

Guide to Baseline Web Accessibility Design



Digital Policy Office

The Government of the Hong Kong Special Administrative Region
of the People's Republic of China



Table of Contents

Table of Contents	2
1. Overview of Guide to Baseline Web Accessibility Design.....	1
2. Design Guide for Website	4
2.1 Provide meaningful text alternative for non-text contents.....	4
2.2 Easy to turn off background sound or set as user-initiated only	4
2.3 Make website content easy to be used with assistive technologies.....	4
2.4 Text can be resized up to 200 percent without loss of content.....	4
2.5 Provide transcript, captions or sign language for pre-recorded videos conveying key information	4
2.6 Allow to perform all operations through a keyboard interface	5
2.7 Provide means to close popup or overlay windows.....	5
2.8 Provide clear and informative links	5
2.9 Provide accurate and appropriate headings/labels	5
2.10 Provide alternative means for users to operate the function by complex gesture	5
2.11 Provide sufficient time for users to read the content and operate the function	5
2.12 Make website content in meaningful sequence	6
2.13 Provide accessible animated contents or allow to skip.....	6
2.14 Provide input assistance such as proper labels for user input and error identification and description etc.	6
2.15 Make website structure in a consistent navigation mechanism.....	6
2.16 Compatible with screen readers	6
2.17 Provide an accessibility statement with contact points for the website..	6
2.18 Provide accessible PDFs.....	7
2.19 Build webpages with predictable operations	7
2.20 Able to skip repetitive blocks.....	7
2.21 Provide multiple ways to retrieve content	7
2.22 Build webpages with user-initiated auto-updating.....	7

2.23	Provide sufficient colour contrast	8
2.24	Ensure correct syntax of webpages for compatibility with browsers and assistive technologies.....	8
2.25	Provide meaningful title, summary or description for table header as well as data	8
2.26	Provide error prevention for transactions	8
2.27	Able to abort or undo the function operated by single pointer.....	8
3.	Design Guide for Mobile Application.....	9
3.1	Provide meaningful text alternative for non-text contents.....	9
3.2	Easy to turn off background sound or set as user-initiated only	9
3.3	Make content easy to be used with assistive technologies	9
3.4	Provide text resize function or text can be zoomed without loss of content	9
3.5	Provide transcript, captions or sign language for pre-recorded videos conveying key information	9
3.6	Provide means to close popovers	10
3.7	Provide clear and informative links	10
3.8	Provide clear and simple headings	10
3.9	Make all clickable objects large enough to be tapped	10
3.10	Provide navigation for going backward	10
3.11	Provide alternative means for users to operate the function by complex gesture	10
3.12	Provide alternative means for users to operate the function by moving the device	10
3.13	Provide sufficient time for users to read the content and operate the function	11
3.14	Provide meaningful content sequence	11
3.15	Provide accessible animated contents or allow to skip.....	11
3.16	Provide input assistance such as proper labels or instructions for user input.....	11
3.17	Provide consistent and simple user interface structure	11
3.18	Compatible with screen readers	11
3.19	Provide an accessibility statement with contact points for the mobile app	12
3.20	Provide sufficient colour contrast	12

3.21	Provide error prevention for transactions	12
3.22	Able to abort or undo the function operated by single pointer.....	12
3.23	Provide alternative means for notification	12

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1. Overview of Guide to Baseline Web Accessibility Design

The Guide to Baseline Web Accessibility Design (the Design Guide) are formulated with reference to the Web Content Accessibility Guidelines (WCAG) promulgated by the World Wide Web Consortium (W3C) (www.w3.org/TR/WCAG2/). A set of “success criteria” of the WCAG that are considered as most needed by Persons with Disabilities (PWD) in Hong Kong are selected, and on top, a few essential criteria not found in WCAG are also proposed by them for the adoption of the Design Guide.

An overview of the adopted Design Criteria for both websites and mobile application is given in the table below.

