مركز التكنولوجيا
المُساعِدة قطر

qatar assistive
technology center

مدى mada

Qatar Website Accessibility / Usability
Best Practices Checklist: v1.3

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Website Accessibility / Usability Best Practices Checklist

Introduction

When re-building or retrofitting a website with accessibility and usability, a comprehensive international guideline is available on how to incorporate accessibility. The WCAG 2.0, Web Content Accessibility Guidelines were developed by the W3C WAI (World Wide Web Consortium, Web Accessibility Initiatives) which is recognized by legislation all over the world.
Mada has compiled a generic website accessibility and usability checklist for Qatar with Arabic content that any organization can adopt and reshape into policy. It is important to note; incorporating accessibility and usability into the early planning stages and the process of a new website design is much easier than retrofitting accessibility and usability into an existing website. From an economic and time saving point of view, it makes perfect sense to do it right the first time, not after the website has been built.

Why create Accessible Websites in Qatar?

- **It is the right thing to do!** People with disabilities using Assistive Technology (AT) devices must have equal rights to information. It is estimated that there are over 10,000 Qataris not including Expats living with a disability and the number is growing every year. We must also assume that international users using AT devices will also be visiting the websites in Qatar as major international events are planned for the future.

- **Qatar** has Signed and Ratified on the **United Nations; "Convention on the Rights of Persons with Disabilities"** which states that electronic information including websites must be accessible to people with disabilities.

- **ICT Qatar; Supreme Council of Information, Communication and Technology** has created an **e-Accessibility Policy** for Qatar, which states that Websites must be accessible and comply to; WCAG 2.0 A and AA guidelines.

References:

1. Some of the items in this checklist may directly quote references from the W3C WCAG 2.0 Guidelines; http://www.w3.org/TR/WCAG/
2. Some of the ideas for usability were referenced from the BBC website; My Web My Way; http://www.bbc.co.uk/accessibility/

Accessibility Standards and Guidelines

International Website Accessibility Guidelines

W3C WAI WCAG: WCAG 2.0 (A), (AA), (AAA)

World Wide Web Consortium, Web Accessibility Initiatives, Web Content Accessibility Guidelines

Accessibility Guideline Priorities

Address Accessibility issues in the order of importance;
WCAG 2.0: (A), (AA) and (AAA, optional)

For most organizations; compliancy levels A and AA are required.
Qatar eAccessibility Policy; A and AA compliancy

Guideline; **WCAG 2.0 (A)**
Priority 1 is a must fix, it should be addressed first.

Guideline; **WCAG 2.0 (AA)**
Priority 2 is a must fix after Priority 1's have been addressed

Guideline; **WCAG 2.0 (AAA)**
Fixing Priority 3 issues is optional. Addressing Priority 3's will ensure the website is fully accessible to the widest range of people possible.

Usability Assessment Priorities

Usability is just as important as compliance to guidelines. Web content and functionality must be tested with keyboard and assistive technologies.

Usability of Assistive Technologies: Example; Keyboard and Screen Reader

Usability Priority 1
Usability Priority 2
Usability Priority 3

Accessibility Tools and Methods

Software Accessibility Tools

Accessibility tool used for analyzing WCAG 2.0 compliancy

Web Aim "Wave" Accessibility Toolbar (Single web page analyzer)
Website: http://wave.webaim.org/
1. Install Firefox browser
2. Download and install the "Wave" Accessibility Toolbar as a Firefox add-on

Colour Contrast Analyzer

Used for measuring colour contrast between foreground and background content. The software checks for WCAG 2.0 colour contrast compliancy level AA and AAA.
Software: Color Contrast Analyzer 2.2, by The Paciello Group
Website: http://www.paciellogroup.com/resources/contrast-analyser.html
1. Download the zip file
2. Unzip the file and run the EXE file
3. Run the application on the desktop with Imaging and Web editing software

Usability Testing

Conducting usability tests with a screen reader and keyboard will ensure the following;

- Web content and functional components are in a logical and priority reading order
- Non-text elements are properly labeled with text equivalent
- The content or application is keyboard accessible
- The website will be usable to all Assistive Technology (AT) users

Assistive Technologies (AT)

When conducting AT usability tests, use the free Screen Reader; NVDA
Website: http://www.nvda-project.org/

Personal Computer Keyboard

All website applications must be tested for usability with a keyboard.

Accessibility Resources

1. WCAG 2.0 Guidelines: http://www.w3.org/TR/WCAG/
2. Web Accessibility Checklist from Web Aim website:
   http://webaim.org/standards/wcag/checklist
3. Accessible Web 2.0; ARIA (Accessible Rich Internet Application);
   http://www.w3.org/WAI/intro/aria
4. Accessible You Tube Video Players;
   http://wac.osu.edu/examples/youtube-player-controls/
   http://www.visionaustralia.org/info.aspx?page=2260
5. Universal Sub-titles – Online Captioning service for Videos
   http://www.universalsubtitles.org/en/
6. Flash can be made accessible, follow the link to learn how:
   http://www.adobe.com/accessibility/products/flash/

About Mada e-Accessibility Services

As part of a commitment towards building an inclusive digital society in Qatar, the Mada e-Accessibility team offers professional website audit review services. Organizations that are committed to providing accessible web platforms are able to receive expert consultancy on how to achieve this. In addition to detailed audits and reviews, Mada offers training to web developers and content producers on how to achieve universal design and digital inclusion. Mada also certifies organizations with Website and Document Accessibility certification. Mada establishes partnerships with organizations to continue the support and ensure accessibility best practices are met on an on-going basis.

