建立無障礙網頁及無障礙流動應用程式研討會

政府資訊科技總監辦公室 2013年10月10日





建立無障礙網頁及無障礙流動應用程式

Agenda

- Web Accessibility Campaign 無障礙網頁運動
- Testing Techniques 檢測網站技巧
- Common Pitfalls 常見的設計問題
- Resources 建立無障礙網頁的資源
- Web Accessibility Recognition Scheme 無障礙網頁 嘉許計劃

Web Accessibility Campaign 無障礙網頁運動

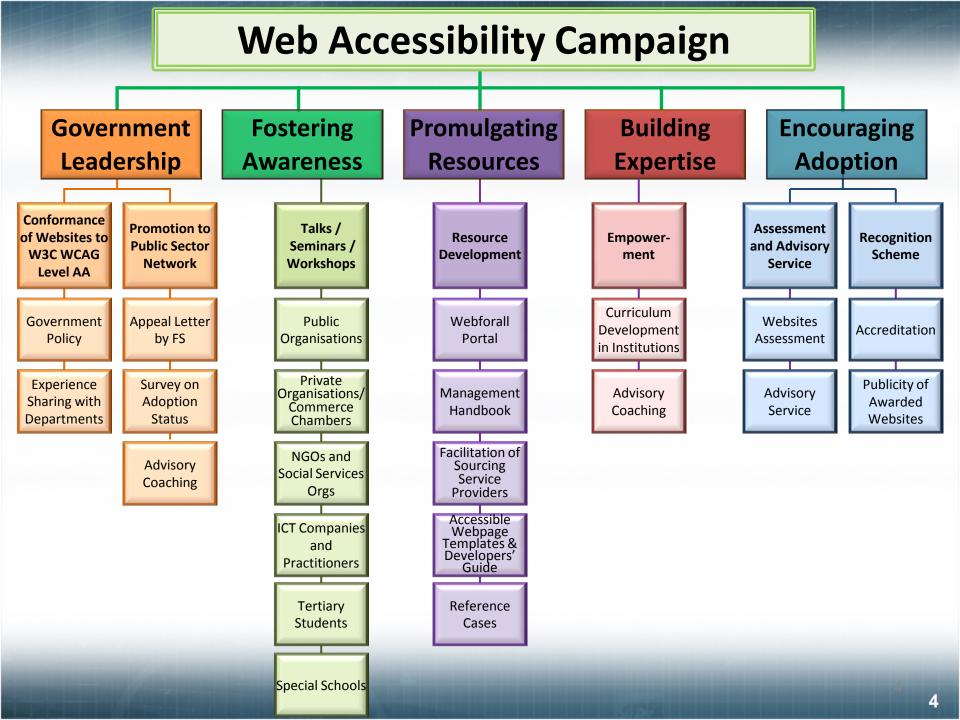
Launched in October 2011

Objective

- To facilitate access to online information and services for all segments of the community including persons with disabilities
- To promote wider adoption of web accessibility design in both public and private websites

Video on Introduction of Web Accessibility

http://www.ogcio.gov.hk/tc/community/web_accessibility/recognition_scheme/video/wars_video2.mp4



積極領導

Government Websites



Public-sector organisations













提高認知

Seminars & Workshops







Over 3000 participants

發布資源

Webforall Portal

www.webforall.gov.hk



無障礙流動應用程式手冊

Mobile Applications
Accessibility Handbook





無障礙網頁範本 Accessible Webpage Templates



培育專才

Incorporate Web Accessibility into ICT curricula









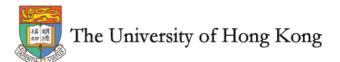














鼓勵採用

Web Accessibility Recognition Scheme 無障礙網頁嘉許計劃



- Reference to International standard
- Verified by persons with disabilities
- Free assessment and advisory services
- Webforall accreditation logos

