

Web Accessibility

Digital Inclusion Division
Office of the Government Chief Information Officer

January - March 2014



Agenda

1. What is Web Accessibility?
2. Common Pitfalls
3. Why Web Accessibility?
4. International Standards and Testing Techniques
5. Government Policy
6. Web Accessibility Campaign



Digital 21 Strategy

One of the key areas of Digital 21 Strategy

- ***ICT as a Tool to Support Underprivileged Groups***
 - Expand their social horizons
 - Integrate with the society
 - Enhance their quality of life



Digital Inclusion (數碼共融)

Social groups mainly affected by “Digital Divide”

- Elderly
- New arrivals
- Female homemakers
- Single parents
- Children of low-income families
- Persons with disabilities
- Ethnic minorities



Digital Inclusion – Priority Groups

Students in low income families

- have Internet access at home and do not lose educational opportunity because of financial difficulties or lack of support



Elderly

- Initiatives to encourage more elderly to use ICT in their daily life for social and generational inclusion



Persons with disabilities

- minimise the barriers on the use of ICT
- drive wider adoption of ICT to improve their quality of life



Digital Inclusion Initiatives



Students in low income families



Elderly



Persons with disabilities

Cash Subsidy on Internet Access Charges

Internet Learning Support Programme

Elderly Portal

Encouraging ICT Adoption among the Elderly

Web Accessibility Campaign

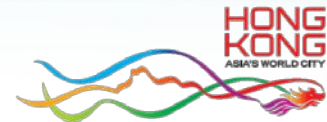
Development of Assistive Technologies

Development of Digital Inclusion Applications

• Public library computer facilities

• GovWiFi

• District Cyber Centres



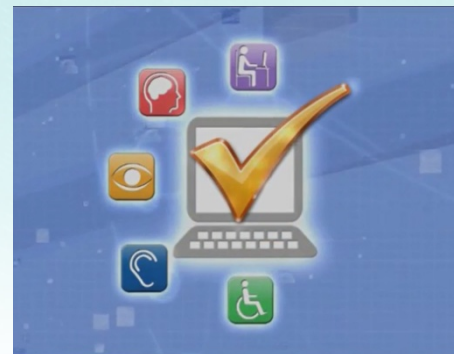
What is Web Accessibility?

- Making web **Content** available for **ALL**
- **ALL** people of the community
- Including persons with disabilities (361,000 about 5.2% of total population)



[Video on Introduction of Web Accessibility](#)

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



Four Major Categories of Disabilities

- **Visual Impairment**
 - blind, low vision, *colour blindness*
- **Physical Impairment**
 - missing limbs, reduced control of limbs, suffer from dexterity problems, epilepsy
- **Hearing Impairment**
 - completely or partially deaf
- **Cognitive Impairment**
 - have difficulties in learning



Visual Impairment

Reading with Refreshable Braille Display Device

- Electrical device connected to computer
- Contents of webpage in text format can be converted to Braille (點字) display on the device



Braille Alphabet

| | | | | | | |
|----------|----------|----------|----------|----------|----------|----------|
| A | B | C | D | E | F | G |
| ⠁ | ⠃ | ⠉ | ⠇ | ⠑ | ⠖ | ⠔ |
| H | I | J | K | L | M | N |
| ⠈ | ⠊ | ⠋ | ⠅ | ⠍ | ⠎ | ⠪ |
| O | P | Q | R | S | T | U |
| ⠏ | ⠕ | ⠒ | ⠗ | ⠚ | ⠞ | ⠚ |
| V | W | X | Y | Z | | |
| ⠕ | ⠗ | ⠞ | ⠝ | ⠵ | | |



Visual Impairment

Reading with Screen Reading Software



- Use text-to-speech (TTS) engine to interpret what is displayed on the screen

The screenshot shows the GovHK website homepage. At the top, there is a navigation bar with links for '政府機構', '網上服務', '表格', '關於香港', and '幫助'. A secondary bar contains '我的政府一站通', '流動/無障礙瀏覽', 'RSS', '我的自訂色彩', and language options: 'English | 简体 | 其他語言'. The main header features the 'GovHK 香港政府一站通' logo and a search bar. Below the header, there are navigation tabs for '本港居民', '商務及貿易', '非本港居民', and '青少年'. The main content area is divided into two columns. The left column has a large orange banner for the '二零一三年施政報告' (2013 Policy Address) with the slogan '穩中求變 務實為民'. Below this are links for '2013施政報告', '疫苗資助計劃', '應對 Oracle Java 程式碼安全漏洞', and '訂閱食物警報及消防安全大使資訊'. The right column has a '我想...' (I want...) section with a list of services: '使用「稅務易」服務', '申請政府職位', '預約申請旅行證件', '找政府網站或人員', '預約申領香港身份證', and '搜尋康樂及體育設施'. Each service has a plus icon to its right.

www.gov.hk



政府資訊科技總監辦公室
Office of the Government Chief Information Officer



Visual Impairment

Reading with Screen Magnification Tools

- Zoom into sections of a screen and change contrast level to assist users with poor or low vision



Physical Impairment

Barrier-free Input Device

- Special hardware and software for accessing webpages



Physical Impairment

Brain-Computer Interface System

- User concentrates on the characters and strokes displayed which flashed sequentially on the screen
- System monitors brain activity



Hearing Impairment

Provision of content in different mediums

- If information is conveyed in audio, ensure to provide an alternative way to access this information
- Provide a text transcript, subtitles or sign language



Cognitive Impairment

May not require special tools to use websites but some design considerations, e.g.

- Ensure that navigation is consistent throughout a website
- Similar interface elements and similar interactions
- Avoid distractions (e.g. animation, unusual font faces)
- Pair icons or graphics with text to provide contextual cues



Ambiguous meaning



Clear meaning



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Common Pitfalls



1. No alternatives for non-text content

- Persons with visual impairment cannot perceive the image content



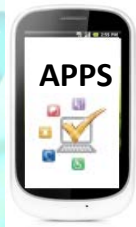
Alt = "Image 1"



Alt = "Officiating guests attending the Launch Ceremony of the Web Accessibility Recognition Scheme"

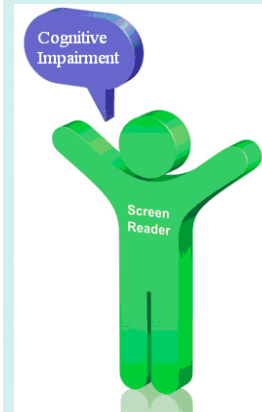
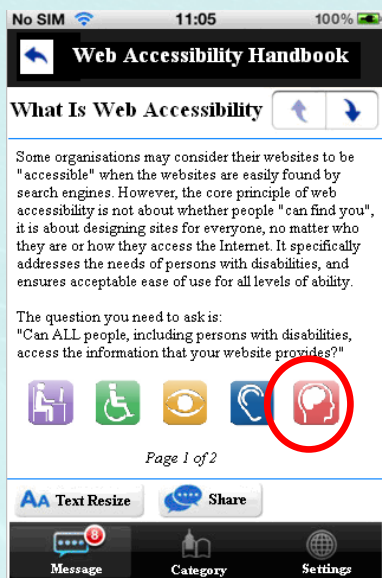
- ✓ e.g. contain descriptive text alternative for image