1.0 – Website Platform, Structure, Layout and Design

- Avoid using **Flash**, **Frames** or **Tables** as the structural layout, formatting of the entire Web Site. WCAG 2.0 (A)

- Avoid repeatedly using spacer images in website layout and design
WCAG 2.0 (A)

- Use **CSS and DIV element for Website layout and design**.
WCAG 2.0 (A)

- Content Management Systems (**CMS**);
Use accessible CMS platforms;
  - Drupal,
  - Joomla,
  - MS Sharepoint
  - OR
CMS platform that complies to W3C WAI WCAG 2.0
WCAG 2.0 (A)

- Provide a good balance of graphic elements and text.
Usability Priority 1

- Reduce the number of colours and keep the website design simple
Usability Priority 1

- If possible, try to use at most; 3 column layout in all web pages
Usability Priority 1

- Avoid using strong busy backgrounds, example: Using a busy photo as a background. Usability Priority 1

- Keep the website design and layout consistent. WCAG 2.0 (A)

- Clearly define different sections of a webpage with headings and organize content so it is located consistently on repeating pages.
Usability Priority 1

2.0 - Colours and Contrast

- **Contrast (Minimum):** The visual presentation of text and images of text has a contrast ratio of at least **4.5:1.** WCAG 2.0 (AA)
  - Web page background and foreground text colours should contrast to the minimum requirements
  - All visual presentations in the website which include; Web Design, Flash, Videos, Photos and Graphics must have sufficient contrast

- Contrast (Enhanced): The visual presentation of text and images of text has a contrast ratio of at least **7:1.** WCAG 2.0 (AAA)

- If **Red** TEXT is used on a white background, achieve a 8:1 contrast ratio or better Usability Priority 1

- Web content colour combinations must also be tested for people with colour blindness. **Use the “Color Contrast Analyzer 2.2”** to achieve 4.5:1 or better contrast; use “Show contrast result for colour blindness”; Normal, Protanopia, Deuteranopia, Tritanopia
  Usability Priority 1

- **Use the “Color Contrast Analyzer 2.2”,** from The Paciello Group. Used for measuring colour contrast between foreground and background content. The software checks for WCAG 2.0 colour contrast compliancy level AA and AAA. Usability Priority 1
  Reference heading; “Accessibility Tools and Methods”

- Colour alone should not be used as the only visual means of conveying information, indicating an action, prompting a response, or distinguishing a visual element. WCAG 2.0 (A)

3.0 - Space, Alignment and Consistency

- Create simple, usable, visual layout of all web content and use a consistent style of presentation between pages.
  WCAG 2.0 (AA and AAA)**,** Usability Priority 1

  - **Space:** minimize space in between content to 1 or 2 space; character space.

  - **Align:** left align all content to the left side of the web page. Also left align table headers and headings in page sections, etc …

  - **Consistency:** all important usable functions and content must be consistently placed on all web pages.

4.0 - Multi-Media Content

- **Audio-only and Video-only (Prerecorded):** WCAG 2.0 (A)
  - Prerecorded Video-only
    - Provide synchronized Caption (Sub-Title) with the video
  - Prerecorded Audio-only
    - Provide alternate text content; Caption or Text Transcript. If Text Transcript is used, the link should be clearly labeled

- **Captions (Prerecorded):** WCAG 2.0 (A)
  Provide synchronized text with the media. Example: Video

- **Captions (Live):** WCAG 2.0 (AA)
  Provide real-time synchronized text with the live media.
  Example: Live Video and Audio stream must have Captions

- **Audio Description or Media Alternative (Prerecorded):** WCAG 2.0 (A)
  Audio or descriptive text transcript are required to describe visual content in a video that lacks dialogue or narration.

- When linking to videos from link phrases or linked images, provide a detailed description about the video content and if captions are not used, it should be indicated within the description. Usability Priority 2

- **Audio Description (Prerecorded):** WCAG 2.0 (AA)
  Audio description is required to describe visual content in a video that lacks dialogue or narration.

- **Audio Control:** WCAG 2.0 (A)
  - If audio plays on a webpage for more than 3 seconds, provide quick access to an accessible mechanism to pause or stop it. this especially applies to videos
  - As a best practice, avoid playing audio automatically from any sound source when the web page loads

- **Accessible Flash:** WCAG 2.0 (A), Usability Priority 1
  Flash applications should be thoroughly tested for usability
  - **Important;** Flash does not work on all mobile platforms
  - Flash must always be embedded using java script
  - Description of the Flash object on a webpage;
    - Must be concise and placed in the “Description” field.
    - This is similar to image ALT text, but for Flash movies
    - If the Flash content does not provide significant meaning in a page, the field can be left blank “ “ so assistive technologies (AT) may skip over it