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Testing Steps

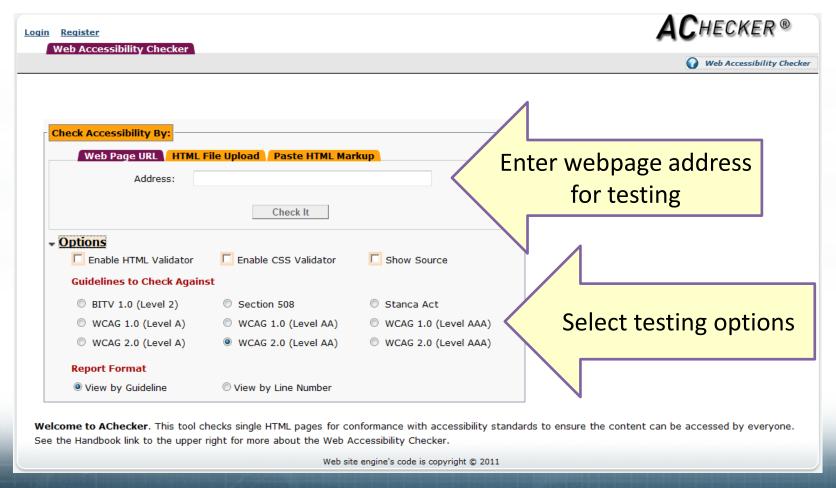
- Code Scanning (編碼掃描) / Code Review (編碼檢查)
- Visual Review (目視檢查)
- Manual Testing with Screen Reader (使用讀屏軟件進行手動檢測)
- Testing with Other Tools (使用其他檢測工具)
- Human Testing (使用者測試)

Code scanning and review 編碼掃描和檢查

- Many accessibility issues can be detected automatically using specialist software and tools
- Example tools
 - AChecker
 - WAVE
 - PDF Accessibility Checker

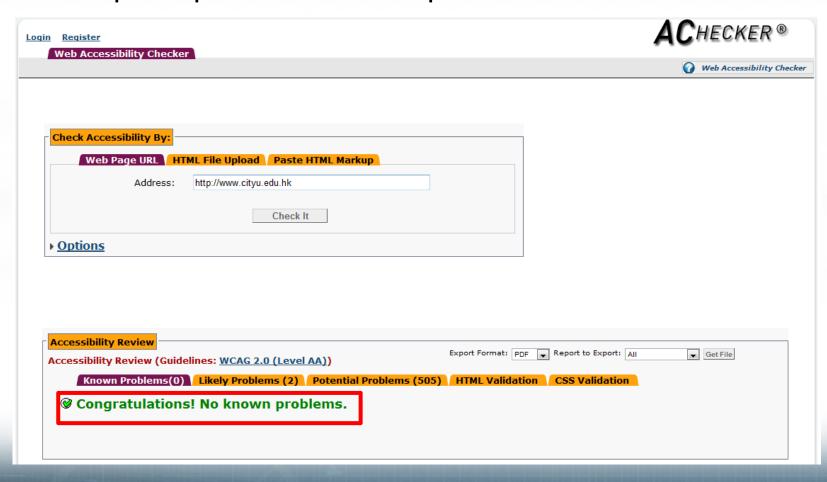
Code Scanning 編碼掃描

http://achecker.ca/checker/index.php



Code Scanning 編碼掃描

Sample report - no known problem



Code Scanning 編碼掃描

Sample report – known web accessibility problem

```
Accessibility Review
Accessibility Review (Guidelines: WCAG 2.0 (Level AA))
      Known Problems (9) Likely Problems (1) Potential Problems (215)
1.1 Text Alternatives: Provide text alternatives for any non-text content
   Success Criteria 1.1.1 Non-text Content (A)
     Check 1: img element missing alt attribute.
         Repair: Add an alt attribute to your img element.
2.4 Navigable: Provide ways to help users navigate, find content, and determine
where they are.
   Success Criteria 2.4.4 Link Purpose (In Context) (A)
     Check 174: Anchor contains no text.
         Repair: Add text to the a element or the title attribute of the a element or,
              Line 228, Column 39:
```

Code Review 編碼檢查



alt="Web Accessibility Campaign - Making Web Content Available for All"

Press F12 in browser software to view the code



Source: www.webforall.gov.hk/en

2. Visual review 目視檢查

- A simple look at a website can reveal many potential web accessibility issues for persons with disabilities
 - Can the content be easily read?
 - Is the text too small?
 - Does it use pale coloured text on a pale background, making the text hard to read?
 - Move around the webpage using just a keyboard.
 Can we access all the links and functions?
- Example tools
 - Vischeck
 - Colour Contrast Check

Vischeck

- http://www.vischeck.com/vischeck/
- showing you what things look like to someone who is colour blind



