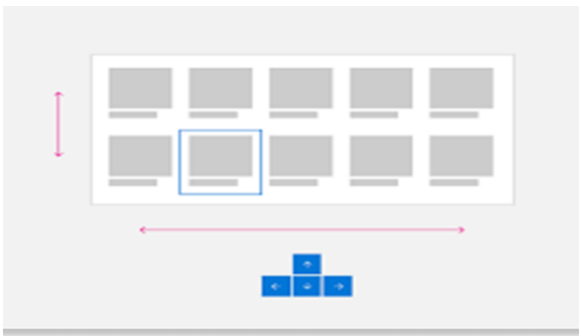
N/A

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example

2.1.3 No Keyboard (No Exception)



Keyboard navigation of any and all web content (e.g., the beneficiary is able to easily navigate between UI elements and / or web content using only a keyboard).
Learn to implement

Level A | Level AA | Level AAA

2.1.4 Success Criterion: Character Key Shortcuts

This success criterion requires that keyboard shortcuts for non-character keys not be implemented.

Examples

- A mechanism to disable character key shortcuts is available without affecting the intended functionality.

- E.g., the beneficiary is able to disable the single key shortcut for mute "m" but is still able to mute the device via the volume system.

- Remap character key shortcuts (e g, beneficiary uses the spacebar for mute instead of the character key "m")

Benefits

Beneficiaries who have vision disabilities, dexterity issues and who rely on keyboards and/or speech-to-text features to carry out actions will be able to

- Interact with web content without worrying about accidentally triggering unwarranted activities by turning off character key shortcuts or remapping character keys.

Nonconforming Content

List boxes and dropdown menus.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example
2.1.4 Character Key Shortcuts

```
<button type="button" onclick="alert('Home');" accesskey="h">
  Home (Alt+H)
</button>

<button type="button" onclick="alert('About');" accesskey="a">
  About (Alt+A)
</button>

<button type="button" onclick="alert('Contact');" accesskey="c">
  Contact (Alt+C)
</button>
```

Disabling and/or remapping character key shortcuts enables beneficiaries to navigate more seamlessly without worrying about triggering random and unwanted actions (e.g., beneficiary remaps the keyboard keys “Alt+C” to act as a “Contact” button).

Learn to implement

Level A | Level AA | Level AAA

2.2 Guideline (Enough Time)

2.2.1 Success criterion: Timing Adjustable

This success criterion requires that beneficiaries are given enough time to read and use content. Time-sensitive content must be provided with an adjustable time limit (time limit can be turned off or extended).

Examples

- Turn off the time limit.
- Adjust the time limit period (e.g. beneficiaries can extend and/or set a time limit of their preference).
- Extend the time limit 20 seconds before it expires by performing a simple action.

- E.g., the beneficiary receives a pop-up 20 seconds before being logged out of a page and can extend the time limit and remain on the page by clicking the "extend" button.

Benefits

- All beneficiaries benefit from the ability to adjust the content, which encompasses a time limit, especially beneficiaries who have vision, mobility, cognitive and learning disabilities, and disabilities.
- Adjusting content that has a time limit enables beneficiaries to carry out activities at their own pace.

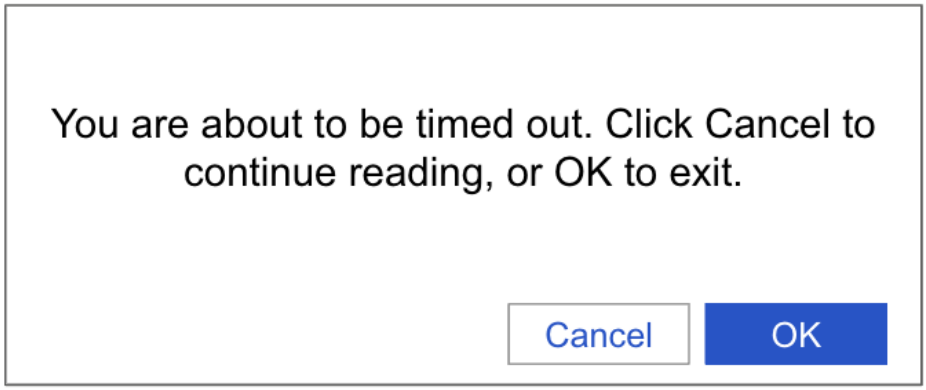
Nonconforming Content

- Time limit is essential for the performance of an activity.
- Time limit is longer than 20 hours.
- Synchronized and repetitive content.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
2.2.1 Timing Adjustable



Adjustable timing of time-sensitive content permits beneficiaries to complete tasks at their own pace (e.g., beneficiaries can extend and/or disable the time limit for time-sensitive sessions and continue reading content of interest).
Learn to implement

Level A | Level AA | Level AAA

2.2.2 Success criterion: Pause, Stop, Hide

This success criterion requires that content that starts automatically be adjustable. Automatically triggered content must encompass the ability to be paused, stopped, or hidden by the beneficiary.

Examples

- Provide a mechanism to stop, pause and/or hide moving, blinking, or scrolling content which:

- Starts automatically, plays for more than 5 seconds, and is displayed with other content.

- Avoid using parallax scrolling.
- Avoid using animations, that can't be stopped, paused and/or hidden.
- Provide a mechanism to stop, pause, hide, and/or control the frequency of content which:

- Automatically updates and is displayed in parallel with other content.

Benefits

- All beneficiaries benefit from the ability to adjust blinking, moving and/or auto-updating content, especially beneficiaries who have vision, cognitive and/or learning disabilities;
  - Ability to pause, stop, hide and/or control the frequency of blinking, moving and/or auto-updating content promotes more seamless interactions.

Nonconforming Content

Moving and/or blinking content, which is essential to convey information.

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
2.2.2 Pause, Stop, Hide

Pause / Stop / Hide options are provided for moving and/or blinking content (e.g., the beneficiary is able to pause/play GIFs).
Learn to implement

Level A | Level AA | **Level AAA**

2.2.3 Success Criterion: No Timing

This success criterion requires that no time limit for beneficiaries to read and use content be imposed. Content must be designed without a time constraint.

Examples

Designing content which isn't constrained to a specific time limit (e g a video game which can be paused and played at the beneficiaries' convenience)

Benefits

All beneficiaries will be able to benefit from the ability to adjust content that encompasses a time limit, especially beneficiaries who have vision, mobility, cognitive and/or learning disabilities,

- Adjusting content with time limits enables beneficiaries to carry out activities at their own pace.

Nonconforming Content

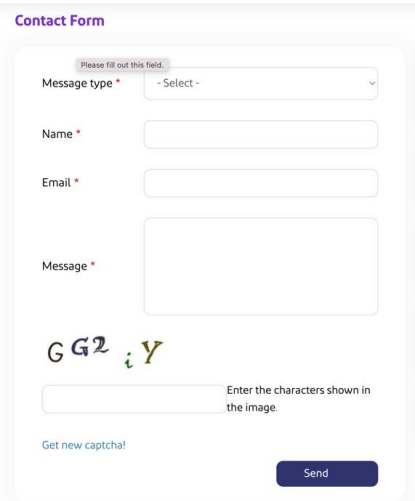
- Time limit is essential for the performance of an activity.
- Time limit is longer than 20 hours.
- Synchronized and repetitive content

Beneficiaries

- Vision Disabilities
- Mobility Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example

2.2.3 No Timing



The content is designed in a way that allows beneficiaries to pause and resume using the content according to their needs. For example, (a beneficiary can fill out a form at their own pace without being restricted by a specific time limit.)

Learn to implement

Level A | Level AA | Level AAA

2.2.4 Success criterion: Interruptions

This success criterion requires that beneficiaries are given the option to suppress or postpone interruptions, except in emergencies.

Examples

Turning off and/or postponing updates.

Benefits

Beneficiaries who have vision and/or learning disabilities, especially beneficiaries with attention deficit disorders, will be able to:

- Better interact with web content by setting up interruption notification preferences (e.g., the beneficiary can turn off all automatic app updates).

Nonconforming Content

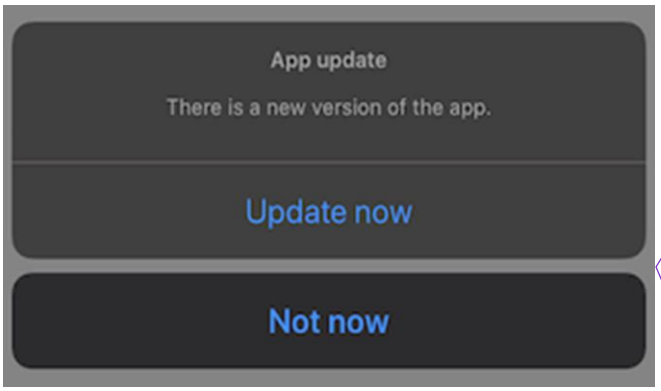
Interruptions involving emergencies (e.g., a warning message informing the beneficiary that loss of data may occur).

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example

2.2.4 Interruptions



Postponing and/or suppressing interruptions enables beneficiaries to interact with interruptions as per their preference (e.g., a beneficiary is able to postpone the update of an app by choosing “Not now”).

Learn to implement

Level A | Level AA | Level AAA

2.2.5 Success Criterion: Re-authenticating

This success criterion requires that beneficiaries are allowed to re-authenticate without losing data.

Examples

Re-authenticating to continue an activity previously started without having to re-enter information.

- E.g., the beneficiary is asked to re-authenticate their profile after an authenticated application session expires; upon re authenticating, the beneficiary is able to continue the application from where they left off, without having to re-enter previously inputted content - no loss of data should occur.

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to better interact with timed content by

- Reducing the need to redo the same activity multiple times due to time constraints.

Nonconforming Content

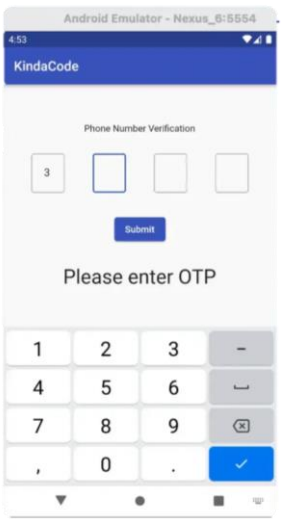
N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

2.2.5 Re-authenticating



Re-authenticating enables beneficiaries to continue their activity right where they left off (e.g., beneficiary is able to enter a one-time-password to continue their latest activity).
Learn to implement

Level A | Level AA | Level AAA

2.2.6 Success Criterion: Timeouts

This success criterion requires that beneficiaries are warned before a timeout occurs and that beneficiaries are also given the option to extend the session or suppress the warning. Beneficiaries must be presented with the duration of inactivity which would cause a timeout and result in data loss.

Examples

- Timeout warning messages to inform beneficiaries that a timeout is about to occur and result in data loss.
- Storing data for a specified time-period and informing beneficiaries of the duration the data will be stored for

- E.g., the beneficiary is informed via email and/or pop-up message that their data will be stored up to 3 days following a timeout or beneficiary exiting the session.

- Designing content that isn't constrained to a specific time limit.

Benefits

All beneficiaries will benefit from the ability to adjust time-sensitive content, especially beneficiaries who have cognitive and learning disabilities.

- Adjusting time-sensitive content enables beneficiaries to determine if they are able to complete an activity within the applied time limit.
- Adjusting time-sensitive content enables beneficiaries to carry out activities at their own pace.

Nonconforming Content

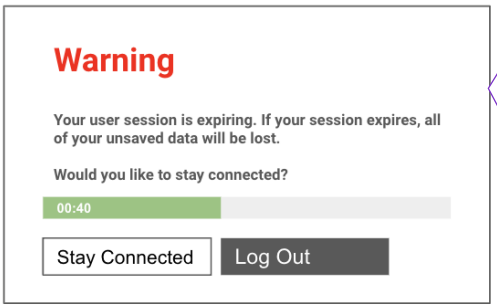
Time limit is longer than 20 hours.

Beneficiaries

- Learning Disabilities
- Cognitive Disabilities

Illustrative Example

2.2.6 Timeouts



A timeout warning is provided to inform beneficiaries that their session will end and / or to enable them to prolong the session (e.g., beneficiary is informed that they will be logged out and has the ability to postpone the timeout and stay logged in by clicking “Stay Connected”).

Learn to implement

Level A | Level AA | Level AAA

2.3 Guideline (Seizures and Physical Reactions)

2.3.1 Success Criterion: Three Flashes or Below Threshold

This success criterion requires that content does not flash/ blink more than three times in one second. Content must not flash/ blink below the threshold for general flash nor encompass red flashes/ blinks.

Examples

- Limiting flashing/ blinking content and/or UI elements.
- Limiting the on-screen space of flashing/ blinking content and/or UI elements (i.e., displaying flashing content and/or UI elements in smaller sizes to occupy less screen)
- Flashing/ blinking content should flash/ blink 1x to 2x per second and not more than 3x per second.
- Limiting red flashing/ blinking content and/or UI elements.
- Avoiding flashing/ blinking content, which flashes/ blinks 3x or more per second.

Benefits

Beneficiaries who suffer from seizures and/or who have a photosensitivity disorder will be able to enjoy and interact with content without having to rely only on text alternatives.

Nonconforming Content

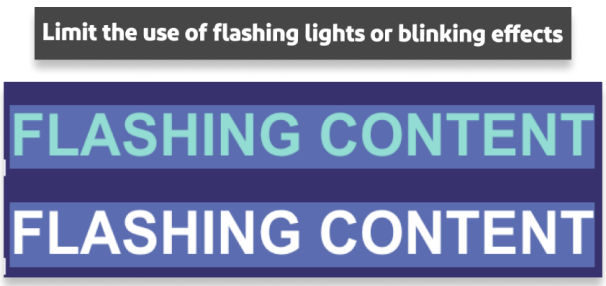
N/A

Beneficiaries

Vision Disabilities

Illustrative Example

2.3.1 Three Flashes or Below Threshold



Flashing content is limited and blinks 3x or less per second.
Learn to implement

Level A | Level AA | Level AAA

2.3.2 Success Criterion: Three Flashes

This success criterion requires that content does not flash more than three times in one second.

Examples

- Avoiding flashing content and/or UI elements.
- Limiting the space of flashing content on screen (i.e., displaying flashing content and/or UI elements in smaller sizes to occupy less screen)
- Dimming the luminance of flashing content, which blinks 3x or more in a single second. Avoiding all flashing content, which flashes less than 3x per second.

Benefits

Beneficiaries who suffer from seizures and/or who have a photosensitive disorder will be able to enjoy and interact with web content without having to rely only on text alternatives.

Nonconforming Content

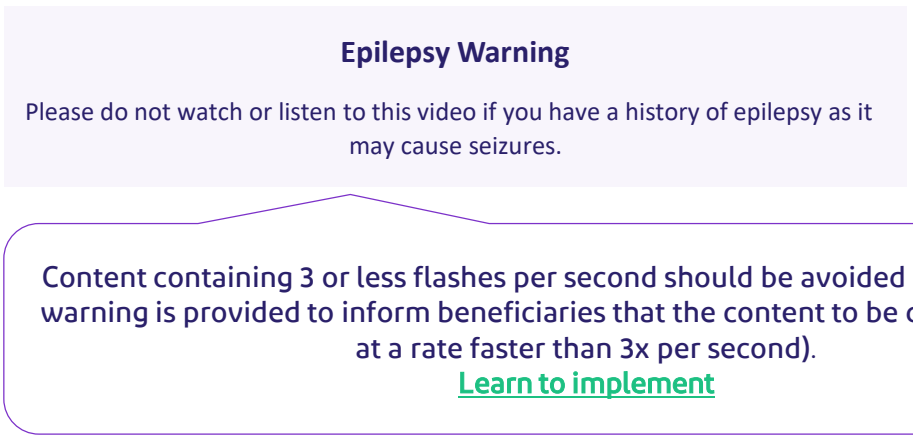
N/A

Beneficiaries

Vision Disabilities

Illustrative Example

2.3.2 Three Flashes



Content containing 3 or less flashes per second should be avoided (e.g., an epilepsy warning is provided to inform beneficiaries that the content to be displayed flashes at a rate faster than 3x per second).

Learn to implement

Level A | Level AA | Level AAA

2.3.3 Success Criterion: Animation from Interactions

This success criterion requires that animations triggered by interactions can be disabled unless they are essential to the functionality or information being conveyed.

Examples

- Avoiding unnecessary animations (e.g., parallax scrolling).
- Providing beneficiaries with the ability to disable unnecessary animations.
- Using the "reduce motion" feature of operating systems.