- If a Flash application is not accessible, provide an alternative text equivalent with detailed descriptions or create a clearly labeled link to the HTML web version
- The Flash application should be fully operable with a keyboard
- Like web pages, the Flash functions and scenes must operate and behave in predictable ways, as an example; avoid using auto refresh or re-directs
- Avoid creating mouse only functionality like; sliders and drag and drop
- All non text elements and content must have text equivalents; (text labels)
- All operable controls must be labeled appropriately to reflect functionality. Example; Label the play button as “Play”, not “Play button”
- Arrange all elements and content so it may be read in a logical tab / reading order sequence
- Provide text alternative for meaningful audio content (Captions)
- If possible, avoid playing audio after the Flash loads, otherwise a “Pause Audio” button must be available at the top of the reading order within the application so AT users using keyboard can stop the audio
- Accessible volume control must also be available for A/V content
- Provide synchronized captions for all video content
- **Usability:** Test the Flash application with a keyboard and Screen Reader to make sure it is usable. This will ensure usability of most Assistive Technology (AT) devices
- **WCAG 2.0 guidelines apply to Flash** content and elements. Example; Colour Contrast minimum contrast (AA)
- Also refer to WCAG 2.0 guideline references for Flash developers
- **Flash can be made accessible,** follow the link to learn how: http://www.adobe.com/accessibility/products/flash/

5.0 - Web Content and Mark-up Structure

- WCAG 2.0 (A) **Info and Relationships**
  Semantic markup is used appropriately, web pages must have structure. Examples:
  a) Tables are used for tabular data, table headers and captions are used appropriately
  b) Text labels are associated with form controls
  c) Heading, List and Paragraph elements are used appropriately for their intended purposes

- WCAG 2.0 (A) **Meaningful Sequence**
  Content and elements are read in a logical, intuitive order; determined by code order.
  Examples: Logical reading order in Form Fields, Content and Menus

- WCAG 2.0 (A) **Sensory Characteristics**
  Avoid conveying information or prompt an action by **Shape**, **Colour, Sound** and/or **Location** alone.
  Examples of phrases that should be avoided:
  a) Click on the Square Blue button
  b) Refer to the link “What’s New” in the bottom right column of the page
  c) A beeping sound indicates you have completed filling out the form

- WCAG 2.0 (A) **Provide a text equivalent for every non-text element** on your web pages which include: images, embedded objects (e.g. Flash), audio, video, etc …

- Avoid animations, **media and scripts that cause the screen to flicker or flash rapidly 3 times or more within one second**. (Example; strobe light effect). If this cannot be avoided, users must be warned prior to entering the content. WCAG 2.0 (A)

- **Use the simplest and most straightforward language** that is possible. This is usable to people with language barriers and cognitive disabilities WCAG 2.0 (A)

- **Language of a Page:** Use <HTML **lang="ar" xml:lang="ar" dir=”rtl”**> to identify Arabic language in a web page. Also use proper reading direction; dir=”rtl” for all Arabic text. WCAG 2.0 (A)

- **Language of Parts: Identify any changes in the page's language.**
  Use the Lang attribute to programmatically change the language in the page. Equally important, use the; **Reading Direction attribute, “dir=rtl”**. Arabic language is read from Right to Left (rtl), English is read from Left to Right (ltr).
  Code Examples:
  <P **lang="en" xml:lang="en" dir=”ltr”**>English Text </P>
  <SPAN **lang="ar" xml:lang="ar" dir=”rtl”**> Arabic Text </SPAN>
  WCAG 2.0 (A)

- **Use the ABBR and ACRONYM** elements to denote and expand any abbreviations and acronyms that are present. Example: <acronym title="World Wide Web">WWW</acronym> WCAG 2.0 (AAA)

- **Only use list elements for actual lists,** not formatting effects WCAG 2.0 (A)
  - Use the list element on actual lists; it serves a functional purpose in Screen Reader usability
  - Use list elements appropriately for; Short Phrases and Words
  - Use ordered list for Numbered lists
  - Use unordered lists for Bullets
  - Avoid substituting the Paragraph element with the List element
  - Avoid using ONLY numbers, dashes and image bullets without using the actual list element mark-up

- **Page Titled:** All web pages have unique titles that describe topic or purpose. Page title should reflect navigation level WCAG 2.0 (A) Examples:
  a) Mada QATC, home
  b) Mada QATC, About, Staff

- **If Paragraphs are used,** use the <p> tag paragraph element and avoid repeatedly using and substituting it with the break element <br>. Divide large blocks of text into manageable, short paragraphs <p>. WCAG 2.0 (A)

- If possible, Lines of text should not be longer than 70 characters; this also includes spaces in-between words. Usability Priority 2

- **Consistent Identification:** Components that have the same functionality within a set of Web pages are identified consistently. As an example;
  - Label “Search” form fields the same way on every page and size, positioning, appearance, alignment are consistent on all pages. WCAG 2.0 (AA)

- **Accessible PDF Documents:** PDF documents are an extension of the website, they must be fully accessible. Document content and structure must also follow similar principals outlined in the WCAG 2.0 guidelines. See Mada’s Document Accessibility Checklist for a more comprehensive guideline.