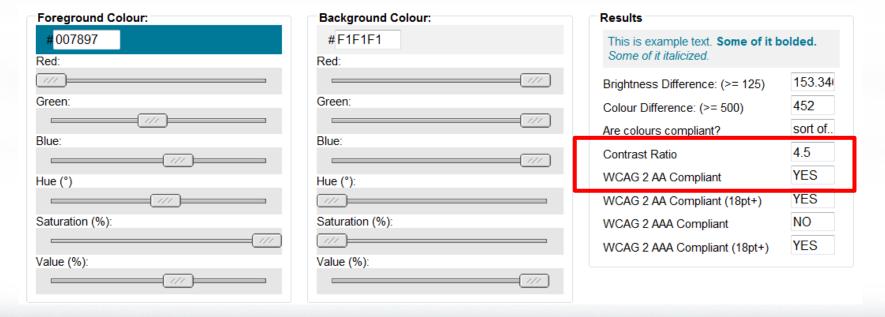
www.ogcio.gov.hk



How the webpage looks to a person with a red/green color deficit (deuteranopia)

Colour Contrast Check

- http://snook.ca/technical/colour_contrast/colour.html
- Text have a contrast ratio of at least 4.5 : 1 between the background and the foreground



- 3. Manual testing with screen readers 使用讀屏軟件 進行手動檢測
 - Navigate website and access the content through the screen readers
 - Example tools
 - Jaws
 - > NVDA
 - VoiceOver

- 4. Manual testing with other assistive technologies 使用其他檢測工具
 - Screen magnification tools and voice control tools
 - Example tools
 - ZoomText
 - Dragon Naturally Speaking

5. Human testing 使用者測試

- The most thorough approach to ensure web accessibility is to test a website by persons with disabilities
- Some organisations supporting persons with disabilities offer human testing services

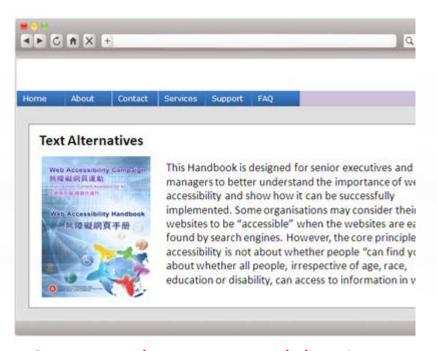
建立無障礙網頁及無障礙流動應用程式

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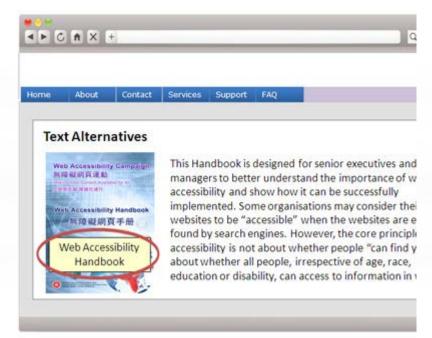
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1. Meaningful Text Alternative

 All non-text contents, such as icons, photos, pictures, images, banners and maps, should have a text alternative



Screen reader cannot read the picture



A text description that can be read by the screen reader

1. Meaningful Alternative Text Description

Testing: Code Review, Manual Testing with Screen Reader



alt="Web Accessibility Campaign - Making Web Content Available for All"

Press F12 in browser software to view the code



Source: www.webforall.gov.hk/en

2. Flash / Animated Content

Provide accessible Flash/Animated content or allow skip function



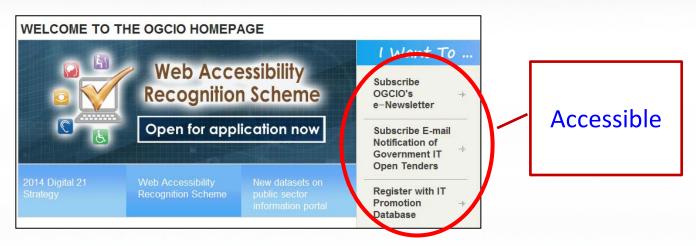
Flash content blocks the user from getting to main content

Include accessible "Skip" option allow user to skip Flash content

2. Flash / Animated Content

Testing: Visual Review, Manual Testing with Screen Reader

e.g. 1



e.g. 2



Source: www.ogcio.gov.hk

3. Keyboard Interface

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



```
<img src="question.gif" alt="Question" onclick="openPop();" />
```

People using a keyboard interface may not be able to navigate to the help function provided

```
<ima src="auestion.gif" alt="Ouestion" onclick="openPop();"
onkeypress="openPop();" tabindex="0"/>
```