Web Accessibility Design Criteria	Applicable to		Reference to Success Criteria of W3C WCAG 2 (www.w3.org/TR/WCAG2/)
	Website	Mobile App	
Basic accessibility feature			
1. Provide meaningful text alternative for non-text contents	✓	✓	1.1.1 - Non-text Content
2. Easy to turn off background sound or set as user-initiated only	✓	✓	1.4.2 - Audio Control
3. Make content easy to be used with assistive technologies	✓	✓	1.3.1 - Info and Relationships
4. Text can be resized up to 200 percent without loss of content	✓	✓	1.4.4 - Resize text
5. Provide transcript, captions or sign language for pre-recorded videos conveying key information	✓	✓	1.2.1, 1.2.2 & 1.2.6 for pre-recorded videos
6. Allow to perform all operations through a keyboard interface	✓	N/A	2.1.1 – Keyboard
7. Provide means to close popup or overlay windows	✓	✓	2.1.2 - No Keyboard Trap
8. Provide clear and informative links	✓	✓	2.4.4 - Link Purpose (In Context)

Web Accessibility Design Criteria	Applicable to		Reference to Success Criteria of W3C WCAG 2 (www.w3.org/TR/WCAG2/)
	Website	Mobile App	
Basic accessibility feature			
9. Provide accurate and appropriate headings/labels	✓	✓	2.4.6 - Headings and Labels
10. Make all clickable objects large enough to be tapped	N/A	✓	No direct reference
11. Provide navigation for going backward	N/A	✓	No direct reference
12. Provide alternative means for users to operate the function by complex gesture	✓	✓	2.5.1 - Pointer Gestures
13. Provide alternative means for users to operate the function by moving the device	N/A	✓	2.5.4 - Motion Actuation
14. Provide sufficient time for users to read or operate	✓	✓	2.2.1 - Timing Adjustable
15. Make content in meaningful sequence	✓	✓	1.3.2 - Meaningful Sequence & 2.4.3 - Focus Order
16. Provide accessible animated contents or allow to skip	✓	✓	No direct reference
17. Provide input assistance such as proper labels for user input and error identification and description	✓	✓	3.3.1 - Error Identification & 3.3.2 - Labels or Instructions
18. Provide consistent and simple user interface structure	✓	✓	3.2.3 - Consistent Navigation
19. Compatible with screen readers	✓	✓	No direct reference
20. Provide accessibility statement with contact points	✓	✓	No direct reference

Web Accessibility Design Criteria	Applicable to		Reference to Success Criteria of W3C WCAG 2 (www.w3.org/TR/WCAG2/)
	Website	Mobile App	
Advanced accessibility feature			
21. Provide accessible PDFs	✓	N/A	PDF1, 3, 6, 16 and 18 for WCAG 2 (www.w3.org/TR/WCAG20-TECHS/pdf)
22. Build webpages with predictable operations	✓	N/A	3.2.1 - On Focus
23. Able to skip repetitive blocks	✓	N/A	2.4.1 - Bypass Blocks
24. Provide multiple ways to retrieve content	✓	N/A	2.4.5 - Multiple Ways
25. Build webpages with user-initiated auto-updating	✓	N/A	2.2.2 - Pause, stop, Hide
26. Provide sufficient colour contrast	✓	✓	1.4.3 – Contrast (Minimum) & 1.4.11 - Non-text Contrast
27. Ensure correct syntax of webpages for compatibility with browsers and assistive technologies	✓	N/A	4.1.1 - Parsing
28. Provide meaningful title, summary or description for table header as well as data	✓	N/A	1.3.1 - Info and Relationships
29. Provide error prevention for transactions	✓	✓	3.3.4 - Error Prevention (Legal, Financial, Data)
30. Able to abort or undo the function operated by single pointer	✓	✓	2.5.2 – Pointer Cancellation
31. Provide alternative means for notification	N/A	✓	No direct reference

2. Design Guide for Website

Basic accessibility features for website are provided in Section 2.1 to 2.17, whereas more advanced accessibility features are listed in Section 2.18 to 2.27.

2.1 Provide meaningful text alternative for non-text contents

(Corresponding success criteria in WCAG 2 – 1.1.1 [Level A])

- All non-text contents, such as icons, photos, pictures, images, banners and maps that are presented to users have a text alternative that provides a meaningful description.

2.2 Easy to turn off background sound or set as user-initiated only

(Corresponding success criterion in WCAG 2 – 1.4.2 [Level A])

- If any audio on a webpage plays automatically for more than 3 seconds, either a function is available to pause or stop the audio, or a function is available to control audio volume independently for that specific audio.

2.3 Make website content easy to be used with assistive technologies

(Corresponding success criterion in WCAG 2 – 1.3.1 [Level A])

- Use heading mark-up (h1..h6) to identify headings in the content. Heading mark-up allows assistive technologies to present the heading status of text to users.