Benefits

Beneficiaries who suffer from seizures and/or who have a photosensitive disorder will be able to enjoy and interact with web content without having to rely only on text alternatives.

Nonconforming Content

Animations which are essential to convey information or perform a specific functionality.

Beneficiaries

Vision Disabilities

Illustrative Example

2.3.3 Animation from Interactions

Animations can be disabled, stopped and/or slowed down (e.g., the beneficiary is able to slow down the animation on the web page by clicking the "Reduce motion" button).
Learn to implement

Level A | Level AA | Level AAA

2.4 Guideline (Navigable)

2.4.1 Success Criterion: Bypass Blocks

This success criterion requires that beneficiaries are provided with a mechanism to bypass blocks of content that are repeated on multiple pages (such as navigation links, advertising frames, and header graphics).

Examples

Providing hyperlinks to enable beneficiaries to navigate to the main content/ main components of the web page(s).

- E.g., a link in a news website which directly transports the beneficiary to the main news story.

Benefits

- Beneficiaries who have vision and/or cognitive disabilities will be able to better interact with web content through improved navigation.
- Beneficiaries who rely on screen readers and/or who use magnifiers will be able to have a more seamless navigation experience by:

- Avoiding listening to and/or navigating through every navigation link available before getting to the main content

- Beneficiaries who rely on keyboard navigation will also be able to enjoy a more seamless navigation experience by:

- Reaching the main content with fewer keystrokes

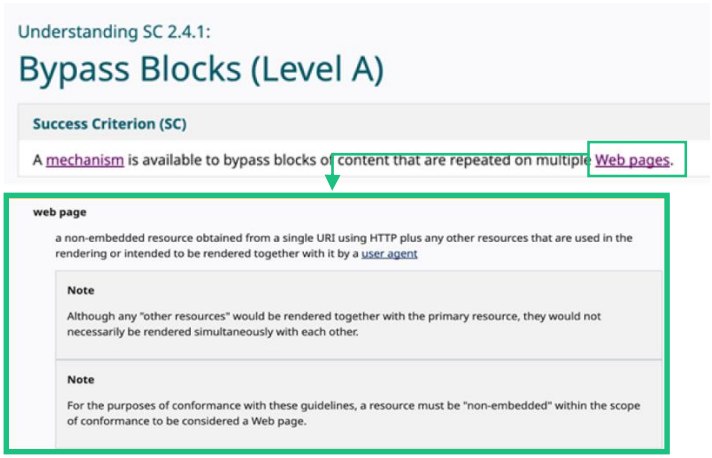
Nonconforming Content

- N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example
2.4.1 Bypass Blocks



Hyperlinks are added to bypass blocks of text and make navigation easier (e.g., the beneficiary is able to click on the words “Web pages”, which have an embedded hyperlink and be directed to the content pertaining to “web pages”, without having to navigate/scroll through the entire website).
Learn to implement

Level A | Level AA | Level AAA

2.4.2 Success Criterion: Page Titled

This success criterion requires that each web page has a descriptive and unique title to help beneficiaries find and better navigate content.

Examples

- Titles in sitemaps.
- Titles in the lists of search results.
- Titles in HTML pages.
- Clearly titled content.

Benefits

- Beneficiaries who have vision and/or cognitive disabilities will be able to better perceive and interact with web content by:

- Quickly identifying the different sections of the content and navigating between those sections more easily.

- Beneficiaries who have mobility disabilities will be able to interact with and better navigate the different sections of the content.
- Beneficiaries who rely on speech recognition to navigate content will be able to easily navigate between and understand the different sections of the web content.

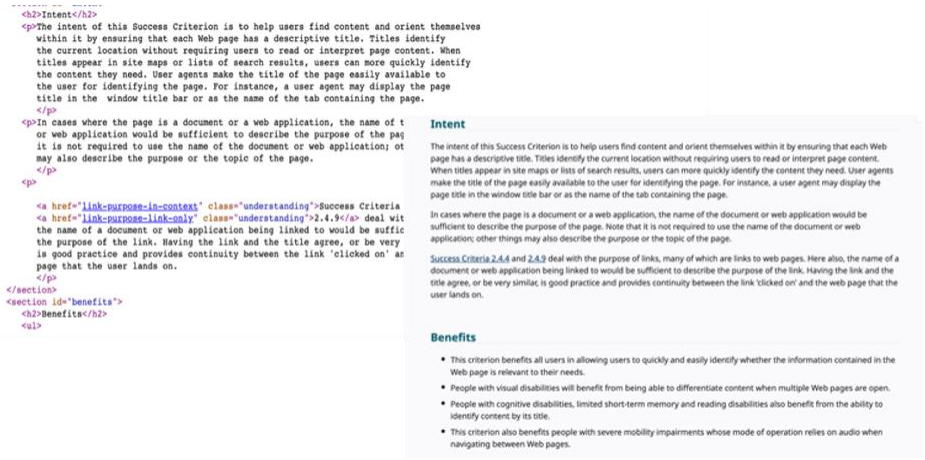
Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities
- Mobility Disabilities

Illustrative Example
2.4.2 Page Titled



```
<h2>Intent</h2>
<p>The intent of this Success Criterion is to help users find content and orient themselves
   within it by ensuring that each Web page has a descriptive title. Titles identify
   the current location without requiring users to read or interpret page content. When
   titles appear in site maps or lists of search results, users can more quickly identify
   the content they need. User agents make the title of the page easily available to
   the user for identifying the page. For instance, a user agent may display the page
   title in the  window title bar or as the name of the tab containing the page.
   </p>
<p>In cases where the page is a document or a web application, the name of t
   or web application would be sufficient to describe the purpose of the pag
   it is not required to use the name of the document or web application; ot
   may also describe the purpose or the topic of the page.
   </p>
<p>

   <a href="link-purpose-in-context" class="understanding">Success Criteria
   <a href="link-purpose-link-only" class="understanding">2.4.9</a> deal wit
   the name of a document or web application being linked to would be suffic
   the purpose of the link. Having the link and the title agree, or be very
   is good practice and provides continuity between the link 'clicked on' an
   page that the user lands on.
   </p>
</section>
<section id="benefits">
   <h2>Benefits</h2>
   <ul>
```

Intent

The intent of this Success Criterion is to help users find content and orient themselves within it by ensuring that each Web page has a descriptive title. Titles identify the current location without requiring users to read or interpret page content. When titles appear in site maps or lists of search results, users can more quickly identify the content they need. User agents make the title of the page easily available to the user for identifying the page. For instance, a user agent may display the page title in the window title bar or as the name of the tab containing the page.

In cases where the page is a document or a web application, the name of the document or web application would be sufficient to describe the purpose of the page. Note that it is not required to use the name of the document or web application; other things may also describe the purpose or the topic of the page.

Success Criteria 2.4.4 and 2.4.9 deal with the purpose of links, many of which are links to web pages. Here also, the name of a document or web application being linked to would be sufficient to describe the purpose of the link. Having the link and the title agree, or be very similar, is good practice and provides continuity between the link 'clicked on' and the web page that the user lands on.

Benefits

- This criterion benefits all users in allowing users to quickly and easily identify whether the information contained in the Web page is relevant to their needs.
- People with visual disabilities will benefit from being able to differentiate content when multiple Web pages are open.
- People with cognitive disabilities, limited short-term memory and reading disabilities also benefit from the ability to identify content by its title.
- This criterion also benefits people with severe mobility impairments whose mode of operation relies on audio when navigating between Web pages.

Titled web pages enable beneficiaries to better find content (e.g., the beneficiary is able to identify is able to identify the different sections of the web page from the in-page titles such as “Intent”. The different titled sections of the web page are also programmatically determined in the HTML code such as “<h2> Intent </h2>”).

Learn to implement

Level A | Level AA | Level AAA

2.4.3 Success Criterion: Focus Order

This success criterion requires that the focus order of content is logical (i e, determined programmatically and/or visually), to ensure that beneficiaries are able to perceive content in a way that doesn't disrupt the conveyed meaning whilst navigating digital platforms.

Examples

- Sequential navigation through HTML order of tabbing should be based on the natural flow of content, where.

- Focus is given to each element as per the programmatically determined navigation sequence.

- Sequential navigation through dynamic HTML scripting and the use of a tab-index attribute should be based on the natural flow of content where.

- More elements receive focus as the programmatically determined sequence of navigation changes to match the screen size, display orientation, etc.

- Navigation through the use of a keyboard interface (e g, navigating using arrow keys) should be based on the visual order of content, where.

- Elements receive focus based on how the content is visually presented on web pages (i.e. not programmatically determined).

Benefits

- Beneficiaries who have mobility disabilities will be able to interact with and navigate content through keyboard interfaces in a manner where.

- Focus order is given to elements in a logical way, which preserves meaning and functionality.

- Beneficiaries who have vision and/or learning disabilities will also be able to interact with and perceive content more clearly whilst navigating via

- Logical focus order.

- Beneficiaries who rely on assistive technologies (such as magnifiers) will be able to follow content more seamlessly with a logical focus order.

Nonconforming Content
N/A

Beneficiaries
- Learning Disabilities
- Vision Disabilities
- Mobility Disabilities

Illustrative Example
2.4.3 Focus Order

Focus order, which is programmatically and/or visually determined, enables beneficiaries to perceive and navigate content in a logical manner (e.g., the beneficiary is able to easily perceive and navigate between UI elements and/or web content that flow in a logical order while in focus, so that the beneficiary is able to follow a programmatically / visually determined navigation focus order of 1, 2, 3, 4, 5,...).

Learn to implement

Level A | Level AA | Level AAA

2.4.4 Success Criterion: Link Purpose (In Context)

This success criterion requires that the purpose of a link be determined from the link text alone or from the link text together with its programmatically determined link context to ensure that beneficiaries understand the contents of the web page before being directed to it.

Examples

- Link text with the name of the document and/or web application, which the beneficiary will be directed to upon clicking the link.

- E.g., the "Download User Manual", link states the name of the document.

- Link text with a description of the document and/or web application, which the beneficiary will be directed to upon clicking the link.

- E.g., the "Product Brochure (PDF)", link states the name of the document and provides a description by stating the document format.

- Programmatically determined description of the purpose of the link

- E.g., adding an aria-label attribute to the link to provide an explicit description of the link's purpose).

Benefits

- Beneficiaries who have mobility disabilities will be able to interact with and navigate web content more seamlessly by.

- Skipping over links which are not of interest to them.

- Beneficiaries who have vision and/or cognitive disabilities will also be able to better interact with and navigate content by

- Understanding the purpose of the available links.

- Beneficiaries who rely on assistive technologies will be able to interact with and understand link purposes through programmatically determined link descriptions.

- E.g., screen readers will be able to more accurately convey the purpose of a link that has a programmatically determined description.

Nonconforming Content

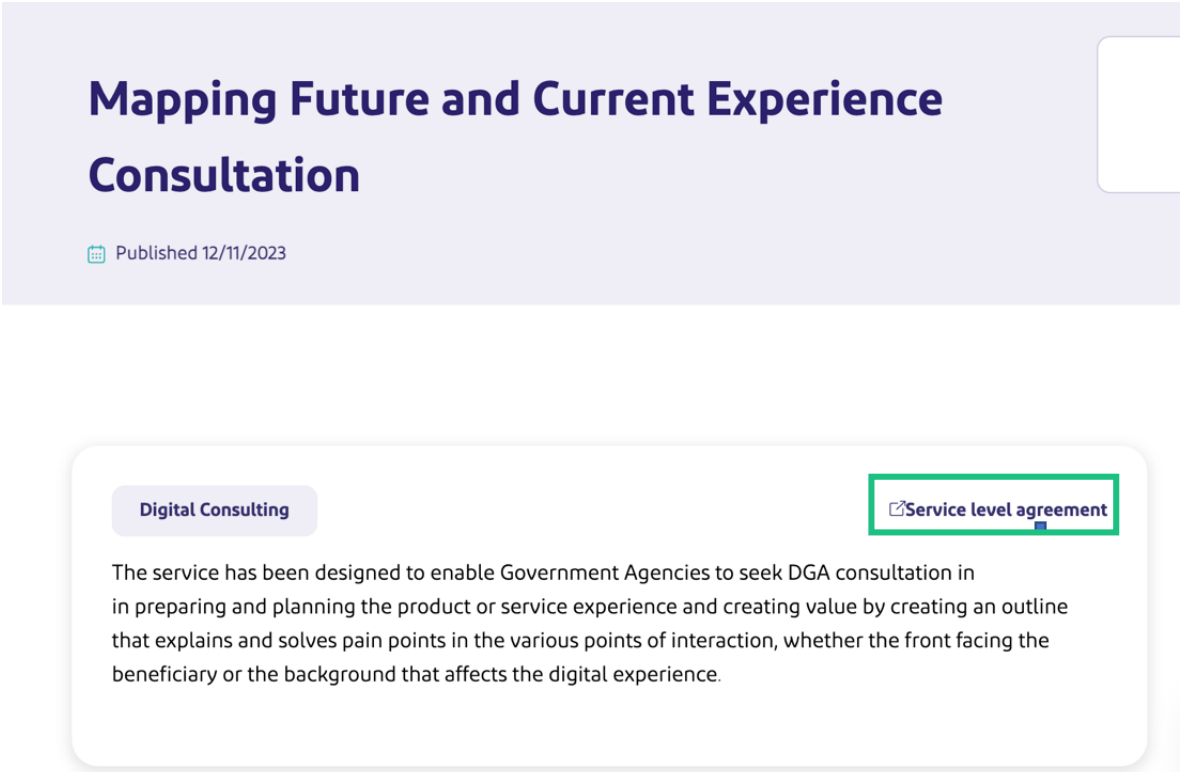
Links where the purpose is generally ambiguous (e.g., a link in a video game with the intent to trigger feelings of suspense)

Beneficiaries

- Vision Disabilities
- Mobility Disabilities
- Cognitive Disabilities

Illustrative Example

2.4.4 Link Purpose (In Context)



Link purpose is clearly identifiable from context and / or the name in which the hyperlink is embedded (e.g., beneficiary is able to clearly understand that if they click on the embedded hyperlink within the text "service level agreement", they will be directed to a service level agreement).

Learn to implement

Level A | **Level AA** | Level AAA

2.4.5 Success Criterion: Multiple Ways

This success criterion requires that there are multiple ways to navigate through and find content on digital platforms (such as easily locating a web page within a set of web pages).

Examples

- Links to and from the homepage
- Sitemaps
- Search mechanism (i.e., basic and/or advanced search features)
- Sticky menus (e.g., mega menus)

Benefits

Beneficiaries who have vision and/or cognitive disabilities will be able to interact with and find content more easily by:

- Having multiple ways to navigate the content of interest on digital platforms.

Nonconforming Content

Web page(s), which are a result of a process or a step in a process.

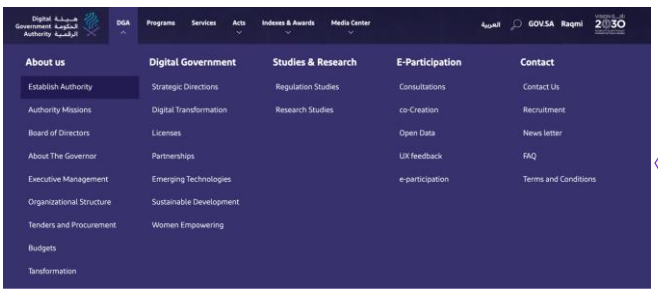
- E.g., CAPTCHAs during the registration of an account, or search engine results, etc.

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

2.4.5 Multiple Ways



Multiple ways of navigating content provide beneficiaries with more seamless navigation experiences (e.g., the beneficiary can easily find information and navigate to different web pages by using the mega menu provided on the website and/or through using the search bar

Learn to implement

Level A | **Level AA** | Level AAA

2.4.6 Success Criterion: Headings and Labels

This success criterion requires that headings and labels describe the topic or purpose of content to ensure that beneficiaries understand the type and structure of information available within the digital platform.

Examples

- Descriptive headings and/or titles (e.g., "About Us", is used as a title for an about web page)
- Descriptive labels for UI elements, especially input controls (e g, "First Name", is used as a label for an input field where beneficiaries should enter their first name)
- Marked-up headings, titles, and labels (e.g., using the "<title>" element in HTML)

Benefits

Beneficiaries who have the vision, cognitive and/or learning disabilities will be able to interact with and understand the different sections of the web content more easily when descriptive headings and labels are used.