Allow users to access all content and functions with a keyboard interface

3. Keyboard Interface

Testing: Code Review, Manual Testing with Screen Reader



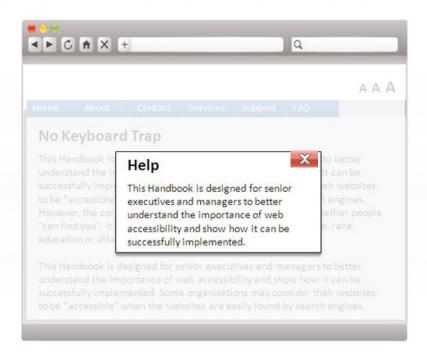
Press F12 in Browser software to view the code

onkeypress="if(this.value==Enter search keyword(s)")this.value=""

Source: www.webforall.gov.hk/en

4. Popup Windows

 A close button shall be included to allow closing the popup window through keyboard interfaces



No ways to close the popup window using a keyboard



Include a Close button to close the popup window

4. Popup Windows

Testing: Visual Review, Manual Testing with Screen Reader



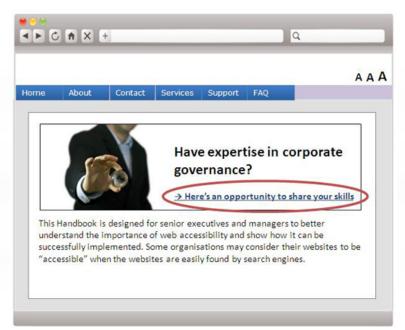
Source: www.gov.hk

5. Links

• either the link text alone or the text preceding the link is clear and meaningful in order to help users navigate



The link "Yes" is ambiguous and does not really convey much meaning



Link labels should be more descriptive and self-explanatory

5. Links

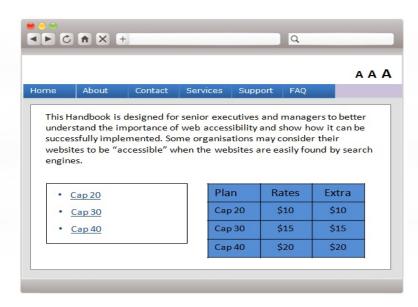
Testing: Visual Review, Manual Testing with Screen Reader



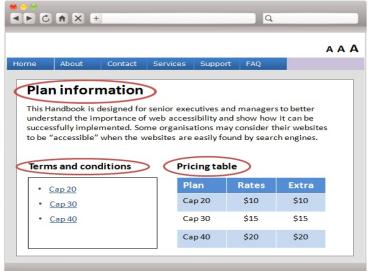
Source: www.webforall.gov.hk/en

6. Website Structure and Content

 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



Missing heading structure



Provide semantic code for headings (h1,h2,h3) in the content

6. Website Structure and Content

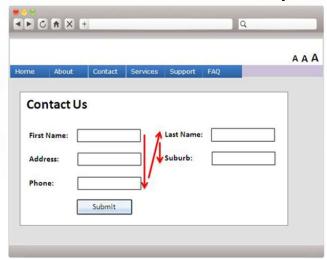
Testing: Code Review, Manual Testing with Screen Reader