- **Timing Adjustable:** For each time limit that is set by the content, the user should have the ability to; Turn Off, Adjust or Extend the time. There are exceptions on online time dependent functions such as; Online Auctions WCAG 2.0 (A)

- **Pause, Stop, Hide:** For moving, blinking, scrolling, or auto-updating information;
  - There is a clear mechanism to pause, stop or hide the content
  - Auto updating information: control the frequency of the update
  - There is an exception if it is part of an activity where it is essential. WCAG 2.0 (A)

- **Do Not Use; BLINK or MARQUEE elements** WCAG 2.0 (A)

- **Web Plug-in content must be accessible** or proven to be keyboard and AT usable. WCAG 2.0 (A)

- **Use symbols (example; *) in content for their intended purpose only.** Most AT devices interpret symbols in a meaningful way; the asterisk symbol is read and understood by screen reader users as a required form field. Example; avoid using "<<" as previous link. WCAG 2.0 (A)

- **EMBED elements** present functionality not available to all users. The **NOEMBED element** can be used to provide a description.

- Provide a text alternative for content rendered using the **object element**. The **body of the object element** can be used to provide a complete text alternative for the object or may contain additional non-text content with text alternatives.

6.0 - Images and Graphics

- **Images used in the website should include appropriate text descriptions in the "ALT" attribute of the image element.**
  The ALT (Alternative text) must be used at all times otherwise it flags level (A) accessibility errors generated by automated checkers such as the "Wave" accessibility toolbar. WCAG 2.0 (A)
  Example: <img src=file.gif **Alt="description"** title="put title here">
  - When ALT is not used, it creates usability issues for some screen reader users by reading out redundant information such as the file name, dimension, etc
  - Context is everything; If the surrounding text or adjacent text adequately describes the image, there is no need to describe the image
  - If there is text in the image and no equivalent adjacent text; where appropriate, the image must be described out of context or word for word exactly as seen in the text of image
  - If the image is a link, you must provide description of the link destination
  - Avoid using phrases that start with "Image of ...", "Graphic of …", "Photo of …" unless it is an essential part of the description.

On occasion; “Photo of” can be used to describe; significant People, Places or Things

- Also avoid using words that start with "Logo”, unless it is an essential part of the description.
- Keep the ALT text description meaningful, brief and concise
- Try to keep the character limit in ALT between 50 and 80.
- Avoid repeatedly using “spacer images” without alt text, best practice is to never use spacer images for formatting effects

- WCAG 2.0 (A) **When using complex images; charts, flow charts and diagrams, use LONG description attribute** in the image source tag linked to a text only equivalent webpage.

- Sample code**;**

```
<IMG SRC="graph1.gif" LONGDESC="graph1.htm" ALT="Mada Expense Graph">
```

  - Create a webpage; “**graph1.htm**” describing in detail the equivalent visual chart. If necessary, in addition to the description, also create an accessible data table that reflects the visual chart data

- WCAG 2.0 (A) **Images and Title attribute;**
  - The title attribute should be secondary and used to provide additional information about the image or link. ALT text should be used as the primary and should always contain the description first. Most AT devices will read ALT information first, and in some cases with the option to read what’s in the Title attribute
  - Never repeat the ALT information in the image Title attribute
  - Title attributes can also be used to describe unexpected behaviors triggered by the image link. As an example; if the link opens a pop-up window, this behavior can be described here.
  - The text in the title attribute must be brief, concise and no more than 35 characters

- WCAG 2.0 (A) **If an image is used for only decoration and has no function or meaning**, do one of the following so AT may skip over it;
  a) The image should be embedded in the CSS code and not in HTML
  b) In HTML; include a blank quote in the ALT text attribute of the image tag. <img src=file.gif **Alt=””** title=”put title here”>

- **Avoid repetition of image ALT text information and related adjacent text descriptions**. Example: If you have a text description link next to an image link that conveys the same information. The Alt text of the image can be left null Alt=” ” the image link can be grouped with the text link. Screen reader users do not want to hear the same link phrase twice in succession; this is redundant and not usable. Usability Priority 1

- **When using animated gifs**, appropriately describe the image in the Alt text. Slow down image frame transitions, the time in between each frame should be set to a minimum of 3 seconds. Usability Priority 1

- **When using Image Maps,** provide Alt text description for every hotspot area and the image itself. If possible, provide alternate text links below the image map. WCAG 2.0 (A)

- **Where it is possible to mark up content instead of using images, use a markup language.** WCAG 2.0 (AA)
    - If possible, avoid using text inside images
    - Text should be separated from the graphics or photos
    - Corporate logos, branding, diagrams and maps are an exception
        - If possible, enlarge image of text to **14 to 18 pts for maximum clarity. 18 to 22 pts for Arabic image of text**
        - The image must also be; clear, sharp and in high contrast

- **Graphical maps in nature are only visual and not accessible to people using screen readers and keyboards.** The solution is to provide an equivalent, descriptive text alternative of the visual presentation. WCAG 2.0 (A)
  Recommendations;
    - Place the text equivalent information above the image or map application
    - If applicable, provide directions from point A to B
    - Include a list of addresses and/or descriptions to key locations on the map
    - Describe intersections, surroundings and nearby public transportation if applicable

7.0 - CSS and Website Accessibility Features

- Organize web pages so users may read / view web pages without associated style sheets. Usability Priority 1

- **Use CSS and DIV elements for styling and the layout** structure of the website while avoid using tables. WCAG 2.0 (AA)

- **Create all website navigation menus with List, Div elements and CSS styling**. Usability Priority 1