Common Pitfalls

1. No alternatives for non-text content



- ✓ e.g. contain descriptive text alternative for images

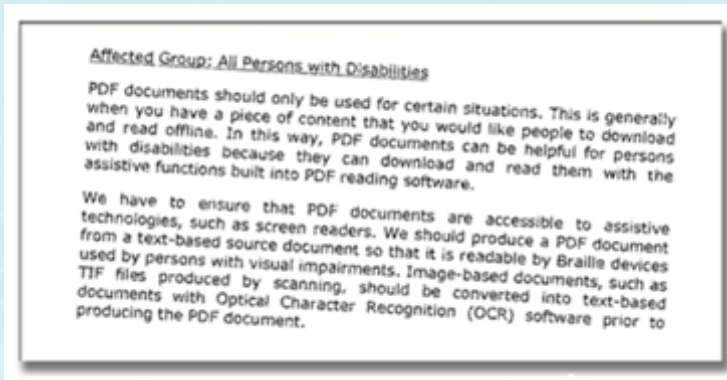


Common Pitfalls

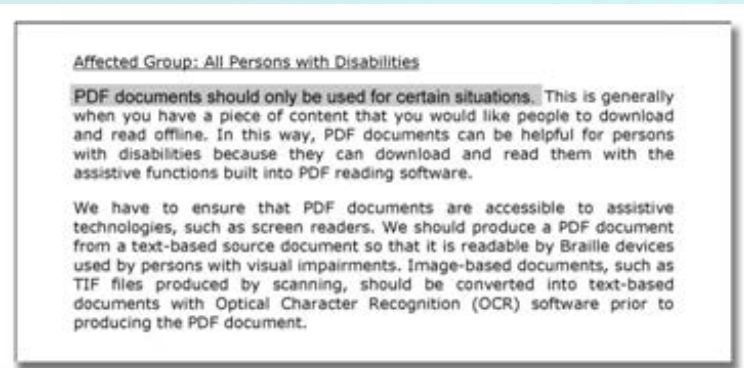


2. Inaccessible PDF Files

- Screen reader cannot read the content



Scanned Image not accessible



Text-based accessible PDF

- ✓ e.g. use proper PDF generator to produce a PDF document from a text-based source document;
- ✓ use Optical Character Recognition (OCR) software after scanning

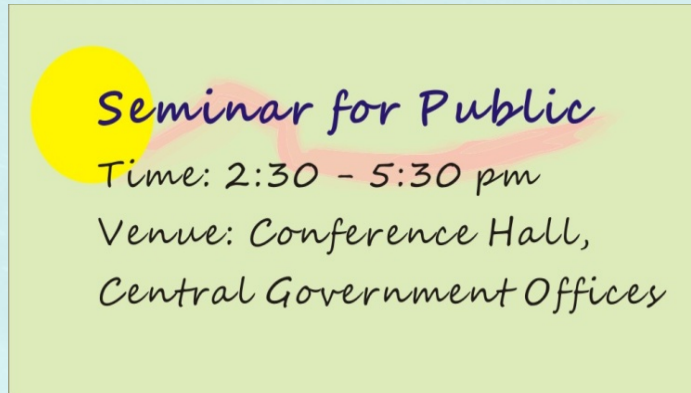


Common Pitfalls



3. Text in Image is not accessible

- Information is not conveyed to all



Text in image



Accessible text on a webpage

- ✓ Avoid to convey information of wide public interest
- ✓ If avoidable, provide descriptive text alternatives

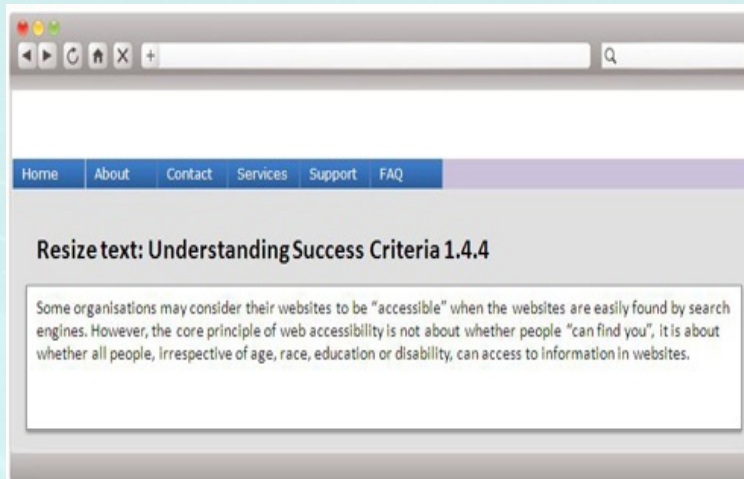


Common Pitfalls

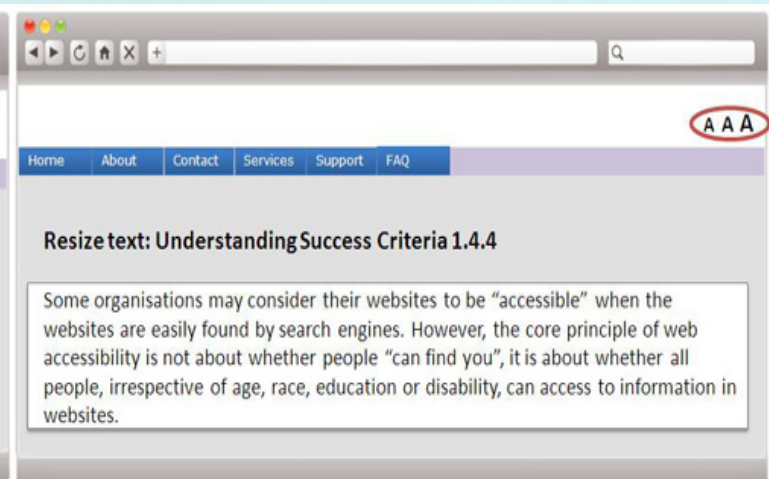


4. Small font sizes

- Persons with low vision cannot read the text



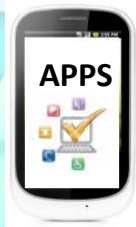
Cannot resize text



Can resize text

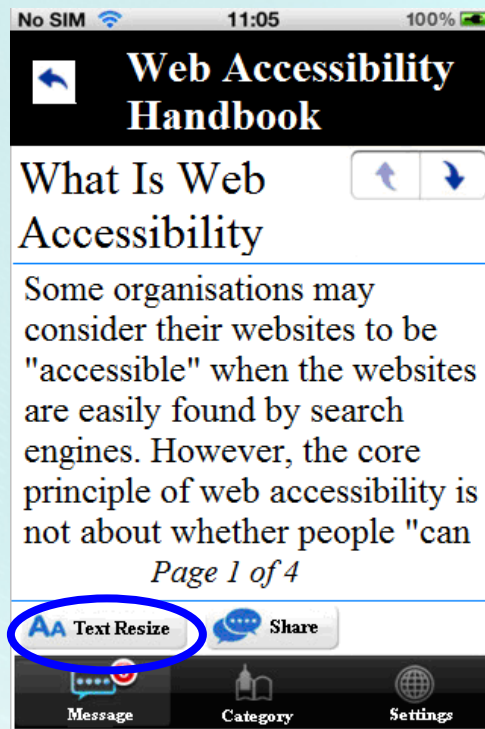
- ✓ e.g. provide text resize function





Common Pitfalls

4. Small font sizes



- ✓ e.g. provide text resize function or text can be zoomed without loss of content