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mation for Residents
in <div class="sidebar" id="homepage" sizset="0" sizcache05498842022675241="455">
     «" id="feature" siz»», "0" iOuery172006505273126399763="54" sizcache05498842022675241="50"
                in <h2 class="access">
                     -div class="flex-towport" style="position; relative; overflow; hidden;">.
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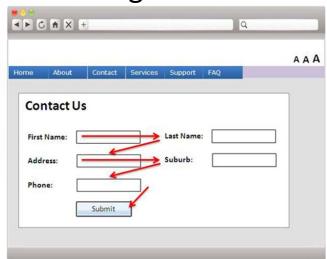
                ii- <div class="flex-pauseplay" sizset="0" sizcache05498842022675241="50">
           - <h2 class="access">
                 ---- 文字 - Main Content
               <a name="content" id="content"/>
           div id="mvgovhkBadge">
                - <h2 class="access">
                       ····· 文字 - MyGoyHK
                id="mygovhkBadgeHeader">
                in <div id="mvgovhkBadgeFooter">
           in. <div id="whatsNew" sizset="0" iOuerv172006505273126399763="58" sizcache05498842022675241="455" >
                in <h2 title="Check it Out!">
                in <div class="flex-viewport" style="position; relative; overflow; hidden;">
                in 
                in <div class="flex-pauseplay" sizset="0" sizcache05498842022675241="455">
           -<div id="citizenRelated" sizset="5" sizcache05498842022675241="6">
                - <div id="clusters" sizset="5" sizcache05498842022675241="6">
                     in <div id="lookingFor">
                      -<div id="cluster1st" sizset="5" sizcache05498842022675241="6">
                                            s="clusterItem" sizset="5" sizcache05498842022675241="6">
                                 in <h3 class="communication">
                                                                          ms & Technology" class="clusterLink" href="/en/residents/communication/" jQuery172006505273126399763="43">
                                ida <div class="clusterTooltipContainer" sizset="5" sizcache05498842022675241="6">
                           - "div class="clusterItem" sizset="6" sizcache05498842022675241="6">
                                iii <h3 class="culture">
                                      🖮 - <a title="Culture, Leisure & Sports" class="clusterLink" href="/en/residents/culture/" jQuery172006505273126399763="44">
                                       .....文字 - 空白的文字節點
                                iii - <diy class="clusterTooltipContainer" sizset="6" sizcache05498842022675241="6">