- All Text, font styles, HTML mark-up and attributes should be controlled with CSS. WCAG 2.0 (AA)

- **Scalable User Interface, Layout and Text:**
  User interface, layout and text in web pages should be re-sizable and coded in CSS with scalable relative (%) sizing and positioning, avoid using absolute fixed sizing (Pixels). WCAG 2.0 (AA)
    - English website: The font size must be able to adjust to 200% without breaking the text and layout

- Arabic website: The font size must be able to adjust to 240% without breaking the text and layout

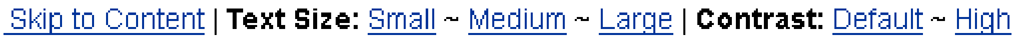
- **Optional Web Accessibility Features:** Create a widget / tool to give the users the ability to customize the look and feel of the website. Create a widget tool for adjusting font size and the general appearance (Colours) of the website.
  The advantage of using CSS allows the users to switch between multiple style sheets. The appearance of the website can also be overridden by AT devices or user defined colour style sheets. The ability to change the appearance (Colours and text Size) of the website accommodates the requirements of each individual visiting the website.

  Recommendation: Create a Widget / Tool;

  a. **Colour Contrast Selector –** User has the ability to inverse the colour contrast of the website. Create a tool to switch between CSS style sheets with black text on white background (Default) and white text on black background (Reverse Contrast)
  WCAG 2.0 (AAA)**,** Usability Priority 2

  b. **Font Size Adjuster–** User has the ability to change the font size of the website. Create a tool to adjust font size starting at CSS 90% to 200% for English website, CSS 130% to 240% for Arabic website
  WCAG 2.0 (AAA), Usability Priority 2

Accessibility Toolbar Recommendation:



Skip to Content | **Text Size:** Small ~ Medium ~ Large | **Contrast:** Default ~ High

8.0 – Frame / iFrame

- As a best practice, **Avoid using Frames or iFrames** in websites; it is not usable to people using assistive technologies

- If frames are used, do the following;

  - **Each Frame source must always reference a HTML file.** As an example, do not link to an image file because the image file alone without the ALT attribute is not accessible or usable. WCAG 2.0 (A)

  - **Title each frame source to facilitate frame identification and navigation.** Provide a meaningful name for identifying frames.
    <FRAME SRC="menu2.html" TITLE="Left sub-menu level 2">
    WCAG 2.0 (A)

- **Provide accessible NOFRAMES** content. WCAG 2.0 (A)

9.0 - Tables

- **Use tables only for the purpose of presenting tabular data.** WCAG 2.0 (A)

- **If this table is used for layout only,** do not use structural markup to achieve formatting effects. WCAG 2.0 (A)

- **Keep tables simple** while trying to utilize all rows and columns. Avoid leaving too many cell spaces blank; use the dash "-" character in place of empty data cells. Usability Priority 1

- **Do not nest tables within tables.** WCAG 2.0 (A)

- **Use Table "Summary"** attribute to provide a brief summary of the table**.** **WCAG 2.0 (A)**

- If this is a data table (not used for layout only), **use the Caption element** as the title of the table. WCAG 2.0 (A)

- **Table "Headers" TH element, must be used to label rows or columns of data**. WCAG 2.0 (A)

- **Complex Tables:** If multi headers are used with complex row and column spans; **Use Table; ID, Axis and Scope attributes**. WCAG 2.0 (A)

10.0 - Text

- **This section:** WCAG 2.0 (A), Usability Priority 1

- **English Text**
  - Use open typeface; San-Serif, recommended fonts are **Verdana** or **Arial**. If possible, avoid using Serif style typeface.
  - Minimum Font size**, CSS 100%,** equivalent to 12 points
  - Fonts must be able to scale to **200%** without clipping or run off

- **Arabic Text**
  - Use Arabic "Naskh" Type, equivalent web font**;** **Comic Sans MS, Cursive, Arial** or **Tahoma** as second choices
  - Minimum Font size**, CSS 140%,** equivalent to 16 points
  - Font must be able to scale to **240%** without clipping or run off
  - Use the Right to Left attribute for Arabic text; **code: dir=rtl**

- When using CSS fonts, **always use scalable relative sizing** (%)

- Avoid using the following Font Styles;
  italic, cite, emphasis, variable, strike through and drop shadows.
  Use **BOLD** text instead.

- **Use the text underline style appropriately** for hyperlinks only
  - The links in menus do not have to be underlined as it is universally understood by anyone. It would be very usable if the underline appears on Mouse Over
  - The links in the content body must always be underlined so it is clearly distinguishable between read only text

- Avoid using **Scrolling, Blink or Flicker effects on text**

- If possible, avoid using "**Red**" or "**Orange**" text colour.
  If **RED** text is used, make sure the minimum colour contrast is 8:1 or better over the background colour

- **Text links on menus;**
  - Use bold link text on menus to emphasize the text
  - If possible; on mouse over and on focus, display underline style. This clearly lets everyone know that this is a hyperlink

11. 0 - Headings

- **Consistent use of Heading Elements are required on all visible headings;** Titles; H1, Main Headings; H2, Sub Headings; H3
  WCAG 2.0 (AA), Usability Priority 1