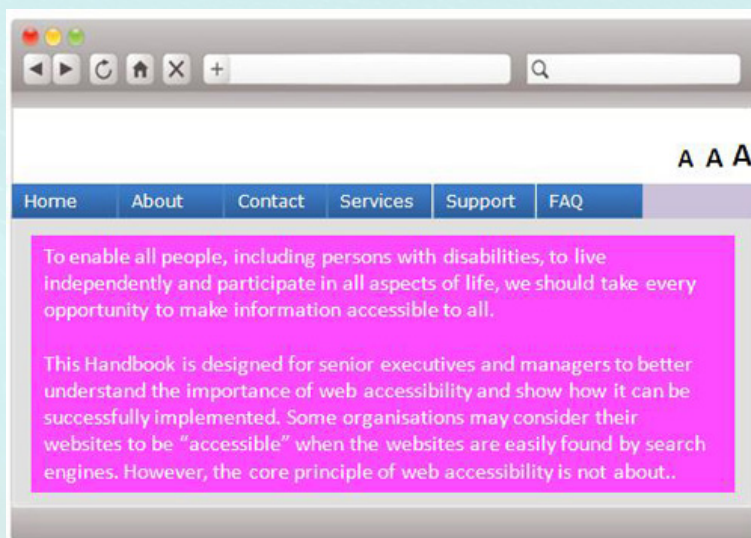


Common Pitfalls

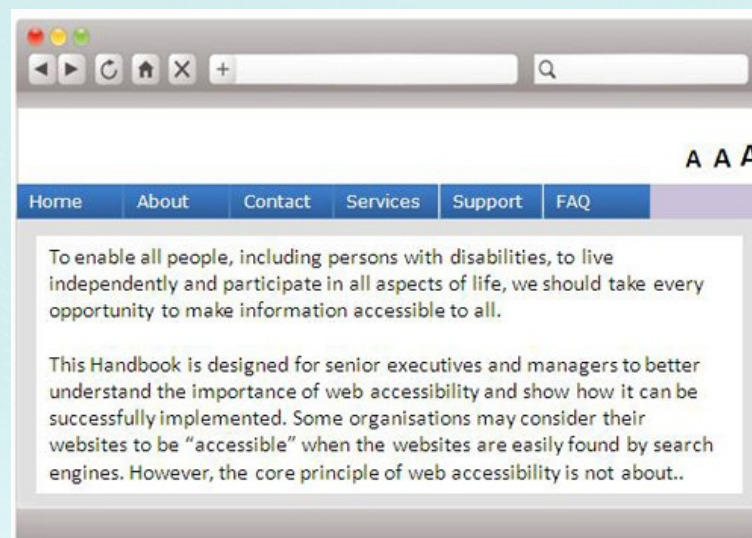


5. Insufficient colour contrast

- Persons with low vision have difficulty reading text that does not contrast with its background



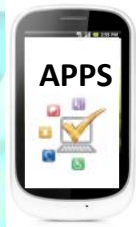
Poor background contrast



Easier to read with higher contrast

- ✓ e.g. provide sufficient contrast ratio





Common Pitfalls

5. Insufficient colour contrast



2 : 1



15 : 1

✓ e.g. provide sufficient contrast ratio (at least 4.5 : 1)

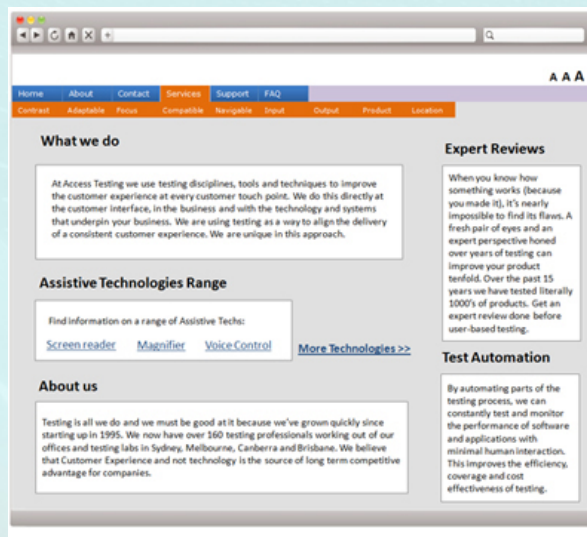


Common Pitfalls

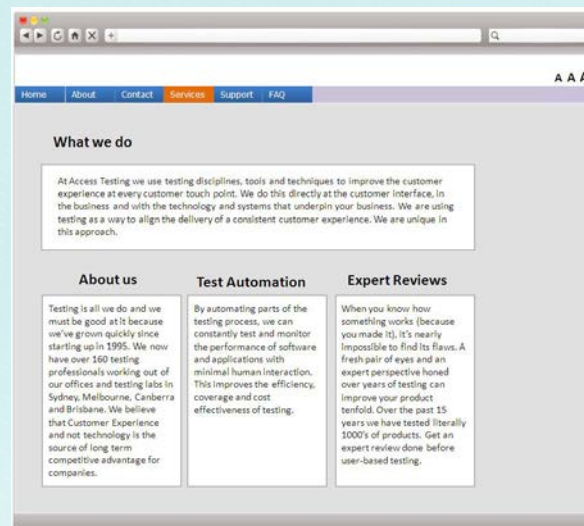


6. Complicated infrastructure

- Persons with cognitive impairment have difficulty reading complex website structures



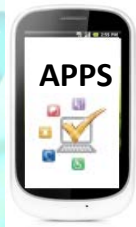
Complex structures



Simple structure

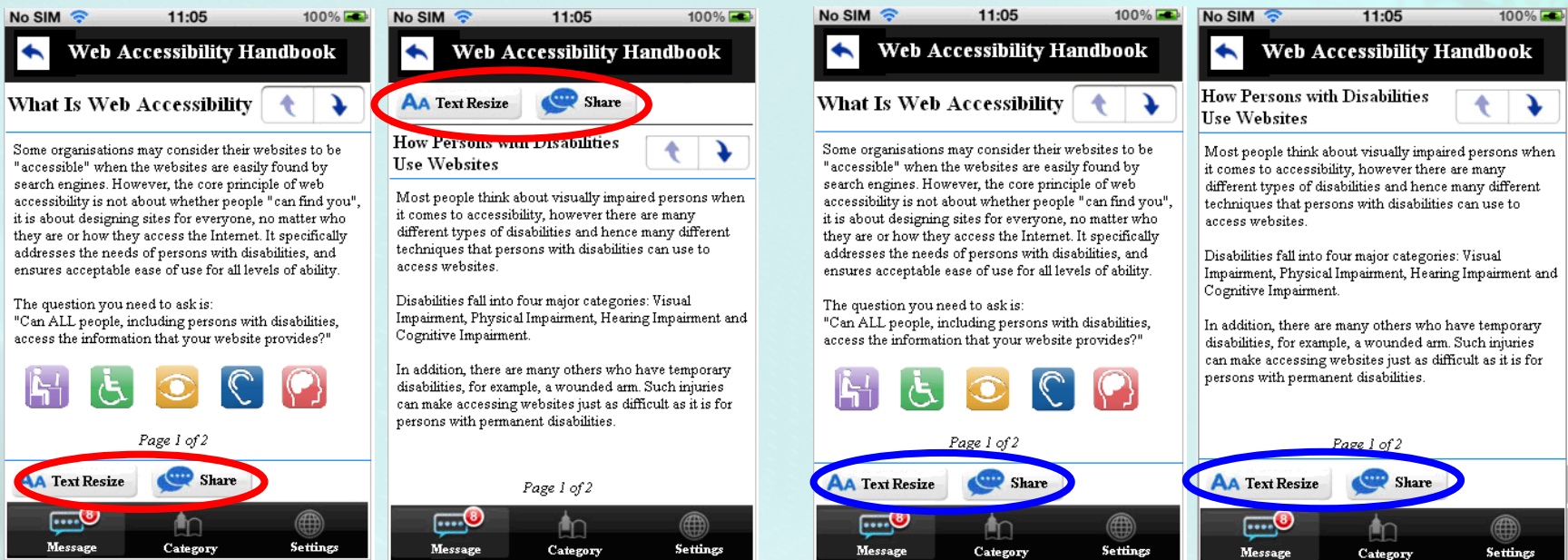
- ✓ e.g. provide simpler and ordered website structure