Nonconforming Content

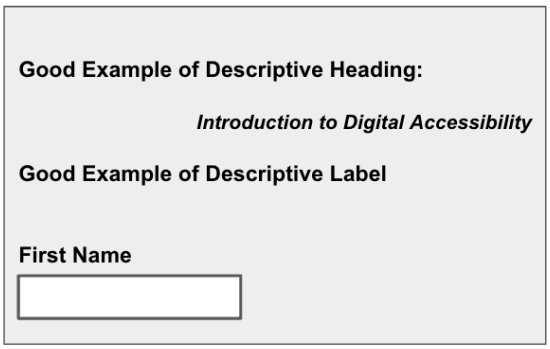
N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example

2.4.6 Headings and Labels



Descriptive headings and labels enable beneficiaries to understand and interact with content more easily (e.g., the beneficiary is able to clearly understand that the content provided will pertain to “Digital Accessibility” and that the field input requires the beneficiary to enter their “First name”).

Learn to implement

Level A | **Level AA** | Level AAA

2.4.7 Success Criterion: Focus Visible

This success criterion requires that the focus state of content be visually determined to help beneficiaries navigating via a keyboard interface know/ identify the UI element they are interacting with.

Examples

- Displaying visible borders around UI elements, such as input fields, which are in focus.
- Highlighting UI elements, which are in focus, in different colors.

Benefits

- Beneficiaries who rely on keyboard interfaces for navigation will be able to determine the UI elements which are in focus.

- UI elements in focus are the UI elements the beneficiary is interacting with.

- Beneficiaries who have cognitive disabilities, especially those related to memory issues, will be able to interact with and easily perceive content that is in focus.

Nonconforming Content

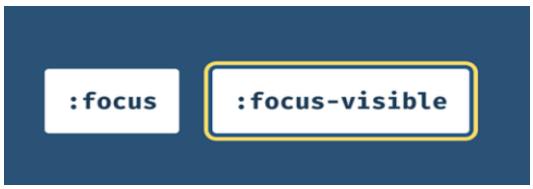
N/A

Beneficiaries

Cognitive Disabilities

Illustrative Example

2.4.7 Focus Visible



UI elements which are in focus are visible and distinguishable from UI elements which aren't in focus (e.g., the beneficiary is able to easily distinguish the UI elements that are in focus through the visibly highlighted boundary).
Learn to implement

Level A | Level AA | **Level AAA**

2.4.8 Success Criterion: Location

This success criterion requires that beneficiaries are informed of their location within digital platforms to ensure that they are able to orient themselves and easily find information.

Examples

- Breadcrumbs
- Accurate headings and titles
- "You are here" indicators (i e, any visual or textual cue which helps beneficiaries understand their current location within the digital platform)

Benefits

Beneficiaries who have cognitive and/or learning disabilities, especially those with short attention spans and concentration difficulties, will be able to easily find information of interest within the digital platform with "you are here" indicators.

Nonconforming Content

N/A

Beneficiaries

- Learning Disabilities
- Cognitive Disabilities

Illustrative Example

2.4.8 Location

Indicators of the location of beneficiaries within digital platforms makes navigation more seamless (e.g., the beneficiary is able to easily know which web page/section of the website they are in due to the indicator.

Learn to implement

Level A | Level AA | Level AAA

2.4.9 Success criterion: Link Purpose (Link Only)

This success criterion requires that the purpose of a link can be determined from the link text alone. The link text must convey the action that will happen when the link is activated/ clicked.

Examples

Link text with the name of the document and/or web application, which the beneficiary will be directed to upon clicking the link.

- E.g., a link with the text "Download User Manual PDF" should trigger the download of the PDF file, not another type of file or web page.

Benefits

- Beneficiaries who have mobility disabilities will be able to interact with and navigate web content more seamlessly by:

- Skipping over links which are not of interest to them.

- Beneficiaries who have vision and/or cognitive disabilities will also be able to better interact with and navigate content by:

- Understanding the purpose of the available links.

- Beneficiaries who rely on screen readers will be able to find information more easily, as the screen reader voices over what each link is about/ encompasses.

Nonconforming Content

Links where the purpose is generally ambiguous (e.g., a link in a video game with the intent to trigger feelings of suspense)

Beneficiaries

- Vision Disabilities
- Mobility Disabilities
- Cognitive Disabilities

Illustrative Example
2.4.9 Link Purpose (Link Only)

The Digital Government Authority launches (The Guideline for Web Accessibility of Government Websites) in synchrony with International Day of Persons with Disabilities; The Guideline provides accessibility guidelines (WCAG) according to the World Wide Web Consortium (W3C).

Link purpose is clearly identifiable from the name in which the hyperlink is embedded (e.g., beneficiary is able to clearly understand that if they click on the hyperlink "The Guidelines for Web Accessibility of Government Website," they will be directed to The Guidelines for Web Accessibility).

Learn to implement

Level A | Level AA | Level AAA

2.4.10 Success Criterion: Section headings

This success criterion requires that section headings describe the topic or purpose of the content they introduce.

Examples

Providing headings which clearly describe the textual content of the different sections on a digital platform.

- E.g., a digital document is divided into multiple chapters.

Benefits

- Beneficiaries who have vision and/or learning disabilities will be able to better navigate and understand web content by

- Understanding the overall structure of the content and knowing when they have moved from one section to another.

- Beneficiaries who rely on assistive technologies will be able to better navigate and understand web content.

- E.g., screen readers can voice over the section headings.

- Beneficiaries who rely on keyboard interfaces for navigation will be able to find information of interest more quickly by navigating through section headings.

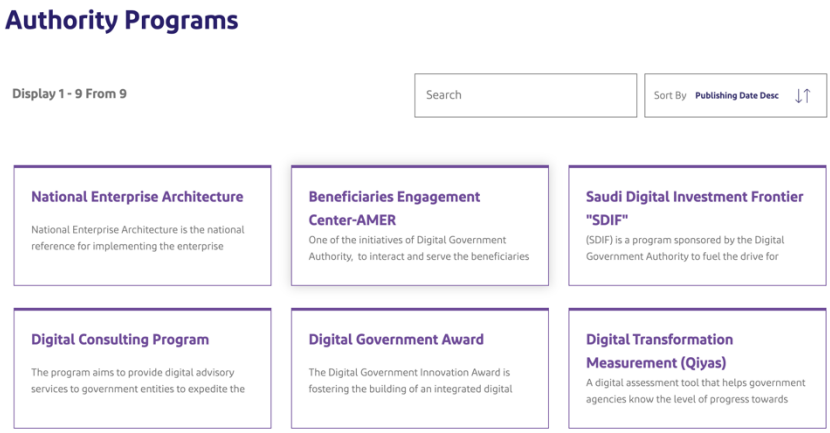
Nonconforming Content

N/A

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example
2.4.10 Section headings



Section headings enable beneficiaries to understand, interact with and navigate content more easily (e.g., beneficiary is able to clearly understand that the section with the heading “Authority Programs” will contain information on the services most used).

Learn to implement

new

Level A | Level AA | Level AAA

2.4.11 Success criterion: Focus Not Obscured (Minimum)

This success criterion requires that a partial part of the UI/UX element is focused and visible when the beneficiary **is** using a keyboard to navigate through the content of the webpage.

Examples

- Sticky headers or footers do not overlap the content of a webpage.
    - E.g., When scrolling down a webpage the footer doesn't overlap, the focused part of UI/UX element due to scroll padding causing the content in the viewport to scroll up and always displayed the items via keyboard.
- Providing the beneficiary with the ability to dismiss a banner.
    - E.g., if a pop-up about cookies shows up on a webpage, and the beneficiary can't click around the page until the selections are made and accepted of the cookie pop-up. But the buttons and content on the page are still to be visible.
- Closing on loss of focus.
    - E.g., When a notification is displayed as a sticky header, the keyboard focus should be shifted towards the notification once the keyboard indicator is hovering over it, it loses focus and notification vanishes, leaving part of the previous keyboard focus indicator visible and not obscuring any other controls.
- Repositioning Content
    - E.g., A toolbar in a webpage is minimized, once the beneficiary clicks on it, an entire menu is displayed. The beneficiary is able to reposition and move the toolbar around the webpage to better see the content of the webpage.
- Dismissing a notification banner by clicking on the X element.

Benefits

- Beneficiaries who have vision and/or learning disabilities will also be able to better interact with and navigate content by discovering and identifying easily on which UI/UX element the focus is on.
- Beneficiaries who rely on assistive technologies and magnification will be better able to see and interact with components which gets focused on via keyboard.

Nonconforming Content

- N/A

Beneficiaries

Mobility Disabilities

Nonconforming Content

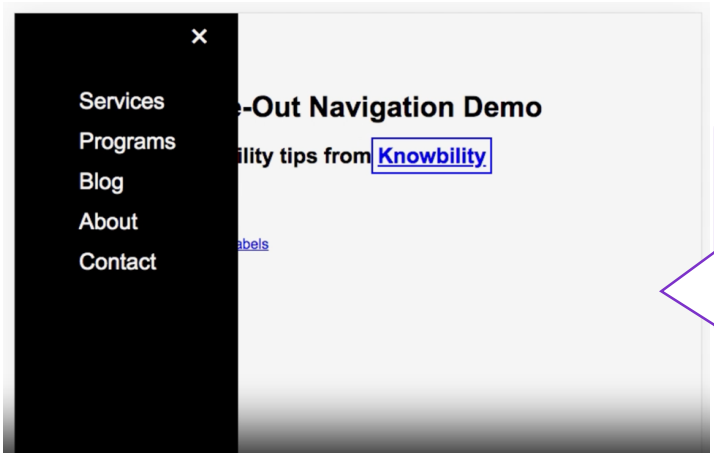
- N/A

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example

2.4.11 Focus Not Obscured (Minimum)



Part of the content behind the menu is visible, where the beneficiary can still focus and navigate to the content behind the menu bar.
Learn to implement

new

Level A | Level AA | Level AAA

2.4.12 Success criterion: Focus Not Obscured (Enhanced)

This success criterion requires that a UI/UX element is completely visible and displayed on a webpage. Hence other content or components within the webpage don't overlap the UI/UX element on focus.

Examples

- Sticky headers or footers do not overlap the content of a webpage.
    - E.g., When scrolling down a webpage, the footer doesn't overlap the focused part of UI/UX element due to scroll padding causing the content in the viewport to scroll up and always display the items via keyboard.
- Providing the beneficiary with the ability to dismiss a banner.
    - E.g., A UI/UX element is not obscured in the event of a full-width cookie permission dialogue box appearing on a page and preventing the beneficiary to navigate through the webpage until the selections are made in the cookie dialogue box.
- Closing on loss of focus.
    - E.g., When a notification is displayed as a sticky header, the keyboard focus should be shifted towards the notification. Once the keyboard indicator is hovering over the notifications, it loses focus and the notification vanishes, leaving part of the previous keyboard focus indicator visible and not obscuring any other controls.

Benefits

- Beneficiaries who have vision and/or learning disabilities will also be able to better interact with and navigate the content by discovering and identifying easily on which UI/UX element the focus is on.
- Beneficiaries who rely on assistive technologies and magnification will be able to better see and interact with components which gets focused on via keyboard.

Nonconforming Content

- N/A

Beneficiaries

- Vision Disabilities
- Learning Disabilities

Illustrative Example
2.4.12 Focus Not Obscured (Enhanced)

Scroll padding is added to the website, where as the beneficiary is scrolling the content of a webpage, the content is fully visible and not blocked by the sticky header or footer of the webpage.
Learn to implement

new

Level A | Level AA | Level AAA

2.4.13 Success Criterion: Focus Appearance

This success criterion requires that the UI/UX element receiving focus is noticeable and sufficient in terms of size and color, to better assist the beneficiary in differentiating between the focused and unfocused UI/UX element.

Examples

- The area of the focus indicator of a UI/UX element is larger than at least 2 CSS pixel perimeter.
  E.g.,
  - The Focus indicator can be:
  - A shadow outline of the element.
  - A rectangular/ square shaped bounding border around the element
  - An offset of the element.
- The focused element can be another color to indicate it focused, such that the contrast ratio should be at least 3:1 between the focused and unfocused states.

Benefits

- Beneficiaries who have cognitive disabilities will be able to easily identify which UI/UX element is the beneficiary interacting with.
- Beneficiaries who rely on a keyboard to navigate and interact with the contents of a webpage, will be able to visually identify the specific element in which keyboard will interact at any given moment.

Nonconforming Content

- If the product owner may be unable to customize the focus indicator for specific components or technologies. For example, HTML select elements (both single and multi-select) don't allow product owners to modify the visual treatments for selection and focus.
- If the contrast ratio between the focused and unfocused state is less then 3:1 and the product owner cannot alter the focus indicator or its background color.

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities

Illustrative Example

2.4.13 Focus Appearance

A star-shaped button has a focus indicator that offsets the shape of the star. In the examples, all three stars have been selected, and the focus is on the third star, The focus indicator is 2 CSS pixel perimeter.
Learn to implement

Level A | Level AA | Level AAA

2.5 Guideline (Input Modalities)

2.5.1 Success Criterion: Pointer Gestures

This success criterion requires that pointer gestures are performed without requiring a specific speed or range of motion and that alternative methods of input are available for the same functionality. Beneficiaries must be able to perform pointer gesture functions via alternative methods.

Examples

- Functionalities operable through multipoint gestures (e g, a two-finger pinch zoom) should be operable via single pointer methods.

- E.g., tapping, clicking, long presses, etc.

- Functionalities operable through path-based gestures should be operable via single pointer methods (i.e., tapping, clicking, long presses, etc.)
- Functionalities operable through pointer gestures should be operable via alternative methods.

- E.g., using UI components to carry out the same functionality, such as zooming in via clicking buttons/ symbols (+) / (-)instead of two-finger pinch)

Benefits

Beneficiaries who have limited mobility and/or have difficulty performing multipoint and path-based gestures on touchscreens or with a mouse will be able to

- Carry out the same functionality via alternative and simplified methods (i.e. single pointer gestures such as clicking)

Nonconforming Content

- Multipoint gestures are essential to navigate and convey information.
- Path-based gestures, which are essential to convey information (e.g., e-signature)

Beneficiaries

Mobility Disabilities

Illustrative Example
2.5.1 Pointer Gestures

Alternative methods to pointer gestures for carrying out the same action / activity are provided (e.g., the beneficiary is able to answer a phone call on a touchscreen device by clicking the answer icon instead of swiping. Similarly, the beneficiary is able to easily zoom in / out of content by clicking on the magnifying / minimizing glass icons without having to use a two-finger pinch gesture).

Learn to implement

Level A | Level AA | Level AAA

2.5.2 Success criterion: Pointer Cancellation

This success criterion requires that single-pointer-operated functionality be canceled without penalty and that pointers must move horizontally, vertically, and diagonally without triggering the functionality.

Examples

- Up-event activation (i.e., only initiating the activity once the pointer is released or the finger is lifted in the case of touch screens).
- Undo/ up-event abort (e g through an undo button or a confirmation pop-up message before completing the action).
- Up reversal.

  E.g., if a beneficiary starts a single pointer gesture, such as tapping or clicking, and then moves their finger in a different direction before releasing it, the action should be canceled.
- Down event- only when the up-event shouldn't be used (i.e., only initiating the activity once a UI element is pressed down and held).

  E.g., pressing down on a keyboard key to trigger an action, such as submitting a form or navigating to a link.

Benefits

- Beneficiaries who have mobility, vision and/or cognitive disabilities will be able to
- Reduce and undo unwarranted or accidentally triggered actions via simplified gesture interactions, such as clicking an undo button or only triggering a functionality once the mouse pointer is released.

Nonconforming Content

- Down event, which is essential to navigate and convey information.

- E.g., when drawing with a pencil or stylus, a down-event is necessary to start the drawing.

- Path-based gestures which are essential to navigate and convey information.

- E.g., when rotating an object on a touchscreen, a multi-point gesture may be essential to rotate the object in the intended direction.

- Functions where the pointer is not visible.

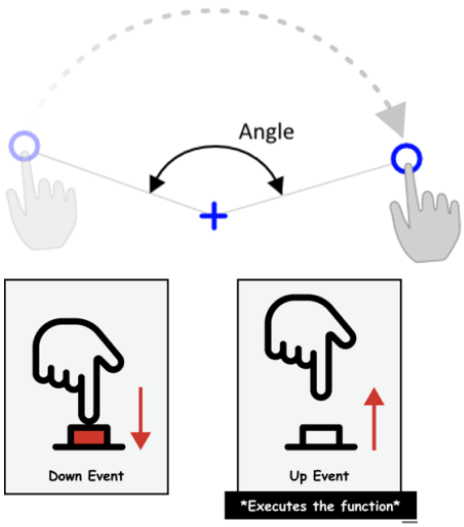
- E.g., in some virtual reality environments, the pointer isn't visible to the beneficiary and may require other forms of input).