- **Nest headings properly.** Example; order heading elements in the proper hierarchal structure based on content; <H1>, <H2>, <H3>, etc
  WCAG 2.0 (AA), Usability Priority 1

- Make sure **header elements are not used only for bold text formatting**
  WCAG 2.0 (A)

- **Descriptive headings help users find specific content** and orient themselves within the Web page**.** Avoid repetition of headings.
  WCAG 2.0 (AA), Usability Priority 1

12.0 - Links and Labeling

- **Create link phrases that make sense when read out of context.** Example: avoid using phrases like; **”**Click Here**”, "**More**",** “Read More” and “http://www.mada.org.qa”, use simple concise descriptive link phrases that describe link destination. WCAG 2.0 (A)

- **When using Images as links;** the Alt text must be used at all times. Do not describe the image itself, describe the link destination. Also avoid repeating the link phrase from an image ALT and adjacent text link phrase. Usability Priority 1

- **Links and Title attribute;** WCAG 2.0 (A), Usability Priority 1
  - Always use descriptive link phrases and avoid using link phrases that start with; “ Link to:”, “Jump to:”, “Follow this link:”, etc …
  - In addition, the title attribute can be used to further describe link destinations or include special instructions for ONLY AT users
  - Never repeat the link phrase in the link element title attribute
  - Title attributes can also be used to describe unexpected behaviors triggered by the link. As an example; if the link opens a “pop-up window”, this behavior can be described here.
  - The text in the title attribute must be brief, concise and no more than 35 characters
  - Good example of how Link and Title attribute should be used;
    Link phrase reads; “Mada News Email Service”,
    The Title reads;
    “Subscribe to Mada’s News Email, pop-up window”

- **Repeating hyperlink labels is okay to use** as long as it links to the same URL and it is not repeated more than twice per page. Example: Avoid repeatedly using link phrases like “More Info” that especially link to different URL’s. WCAG 2.0 (A) (AAA)

- **Links must be clearly identifiable and distinguishable** from surrounding read only text; Links in the content body of the document should be Underlined and if possible, Bold style. Usability Priority 1

- The **reading (Tab) order of all links** in the website should be consistent and logical. WCAG 2.0 (A)

- **All links must always reference an accessible HTML, PDF or Word file**. WCAG 2.0 (A)
  - When linking to downloadable documents or files; the descriptive link phrase must also include the document type; the text link phrase must end with the document type with optional file size. Example; “**About Mada staff (PDF 300kb)**”

- The file name itself must be descriptive for filing and retrieval purposes. Name the file the same as the link phrase with the proper file extension
- Avoid linking directly to an image without properly describing it in the link phrase. If possible, as a best practice, avoid linking directly to images. Instead, place the image on a webpage and describe it in the ALT attribute.
  Example; link phrase for images "Mada logo (JPG image)"

- **Separate adjacent links with more than just white space, use characters like "|".** Example: **| About | Services | Links |** Usability Priority 1

- **Text links should have sufficient space around it** for the user to be able to accurately select the link, especially when several links appear together. There should be a minimum of four pixel padding around a link; or equivalent. Usability Priority 1

- **If there are logical groups of links, make sure they are clearly identified.** As an example, create a page section heading and use the list element to list underlined descriptive link phrases. Usability Priority 2

13.0 - Web Site Navigation

- **Website navigation is the most important function in a website.** Keep website navigation **intuitive, clear, logical** and **consistent**. WCAG 2.0 (A)

- **Bypass blocks:** A mechanism is available to bypass blocks of content that are repeated on multiple web pages.
  Example: **Create a "Skip to Content" link** and place the focus on the web page title heading so AT users may skip over repetitive menus. WCAG 2.0 (A)

- **Consistent Navigation:** Navigational mechanisms that are repeated on multiple Web pages within a set of Web pages occur in the same relative order each time they are repeated, unless a change is initiated by the user. WCAG 2.0 (AA)

- **Multiple Ways:** More than one way is available to locate a web page within a set of web pages. Example: **Create a site map page with nested hierarchal unordered list link navigation**. WCAG 2.0 (AA)

- **NEVER cause a web page to refresh or re-direct** to another URL automatically. WCAG 2.0 (A)

- **Avoid creating combo box Jump menus** without instruction or notification of such a behavior. WCAG 2.0 (A)

- If possible, **Script enabled pop-up windows should be avoided** as a best practice. If pop-up windows are used, notification of the behavior is required in the link Title attribute; "Pop-up Window" WCAG 2.0 (A)

- **Use inline menus and named anchors to navigate within a webpage;** when a web page is over loaded with content; uses multiple headings and paragraphs. This makes the page usable and navigable by people using Assistive Technologies. Usability Priority 1

- **When linking to external websites;** if possible, make sure they are accessible and usable and comply to WCAG 2.0 (A and AA)

- **Menu, links and Content Reading / Focus Order Recommendations:** WCAG 2.0 (A)
  1) Skip to Content / Skip Navigation
  2) Corporate Logo links to home page
  3) Search Field
  4) Global Menu which may include; Arabic Site, Home, Site Map, Contact Us, etc …
  5) Optional Accessibility features; "Font Size Selector", "Colour Contrast Selector"**,**
  6) Login form fields, if applicable
  7) Top of page - Level 1 main menu
  8) 1st Column – Left Navigation Menu; Level 2 and 3 sub-menus
  9) 2nd Column - Content body
  10) 3rd column - If applicable; content and links