Common Pitfalls

6. Complicated infrastructure



- ✓ e.g. provide consistent and simple user interface structure



Common Pitfalls



7. Unable to skip inaccessible Adobe Flash and moving objects



Unable to skip



Skip function added

✓ e.g. add a skip function



Common Pitfalls



8. Background audio



Source : <http://s1.ecard.gov.hk/ecard/main>

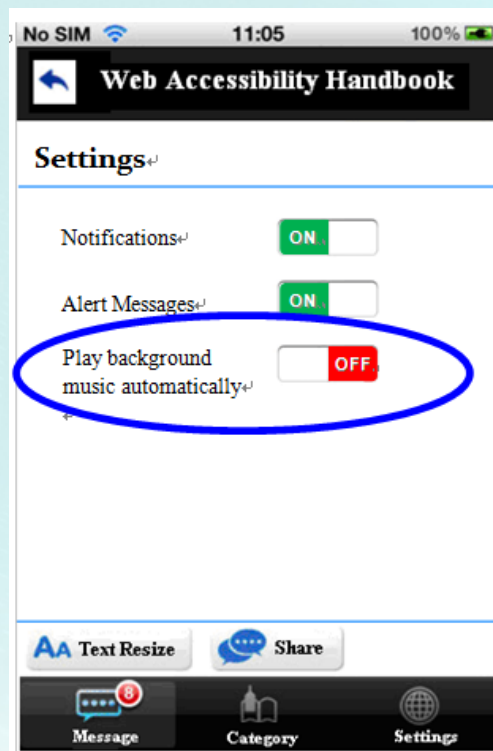
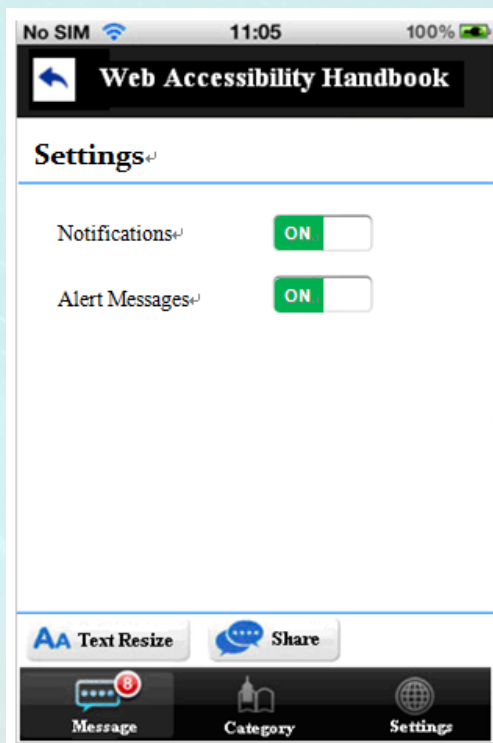
✓ e.g. add a turn off function





Common Pitfalls

8. Background audio



✓ e.g. add a turn off function



Common Pitfalls



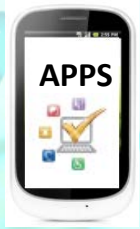
9. Video without captions and audio description

- Persons with visual or hearing impairments have difficulty to understand the video



✓ e.g. provide captions and audio description





Common Pitfalls

9. Video without captions and audio description



他們是參加了綠色建築導賞團的學生

Source : <http://www.gov.hk/en/about/govdirectory/mobilesites.htm>

✓ e.g. provide captions and audio description



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Why Web Accessibility?

- **Equal opportunities**

- United Nations' Convention on the Rights of Persons with Disabilities
- Disability Discrimination Ordinance (Cap 487) has created a legal duty for organisations to ensure their services are available to everyone



- **Social responsibility**

- Build positive corporate image
- contribute to a more caring and inclusive society



Why Web Accessibility?

- **Search engine friendly**
 - get more prominent ranking in search engine results
- **Widest possible reach-out**
 - reach out to more online customers
- **Lower costs in the long term**
 - easier to maintain and is compatible with different web browsers and devices, which saves time and money in the long term
 - avoid unnecessary lawsuits



Legislation / Guideline

| Country | Legislation / Guideline |
|----------------|---|
| Australia | <ul style="list-style-type: none">• Disability Discrimination Act (DDA) of 1992• WWW Access: DDA Advisory Notes• The Guide to Minimum Website Standards |
| Canada | <ul style="list-style-type: none">• Canadian Human Rights Act of 1977• The Government of Canada Internet Guide |
| China | <ul style="list-style-type: none">• 國務院令第622號 - 《無障礙環境建設條例》 |
| United Kingdom | <ul style="list-style-type: none">• The Equality Act 2010• Formal investigation report on Web Accessibility |
| United States | <ul style="list-style-type: none">• American with Disability Act (ADA)• Section 508 of the Rehabilitation Act• Assistive Technology Act of 1998• Section 255 of the Telecommunications Act of 1996 |
| European Union | <ul style="list-style-type: none">• Accessibility of Public Websites – Accessibility for PWDs: Council Resolutions, 2002 |



Legislation in China

《無障礙環境建設條例》

- 縣級以上人民政府發布重要政府信息和與殘疾人相關的信息，應為殘疾人提供語音和文字提示；
- 國家舉辦的考試(如：升學、職業資格等)，應當為視力殘疾人提供盲文試卷、電子試卷等；
- 設區的市級以上人民政府設立的電視台在播出電視節目時配備字幕，每周播放至少一次配播手語的新聞節目；



Legislation in China

- 設區的市級以上人民政府設立的公共圖書館應當開設視力殘疾人閱覽室；
- 殘疾人士組織的網站應當達到無障礙網站設計標準，設區的市級以上人民政府網站、政府公益活動網站，逐步達到無障礙網站設計標準。
- http://www.gov.cn/zwgk/2012-07/10/content_2179864.htm



Overseas Lawsuit Reference Cases

Australia - inaccessibility of Olympic Games 2000 website

A person with visual impairment, lodged a complaint against Sydney Organising Committee for the Olympic Games 2000

- No alternative text for image
- Contained inaccessible image map



Overseas Lawsuit Reference Cases

Australia - inaccessibility of Olympic Games 2000 website

Settlement

- Respondent was ordered to make the website accessible including alternative text on all images and image map links together with other features
- Compensation sum of AU\$20K paid by respondent



Overseas Lawsuit Reference Cases

USA - inaccessibility of Target.com

The National Federation of the Blind filed a class-action suit, with 50,000 names

- No alternative text for image
- Contained inaccessible image maps and other graphical features
- Website required the use of a mouse to complete an online purchase



Overseas Lawsuit Reference Cases

USA - inaccessibility of Target.com

Settlement

- In Sep 2006, the Federal District Court sustained the claims against Target.com
- Set a precedent case that retailers must make their websites accessible under the Americans with Disability Act (ADA)
- Target made the website fully accessible
- Settled the class suitcase by set up a fund US\$6M for claims



Local Complaint Cases

- A NGO issued a press release in June 2012
- Complained about inaccessible PDFs published on Government website

選舉處涉歧視殘障



無法在月底前向選舉處申索的人士，將不能在9月投票。

【本報訊】選舉事務處在核實選民登記冊時涉觸犯《殘疾歧視條例》。香港失明人士協進會會長莊陳有昨去信平機會，指選舉事務處在本月15日公佈的臨時選民登記冊及抽樣調查信件，只提供一般文字版本，視障人士無法查閱，隨時在不知情的情況下喪失選民資格。