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities
- Mobility Disabilities

Illustrative Example

2.5.2 Pointer Cancellation



Beneficiaries are able to move the pointer around freely, as well as cancel single pointer functionality (e.g., action is only triggered if the beneficiary releases the clicked UI element in an “up event”. Additionally, the beneficiary is able to move the pointer horizontally and vertically).

Learn to implement

Level A | Level AA | Level AAA

2.5.3 Success Criterion: Label in Name

This success criterion requires that all interactive elements, such as form controls or buttons, have a programmatically determined name that describes the purpose of the element.

Examples

- Descriptive labels, which identify the purpose of the input fields.

- E.g., using "First name" as the label for a text input field in a form, clearly indicating the field's purpose.

- Programmatically determined labels for input fields (e.g., using "Search" as the label for a search input field).
- UI component names, which describe their purpose and functionality (e.g, using "Add to Cart" for a button to add items to a shopping cart).
- Text alternatives for non-text content conveying the same information or function as the visual content.

- E.g., the image of a cat playing with a ball has the text alternative "a cat playing with a ball".

- Accessible names (i.e., names recognized by assistive technologies) which match the programmatically determined and/or visual labels.

Benefits

- Beneficiaries who rely on assistive technologies, like screen readers and speech input devices, will be able to better interact with and perceive content, as the assistive technologies will be able to better read and convey information to the beneficiary.

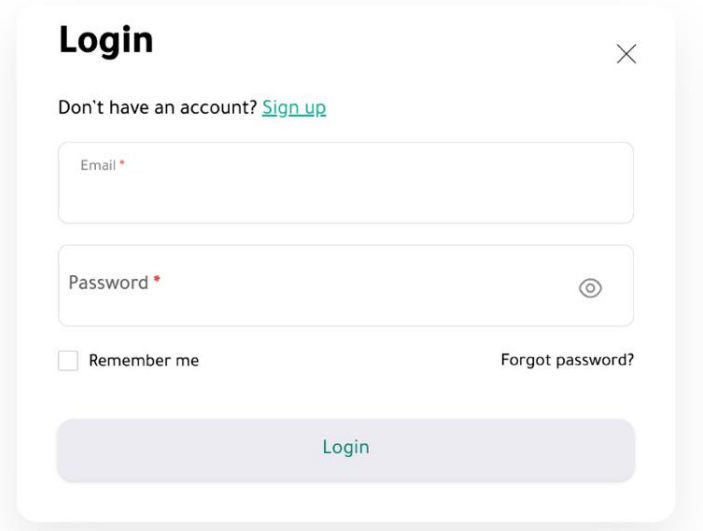
Nonconforming Content

N/A

Beneficiaries

Vision Disabilities

Illustrative Example
2.5.3 Label in Name



Interactive UI elements have clear names/labels, which also match the programmatically determined label name (e.g., beneficiaries, as well as assistive technologies, are able to clearly understand that the button with the name / label "Log in" will trigger an action to allow the beneficiary to log into their account on the related government application).

Learn to implement

Level A | Level AA | Level AAA

2.5.4 Success Criterion: Motion Actuation

This success criterion requires that any functionality which is triggered by motion (such as shaking a device), must also be triggered by an alternative method of input (such as a button press).

Examples

- Disable motion detection and motion-based gestures at the system level (i.e, operating system level).
- Turn off motion actuation features (e.g, turning off the "shake to undo an action" feature).
- UI elements, which perform the same function as motion detection and motion-based gestures.

- E.g., providing an undo button instead of shaking the device to undo an action.

Benefits

- Beneficiaries who rely on assistive technologies (such as eye trackers, speech input devices, screen readers, etc.) will be able to interact with and carry out motion-based actions in alternative ways.

Nonconforming Content

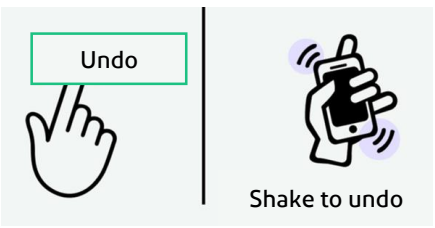
- Motion, which is essential for the function (e.g., pedometer/ step counter).
- Motion, which is essential to operate functionality through accessibility-supported interfaces (ie to ensure content operates in the correct manner with assistive technologies).

Beneficiaries

Mobility Disabilities

Illustrative Example

2.5.4 Motion Actuation



Avoid using motion as the main mechanism of triggering an action (e.g., instead of using “Shake to undo”, which is a motion-actuated action, the beneficiary is able to press an “Undo” button).
Learn to implement

Level A | Level AA | Level AAA

2.5.5 Success Criterion: Target Size

This success criterion requires that interactive elements (such as buttons or links), have a minimum size to ensure that they are easily clickable and selectable, regardless of the device used to access the content.

Examples

- Target size of pointer inputs is equal to or greater than 44x44 CSS pixels (i.e UI elements such as buttons must be 44x44 CSS).

Benefits

- Beneficiaries who have mobility and/or vision disabilities will be able to
  - Better interaction with content that has bigger target sizes.
  - Avoid accidentally triggering unwarranted actions.
- Beneficiaries who mostly use touch-screen mobile phones will also be able to better interact with content through clearer.
- UI elements and bigger target sizes.

Nonconforming Content

- Sentences and/or blocks of text.
- Equivalent targets
  - If more than one target, which performs the same function, is available, then only one of the pointer inputs needs to be equal to or greater than 44x44 CSS pixels.
- Specific target size, in which changing it will impact operability across the digital platform.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example
2.5.5 Target Size

```
<style>
  .fixed-size-button {
    width: 44px;
    height: 44px;
    padding: 10px; /* optional padding for visual spacing */
  }
</style>
```

Target size of UI elements should be equal to or greater than 44x44 CSS pixels to improve interaction across digital platforms (e.g., the target size of the button is programmatically determined to be 44x44 CSS pixels).
Learn to implement

Level A | Level AA | **Level AAA**

2.5.6 Success Criterion: Concurrent Input Mechanisms

This success criterion requires that any functionality which is triggered by multiple input methods (such as a touchscreen and keyboard), must also be operable by each input method separately or in combination.

Examples

Different modes of input (e.g., pairing a mouse and/or keyboard with a mobile device to input content instead of relying on inputting content via touchscreen).

Benefits

Beneficiaries will be able to customize their interactions and the way they input information on digital platforms as per their preferences.

Nonconforming Content

- Concurrent input mechanisms are essential for content security purposes.
- Concurrent input mechanisms, which are essential for interacting with the content.
- Concurrent input mechanisms, which are set up/ preferred by the beneficiaries.

Beneficiaries

- Vision Disabilities
- Learning Disabilities
- Cognitive Disabilities
- Mobility Disabilities

Illustrative Example

2.5.6 Concurrent Input Mechanisms

Different modes of inputting information are available to enable beneficiaries to customize their interactions with web content (e.g., the beneficiary is able to write an email by inputting text using a physical keyboard, touch screen, mouse, and/or a combination of all three input mechanisms).

Learn to implement

Level A | Level AA | Level AAA

2.5.7 Success Criterion: Dragging Movement

This success criterion requires providing a beneficiary with a pointer alternative instead of dragging movements for actions that require dragging items across a webpage.

Examples

- Using arrows as a form of movement from one point to another, the arrows should be able to move in all directions.
- Using dropdown menus or textboxes for beneficiaries to enter precise information instead of dragging.
- If a color clicker slider requires dragging to change the color, a text box to input the color code such as: hex or RGB would benefit a larger base of beneficiaries.
- Tapping the item to move it from instead of holding to drag and drop. Items could be sorted in a list that requires dragging simply by tapping on the items.

Benefits

- Beneficiaries with mobility disabilities that face issues with performing dragging movements, can operate an interface with a pointer interface.

Nonconforming Content

- When the dragging movement is an essential like in a digital game.
- If the product owner may not be able to alter the movement option to tabs or clicks.

Beneficiaries

- Mobility Disabilities

Illustrative Example

2.5.7 Dragging Movement

Using a dropdown menu to enter a range of numbers as an alternative to dragging the circles to illustrate the range of numbers.
Learn to implement

Level A | Level AA | Level AAA

2.5.8 Success criterion: Target Size (Minimum)

This success criterion requires that interactive elements (such as buttons or links) have a sufficient size and/or spacing size, to ensure that they are no adjacent interactive element is selected instead of the intended element.

Examples

- Target size of pointer inputs is at least 24x24 CSS pixels (i. e UI elements such as buttons must be 24x24 CSS).
    - E.g., Three buttons are next to each other, each having a dimension of 24x24 CSS pixels. Here no additional space is required.

Benefits

- Beneficiaries who have mobility and/ or vision disabilities will be able to:
    - Better interact with content having sufficient size and/ or spacing.
    - Select the right target, without selecting an adjacent target.
- Beneficiaries who mostly use touch-screen mobile phones will also be able to better interact with content better and using one hand easily.

Nonconforming Content

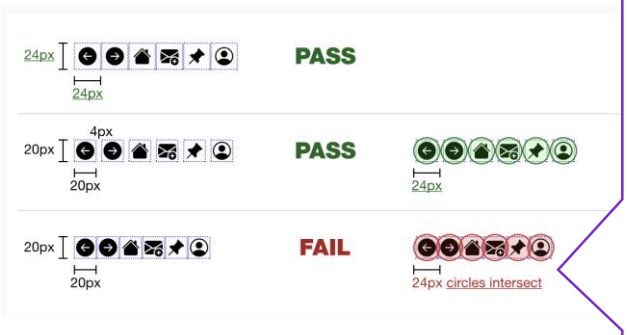
- Links within a paragraph
- If the targets size of the pointer inputs is less than 24x24 CSS pixels, a sufficient spacing of at least 24 CSS diameter circle should be between each interactive element.
- If more than one target, which performs the same function, is available, then only one of the pointer inputs needs to have a minimum size of 24x24 CSS and enough space around it.
- If the target size is by default and cannot be altered by the product owner.
- If a target is important and should legally be mandated for conveying the information.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities

Illustrative Example

2.5.8 Target Size (Minimum)



Six interactive elements are near one another, where if each button is 24x24 CSS pixel then no additional spacing is required. While if each button is less than 24x24 CSS pixel then spacing is needed of sufficient spacing of at least 24 CSS diameter circle should be between each interactive element. If no spacing is added, then the beneficiary would likely select the wrong interactive element.

Learn to implement

5.2.2.4 Principle 3. Understandable

The table below provides an overview of principle 3, its guidelines, success criteria, and levels of compliance.

5.2.2.4.1 Principle 3. Understandable

Principle 3 is focused on the clarity and comprehensibility of the content to ensure that all beneficiaries are able to understand content without any difficulties.			
#	Guidelines	Success Criteria	Level of Compliance
3.1	Guideline (Readable): Ensure that text content is easy to read and that al essential content can be read by assistive technologies.	3.1.1 Language of Page	Level A
		3.1.2 Language of Parts	Level AA
		3.1.3 Unusual Words 3.1.4 Abbreviations 3.1.5 Reading Level 3.1.6 Pronunciation	Level AAA
3.2	Guideline (Predictable): Ensure that digital platforms behave consistently and predictably, to reduce cognitive load and make navigation easier.	3.2.1 On Focus 3.2.2 On Input 3.2.6 Consistent Help	Level A
		3.2.3 Consistent Navigation 3.2.4 Consistent Identification	Level AA
		3.2.5 Change on Request	Level AAA
3.3	Guideline (Input Assistance): Provide assistance to beneficiaries when inputting information, such as autofill suggestions, error prevention and correction, and clear instructions.	3.3.1 Error Identification 3.3.2 Labels or Instructions 3.3.7 Redundant Entry	Level A
		3.3.3 Error Suggestion 3.3.4 Error Prevention (Legal, Financial, Data) 3.3.8 Accessible Authentication (Minimum)	Level AA
		3.3.5 Help 3.3.6 Error Prevention (All webpages) 3.3.9 Accessible Authentication (Enhanced)	Level AAA

Level A | Level AA | Level AAA

3.1 Guideline (Readable)

3.1.1 Success Criterion: Language of Page

This success criterion requires that the language of the page is programmatically determined and declared in the page markup or through a declared language mechanism to ensure that assistive technologies can properly pronounce content. Text and linguistic content must be presented correctly.

Examples

- Default human language of web content is programmatically determined (e.g a website using English as the default human language (i.e., primary content language).
- Linguistically accurate captions for video and audio content.
- Accurate pronunciation rules (i.e., for screen readers).
- Accurately displayed characters and scripts (i.e., for visual browsers).

Benefits

- Beneficiaries who rely on assistive technologies (such as screen readers) will be able to:

- Understand content more easily through a programmatically determined default human language (e.g., a website whose main language is English).

- Beneficiaries who have cognitive and/or learning disabilities will be able to:

- Better understand the content, especially when using text-to-speech features and/or synchronized captions for media content.

- Assistive technologies will be able to properly pronounce content, conveying accurate information.

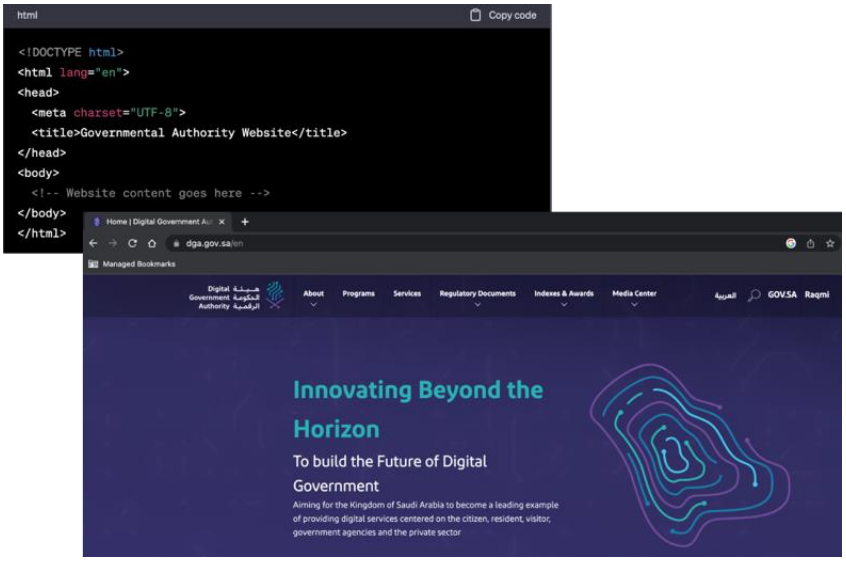
Nonconforming Content

N/A

Beneficiaries

- Learning Disabilities
- Cognitive Disabilities

Illustrative Example
3.1.1 Language of Page



The language of web pages is programmatically determined (e.g., the language of the page is programmatically determined to be English).
Learn to implement

Level A | Level AA | Level AAA

3.1.2 Success Criterion: Language of Parts

This success criterion requires that the language of each part of the content is programmatically determined and declared to ensure that assistive technologies can properly pronounce content. Programmatically determining the language of parts allows for multiple languages to be presented across web pages.

Examples

- Programmatically determine all of the text to ensure texts in different languages are accurately marked up.
- Providing a mechanism to ensure accurate pronunciation of multilingual text content, especially when using text-to-speech features and assistive technologies like screen readers.
- E.g., using speech synthesizers like Alexa. Alternative language links for the same web content
- Linguistically accurate captions for video and audio content (e.g., subtitles)
- Accurately displayed characters and scripts across the different languages

Benefits

- Beneficiaries who rely on assistive technologies (such as screen readers) will be able to

- Understand content more easily, especially if the content is accurately provided in multiple languages, as the assistive technologies will be able to properly pronounce content, conveying accurate information.

- Beneficiaries who have cognitive and/or learning disabilities will be able to

- Understand content through synchronized captions, which help beneficiaries understand a change in languages.

- E.g., if a phrase in German is provided for English media content, captions are able to show the change in the language and display the translated version for beneficiaries.

- All beneficiaries will be able to better understand the content through accurate translations and pronunciations, especially beneficiaries who rely on text-to-speech features to understand text content.