2.4 Text can be resized up to 200 percent without loss of content

(Corresponding success criterion in WCAG 2 – 1.4.4 [Level AA])

- Except for captions and images of text, text can be resized without assistive technology up to 200 percent without loss of content or functionality.

2.5 Provide transcript, captions or sign language for pre-recorded videos conveying key information

(Relevant success criterion in WCAG 2 –1.2.1, 1.2.2 [Level A] and 1.2.6 [Level AAA])

- Transcript, captions or sign language are provided for 30% of pre-recorded videos and audio content published in the most recent 2 years, except when the media is a media alternative for text and is clearly labelled as such.

2.6 Allow to perform all operations through a keyboard interface

(Corresponding success criterion in WCAG 2 – 2.1.1 [Level A])

- All functions on a webpage are operable through a keyboard interface; the operation shall not enforce a time limit for individual keystrokes.

2.7 Provide means to close popup or overlay windows

(Corresponding success criterion in WCAG 2 – 2.1.2 [Level A])

- If there is a popup or overlay window, a close button shall be included to allow closing the popup or overlay window through keyboard interfaces.

2.8 Provide clear and informative links

(Corresponding success criterion in WCAG 2 – 2.4.4 [Level A])

- If there is a link, either the link text alone or the text preceding the link is clear and meaningful in order to help users navigate.

2.9 Provide accurate and appropriate headings/labels

(Corresponding success criterion in WCAG 2 – 2.4.6 [Level AA])

- To help users understand what information is contained in the webpage and how information is organised, use accurate and appropriate headings and labels to describe a topic or purpose.

2.10 Provide alternative means for users to operate the function by complex gesture

(Corresponding success criterion in WCAG 2 – 2.5.1 [Level A])

- Complex gestures, such as swiping or dragging a slider, can be performed through simpler actions like taps or long presses.

2.11 Provide sufficient time for users to read the content and operate the function

(Corresponding success criterion in WCAG 2 – 2.2.1 [Level A])

- If there is a time-limited function, sufficient time shall be allowed for users to interact with the content through the following:
 - (a) time limit can be turned off; or
 - (b) time limit can be extended by a simple action.

2.12 Make website content in meaningful sequence

(Corresponding success criterion in WCAG 2 – 1.3.2, 2.4.3 [Level A])

- If webpage content needs to be read in a certain order to make sense, webpage shall be written/coded in a way which indicates this order.
- Webpage, especially web form, shall be coded in a logical manner when read by assistive technologies.
- In regard to partial change on a page, content becomes invisible and irrelevant to users shall be ignored by assistive technologies.

2.13 Provide accessible animated contents or allow to skip

- If animated content is provided, accessible version of animated content or a skip function shall be provided.

2.14 Provide input assistance such as proper labels for user input and error identification and description etc.

(Corresponding success criterion in WCAG 2 – 3.3.1, 3.3.2 [Level A])

- If an input error is automatically detected, the error shall be identified and described to users.
- Labels or instructions are provided when prompting user input.

2.15 Make website structure in a consistent navigation mechanism

(Corresponding success criterion in WCAG 2 – 3.2.3 [Level AA])

- Navigational mechanisms that are repeated on multiple webpages within a set of webpages occur in the corresponding relative order each time they are repeated, unless a change is initiated by the user.

2.16 Compatible with screen readers

- Ensure all contents and functionalities are accessible by commonly used screen readers.

2.17 Provide an accessibility statement with contact points for the website

- Provide an accessibility statement with contact point (such as phone number, email address or instant messaging channel) for website users to contact the website owners when they encounter accessibility problems.

2.18 Provide accessible PDFs

- For any PDF documents in the webpage, it shall provide the following accessible features:
 - (a) Provide meaningful text alternatives for images;
(Corresponding Techniques PDF1 for WCAG 2)
 - (b) Ensure correct tab and reading order;
(Corresponding Techniques PDF3 for WCAG 2)
 - (c) Use table elements for table markup;
(Corresponding Techniques PDF6 for WCAG 2)
 - (d) Set the default language in the document catalog; and
(Corresponding Techniques PDF16 for WCAG 2)
 - (e) Specify the document title
(Corresponding Techniques PDF18 for WCAG 2)

2.19 Build webpages with predictable operations

(Corresponding success criterion in WCAG 2 – 3.2.1 [Level A])

- For any component that is able to trigger an event, it will not change the context (for example jumping to a new window) immediately when the component receives focus.