莊陳有指失明人士看不見選舉事務處發出的抽樣信件，可能連需要核實身份也不知道。「事務處嘅網頁都係只得文字，欠缺無障礙設施，香港話就話無障礙城市，事實仲好落後。」莊陳有已在本月15日去信選舉管理委員會主席馮驊，要求改善，至今仍未獲回覆。

Source: Apple Daily Newspaper



Local Complaint Cases

- Complained about restaurant websites causing issues in online ordering



<http://life.mingpao.com/cfm/basicref3b.cfm?File=20120723/braa02a/gma1.txt>

盲人勝利 麥當勞網頁去障礙 多間連鎖餐廳網頁 視障者難叫外賣

文章日期：2012年7月23日

【明報專訊】本港不少連鎖餐廳均會在網頁提供「網上訂購」服務，但有視障者組織留意到本港大型連鎖餐廳網頁不設「無障礙」文字版，令視障者無法透過屏幕報讀軟件瀏覽網頁，致全港約12萬名視障者在網上叫外賣障礙重重。有失明者早前透過報讀軟件上網，到麥當勞網頁叫外賣，但該網主頁不斷重複播放音樂，干擾報讀軟件，令他苦無辦法讀到外賣電話及餐單落單，遂於今年2月透過香港失明人協進會向平機會投訴。本報與視障者測試另外4間連鎖餐廳，亦發現不設無障礙文字版，令視障者難「叫外賣」。



Local Complaint Cases

多間連鎖餐廳網頁無障礙情況

- 麥當勞**
 - 首頁重複播放音樂，干擾盲人屏幕閱讀軟件；網頁設計成以滑鼠控制，盲人無法操作
 - 回應：已改善；關掉音樂，加入純文字檔，包括麥麥送熱線，現已研究全面提升網站，以進一步達至無障礙
- 必勝客**
 - 主頁圖片並沒載有文字描述或替代文字 (ALT Text)，網站導航排序並非依序排列，「網上訂購」以圖片展示，要逐一進入才有文字，另盲人無法找到「立即訂購」按鈕
 - 回應：留意到問題，希望今年推出便利視障者訂購的網頁，現階段先由電話服務員提供協助，請出外賣項目及細節
- 吉野家**
 - 首頁為 Flash 動畫配直排的文字圖片，軟件斷續讀出不相干單字，無法繼續進入
 - 回應：截稿前未獲回覆
- 板長壽司**
 - 首頁為 Flash 動畫，整頁以沒載有文字描述的圖片組成，軟件只能重複讀出「板長壽司，和之味集團成員」，無法繼續進入
 - 回應：暫未設無障礙網頁，將來考慮作改善
- 肯德基**
 - 主頁圖片並沒載有文字描述或替代文字 (ALT Text)，熱線電話以沒有文字描述的圖片顯示
 - 如直接進入「網上訂購」頁面，讀到首頁「今期推介」餐單，但無法讀到「登入訂購」、「網上訂購」頁面，其他頁面的按鈕只附連結，無文字描述
 - 回應：截稿前未有回覆

<http://hk.news.yahoo.com>

上網叫外賣薄餅 找半小時食白果

明報 - 2012年7月23日星期一 上午5:24

電郵 推薦 0 推文 +1 列印

【明報專訊】失明者鄭灼培 (John) 和任博輝網上訂購外賣屢試屢敗，兩人早前協助檢視本港主要連鎖快餐店的網頁，令記者體會他們叫外賣之艱。

例如兩人登入必勝客網頁，由於頁面沒有文字描述或替代文字 (ALT Text)，報讀軟件只能讀出網頁圖片的檔案名字，兩人呆聽30分鐘，才聽到「delivery (外賣)」，但點進去又再遇到大量圖案，要逐一打開，才能知悉按鈕代表的是一人套餐、必勝批還是升級優惠，阿輝無奈說：「那些連結有如抽屜，我們永遠不知裏面有什麼，要逐個逐個打開。」兩人最後決定作罷。

圖像動畫充斥 報讀器讀不到

肯德基網頁情況亦類近，兩人登入「網上訂購」頁面，軟件可讀到首頁「今期推介」的文字，其他頁面的按鈕只附連結，無文字描述。如想改打電話叫外賣，網頁的熱線電話亦只以圖片顯示，報讀軟件無法讀出，兩人最終亦無法完成外賣程序。

至於吉野家，首頁是Flash動畫配以直排的文字圖片，軟件斷續讀出不相干的單字，最終兩人找不到方法登入。另一連鎖店板長壽司的網頁，首頁同樣是Flash動畫，一般人可看到頁頂的外賣電話，但由於整頁以沒載有文字描述的圖片組成，軟件只能重複讀出「板長壽司，和之味集團成員；板長壽司，和之味集團成員……」沒完沒了，兩人最終亦決定作罷。



Local Complaint Cases



聯招網兩障礙 視障生難改選

[昔日文章]

文章日期：2012年07月23日

Like 0

【明報專訊】在剛放榜的中學文憑試，考生只可在「大學聯合招生辦法」網頁修改選科，但該網頁設計為視障生帶來兩大障礙，一是要使用視障生無法操作的滑鼠；二是網頁圖片不設文字描述，令屏幕報讀軟件無法閱讀。平機會檢測後亦指聯招網不太有利視障生，促作改善。

聯招處回覆，將為完全失明學生作特別安排，並繼續檢視需改善地方，但為維持網頁穩定性，今年難以改正所有頁面。

聯招處：將檢視需改善處

香港失明人協進會項目經理高碧姬稱，近月接獲視障學生投訴無法使用聯招網，主要問題是要使用拖拉形式（drag-and-drop）進行學科改選，即要求使用者以滑鼠按着按鈕，拉至另一位置放下，對於只能使用鍵盤操作網頁的視障學生來說並不可行。

<http://life.mingpao.com/htm/hkdse/cfm/news3.cfm?File=20120723/news/gma3.txt>



Agenda

1. What is Web Accessibility?
2. Common Pitfalls
3. Why Web Accessibility?
- 4. International Standards and Testing Techniques**
5. Government Policy
6. Web Accessibility Campaign



International Standards

- **World Wide Web Consortium (W3C)** consists of people from industries, disability organisations, governments, and research labs from around the world, develops strategies, guidelines, and resources to help make the web accessible to people with disabilities
- Web Content Accessibility Guidelines (WCAG) have been developed over the years by W3C
- Version 1.0 in 1999; version 2.0 in 2008

<http://www.w3.org/WAI/>



International Standards

- The WCAG consist of four parts —

4 Principles

12 Guidelines

61 Success Criteria

Many Techniques



WCAG - Principles

4 Principles

- Content is **Perceivable**
- User interface components and navigation are **Operable**
- Information and operation are **Understandable**
- Content is **Robust** enough to be interpreted reliably by a wide range of web browsers, assistive technologies, etc.



WCAG - Principles

Guidelines for 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 Audio and Video Media:** Provide alternatives for time-based media
- 1.3 **Adaptable:** Create content that can be presented in different ways without losing information or structure
- 1.4 **Distinguishable:** Make it easier for users to see and hear content including separating foreground from background



WCAG - Principles

Principle 1 - Perceivable

- Example - Audio CAPTCHA

Home > [Community Initiatives and IT Services](#) > Web Accessibility

Web Accessibility Suggestion Box

Name :


Telephone Number :

(Please provide country/area codes if outside Hong Kong)

E-mail Address :

Suggestion / Comment :

Enter the characters in the image
(CAPTCHA):





WCAG - Principles

Principle 1 - Perceivable

- Example - Sufficient colour contrast 4.5 : 1



www.gov.hk



WCAG - Principles

Guidelines for 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



WCAG - Principles

Principle 2 - Operable

- Example - Provide users enough time to read and use content

The screenshot shows the OGCIO homepage with a navigation menu on the left. The main content area features a banner for the 'Web Accessibility Recognition Scheme' (無障礙網頁嘉許計劃) and a 'HIGHLIGHTS' section. A yellow callout box with a purple border points to the 'HIGHLIGHTS' section, containing the text 'Provide Pause function'.