Nonconforming Content

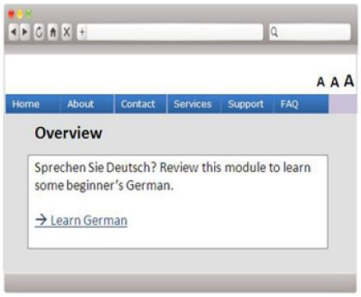
- Proper names (e.g., John, Amy, etc.)
- Technical names (e.g., hertz, etc.).
- Words and/or phrases which are interpreted differently / don't have a specific meaning (i.e., subjective words/ terminology – e.g., idioms)
- Words and/or phrases which are part of a specific dialect / spoken language.
- E.g., slang language, terms only spoken by people in certain geographic areas, etc.

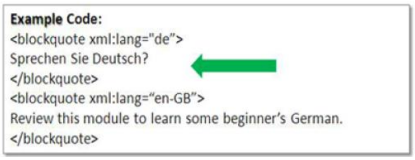
Beneficiaries

- Learning Disabilities
- Cognitive Disabilities

Illustrative Example

3.1.2 Language of Parts





The language of web pages is programmatically determined to identify the language for each separate section and/or UI component which contains content in different languages (e.g., the language of a web page, which contains content in both the English and Arabic languages is split into sections, where each section's language is programmatically determined - i.e., the part with content in Arabic is programmatically determined separately from the part with content in English).

Learn to implement

Level A | Level AA | Level AAA

3.1.3 Success Criterion: Unusual Words

This success criterion requires that text contains only words that are properly spelled and used in a way that makes sense. A mechanism for defining unusual and/or ambiguous words or phrases (including idioms, jargon, etc.) must be available.

Examples

- Limiting the use of figurative language and/or unusual terminology.
- Providing glossaries to explain any uncommon word or phrase.
- Providing footer notes to define the uncommon words or phrases.
- Providing in-text definitions of uncommon phrases and/or words.
- Providing a structure for searching and looking up definitions of unclear words/ phrases within the digital platform (e.g., cascading dictionary.)

Benefits

- Beneficiaries who have cognitive and/or learning disabilities will be able to better understand content by:

- Having the ability to look up/ read the definitions of unfamiliar words and/or phrases.

- Beneficiaries who have vision disabilities, especially those who rely on magnifiers, will be able to understand content without losing context due to zooming in

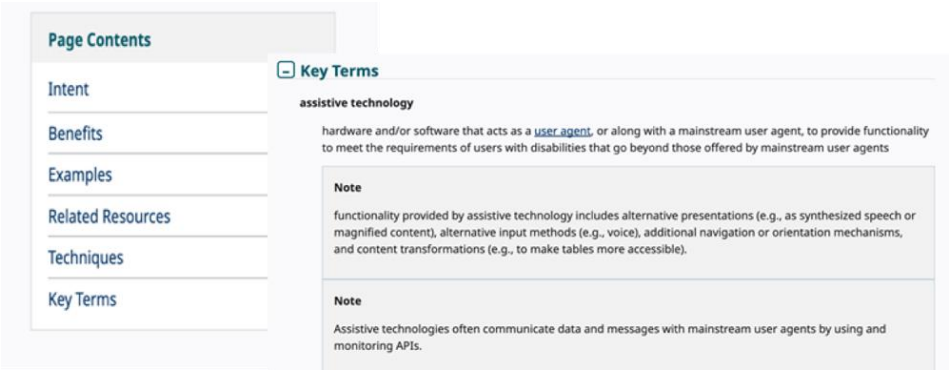
Nonconforming Content

N/A

Beneficiaries

- Learning Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
3.1.3 Unusual Words



The use of unusual words is limited and/ or definitions are provided (e.g., web page contains a section dedicated to explaining/defining the unusual terminology used).
Learn to implement

Level A | Level AA | Level AAA

3.1.4 Success Criterion: Abbreviations

This success criterion requires that any abbreviations used are properly marked up to ensure that assistive technologies can announce the expanded form. A mechanism for accurately identifying abbreviations must be available.

Examples

- Programmatically determining abbreviations (i.e., by providing the expanded form in code).
- Providing the expanded form of abbreviations within the text content (at least the first time that the abbreviation is introduced to the beneficiaries).
- Providing a search functionality linked to an acronym dictionary to allow beneficiaries to look up unfamiliar abbreviations (e.g., cascading acronym dictionary).
- Providing glossaries to expand and explain abbreviations.

Benefits

- Beneficiaries who have cognitive and/or learning disabilities will be able to better understand the content by:

- Being able to expand and understand abbreviations/ abbreviated terminology.

- Beneficiaries who have vision disabilities, especially those who rely on magnifiers, will be able to understand abbreviations which are:

- Programmatically determined, expanded within text content and/or for which a search functionality is available, without losing context due to zooming in.

Nonconforming Content

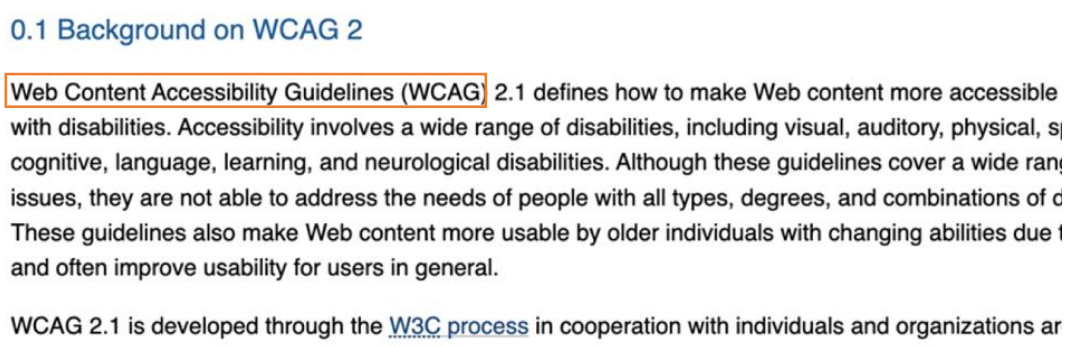
N/A

Beneficiaries

- Vision Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example

3.1.4 Abbreviations



0.1 Background on WCAG 2

Web Content Accessibility Guidelines (WCAG) 2.1 defines how to make Web content more accessible with disabilities. Accessibility involves a wide range of disabilities, including visual, auditory, physical, s cognitive, language, learning, and neurological disabilities. Although these guidelines cover a wide ran issues, they are not able to address the needs of people with all types, degrees, and combinations of d These guidelines also make Web content more usable by older individuals with changing abilities due t and often improve usability for users in general.

WCAG 2.1 is developed through the W3C process in cooperation with individuals and organizations ar

Abbreviations are clearly explained / accurately expanded, to ensure beneficiaries properly comprehend content (e.g., the web page first provides the expanded form of "WCAG" in the text content, as well as explains the abbreviation, before using the abbreviated term throughout the content).

Learn to implement

Level A | Level AA | Level AAA

3.1.5 Success Criterion: Reading Level

This success criterion requires that text content is understandable by a wide range of beneficiaries, including those with lower literacy or cognitive abilities. Alternative content must be available for complex content (i.e., simplified written content should be provided if the original content requires reading abilities more advanced than secondary school levels).

Examples

- Simplify written content to make it easier to read and understand.

- E.g., use short, common words and short sentences, provide summaries, provide content for beneficiaries of different reading abilities, remove proper names, city names, and titles, etc.

- Provide alternative content to explain complex content which can't be simplified.

- E.g., providing a simplified version of the complex textual content.

- E.g., using different sensory characteristics, such as using infographics to explain complex textual content.

- Provide instructions to ease understanding of the complex content (e.g., "how to read").

Benefits

- Beneficiaries who have cognitive and/or learning disabilities, especially those who face difficulties with written/ textual content, will be able to better understanding of the content through simplified language and/or alternative content, such as providing alternative means to perceiving and understanding textual content

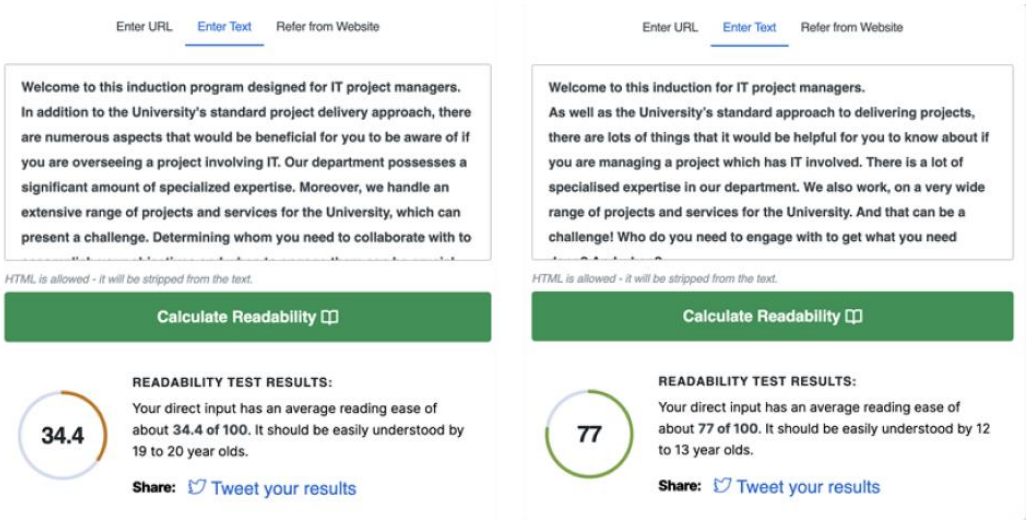
Nonconforming Content

N/A

Beneficiaries

- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
3.1.5 Reading Level



Content is easily read and understood by individuals who have completed a secondary education and above (grades 1 to 9+) (e.g., content on the left is more difficult to read and understand than the content on the right, although they both convey the same information. Hence, the content on the right, which is easier to read, should be used).
Learn to implement

Level A | Level AA | Level AAA

3.1.6 Success Criterion: Pronunciation

This success criterion requires that beneficiaries are provided with a pronunciation guide for words that may be difficult to pronounce or are unfamiliar. A mechanism for pronouncing context-based, unusual and/or ambiguous words must be available.

Examples

- Determining the correct pronunciation of words, which are spelled similarly but pronounced differently based on the context (e.g. desert (abandon) and desert (arid region)).
- Providing pronunciation information in the glossary.
- Providing sound files to teach beneficiaries the correct pronunciations (e.g., Google's pronunciation feature).

Benefits

- Beneficiaries who have cognitive and/or learning disabilities, especially those who face difficulties in understanding written/ textual content, will be able to understand the meaning of an ambiguous word based on its pronunciation and context.
- Beneficiaries who rely on assistive technologies, especially text-to-speech technologies (e.g, screen readers), will be able to better understand the content through accurate pronunciations based on context.

Nonconforming Content
N/A

Beneficiaries
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
3.1.6 Pronunciation

A pronunciation guide for unfamiliar words and / or similarly spelled words, which are pronounced differently and convey different meanings, is provided (e.g., the web page provides pronunciation information for the word “Digital Accessibility”).
Learn to implement

Level A | Level AA | Level AAA

3.2 Guideline (Predictable)

3.2.1 Success criterion: On Focus

This success criterion requires that any changes to UI elements, which occur when a component receives focus, must not create a change in context (such as opening a new window without the beneficiaries' awareness).

Examples

- UI elements in focus shouldn't trigger a change in context unless the beneficiary opts to trigger a change in context.

- E.g., if a hyperlink is in focus, the beneficiary should only be directed to the related web page if they click on the link.

- UI elements in focus should be easily distinguishable from other UI elements (e.g., by highlighting a UI button which is in focus).

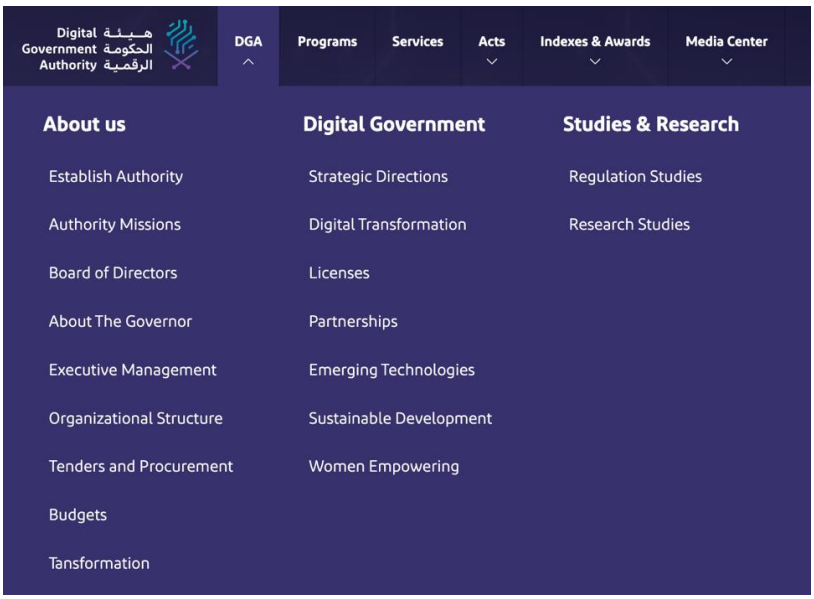
Benefits

Beneficiaries who have vision and/or mobility disabilities, as well as beneficiaries who have cognitive disabilities, will be able to better understand content by ensuring that UI elements on focus behave in a predictable manner.

Nonconforming Content
N/A

Beneficiaries
- Cognitive Disabilities
- Mobility Disabilities
- Vision Disabilities

Illustrative Example
3.2.1 On Focus



On focus UI elements behave in a predictable manner (e.g., “DGA” menu tab (UI element in focus) is highlighted when in focus, however, the drop-down isn’t visible. Once the beneficiary clicks on the “DGA” menu tab (UI element in focus), the drop-down menu appears; thus, the on-focus UI element behaves in a predictable manner).

Learn to implement

Level A | Level AA | Level AAA

3.2.2 Success Criterion: On Input

This success criterion requires that any changes to UI elements that occur when a beneficiary interacts with a UI element, must occur in a timely manner and must not create a sudden change in context (i.e., beneficiaries must have sufficient time to read and interact with content before it changes)

Examples

- UI elements which trigger a change in content upon interaction should not be time-based and/or should provide the beneficiary with enough time to understand the change that occurred.
  - E.g., if clicking the save/ submit button in a form will trigger a change in context, such as redirecting the beneficiary to a different web page, then providing a mechanism to confirm the action with the beneficiary before redirecting them will ensure that the interaction with the UI elements is predictable.
- Avoiding triggering actions or changes in content as soon as beneficiaries interact with UI elements.
  - E.g., if a button initiates a download, notify the beneficiary in advance and allow them to confirm the action before the download begins.

Benefits

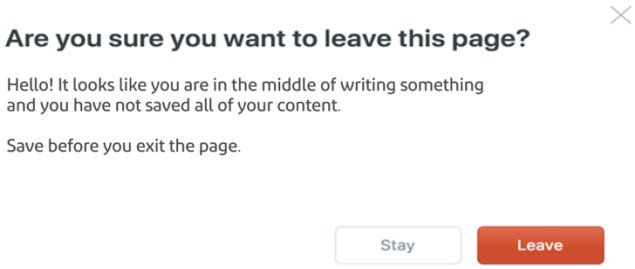
Beneficiaries who have vision disabilities, as well as beneficiaries who have cognitive and/or learning disabilities, will be able to better interact with and understand content by:

- Ensuring that UI elements, which create a change in content on interaction, still behave in a predictable manner.
- Ensuring that beneficiaries are informed before a change occurs.

Nonconforming Content
N/A

Beneficiaries
- Cognitive Disabilities
- Vision Disabilities
- Learning Disabilities

Illustrative Example
3.2.2 Success criterion (On Input)



A mechanism to inform beneficiaries of a change in content before it occurs is provided (e.g., pop- up message asking the beneficiary to confirm that they wish to exit the web page is displayed when the beneficiary clicks on the close button (i.e., Close button" is an example of a UI element which triggers a change in content on interaction)).

Learn to implement

Level A | Level AA | Level AAA

3.2.3 Success Criterion: Consistent Navigation

This success criterion requires that navigation mechanisms are consistent across web pages to ensure that beneficiaries can easily navigate digital platforms and find information. Repeated navigational mechanisms must occur in the same relative order.

Examples

- Consistent placement of UI elements across web pages, such as menus, links, and buttons
  - E.g., if a navigation menu appears at the top of the web page in the landing page, it should also appear at the top of every web page within the website.
  - E.g., if the "Home" link is the first item in the navigation menu, it should be the first item in the navigation menu across all web pages.
- Breadcrumb navigation should be consistently displayed and follow the same hierarchy throughout the website.
- Secondary navigation menus, such as submenus or contextual menus, should maintain consistent positions and behavior across web pages.