                                      iii <div class="clusterTooltip" sizset="6" sizcache05498842022675241="6">
```

7. Meaningful Sequence

- 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



Focus order not intuitive to user



Focus order in logical manner

7. Meaningful Sequence

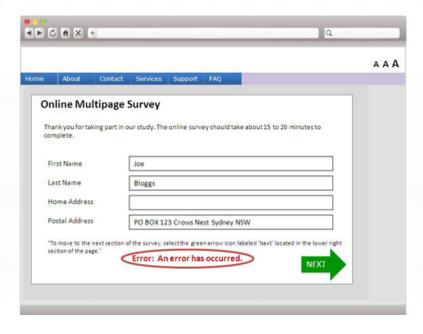
Testing: Manual Testing with Screen Reader

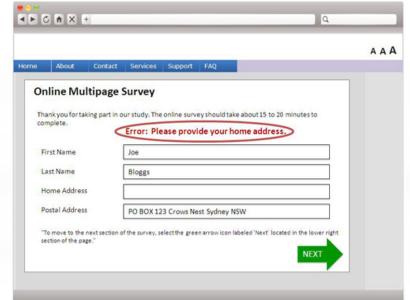
Use a screen reader to read or press the "Tab" key to go through the input fields

Customer Database			
First Name:		Last Name:	
Address:		Email:	
Phone:			
	Submit		

8. Input Assistance

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





The error message is located at the bottom of the webpage and does not provide an adequate description of what needs to be corrected

The error message is located at the top of the webpage and provides a good explanation of what needs to be corrected

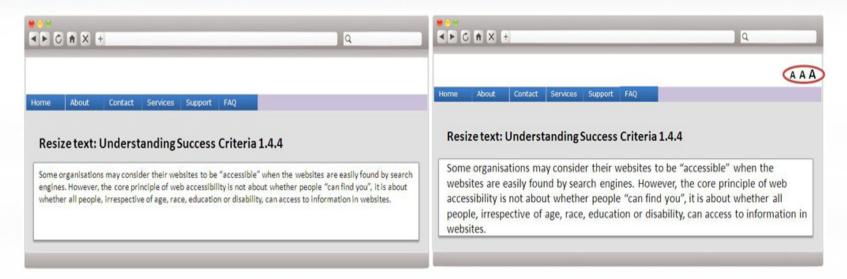
8. Input Assistance

Testing: Manual Testing with Screen Reader



9. Text Resize

Text can be resized up to 200 % without loss of content

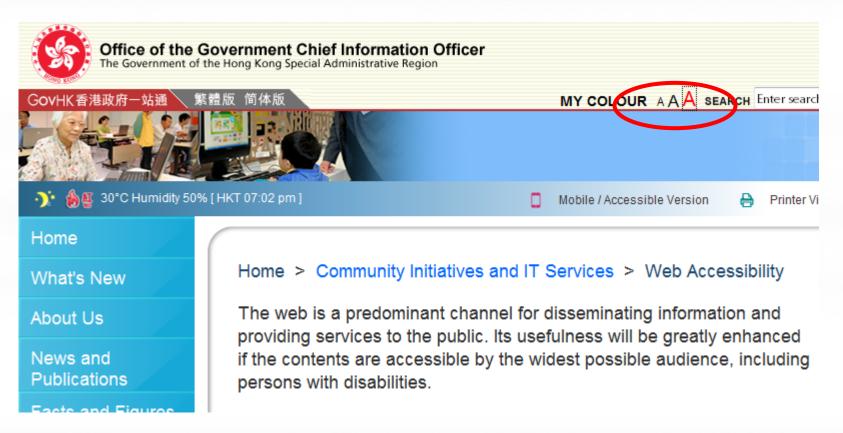


No text-resize function

Text-resize function is available

9. Text Resize

Testing: Visual Review and Human Testing



Source: www.ogcio.gov.hk

10. Accessible PDFs

Provide accessible PDFs

Affected Group; All Persons with Disabilities

PDF documents should only be used for certain situations. This is generally when you have a piece of content that you would like people to download and read offline. In this way, PDF documents can be helpful for persons with disabilities because they can download and read them with the

We have to ensure that PDF documents are accessible to assistive from a text-based source document so that it is readable by Braille devices used by persons with visual impairments. Image-based documents, such as documents with Optical Character Recognition (OCR) software prior to

Scanned Image not accessible

Affected Group: All Persons with Disabilities

PDF documents should only be used for certain situations. This is generally when you have a piece of content that you would like people to download and read offline. In this way, PDF documents can be helpful for persons with disabilities because they can download and read them with the assistive functions built into PDF reading software.