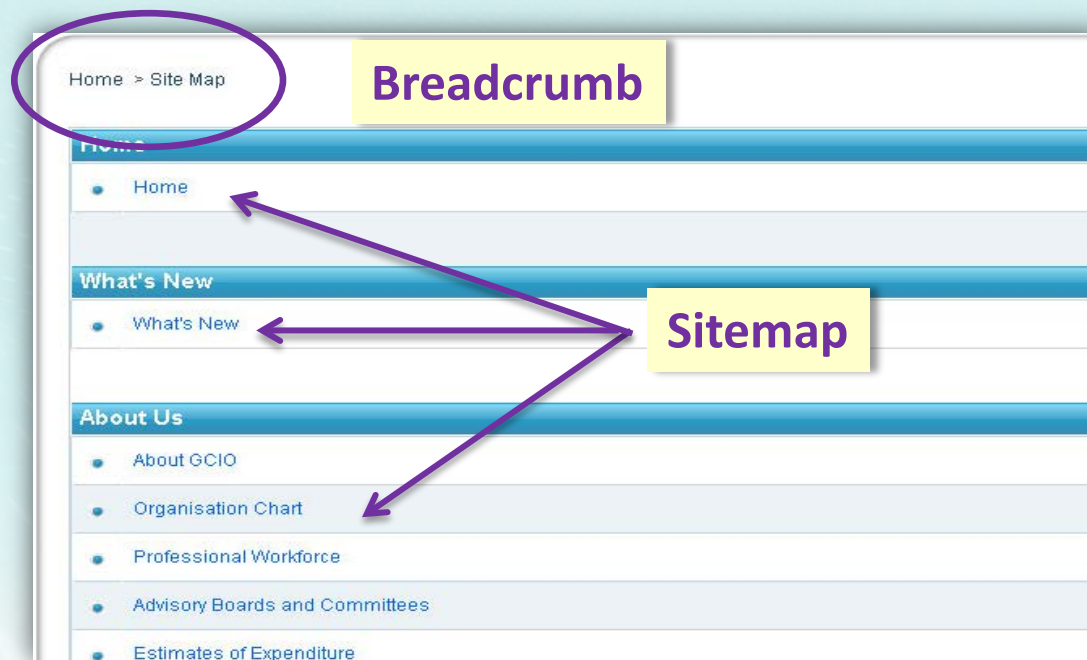
www.ogcio.gov.hk



WCAG - Principles

Principle 2 - Operable

- Example - More than one way to help users navigate and find content



www.ogcio.gov.hk



WCAG - Principles

Guidelines for Principle 3 and 4

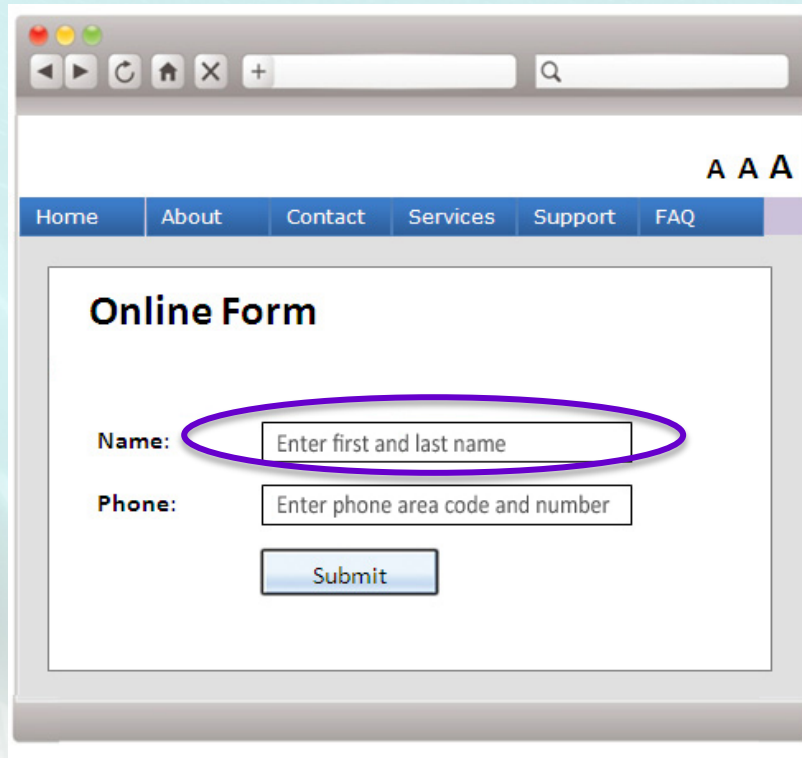
- 3.1 **Readable:** Make text content readable and understandable
- 3.2 **Predictable:** Make Web pages appear and operate in predictable ways
- 3.3 **Input Assistance:** Help users avoid and correct mistakes
- 4.1 **Compatible:** Maximise compatibility with current and future user agents, including assistive technologies



WCAG - Principles

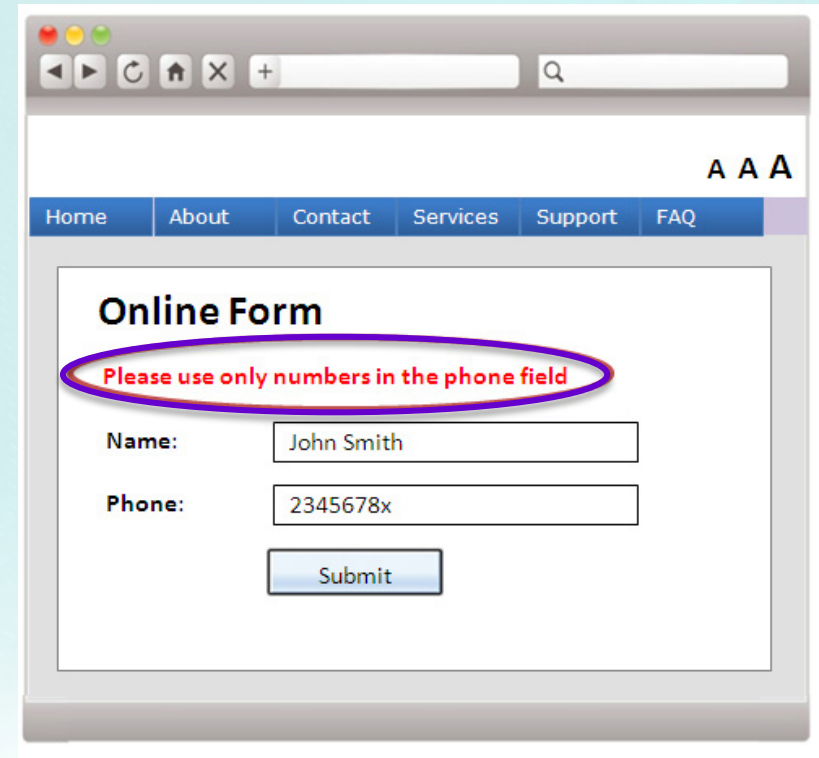
Principle 3 – Understandable

- Example - Clear label with cue and error identification



A screenshot of a web browser displaying an "Online Form". The form has a navigation menu with links for Home, About, Contact, Services, Support, and FAQ. The form contains two input fields: "Name:" with the placeholder text "Enter first and last name" and "Phone:" with the placeholder text "Enter phone area code and number". A "Submit" button is located below the fields. A blue oval highlights the "Name:" label and its input field, illustrating input assistance.