2.20 Able to skip repetitive blocks

(Corresponding success criterion in WCAG 2 – 2.4.1 [Level A])

- A mechanism is available to bypass blocks of content that are repeated on multiple webpages.

2.21 Provide multiple ways to retrieve content

(Corresponding success criterion in WCAG 2 – 2.4.5 [Level AA])

- Provide more than one way to access a webpage such as using a search function, site map, standard navigation, etc.

2.22 Build webpages with user-initiated auto-updating

(Corresponding success criterion in WCAG 2 – 2.2.2 [Level A])

- If there is any moving information that starts automatically and lasts more than five seconds, there shall be a mechanism for users to pause, stop or hide it.

2.23 Provide sufficient colour contrast

(Corresponding success criterion in WCAG 2 – 1.4.3 & 1.4.11 [Level AA])

- Visual presentation of text and images of text has a contrast ratio of at least 4.5:1. All non-text content (e.g. graphics, diagrams, buttons, checkboxes, radio buttons or input fields), which deliver important information, should have a minimum 3:1 colour contrast ratio against adjacent colour. Logo or brand name is exempted.

2.24 Ensure correct syntax of webpages for compatibility with browsers and assistive technologies

(Corresponding success criterion in WCAG 2 – 4.1.1 [Level A])

- For content coded with mark-up languages, elements shall have complete start and end tags, correct nested coding.

2.25 Provide meaningful title, summary or description for table header as well as data

(Corresponding success criterion in WCAG 2 – 1.3.1 [Level A])

- To ensure that the information and relationships of content conveyed in form of a table is perceivable to all.

2.26 Provide error prevention for transactions

(Corresponding success criterion in WCAG 2 – 3.3.4 [Level AA])

- For transaction involved legal or financial commitments, error prevention mechanism shall be included through at least one of the following:
 - (a) Reversible: submissions are reversible.
 - (b) Checked: input data are checked for errors and users are allowed to correct them.
 - (c) Confirmed: a mechanism is available for reviewing, confirming, and correcting information before finalising the submission.

2.27 Able to abort or undo the function operated by single pointer

(Corresponding success criterion in WCAG 2 – 2.5.2 [Level A])

- Functions are completed by the up-event (e.g. release the mouse button) and either one of the following mechanisms is available:
 - (a) To abort the function before completion; or
 - (b) To undo the function after completion.

There is exemption when the down-event is essential such as in the piano keyboard emulation program.

3. Design Guide for Mobile Application

Basic accessibility features for mobile applications are provided in Section 3.1 to 3.19, whereas more advanced accessibility features are listed in Section 3.20 to 3.23.

3.1 Provide meaningful text alternative for non-text contents

(Corresponding success criterion in WCAG 2 – 1.1.1 [Level A])

- All non-text contents, such as buttons, icons, photos, pictures, images, banners and maps that are presented to users have a text alternative that provides a meaningful description.

3.2 Easy to turn off background sound or set as user-initiated only

(Corresponding success criterion in WCAG 2 – 1.4.2 [Level A])

- If any audio on a page plays automatically for more than 3 seconds, either a function is available to pause or stop the audio, or control audio volume independently for that specific audio.

3.3 Make content easy to be used with assistive technologies

(Corresponding success criterion in WCAG 2 – 1.3.1 [Level A])

- Add titles to the pages of the mobile app, so that assistive technologies can be used to present the content structure to users.

3.4 Provide text resize function or text can be zoomed without loss of content

(Corresponding success criterion in WCAG 2 – 1.4.4 [Level AA])

- Except for captions and images of text, provide text resize function/setting, or work well with device's zoom feature without loss of content or functionality.

3.5 Provide transcript, captions or sign language for pre-recorded videos conveying key information

(Relevant success criterion in WCAG 2 – 1.2.1, 1.2.2 [Level A] and 1.2.6 [Level AAA])

- Transcript, captions or sign language are provided for 30% of pre-recorded videos and audio content published in the most recent 2 years, except when the media is a media alternative for text and is clearly labelled as such.

3.6 Provide means to close popovers

(Corresponding success criterion in WCAG 2 – 2.1.2 [Level A])

- If there is a popover, a close button shall be included.