Benefits

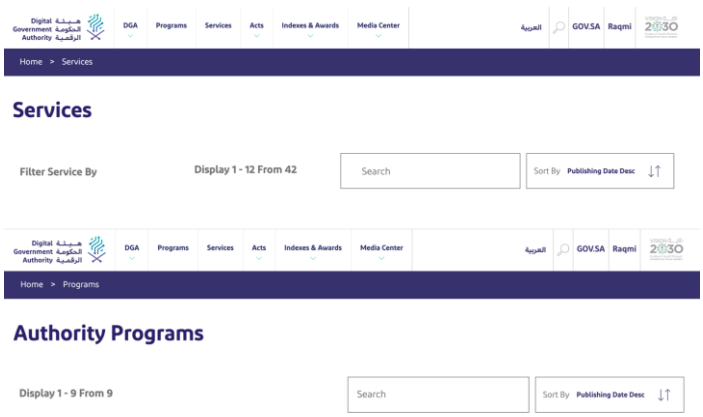
Beneficiaries who have the vision, cognitive and/or learning disabilities will be able to better interact with and understand content by:

- Ensuring that UI elements of interest are consistently placed and found in the same location within the digital platform.
- Ensuring that UI elements of interest behave in a consistent manner across all web pages.

Nonconforming Content
N/A

Beneficiaries
- Cognitive Disabilities
- Vision Disabilities
- Learning Disabilities

Illustrative Example
3.2.3 Consistent Navigation



Consistent navigation is maintained throughout the digital platform (e.g., both web pages of the same website display the navigation menu at the top of the page, where all the tabs are consistently organized and labeled, as well as behave in the same manner on interaction).

Learn to implement

Level A | **Level AA** | Level AAA

3.2.4 Success Criterion: Consistent Identification

This success criterion requires that UI elements, which have the same functionality, are consistently identified across web pages to ensure that beneficiaries can easily understand how to interact with them.

Examples

- Consistent text alternatives for UI elements which serve the same functionality (e g submit button has a "submit" text alternative across all web pages).
- Consistent, accessible names and labels for UI elements, which serve the same functionality (e.g., home icon is the same and has the same "home" label across all web pages).
- Programmatically determined consistent, accessible names and labels for UI elements, which serve the same functionality.

Benefits

- Beneficiaries who rely on assistive technologies (such as screen readers) will be able to better identify, interact with, and understand the UI elements within the digital platforms by consistently identifying and labeling UI elements

Nonconforming Content

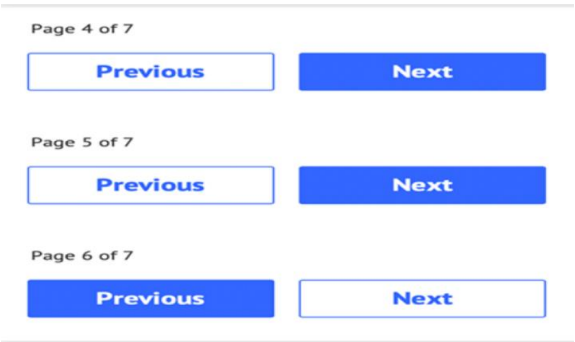
N/A

Beneficiaries

- Cognitive Disabilities
- Vision Disabilities
- Learning Disabilities

Illustrative Example

3.2.4 Consistent Identification



Consistent identification and labeling of UI elements is provided across the digital platform (e.g., buttons (i.e., UI elements) to navigate between web pages are consistently labeled “Previous” and “Next” across all web pages within the website).

Learn to implement

Level A | Level AA | **Level AAA**

3.2.5 Success Criterion: Change on Request

This success criterion requires that any changes to content that occur as a result of a beneficiary' request/ interaction with UI elements can be disabled or reversed, to allow beneficiaries more control over their interactions with web content.

Examples

- Initiating actions which trigger changes in context (e.g., beneficiary clicking an "update now" button)
- Disabling/ reversing actions which trigger a change in context (e.g., beneficiary clicking a "cancel/ undo" button upon accidentally submitting a form)
- Controlling time-based actions, which trigger a change in context (e.g., beneficiary customizing the frequency or intensity of notifications, alerts, or pop-ups)

Benefits

Beneficiaries who have vision, cognitive and/or learning disabilities will be able to better interact with content by

- controlling when and how often a change in context occurs (e.g., opting when to trigger or disable actions of interest

Nonconforming Content

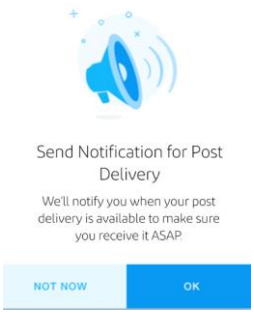
N/A

Beneficiaries

- Cognitive Disabilities
- Vision Disabilities
- Learning Disabilities

Illustrative Example

3.2.5 Change on Request



Change on request enables beneficiaries to control when and how frequent a change in context occurs (e.g., the beneficiary is able to select “OK” to trigger an alert when their delivery arrives by post (i.e., trigger an action which will result in a change in context), or select “NOT NOW” to disable a change in context from occurring).

Learn to implement

Level A | Level AA | Level AAA

3.2.6 Success criterion: Consistent Help

This success criterion requires that any help mechanism such as (phone number, email or social media etc.) are is in a consistent location across multiple webpages within a website or application.

Examples

- Help Mechanisms such as:
  - Human contact details (e.g. phone number, email address or hours of operation)
  - Human contact mechanism (e.g. messaging system, chat client, contact form, social media channel)
  - Self-help option (e.g. up-to-date FAQs, How Do I page, Support page)
  - Automated contact mechanism (e.g. chatbots)
- Contact us tab is located in the footer of the webpage.
- The main menu of the website contains a tab for help mechanisms.

Benefits

- Beneficiaries who have cognitive disabilities, will be able to locate help support or ask questions easily.

Nonconforming Content

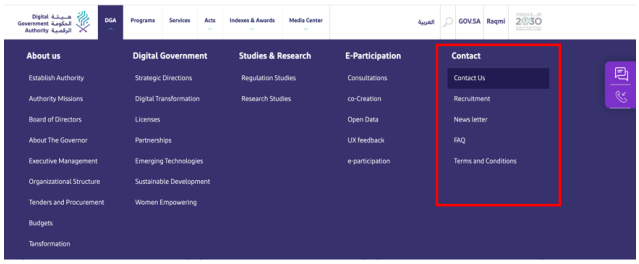
- PDFs
- If human contact is only available during certain hours during the day.
- If the webpage layout is changing due to beneficiary changing zoom level, orientation, or viewpoint, here the help would be located differently to ensure proper user interface and design.

Beneficiaries

- Cognitive Disabilities
- Vision Disabilities
- Hearing Disabilities

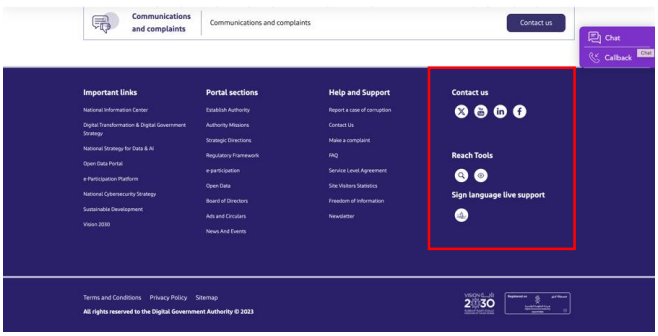
Illustrative Example

3.2.6 Success criterion (On Input)



The contact us section is consistently located across the website, where it can be found in the header under the same tab and in the bottom right of the webpage. In addition to locating the chatbot and callback whenever the beneficiary is scrolling.

Learn to implement



Level A | Level AA | Level AAA

3.3 Guideline (Input Assistance)

3.3.1 Success Criterion: Error Identification

This success criterion requires that any errors on a digital platform are made clear to beneficiaries in an understandable manner. Error messages must clearly describe the error(s).

Examples

- Error identification through images, color coding, text descriptions, error messages, etc.
- Programmatically determined error identification through programmatically determined error messages, changes in UI colors, etc.

Benefits

Beneficiaries who have a vision, cognitive and/or learning disabilities will be able to better interact with and understand content, by

- Noticing when errors occur, identifying the specific errors, and/or identifying the location within the digital platform in which the errors have occurred.

Nonconforming Content

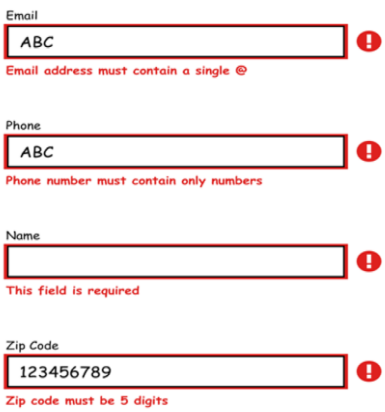
N/A

Beneficiaries

- Cognitive Disabilities
- Vision Disabilities
- Learning Disabilities

Illustrative Example

3.3.1 Error Identification



Clear error identification is provided to enable beneficiaries to notice when and where errors have occurred during their interactions (e.g., errors are clearly identified for every input field using color coding, an icon, and instructions on the required inputs).

Learn to implement

Level A | Level AA | Level AAA

3.3.2 Success Criterion: Labels or Instructions

This success criterion requires that UI elements, which require user input, have labels or instructions to help beneficiaries understand how to interact with them.

Examples

- Clearly labeled UI elements (i.e, checkboxes, radio buttons, etc., should have descriptive labels)
- Clear instructions, explaining the characteristics of content to be inputted (i.e, content type, format, character length, etc.)

- E.g., instructions for a date field, inform the beneficiary that the inputted date should follow a "MM/DD/YY" format.

- Focus-on instructions (i.e, showing instructions for user input when the related UI element is in focus)

Benefits

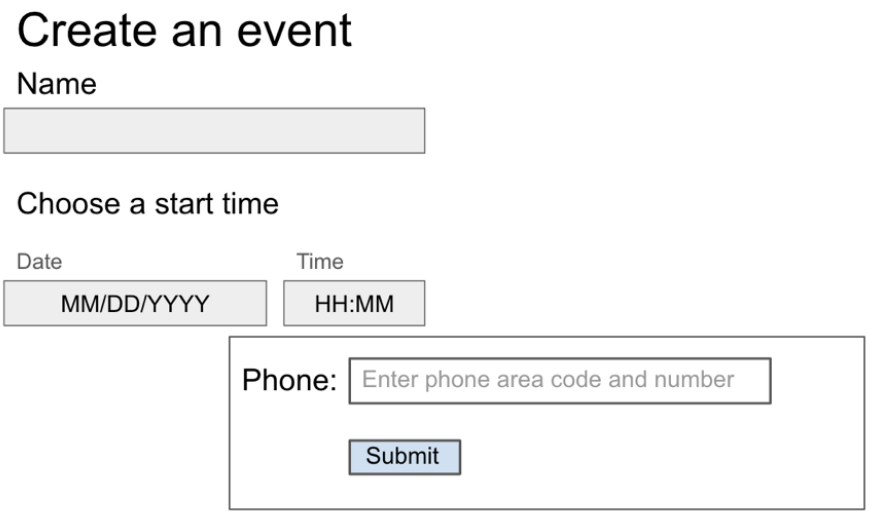
Beneficiaries who have cognitive and/or learning disabilities will be able to better interact with UI elements and content by:

- Understanding the intended purpose of user input fields and various UI elements (such as input type, format, character length, submit, exit, save buttons, etc.) through clearly labeled UI elements and instructions.

Nonconforming Content
N/A

Beneficiaries
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
3.3.2 Labels or Instructions



Labels / instructions are clearly provided for input fields and varying UI elements (e.g., beneficiary is able to easily understand that the required inputs for the "Date" field must follow a format of MM/DD/YYYY, whereas the required inputs for the "Phone" field must contain the area code and number, and last, that the button will result in the submission of the form).
Learn to implement

Level A | Level AA | Level AAA

3.3.3 Success Criterion: Error Suggestion

This success criterion requires that websites suggest possible solutions for any user input errors that occur to help beneficiaries resolve the issue more easily.

Examples

- Providing suggestions for correcting the identified errors

- E.g., if a beneficiary is asked to answer questions by typing in "True" or "False", and the beneficiary types in "Yes" instead of "True", a pop-up message may appear asking the beneficiary if they meant to type in "True".
- E.g., if a beneficiary is asked to answer questions by typing in "True" or "False", and the beneficiary types in "Yes" instead of "True", the "Yes" will be automatically adjusted to "True".

- Describing the error and the specific place of the identified error

- E.g., a beneficiary registering for a new account enters the password, that doesn't match the input criteria, then the beneficiary will be redirected to the password input field section and provided with a detailed description of the error and an example of an appropriate password - the solution.

Benefits

Beneficiaries who have vision, mobility and/or learning disabilities will be able to better interact with content by:

- Understanding why an input error has occurred and learning how it may be be resolved.

Nonconforming Content

- Error resolution suggestions, which may result in a security risk (e.g., suggestion to disable anti-virus in order to complete an activity)
- Error resolution suggestions may disrupt the purpose of the content.

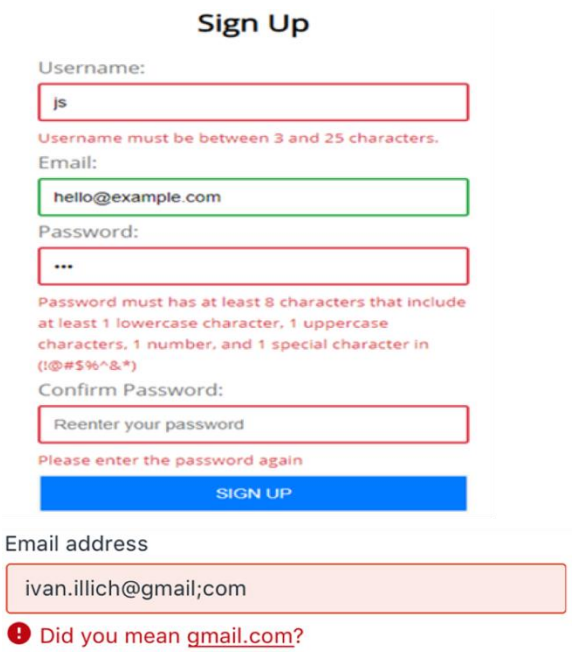
- E.g., suggestion to exit a page without saving the data, which would result in data loss.

Beneficiaries

- Cognitive Disabilities
- Learning Disabilities
- Mobility Disabilities

Illustrative Example

3.3.3 Error Suggestion



Suggestions on how to mitigate identified errors are provided, to enable the beneficiaries to better interact with content by understanding how to resolve errors (e.g., the beneficiary is able to understand that an error has occurred in the email address field and a suggestive message helps them mitigate this error. Similarly, beneficiary is able to identify that an error has occurred in the password input field and is able to mitigate this error by following the provided instructions).

Learn to implement

Level A | Level AA | Level AAA

3.3.4 Success Criterion: Error Prevention (Legal, Financial, Data)

This success criterion requires that websites take steps to prevent the occurrence of legal, financial, and/or data-related errors to avoid serious consequences for beneficiaries.

Examples

- Reversible submissions (e.g., beneficiary digitally submitting a tax form is able to cancel/ undo the submission)
- Data checks and error identification for inputted information to ensure that the data entered is accurate.

- E.g., the beneficiary making an online purchase receives a pop-up message to double-check their purchase order, payment details, shipping address, etc.

- Confirmation before submission (i.e., Mechanism for reviewing, checking, and confirming the accuracy of inputted information prior to submission)

- E.g., beneficiary making an online purchase receives a pop-up message asking them to confirm their purchase prior to proceeding with the payment.

Benefits

All beneficiaries will be able to reduce and even avoid legal, financial, and data risks, especially when interacting with user inputs that require sensitive information (e.g, visa card number) by:

- Having mechanisms to double-check inputted information, confirm information accuracy, and/or cancel submissions.