Input assistance



A screenshot of a web browser displaying the same "Online Form" as the previous image. The "Name:" field contains the text "John Smith" and the "Phone:" field contains "2345678x". A red oval highlights a red error message above the "Phone:" field that reads "Please use only numbers in the phone field", illustrating error identification.

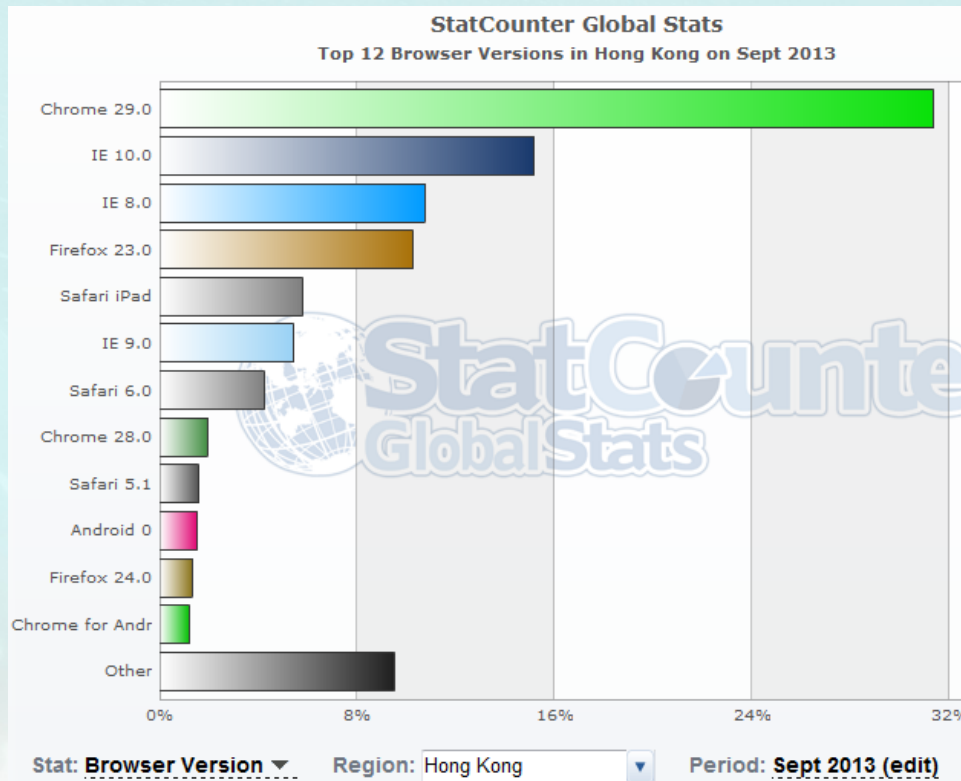
Error identification



WCAG - Principles

Principle 4 – Robust

- Compatibility with browsers



<http://gs.statcounter.com/>

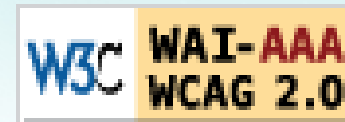
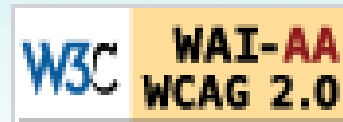
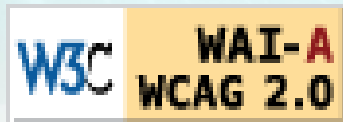


WCAG - Conformance

- Latest version of W3C WCAG 2.0 promulgated in end 2008
- There are three Levels of conformance –

| Level A 25 success criteria | Level AA +13 success criteria | Level AAA +23 success criteria |
|--------------------------------|----------------------------------|-----------------------------------|
| Basic | Recommended | Ideal |

Level AA Conformance



WCAG - Conformance

- Example - Audio and Video Requirements

| | Level A | Level AA | Level AAA |
|--------------------------------|--|------------------------------|--|
| Pre-recorded Audio only | Text-transcript | | Sign language |
| Pre-recorded Video only | Text-transcript / audio track | | Sign language |
| Pre-recorded Video | Captions + (audio description / text transcript) | Captions + audio description | Extended audio description + Text description + Sign language |
| Live Video | | Captions | |
| Live Audio only | | | Live text caption / provide a link to a text transcript of a prepared script |