We have to ensure that PDF documents are accessible to assistive technologies, such as screen readers. We should produce a PDF document from a text-based source document so that it is readable by Braille devices used by persons with visual impairments. Image-based documents, such as TIF files produced by scanning, should be converted into text-based documents with Optical Character Recognition (OCR) software prior to producing the PDF documents.

Text-based accessible PDF

10. Accessible PDFs

Testing: Manual Testing with Screen Reader

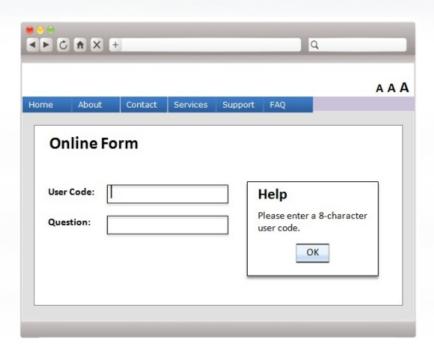
- PDF Accessibility Checker (Free) http://www.access-for-all.ch/en/pdf-lab/pdf-accessibility-checker-pac.html
- Adobe Acrobat Accessibility Check (version 7.0 or above)
 (Paid)

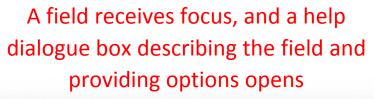
http://www.adobe.com/accessibility.html

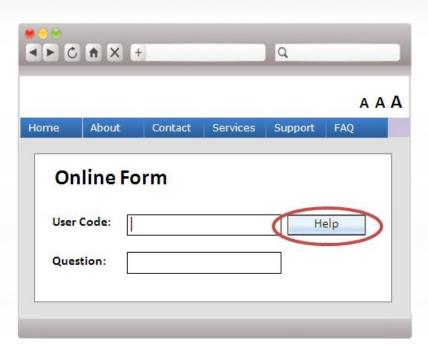
• Sortsite (Paid) - http://www.powermapper.com/products/sortsite/pro.htm

11. Predictable Operations

Build webpages with predictable operations



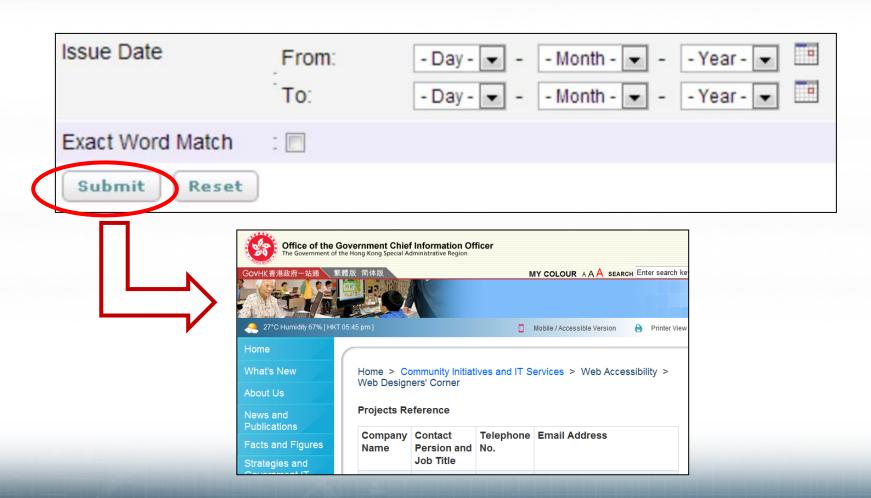




Allow the user to activate "Help" only at their choice

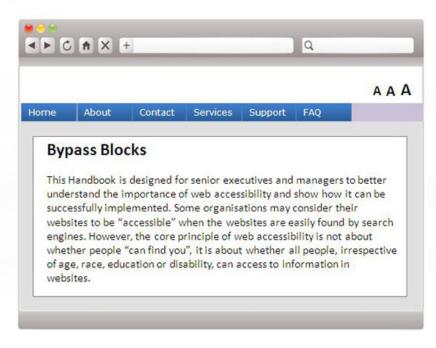
11. Predictable Operations

Testing: Visual Review and Manual Testing with Screen Reader



12. Skip Repetitive Blocks

 Ensure users have the ability to skip past repetitive blocks of content (e.g. the navigation at the top of the webpage)



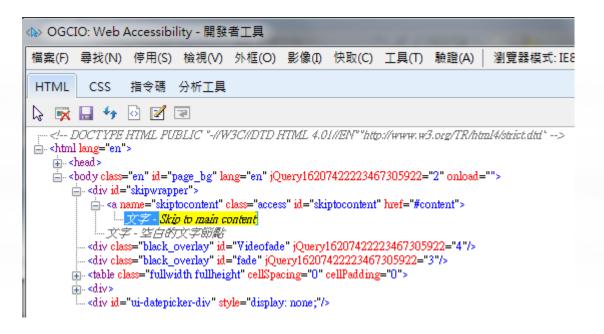
People using screen readers need to read all the navigation information before getting to the target content



Add a "Skip to content" link at the top of each webpage

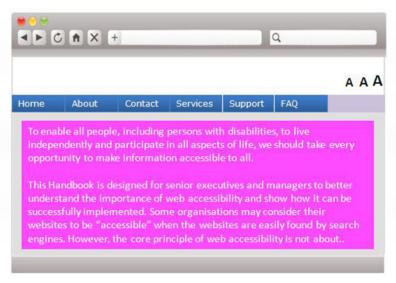
12. Skip Repetitive Blocks

<u>Testing</u>: Visual & Code Review, Manual Testing with Screen Reader

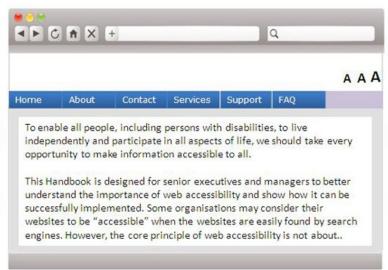


13. Sufficient Colour Contrast

 The visual presentation of text and images of text has a contrast ratio of at least 4.5:1. Logo or brand name is exempted



Poor background contrast

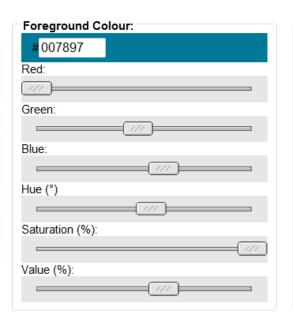


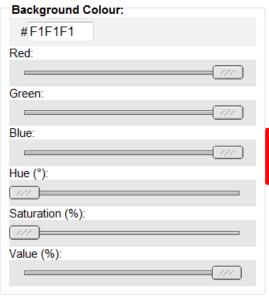
Easier to read with higher contrast

13. Sufficient Colour Contrast

Testing: Colour contrast check

http://snook.ca/technical/colour_contrast/colour.html







13. Sufficient Colour Contrast

Testing: Colour blind check

http://www.vischeck.com/vischeck/



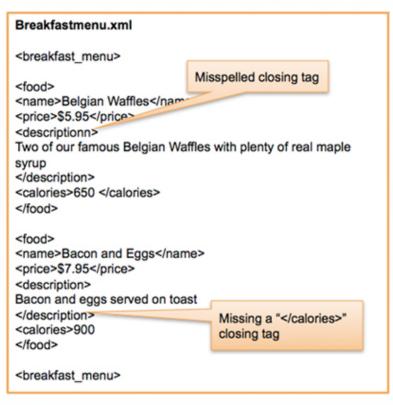
www.ogcio.gov.hk

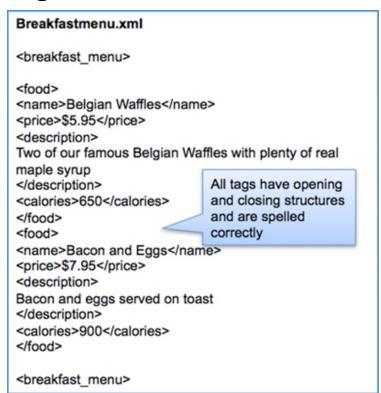


How the webpage looks to a person with a red/green color deficit (deuteranopia)

14. Compatibility

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





14. Compatibility