3.7 Provide clear and informative links

(Corresponding success criterion in WCAG 2 – 2.4.4 [Level A])

- If there is a link, either the link text alone or the text preceding the link is clear and meaningful in order to help users navigate.

3.8 Provide clear and simple headings

(Corresponding success criterion in WCAG 2 – 2.4.6 [Level AA])

- To help users understand what information is contained in the page and how information is organised, use clear and simple headings to describe a topic or purpose.

3.9 Make all clickable objects large enough to be tapped

- All clickable objects such as buttons and links are large enough to be tapped.

3.10 Provide navigation for going backward

- Provide backward navigational mechanisms to enable users go back to previous screen page.

3.11 Provide alternative means for users to operate the function by complex gesture

(Corresponding success criterion in WCAG 2 – 2.5.1 [Level A])

- Complex gestures, such as swiping, dragging a slider or two-finger pinching for zooming, can be performed through simpler actions like taps or long presses.

3.12 Provide alternative means for users to operate the function by moving the device

(Corresponding success criterion in WCAG 2 – 2.5.4 [Level A])

- Functions triggered by moving a device (e.g. shaking or tilting) or by gesturing towards the device (e.g. a camera can interpret the gesture and activate a function) should be able to be operated by more conventional user interface components.

3.13 Provide sufficient time for users to read the content and operate the function

(Corresponding success criterion in WCAG 2 – 2.2.1 [Level A])

- If there is a time-limited function, sufficient time shall be allowed for users to interact with the application through the following:
 - (a) time limit can be turned off; or
 - (b) time limit can be extended by a simple action

3.14 Provide meaningful content sequence

(Corresponding success criterion in WCAG 2 – 1.3.2 & 2.4.3 [Level A])

- If the content needs to be read in a certain order to make it meaningful, ensure the mobile app is written/coded in a way which indicates this order.
- In regard to partial change on a page, content becomes invisible and irrelevant to users shall be ignored by assistive technologies.

3.15 Provide accessible animated contents or allow to skip

- If animated content is provided, accessible version of animated content or a skip function shall be provided.

3.16 Provide input assistance such as proper labels or instructions for user input

(Corresponding success criterion in WCAG 2 – 3.3.1 and 3.3.2 [Level A])

- All components such as labels, buttons and text fields shall have a meaningful text description so that it can be read by screen readers.

3.17 Provide consistent and simple user interface structure

(Corresponding success criterion in WCAG 2 – 3.2.3 [Level AA])

- Navigational mechanisms that are repeated on multiple pages within a set of pages occur in the corresponding relative order each time they are repeated, unless the user initiates a change.

3.18 Compatible with screen readers

- Ensure all contents and functionalities are accessible by commonly used screen readers.

3.19 Provide an accessibility statement with contact points for the mobile app

- Provide an accessibility statement with contact point (such as phone number, email address or instant messaging channel) for mobile app users to contact the mobile app owners when they encounter accessibility problems.

3.20 Provide sufficient colour contrast

(Corresponding success criterion in WCAG 2 – 1.4.3 & 1.4.11 [Level AA])

- Visual presentation of text and images of text has a contrast ratio of at least 4.5:1. All non-text content (e.g. graphics, diagrams, buttons, checkboxes, radio buttons or input fields), which deliver important information, should have a minimum 3:1 colour contrast ratio against adjacent colour. Logo or brand name is exempted.

3.21 Provide error prevention for transactions

(Corresponding success criterion in WCAG 2 – 3.3.4 [Level AA])

- For transaction involved legal or financial commitments, error prevention mechanism shall be included through at least one of the following:
 - (a) Reversible: submissions are reversible.
 - (b) Checked: input data are checked for errors and users are allowed to correct them.
 - (c) Confirmed: a mechanism is available for reviewing, confirming, and correcting information before finalising the submission.

3.22 Able to abort or undo the function operated by single pointer

(Corresponding success criterion in WCAG 2 – 2.5.2 [Level A])

- Functions are completed by the up-event (e.g. remove the finger from the screen) and either one of the following mechanisms is available:
 - (a) To abort the function before completion; or
 - (b) To undo the function after completion.

There is exemption when the down-event is essential such as in the piano keyboard emulation program.

3.23 Provide alternative means for notification

- Ensure more than one means for notification that can be received by persons with different types of disabilities, such as visual and hearing impairments.