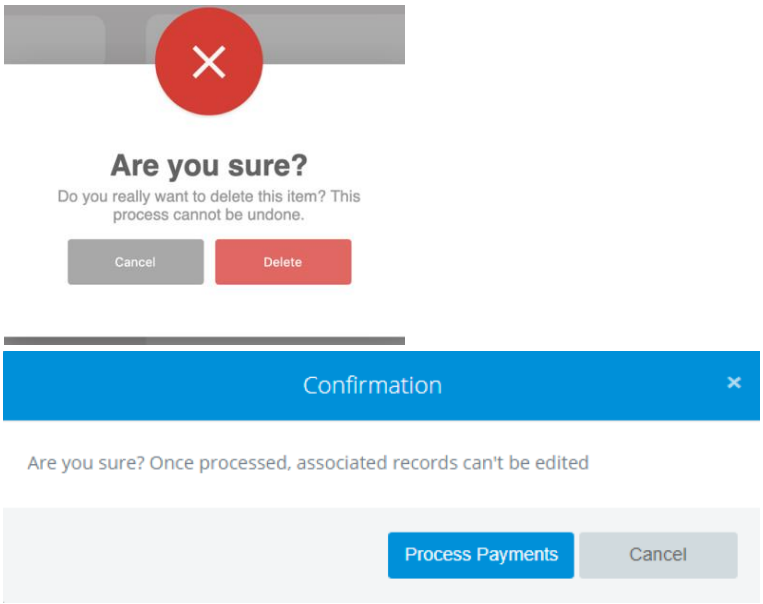
Nonconforming Content

N/A

Beneficiaries

- Cognitive Disabilities
- Learning Disabilities
- Mobility Disabilities

Illustrative Example
3.3.4 Error Prevention (Legal, Financial, Data)



Mechanisms to reduce/prevent legal, financial and/or data errors from occurring are provided (e.g., the beneficiary is asked to confirm that they wish to delete an item before proceeding with permanently deleting the item. Similarly, the beneficiary is asked to confirm their payments before proceeding with the action).
Learn to implement

Level A | Level AA | Level AAA

3.3.5 Success Criterion: Help

This success criterion requires that websites provide help and support for the different functions which are performed by beneficiaries (i.e., context-sensitive help), to assist beneficiaries in completing tasks and resolving any issues they may encounter.

Examples

- Help link (e g beneficiary clicks on the "Help" link and is redirected to the FAQs section, or a "how-to" section, or is provided with video tutorials, etc.)
- Help icon.

- E.g., a beneficiary filling out a form clicks the "Help" icon and triggers a pop-up window. The "Help" pop-up window explains the purpose and format of the inputs required in the form, helping beneficiaries complete the task accurately.

- Help via an AI-powered chatbot (e.g, chatbot provides step-by-step instructions, answers FAQs, and/or offers relevant links to assist beneficiaries in performing various functions).

Benefits

- Beneficiaries who have cognitive and/or learning disabilities will be able to better understand and interact with content when additional help is available.
- Elderly people who face difficulties in inputting information and/or navigating through content using a mouse will benefit from additional help, which could better guide them while they perform different activities.

Nonconforming Content

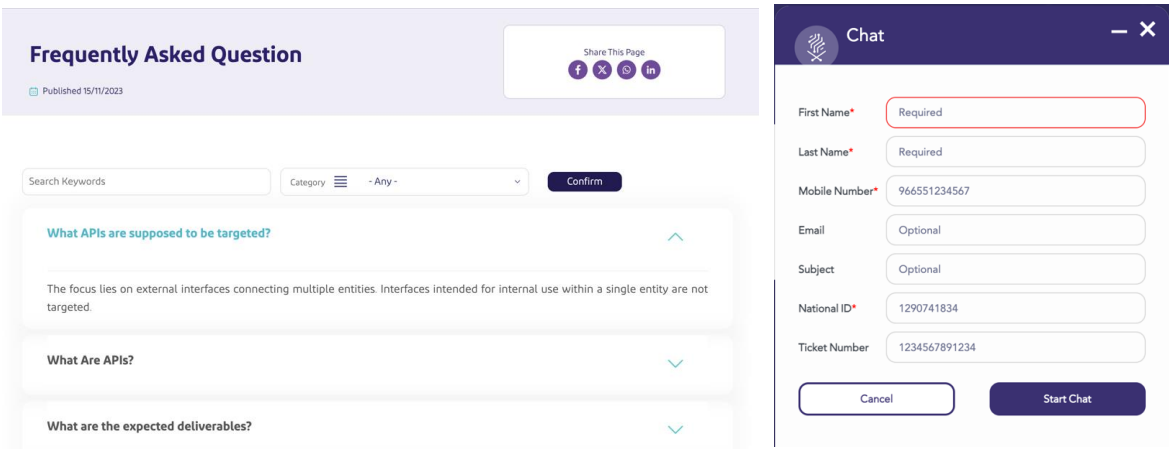
Sufficient labels (i.e., if sufficiently descriptive labels are provided, context-sensitive help doesn't need to be provided)

Beneficiaries

- Cognitive Disabilities
- Learning Disabilities
- Elderly

Illustrative Example

3.3.5 Help



A mechanism to provide beneficiaries with additional help while navigating digital platforms and interacting with content is provided (e.g., the beneficiary is able to learn more about any inquiries they may have by visiting the FAQ web page and/or by requesting help from a chatbot).

Learn to implement

Level A | Level AA | Level AAA

3.3.6 Success criterion: Error Prevention (All webpages)

This success criterion requires that websites take steps to prevent errors from occurring on all web pages to help ensure a smooth beneficiary experience.

Examples

- Reversible submissions (e.g., beneficiary digitally submitting a tax form is able to cancel/ undo the submission).
- Data checks and error identification for inputted information across all web pages ensure that the entered data is accurate.

- E.g., a beneficiary making an online purchase receives a pop-up message to double-check their purchase order, payment details, shipping address, etc.

- Confirmation before submission (i.e., availability of a mechanism for reviewing, checking, and confirming the accuracy of inputted information prior to submission)

- E.g., beneficiary making an online purchase receives a pop-up message asking them to confirm their order prior to proceeding with the purchase.

Benefits

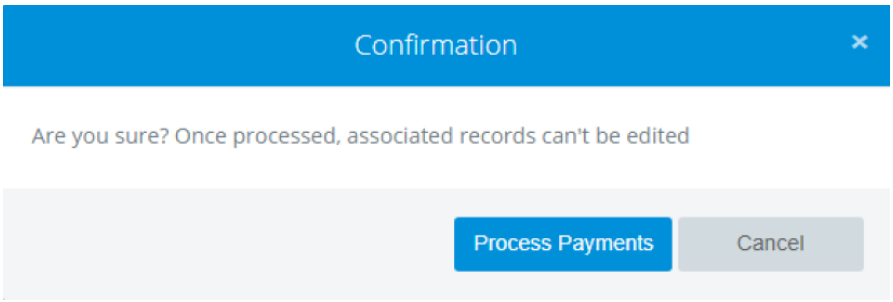
All beneficiaries will be able to reduce and even avoid errors, especially when interacting with user inputs that require specific/ sensitive information by:

- Having mechanisms to double-check inputted information, confirm information accuracy, and/or cancel submissions.

Nonconforming Content
N/A

Beneficiaries
All Beneficiaries

Illustrative Example
3.3.6 Error Prevention (All web pages)



Mechanisms to prevent errors across all web pages are provided (e.g., beneficiary is asked to confirm payments by clicking “Process Payments” or “Cancel”).
Learn to implement

Level A | Level AA | Level AAA

3.3.7 Success criterion: Redundant Entry

This success criterion requires that website content enables access to previously entered information and/or data by the beneficiary , this is to ensure that the beneficiary doesn't have to enter the same information multiple times when completing a process (e.g. filling a form or survey or completing a payment task.)

Examples

- Auto-filled content,
  - E.g,The **beneficiary doesn't** have to enter the same information twice as it can be filled automatically as a default.
- A webpage offers several options to not have to re-enter the information manually, such as:
  - Allow the **beneficiary to** copy and paste previously filled information.
  - Select information for a drop-down menu
  - Tick a check box to fill inputs with the same value as previously entered.

Benefits

- Beneficiaries who have cognitive disabilities face difficulties with short-term, working memory. Eliminating the need to remember specific information repeatedly, reduces stress and prospect of mistakes.
- Beneficiaries who have mobility disability and rely on assistive technology such as switch control or voice input will benefit from less need for text entry.

Nonconforming Content

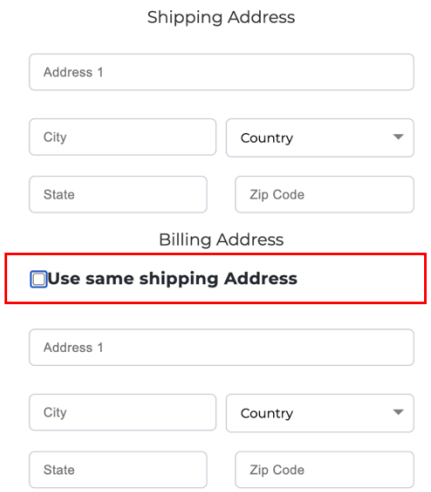
- When the information needed to be re-entered is due to security and privacy issues to protect or verify the **beneficiary** 's identity.
  - E.g., The password and confirm password fields, that require the **beneficiary to** re-enter their password twice for security checks.
- When previously entered information is no longer valid,
  - E.g., A credit card expiry date has passed.
- When re-entering the information is essential.

Beneficiaries

- Cognitive Disabilities
- Mobility Disabilities
- Hearing Disabilities
- Vision Disabilities

Illustrative Example

3.3.7 Redundant Entry



The beneficiary enters information about their shipping address in the first section of the form, by clicking on the checkbox “Use same shipping Address”, the beneficiary will not need to enter the information twice.

Learn to implement

Level A | Level AA | Level AAA

3.3.8 Success criterion: Accessible Authentication (Minimum)

This success criterion requires that any login authentication method relying on memory, transcription or problem-solving should include at least one alternative non-cognitive function test used for authentication purposes.

Examples

- When login credentials such as the username or password are required for authentication, it is crucial to provide **beneficiaries** with cognitive disabilities another login mechanism that assist in remembering, such as:
    - Enabling the option for the **beneficiary** to copy and/or paste their login credentials.
    - Enabling the login credentials to be automatically written using a password manager.
- When a two-factor authentication method is used for the **beneficiary** to identify their identify, as an alternativities method user the beneficiary should be able to copy and/or paste the OTP (One Time Password).
- Object Recognition such as recognizing an image or video for a cognitive function test.
- Personal Content Recognition such as
    - Uploading a personal image and identifying in between other images.
    - Logging in using personal information such as email or phone number as an alternative to username.
- Hardware Authentication Devices
- Biometric Authentication (Fingerprints, Facial Recognition, or Voice Recognition)
- Responding to security notification via emails or secondary devices.

Benefits

- Beneficiaries who have cognitive disabilities will be able to authenticate their identities easily and in a more convenient way regardless of their disability levels.

Nonconforming Content

- N/A

Beneficiaries

- Cognitive Disabilities

Illustrative Example

3.3.8 Accessible Authentication (Minimum)

Multiple images are displayed where the ~~user~~ beneficiary is asked to recognize and select the image that contains the cars as a form of verification.
Learn to implement

Level A | Level AA | Level AAA

3.3.9 Success criterion: Accessible Authentication (Enhanced)

This success criterion requires that any login authentication method relying on memory, transcription or problem-solving should include at least one alternative non-cognitive function test where the beneficiary doesn't have to select objects such as images or videos for authentication purposes.

Examples

- When login credentials such as Username or password are required for authentication, it is crucial to provide **beneficiaries** with cognitive disabilities another login mechanism that assist in remembering such as
    - Enabling the option for the **beneficiary** to copy and/or paste their login credentials.
    - Enabling the login credentials to be automatically written using a password manager.
- When a two-factor authentication method is used for the **beneficiary** to identify their identify, as an alternativities method **the beneficiary** should be able to copy and/or paste the OTP (One Time Password).
- Personal Content Recognition such as
    - Logging in using personal information such as email or phone number as an alternative to username.
- Hardware Authentication Devices
- Biometric Authentication (Fingerprints, Facial Recognition, or Voice Recognition)
- Responding to security notification via emails or secondary devices.

Benefits

- Beneficiaries who have cognitive disabilities will be able to authenticate their identities easily and in a more convenient way regardless of their disability levels.

Nonconforming Content

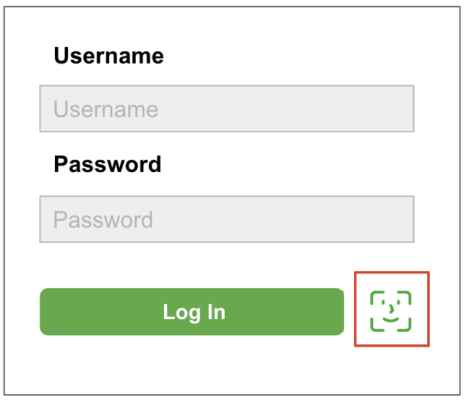
- N/A

Beneficiaries

- Cognitive Disabilities

Illustrative Example

3.3.9 Accessible Authentication (Enhanced)



Enabling the use of Biometric Face ID as a method of authentication instead of using log in credentials.
Learn to implement

5.2.2.5 Principle 4. Robust

The table below provides an overview of principle 4, its guidelines, success criteria, and levels of compliance.

5.2.2.5.1 Principle 4. Robust

Principle 4 is concerned with the adaptability and compatibility of content across different platforms, devices, and (assistive web) technologies to ensure that all beneficiaries are able to perceive, interact, and understand content.

#	Guidelines	Success Criteria	Level of Compliance
4.1	Guideline (Parsing): Ensure that the code used to create web content is well-formed and can be correctly interpreted by assistive technologies	4.1.2 Name, Role, Value	Level A
		4.1.3 Status Messages	Level AA

Level A | Level AA | Level AAA

4.1 Guideline (Parsing)

4.1.2 Success Criterion: Name, Role, Value

This success criterion requires that all UI elements (such as form fields, buttons, and links) have programmatically determined names, roles, and values to enable assistive technologies to properly identify and interact with them and ensure accessibility for beneficiaries with disabilities.

Examples

- Programmatically determining the name and role of UI elements (e.g., button, which is programmatically labeled "Submit" with the role also programmatically determined to trigger a submission action).
- Programmatically setting properties and values of UI elements (e.g., the date input field is programmatically set to accept values in the form of MM/DD/YYYY).
- Leveraging accessibility APIs (e.g., ARIA).

Benefits

Beneficiaries who rely on assistive technologies will be able to accurately perceive, understand, and interact with content and UI elements that have programmatically determined names, roles, and value.

- Programmatically determined names, roles, states, and values enable the user interface to be compatible with assistive technologies.
- E.g., screen readers will be able to announce the state of a checkbox (checked or unchecked), provide feedback on values entered into an input field, etc., conveying more accurate information to beneficiaries.

Nonconforming Content
N/A

Beneficiaries
- Vision Disabilities
- Mobility Disabilities
- Cognitive Disabilities
- Learning Disabilities

Illustrative Example
4.1.2 Name, Role, Value

Name, Role, and Value of UI elements are programmatically determined, to enhance beneficiary interactions, which heavily rely on assistive technologies (e.g., "DGA Services" button has a programmatically determined label/name of "DGA Services", a programmatically determined role of "search functionality, specifically location search" and a programmatically determined value of "Button").
Learn to implement

Level A | Level AA | Level AAA

4.1.3 Success Criterion: Status Messages

This success criterion requires that status messages presented to beneficiaries (such as error messages or success notifications) are programmatically determined to allow assistive technologies to announce and convey the messages to beneficiaries with disabilities.

Examples

- Pop-up messages, which are programmatically determined.
- Error messages, which are programmatically determined.
- Messages embedded in content and/or which are a result of an action/activity

- E.g., the message that appears on a search results page is "About 4,630,000,000 results (0.69 seconds)".

- Status progress messages (e.g., the beneficiary uploading a file is able to view a message displaying the remaining time to complete the upload).
- Success messages (e.g., the beneficiary receives a message confirming the successful completion of a task/activity they were performing).

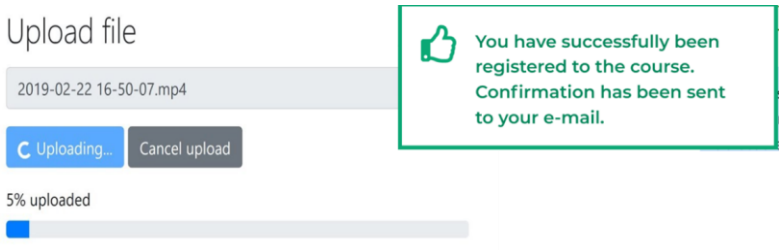
Benefits

- Beneficiaries who have vision and / or cognitive disabilities, will be able to know and keep track of the status of their activities.
    - E.g., screen readers voice over the status message of an activity being performed, completed, failed, etc.
- Beneficiaries who rely on assistive technologies will be able to personalize their interactions with programmatically determined status messages.
- Assistive technologies may choose to delay, suppress, or transform messages by adjusting the timing, filtering out redundant / less important information, or modifying the presentation of messages to:
    - Make status messages more perceivable and understandable.
    - Avoid unnecessary interruptions.