14.0 - Web Site Menus

- **Create a simple, consistent and fully visible Main Menu and Sub Menu system** for the entire website. The Tab order must be consistent and flow logically from level 1 menus to level 2 and 3 sub-menus. WCAG 2.0 (A)

- **Main Menus; if "Mouse over", reveal hidden Sub Menus are used**, **also provide a fully visible text menu** WCAG 2.0 (A)
  - Make hidden sub menus accessible by keyboard in a logical Tab / Focus order sequence
  - When using "mouse over" to reveal hidden sub-menus; make sure the menu interface area around the links have sufficient space /

padding (2 character space)

- **Consistency of the layout and placement of the menus are very important for usability.** WCAG 2.0 (A)

Accessible and Usable Menus Summary

1. CSS, DIV and List element text links
2. Bold text and high contrast on all menu links
3. Visual cues (Bullet images) can also be used in addition to indicate the significance of menu links.
   Example; Graphics and Bullets placed on the left side, next to link phrases
4. For links, use prioritized, logical, consistent reading order sequence
5. Have no more than a 3 level menu system
6. Always visible, left aligned Level 1, 2 and 3 menu links
7. Skip Navigation link (used to by-pass menus)
8. Menu items and layout; Left align, minimal space and consistent placement
9. In addition to all visible menus; if hidden sub menus revealed by mouse event handlers are used, they must be accessible by keyboard in a logical reading order sequence

15.0 - Using Forms

- **Forms must be navigable by keyboard and in logical tab order** WCAG 2.0 (A)

- **Forms: Info and Relationships** WCAG 2.0 (A)
  - Use label elements to associate text labels with form controls
    Code: <label for="firstname">First name:</label>
    <input type="text" name="firstname" id="firstname" />
    Important: All Label ID’s must be unique, do not repeat on the page
  - Use the title attribute to identify form controls when the label element cannot be used.
  - Use “fieldset and legend elements” when groups of form controls are used. Example: Question with 4 checkbox button and labels
  - Use combo boxes instead of radio buttons as it is more usable to keyboard users

- **Error Identification:** If an input error is automatically detected, the item that is in error is identified and the error is described to the user in text. Example; place all error messages grouped at the top of the page starting the phrase with “Error” or “Attention”. Avoid using red text alone to convey error messages. WCAG 2.0 (A)

- **Always provide a button for submitting forms whenever the form element is used.** As a best practice, avoid creating only input fields by

itself.
If image buttons are used, describe the form process / action.
Example; if the image button is labeled “Search”, the ALT should read “Search”, the exact text on the image button should be used
Usability Priority 2

- **Error Suggestion:** If an input error is detected, provide suggestions for fixing the input in a timely accessible manner. WCAG 2.0 (AA)

- **Meaningful Sequence** WCAG 2.0 (A)
  To make sense of complex forms, logical reading order of form controls are very important to AT users.
  - Use the TABINDEX attribute to control the reading order in complex form fields.
    Code: <input type=”text” TABINDEX=”1” Name=”Field1”>

- **If CAPTCHA’s are used,** Provide a text version or alternate, audio of the CAPTCHA image of text. The CAPTCHA interface must also be usable by keyboard and AT devices WCAG 2.0 (A)
  Examples of accessible CAPTCHA;
  a) Accessible online Audio CAPTCHA Service: http://recaptcha.net/
  b) Downloadable Text CAPTCHA PHP web application: http://www.purple-dogfish.co.uk/free-stuff/accessible-captcha

- **Form Field Layout** and **Usability**
  - Avoid using tables for formatting layout of forms
  - Form layout and placement is important**,** see the example in this section
  - ** TEST all form fields for usability with a keyboard and Screen Reader
  - Example of Fully Accessible and Usable Form field Layout
    Usability Priority 1
    - The use of Asterisk characters is encouraged; it is universally understood by all users
    - Place labels close and above their corresponding form controls
    - If possible, place the asterisk character in front of the label, if Red texted is used; use a darker shade of Red with a minimum 8:1 contrast ratio
    - Asterisk character must be larger than normal; 150 % is a good size

  - **Using asterisk to indicate required state**
    - The asterisk meaning is defined using “abbr” element
    - The asterisk character can be difficult to see by people with low vision. It can be styled to be larger defined by CSS code as seen in the example below

- **Example Code:**

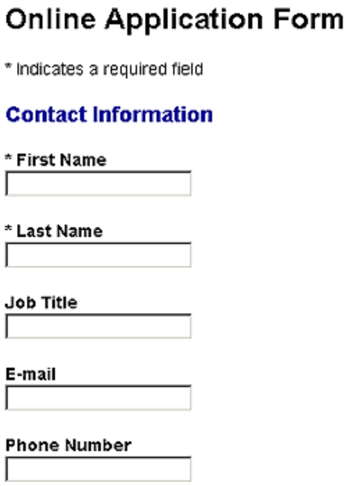
CSS:

```
.req {font-size: 150%}
```

HTML:

```
<p> Required fields are marked with an asterisk
(<abbr class="req" title="required"> * </abbr>).</p>

<form action="http://www.test.com" method="post">
<label for="firstname"><abbr class="req" title="required">*</abbr> First name:</label>
<input type="text" name="firstname" id="firstname" />
```