```
Testing: Code scanning
```

```
e.g. Achecker - <a href="http://achecker.ca/checker/index.php">http://achecker.ca/checker/index.php</a>
```

```
WAVE – http://wave.webaim.org/
```

Total Validator - http://www.totalvalidator.com/

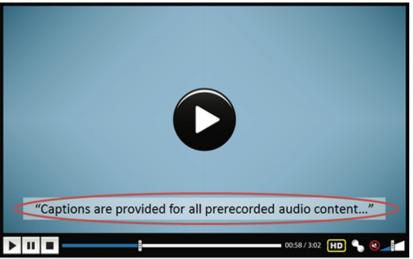
```
507 LO E042 Bad character(s) found
E860 [WCAG 2.0 1.1.1 (A)] Wr
<img src="We
507 LO20 No matching start tag 1
</a>
</a>
507

508
```

15. Video

 Provide captions or sign language for pre-recorded videos and audio content





Missing captions

Provide captions

15. Video

Testing: Visual Review



Source:

http://www.ogcio.gov.hk/en/community/web_accessibility/recognition_s cheme/video_gallery/

建立無障礙網頁及無障礙流動應用程式

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Accessible Webpage Templates 無障礙網頁範本

- www.webforall.gov.hk/template
- Sample codes incorporated with essential web accessibility features, e.g.



Webforall Portal

Web Designers' Corner 網頁服務商專區

- facilitating the sourcing of ICT professional services for the implementation of web accessibility designs
- www.webforall.gov.hk/ wdc

Web Accessibility Services Providers List

Index: ABCDEFGHIJKLMNOPQRSTUVWXYZ0-9 Misc

Δ

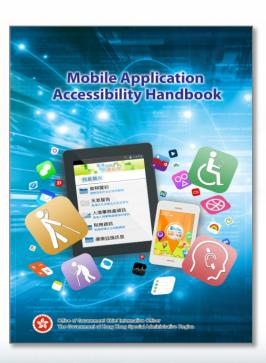
Supplier and Contact	Gap Analysis	Website Design	Website Dev.	Website Maint.	Website Testing
Projects Reference	•	_		Í	V
Projects Reference	•	~	•	•	•

Webforall Portal

- Guide to Application
- Web Accessibility Handbook
- Mobile Application Accessibility Handbook







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Web Accessibility Recognition Scheme

無障礙網頁嘉許計劃

Objectives

- Recognise efforts and achievements in adoption of web accessibility design
- Raise awareness in the community and encourage wider adoption



Web Accessibility Recognition Scheme

無障礙網頁嘉許計劃

Structure

- Co-organise with the Equal Opportunities Commission
- Led by an Advisory Committee comprising members from
 - Office of the Government Chief Information Officer (政府資訊科技總監辦公室)
 - Equal Opportunities Commission (平等機會委員會)
 - Labour and Welfare Bureau (勞工及福利局)
 - Non-profit making organisations
 - Visual Impairment
 - Physical Impairment
 - Hearing Impairment
 - Members from ICT Industry

Web Accessibility Recognition Scheme

無障礙網頁嘉許計劃

Framework

- Website / Mobile Apps^{NEW!} Streams
- Gold / Silver Awards
- Annual event
- Open to all local enterprises and organisations, including companies, non-government organisations (NGOs), educational institutions and public sector organisations





- Neither a competition nor a compliance audit
- www.webforall.gov.hk/scheme

Enquiry and Advisory

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Thank you!