Nonconforming Content
N/A

Beneficiaries
- Vision Disabilities
- Cognitive Disabilities

Illustrative Example
4.1.3 Status Messages



Programmatically determined status messages are provided, to enable beneficiaries to easily understand the status of their activities/interactions (e.g., status bar and text showing the upload progress percentage of a file, or pop-up message informing the beneficiary of their successful registration).
Learn to implement

5.3 Understanding the Types of Disabilities

According to the People with Disabilities Survey conducted in 2017 and published by the General Authority for Statistics, people with disabilities represent 7.1% of the total population of the Kingdom of Saudi Arabia. This significant portion of the population includes individuals with diverse disabilities such as vision, hearing, cognitive, learning, and mobility disabilities.

Vision Disabilities

People with vision disabilities face challenges in perceiving visual web content. Providing alternative text descriptions, ensuring sufficient color contrast and semantic markup can enhance web accessibility for them.

Hearing Disabilities

People with hearing disabilities face challenges in perceiving auditory web content. Providing captions, sign language interpretation and visual presentation of audio information can enhance web accessibility for them.

Mobility Disabilities

People with mobility disabilities face challenges in interacting with and navigating web content. Providing alternatives to mouse and gesture-based actions, accessible forms, and skip navigation links can enhance web accessibility for them.

Cognitive Disabilities

People with cognitive disabilities face challenges in concentration, problem-solving and/or decision-making. Providing consistent navigation mechanisms, avoiding time-sensitive content, and limiting unpredictable behaviors of digital platforms can enhance web accessibility for them.

Learning Disabilities

People with learning disabilities face challenges in reading and comprehending web content. Providing logically structured content through headings and section titles, clear instructions for interactive web content, and using simple language are some of the ways to improve web accessibility for people with learning disabilities.

Other Disabilities

People who develop weakened hearing, vision, motor coordination, or other disabilities due to life situations/changes, such as the elderly, benefit from web accessibility. Providing easy ways to enlarge web content, using bigger target sizes for buttons, and ensuring web content is adaptable to different devices and display orientations can enhance web accessibility for them.

5.4 Assistive Technologies and Features

5.4.1 Most Popular Assistive Technologies, Features, and Their Beneficiaries

Voice recognition is an assistive technology designed to aid people of different groups. Voice recognition works by allowing the beneficiary to interact with web pages, web apps, and digital devices by navigating digital platforms through voice commands (i.e., through speech).

Screen reader is an assistive technology which supports people with vision disabilities by enabling beneficiaries to perceive and understand visually displayed content on web pages or web apps by converting the visually displayed content into speech or braille.

Head/ eye tracking software is an assistive technology which allows beneficiaries with physical disabilities to control and navigate their computers or other digital devices using head or eye movements. The Head/ Eye tracking software operates by using a camera or sensor to track the beneficiaries' head or eye movements and then translating those movements into cursor movements or clicks.

Braille technology is an assistive technology which allows people with vision disabilities to read and write via braille technology. Different types of braille technologies, such as braille displays, braille embossers, and braille keyboards Braille technologies are designed as devices which allow people to perceive and understand the text on the screen with their fingers via braille screens.

Magnification is an assistive feature which is being integrated into most web pages, applications, and even operating systems. Magnification allows beneficiaries to personalize the size of the web content and UI elements to match their preferences, making digital platforms and overall content more accessible for those who have from vision disabilities.

Dark Mode is a new assistive feature which is being introduced into recent versions of web pages, applications, and operating systems. Dark Mode enables beneficiaries to change the color of a web page, or app, or the entire operating system of devices, from brightly colored themes to white and black or dark grey. This feature aids beneficiaries with vision disabilities such as color blindness, as well as helps reduce eye strain for all beneficiaries in low-light conditions.

Captions is an assistive feature, that assists beneficiaries with hearing disabilities, new language learners, and beneficiaries in noisy environments to perceive and understand audio content. Captions are usually found within multimedia content, such as videos or live streams, and they provide beneficiaries with written transcripts of the audio content, allowing beneficiaries to follow along with videos and audio clips.

Text-to-speech is an assistive feature designed to convert any written text into any desired spoken language. This feature aims to assist beneficiaries with vision and reading limitations, as well as beneficiaries who consume web content while multitasking (such as drivers) and/or who face difficulty navigating and interacting with web content (such as elders).

Note-taking is an assistive technology which aids beneficiaries with learning disabilities. Note-taking solutions assist beneficiaries by taking notes during learning sessions. This assistive technology converts the written text, as well as recorded audio and videos, to text notes.

Examples of note-taking software include Glean, Mic Note, and MS OneNote.

Word prediction is an assistive technology designed to support beneficiaries with motor, cognitive, and learning disabilities. Word prediction solutions predict the next word as the beneficiary is typing.

Examples of word prediction software include MS Word, Google Docs, Poly Prefix, and Text help.

Brain-computer interface is an assistive technology designed to aid beneficiaries with motor disabilities. Brain-computer interface allows beneficiaries to control computers and other digital devices by using brain signals and interpreting those signals as digital commands, which assist in navigation.

Picture exchange communication tools are assistive features designed to support beneficiaries who fall within the autism spectrum. Picture exchange communication tools allow beneficiaries to converse with others using illustrated pictures.
Examples of Picture exchange software include PECS IV+ for Apple Inc. iOS and Avaz for both iOS and Google Android.

Speech-to-text/ dictation are assistive features designed to support beneficiaries' input text via speech recognition. Speech-to-text/ dictation features and tools allow beneficiaries to write and edit text content using their voice.

Beneficiaries

- Vision Disabilities
- Mobility Disabilities
- Learning Disabilities
- Hearing Disabilities
- Cognitive Disabilities
- Elderly

5.4.2 A Glimpse of Some of the Popular Assistive Technologies and Features Across the Industry

Tech Giants such as Apple Inc., Microsoft Corporation, Inc, and Google, with other tech companies, are increasingly becoming advocates for accessibility by introducing new features and tools that empower and aid beneficiaries with different abilities, enhancing their experiences.

Apple Inc.

- VoiceOver is a built-in feature which acts as a screen reader and provides a text-to-speech feature, interpreting all on-screen content and reading it aloud. VoiceOver is also available in many languages and locales.
- Switch Control is a built-in feature which allows beneficiaries to control their digital devices using external controls, such as assistive technologies.
- Magnifier and Detection Mode are built-in feature, that allow beneficiaries to use the camera on their IOS devices, in combination with LiDAR and machine learning technology, as a magnifying lens and a real-time people and object detector. The Detection Mode feature also provides beneficiaries with vision disabilities with a real-time description of objects around them, helping them better navigate their surroundings.
- Sound Recognition is a built-in feature, which detects sounds in the environment (such as fire alarms car horns, etc.) and alerts the beneficiaries through push notifications.

- Assistive Access is a built-in feature which allows beneficiaries with cognitive disabilities to experience a customized interface through easily accessing and navigating a selection of prioritized apps, such as “Call”, “Messages”, “Camera,” and “Music”. The Assistive Access feature also allows beneficiaries to choose between a visual grid-based layout or a textual row-based layout based on their preferred communication methods.
- Personal Voice and Live Speech are built-in features which allow beneficiaries to type in what they wish to say and have it read out loud in their own voice.
- Live Captions is a built-in feature which allows beneficiaries with a hearing disability to engage with audio content in real-time.
- Other built-in support features include easily adjusting text size, and pausing/reducing motion in graphics with moving elements.

Google

- Google Assistant is a built-in Al- assistance feature, that allows beneficiaries of different abilities to control and navigate their digital devices via voice commands.
- TalkBack is a built-in screen reader which helps beneficiaries with vision disabilities understand displayed content by reading content displayed on screens aloud.
- Assistive touch is a built-in gesture simplifier feature which detects gestures and movements of beneficiaries and translates them into control commands on digital devices.
- Other built-in support features and assistive technologies, such as braille, magnification, and dark mode, are also offered.

Microsoft Corporation, Inc.

- Microsoft Voice Command is a built-in speech recognition feature, which allows beneficiaries to control their digital devices by speaking different commands.
- Narrator is a built-in text-to-speech feature, which assists beneficiaries in understanding displayed content by reading content displayed on screens aloud.
- Eye Control is a built-in eye movement tracker which allows beneficiaries to control and navigate the Windows operating system by moving their eyes.
- Microsoft AI is a built-in feature that leverages the camera to support beneficiaries with vision disabilities in better perceiving their environments, including describing surroundings, colors, and brightness, as well as recognizing people and their emotions. Microsoft AI is also able to support beneficiaries in distinguishing between different currencies, reading aloud printed material, and identifying products and their barcodes.
- Other built-in support features and assistive technologies, include braille, magnification, and dark mode.

Beneficiaries

- Vision Disabilities
- Hearing Disabilities
- Mobility Disabilities

6. Table of Definitions

Term	Definition
Authority	Digital Government Authority
Government Entities	Ministries, authorities, public institutions, councils, national centers, including any additional form of a public entity.
Digital Government	Promotes administrative, organizational, and operational processes between the various government entities in their transition to a comprehensive digital transformation to allow easy and effective access to government digital information and services
Digital Transformation	Digitally and strategically transforming and developing business standards and models that would rely on data, technologies, and ICT
Beneficiary	Citizens, residents, visitors, government entities, private sector, and non-for-profit sector, inside or outside the KSA are required to interact with a government entity to receive any of the services offered in the Kingdom.
Digital Channel	The instrument is mandated to achieve the purpose of creating websites, platforms, applications and various other digital channels and to achieve strategic objectives towards the beneficiaries of such websites and platforms. The digital content of websites includes various forms, such as written content, audio and visual segments, images, forms, charts, etc.
Digital Platform	Technical solutions on which digital products and digital services are built, that provide beneficiaries with an enhanced digital experience through digital portals or smart device applications (digital channels). The digital platform allows these channels to communicate and integrate among themselves, and it also allows the integration of their services with other external services, for example: Absher Platform
Digital Content	A tool entrusted with accomplishing the objective of creating websites, platforms, applications, and various other digital channels, and fulfilling strategic goals for the beneficiaries of those sites and platforms. The digital content of websites encompasses various formats, including written content, audio and video clips, images, shapes, charts, and more.
Beneficiary Experience	Beneficiary's perceptions and related feelings caused by the one-off and cumulative effect of interactions with the government entity's employees, systems, channels, or services

Accessible Rich Internet Applications (ARIA)	Set of attributes added to HTML elements to make web content and applications accessible to beneficiaries with disabilities who use assistive technology. An example of an ARIA attribute is “aria-label”, which is used to provide text alternatives for non-text content (e.g., aria- label="Beautiful sunset over the ocean").
Web Content Accessibility Guidelines (WCAG)	It is developed through the W3C process in cooperation with individuals and organizations around the world, with a goal of providing a single shared standard for web content accessibility that meets the needs of individuals, organizations, and governments internationally.
Accessibility Features	Specific functionalities and/or capabilities that are designed to improve web accessibility for people with disabilities and elderly people.
Accessibility Standards	Set of guidelines and requirements that define how to make digital content and technology accessible to beneficiaries with disabilities and elderly people.
Assistive Technologies and Features	Devices or software designed to aid people with disabilities in accessing and navigating web content and/or digital devices independently.
Audio-Only Content	Media is consumed solely through sound, such as podcasts, audiobooks, music streaming, and voice recordings.
Breadcrumbs	Navigational aids displaying the hierarchical structure of a website, which allows beneficiaries to track their location and easily navigate back and forth between web pages.
CAPTCHA	Security measures that use tests or questions, often in the form of distorted characters, to distinguish human beneficiaries from bots.
Chatbot	Feature, which is found on websites and within applications and is designed to simulate human conversation, is typically used for providing assistance and/or answering frequently asked questions (FAQs).
Closed Captions	Textual representation for viewers with hearing disabilities, which provides a written representation of audio elements such as dialogue, sound effects, or speaker identification.
Color Coding	A mechanism of identification that uses colors to identify different elements/content.
Cognitive Disability	Disability that limits a person's ability to think, understand, learn, or remember.
Contrast Ratio	Difference in luminance between foreground and background colors, determining the accessibility and readability of text and graphical elements on a web page.

CSS Pixels	Unit of measurement in Cascading Style Sheets (CSS), which provides relative length based on the pixel density of images or icons.
Decorative Content	Visual elements, such as images or brand logos, which are used for aesthetic purposes and do not convey information. Decorative content is often excluded from assistive technologies or alternative content descriptions.
Glyphs	Visual representations or symbols used in writing systems, typography, or graphic design to convey meaning or represent specific characters or elements (such as a "smile" glyph used to indicate feeling happy).
Haptics	Tactile sensations and vibrations to convey information and enhance user interaction and engagement with digital devices or interfaces.
Hearing Disability	Disability that limits an individual's ability to hear partially or completely.
Hover	Action of moving a mouse cursor over an interactive UI element on a website or application (without the need to click), often triggering a visual change or revealing additional information.
Input Field	Interactive UI elements which allow beneficiaries to enter or select data, such as text, numbers, or options, within a digital platform.
Level of Compliance	Extent to which web content adheres to specific accessibility standards and guidelines.
Luminance	Level of brightness or light intensity of a visual element, such as text, images, or backgrounds.
Media Alternatives	Alternative formats or versions of media content are provided to accommodate different accessibility needs or preferences (such as visual, auditory and/or textual content).
Media Content	Audio, video, and interactive elements are embedded within digital platforms.
Mobility Disability	Disability that affects a person's ability to move, walk, or use their limbs effectively, resulting in challenges related to physical mobility and dexterity.
Nonconforming Content	Situations or examples where specific web content is not assessed against the WCAG success criteria, leading to the oversight or non-implementation of the criteria for that content.
Multipoint Gestures	Interactions using multiple fingers or touch points simultaneously to navigate, zoom, scroll, or perform other actions (often on touch-enabled devices).
Perceivable	Presenting digital content and UI elements in a manner that is understood and sensed by beneficiaries through their available senses (such as sight, hearing, or touch).

Principles	Statements that set out long-term policy goals within each pillar
Process	A set of interrelated or interacting activities which transforms inputs into outputs.
Robust	Developing digital content and web technologies in a way that ensures compatibility and resilience across different platforms, devices, and assistive technologies.
Sensory Content	Elements within digital media are designed to engage the senses of the such as audio, video, animations, or interactive features.
Success Criteria	Specific checkpoints or benchmarks within an accessibility standard, outlined in the Web Content Accessibility Guidelines (WCAG), which websites and digital content must meet to be considered accessible and usable for all individuals, including those with disabilities.
Switch UI Elements	User interface components, specifically designed for individuals with motor disabilities, to allow them to navigate and interact with digital interfaces through alternative input methods, such as switches or specialized devices.
Tests / Exercises	Interactive elements or activities are designed to evaluate knowledge, skills, or abilities, typically through quizzes, surveys, or interactive challenges.
Text Alternatives	Descriptive text is provided for non-text content (such as images), to enable individuals with vision disabilities and/or those using assistive technologies to understand and access digital information.
UI Elements / Components	User interface elements or interactive components within a digital interface, which enable beneficiaries to interact with a software or website (such as buttons, menus, forms, or sliders).
Video-Only Content	Content primarily consists of video without accompanying text or audio descriptions, potentially presenting challenges for individuals with vision disabilities or those who rely on assistive technologies.
Vision Disability	Condition or disability that affects vision or eyesight resulting in partial or complete loss of sight and impacting an individual's ability to perceive visual information.
Website	Non-interactive web pages that provide information and news content available to everyone without need log in to the website. It can also demonstrate the available service and products catalog, but without the ability to request them, meaning that they are noninteractive services

7. Table of Abbreviations

Term	Definition
API	Application Programming Interface
ARIA	Accessible Rich Internet Applications
CAPTCHA	Completely Automated Public Turing test to tell Computers and Humans Apart
CC	Closed Captions
CJK	Chinese, Japanese and Korean
CSS	Cascading Style Sheets
DOM	Document Object Model
FAQ	Frequently Asked Question
GIF	Graphics Interchange Format
HTML	Hypertext Markup Language
IOS	iPhone Operating System
MM/DD/YY	Month / Day / Year
PDF	Portable Document Format
SMIL	Synchronized Multimedia Integration Language
SVG	Scalable Vector Graphics
UI	User interface
URL	Uniform Resource Locator
W3C	World Wide Web Consortium
WCAG	Web Content Accessibility Guidelines

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