Online Application Form

* Indicates a required field

Contact Information

* First Name

* Last Name

Job Title

E-mail

Phone Number

16.0 - Web Programming

- **Focus Order:** Make sure all objects and elements that are dependant on the TAB key are in a Logical reading order Sequence**.** WCAG 2.0 (A)

- **Avoid using scripts that will affect content or readability,** especially for screen readers. Usability Priority 1

- **Thoroughly test all web programs and functions for usability** with a keyboard and screen reader**.** Usability Priority 1

- **Avoid using Java script event handlers that require only the use of a mouse.** Example: Avoid using event handlers like onMouseOver exclusively. WCAG 2.0 (A)

- **Keyboard:** Make sure that all elements that have their own interface are operable with a keyboard. WCAG 2.0 (A)

- **Include keyboard shortcuts to important links** so keyboard users will be able to easily navigate around the website. Caution must be exercised in assigning keys as the key assignment can conflict with existing keys used in; Browsers, Windows and Assistive Technology (AT). **Use the "accesskey" attribute and use keys 0 to 9**
  Usability Priority 2

- **Browser "Back" function is important to AT users.** Avoid programmatically disabling or breaking this feature on pages.
  Usability Priority 1

- **Make sure your web pages validate to current W3C coding practices.** Properly define the DOCTYPE element and use the appropriate HTML markups. Mark-up content with the most current, good structural standards compliant code (W3C). WCAG 2.0 (A)

- **Focus Visible:** Any keyboard operable user interface has a mode of operation where the keyboard focus indicator is always visible. Do not programmatically disable or hide the Focus.
  WCAG 2.0 (AA)

- **On Focus:** When any component receives focus, it does not initiate a change of context. Example: On focus from a keyboard or mouse reveals hidden text somewhere on the page. WCAG 2.0 (A)

- **On Input:** Changing the setting of any user interface component does not automatically cause a change of context unless the user has been advised of the behavior before using the component. WCAG 2.0 (A)

  Web 2.0: Accessibility / Usability of **hidden elements revealed by an event handler, form control or link (Triggering Element)**

  - Avoid using only "mouse over" event handlers
  - If possible, provide notification or instruction before or on the triggering element of hidden content, and if applicable; provide location of hidden content on the page
  - Optionally; Use Links or Images to place instructions or notifications in ALT or TITLE attributes
  - An example of a triggering element can be a selected radio button or a text / image hyperlink
  - Do not cause the page does not refresh; this could cause focus problems which result in orientation issues for Assistive Technology users
  - Reading order must flow logically from the triggering element onto the revealed content
  - The new revealed content should be immediately placed below the triggering element with minimal spacing (1 space at the most).

- **No Keyboard Trap:** Ensure that keyboard users do not become trapped in a subset of the content that can only be exited using a mouse or pointing device. WCAG 2.0 (A)

- **Error Prevention (Legal, Financial, Data):** For web pages that cause legal commitments or financial transactions for the user to occur, that modify or delete user-controllable data in data storage systems, or that submit user test responses, at least one of the following is true:
  Reversible: Submissions are reversible.
  Checked: Data entered by the user is checked for input errors and the user is provided an opportunity to correct them.
  Confirmed: A mechanism is available for reviewing, confirming, and correcting information before finalizing the submission.
  WCAG 2.0 (AA)

- **Parsing:** In content implemented using markup languages, elements have complete start and end tags, elements are nested according to their specifications, elements do not contain duplicate attributes, and any IDs are unique, except where the specifications allow these features.
  WCAG 2.0 (A)

- **Web 2.0 Programming**
  Applications created with Web 2.0 technology must be tested for Usability with a Keyboard and Screen Reader.
  - **Programmers must use ARIA guidelines;**
    Web: http://www.w3.org/WAI/intro/aria
  - Web 2.0 technology / content must also comply to WCAG 2.0 guidelines

Appendix A - WCAG 2.0 Guidelines

Note: These are active links to the W3C WAI WCAG 2.0 guidelines

WCAG 2.0 Quick Reference List

Principle 1: Perceivable

1.1 **Text Alternatives:** Provide text alternatives for any non-text content so that it can be changed into other forms people need, such as large print, braille, speech, symbols or simpler language.

1.2 **Time-based Media:** Provide alternatives for time-based media.

1.3 **Adaptable:** Create content that can be presented in different ways (for example simpler layout) without losing information or structure.

1.4 **Distinguishable:** Make it easier for users to see and hear content including separating foreground from background.

Principle 2: Operable

2.1 **Keyboard Accessible:** Make all functionality available from a keyboard.

2.2 **Enough Time:** Provide users enough time to read and use content.

2.3 **Seizures:** Do not design content in a way that is known to cause seizures.

2.4 **Navigable:** Provide ways to help users navigate, find content, and determine where they are.

Principle 3: Understandable

3.1 **Readable:** Make text content readable and understandable.

3.2 **Predictable:** Make Web pages appear and operate in predictable ways.

3.3 **Input Assistance:** Help users avoid and correct mistakes.

Principle 4: Robust

4.1 **Compatible:** Maximize compatibility with current and future user agents, including assistive technologies.

WCAG 2.0 Conformance Requirements