Testing Techniques

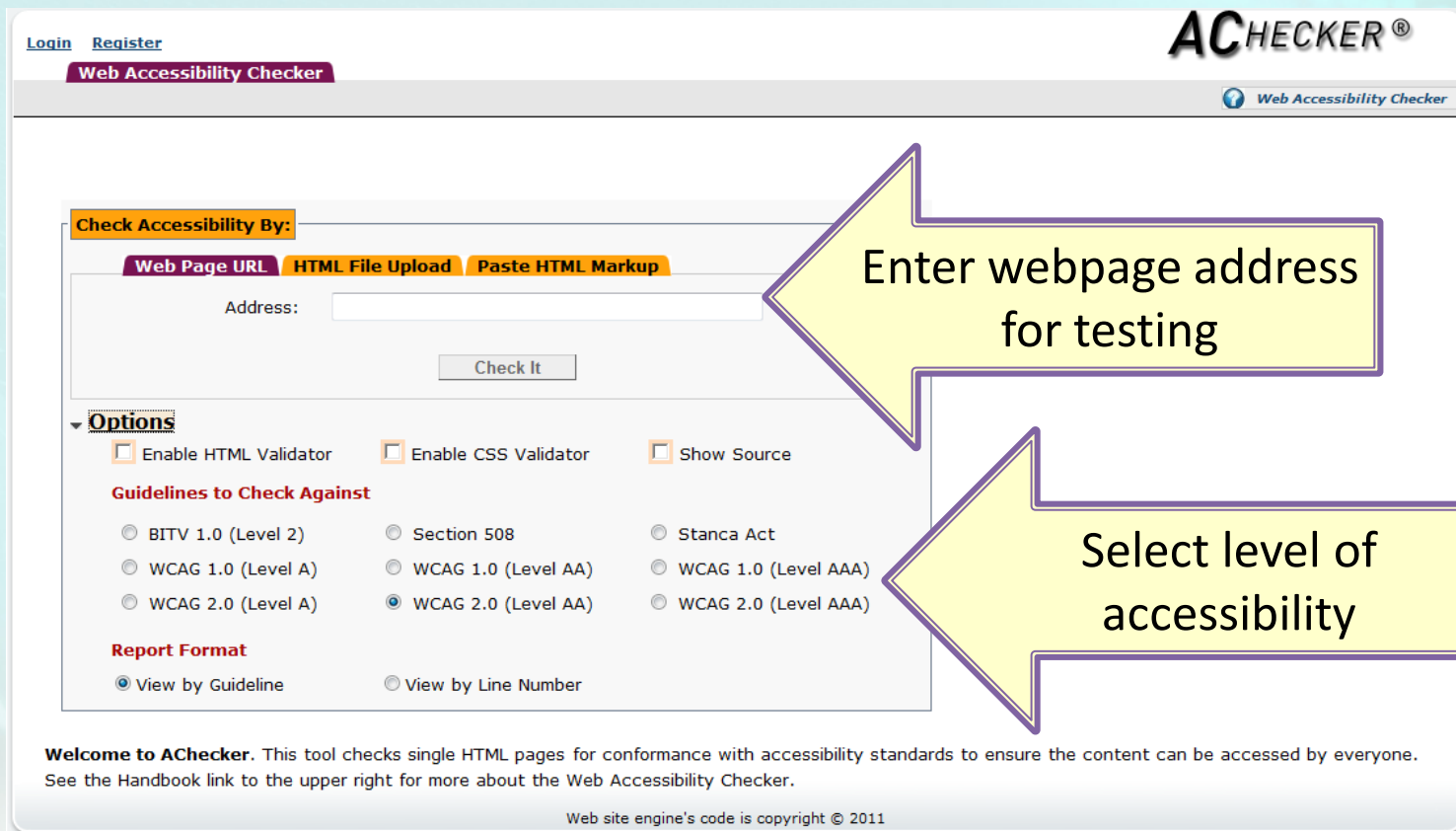
1. Code scanning

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



Code Scanning

- <http://achecker.ca/checker/index.php>



The screenshot shows the ACHECKER Web Accessibility Checker interface. At the top right, the logo 'ACHECKER®' is displayed. Below it, the text 'Web Accessibility Checker' is visible. The main section is titled 'Check Accessibility By:' and contains three tabs: 'Web Page URL', 'HTML File Upload', and 'Paste HTML Markup'. The 'Web Page URL' tab is active, showing an 'Address:' label and an input field. Below the input field is a 'Check It' button. To the right of the input field, a yellow arrow points to it with the text 'Enter webpage address for testing'. Below the 'Check It' button, there is an 'Options' section with three checkboxes: 'Enable HTML Validator', 'Enable CSS Validator', and 'Show Source'. Below these are 'Guidelines to Check Against' with radio buttons for 'BITV 1.0 (Level 2)', 'Section 508', 'Stanca Act', 'WCAG 1.0 (Level A)', 'WCAG 1.0 (Level AA)', 'WCAG 1.0 (Level AAA)', 'WCAG 2.0 (Level A)', 'WCAG 2.0 (Level AA)', and 'WCAG 2.0 (Level AAA)'. Below these are 'Report Format' options: 'View by Guideline' (selected) and 'View by Line Number'. To the right of the 'Options' section, another yellow arrow points to the 'WCAG 2.0 (Level AA)' radio button with the text 'Select level of accessibility'. At the bottom of the page, there is a welcome message: 'Welcome to AChecker. This tool checks single HTML pages for conformance with accessibility standards to ensure the content can be accessed by everyone. See the Handbook link to the upper right for more about the Web Accessibility Checker.' and a copyright notice: 'Web site engine's code is copyright © 2011'.



Code Scanning

- Sample report - no known problem

The screenshot displays the ACHECKER Web Accessibility Checker interface. At the top right, the logo "ACHECKER®" is visible. Below it, the text "Web Accessibility Checker" is shown. The main content area is titled "Check Accessibility By:" and contains three tabs: "Web Page URL", "HTML File Upload", and "Paste HTML Markup". The "Web Page URL" tab is selected, and the "Address:" field contains "http://www.gov.hk". A "Check It" button is located below the address field. Below the main content area, there is an "Options" link. The "Accessibility Review" section shows the "Export Format" set to "PDF" and "Report to Export" set to "All". Below this, there are four tabs: "Known Problems (0)", "Likely Problems (2)", "Potential Problems (505)", "HTML Validation", and "CSS Validation". The "Known Problems (0)" tab is selected, and a red box highlights the message: "✔ Congratulations! No known problems."



Code Scanning

- 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.

✘ **Line 299, Column 55:**

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:**



Testing Techniques

2. Visual review

- 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

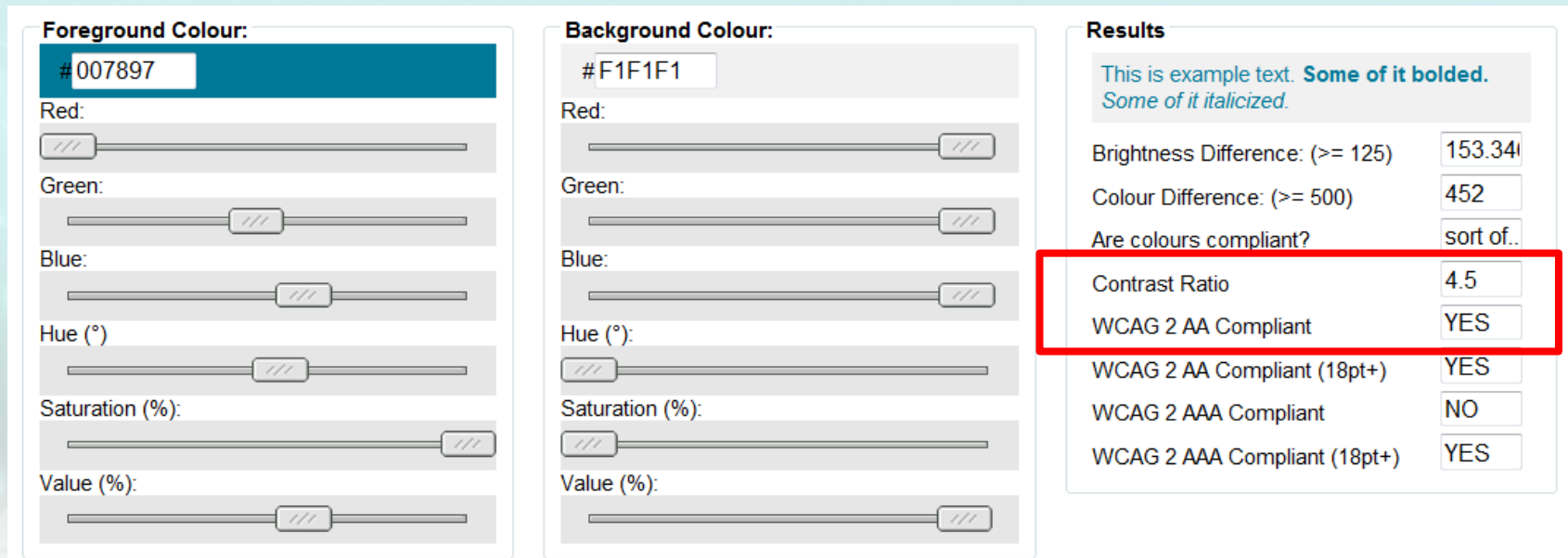


How the webpage looks to a person with a red/green color deficit (deuteranopia)



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



The screenshot shows a color contrast checker interface. On the left, the 'Foreground Colour' is set to #007897. On the right, the 'Background Colour' is set to #F1F1F1. Below these are sliders for Red, Green, Blue, Hue, Saturation, and Value for both colors. On the right side, a 'Results' section displays the following data:

| Results | |
|--|------------|
| This is example text. Some of it bolded. <i>Some of it italicized.</i> | |
| Brightness Difference: (>= 125) | 153.34 |
| Colour Difference: (>= 500) | 452 |
| Are colours compliant? | sort of.. |
| Contrast Ratio | 4.5 |
| WCAG 2 AA Compliant | YES |
| WCAG 2 AA Compliant (18pt+) | YES |
| WCAG 2 AAA Compliant | NO |
| WCAG 2 AAA Compliant (18pt+) | YES |



Testing Techniques

3. Manual testing with screen readers

- Navigate website and access the content through the screen readers
- Example tools –
 - Jaws
 - NVDA
 - VoiceOver



Testing Techniques

4. Manual testing with other assistive technologies

- Screen magnification tools and voice control tools
- Example tools –
 - ZoomText
 - Dragon Naturally Speaking



Testing Techniques

5. Human testing

- 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



Agenda

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Policy in Hong Kong

- Government has been implementing web accessibility guidelines since 1999
- Internal guidelines has been updated to follow latest international standard - W3C WCAG 2.0
- Require all government websites to achieve [W3C WCAG 2.0 Level AA](#) conformance



Policy in Hong Kong

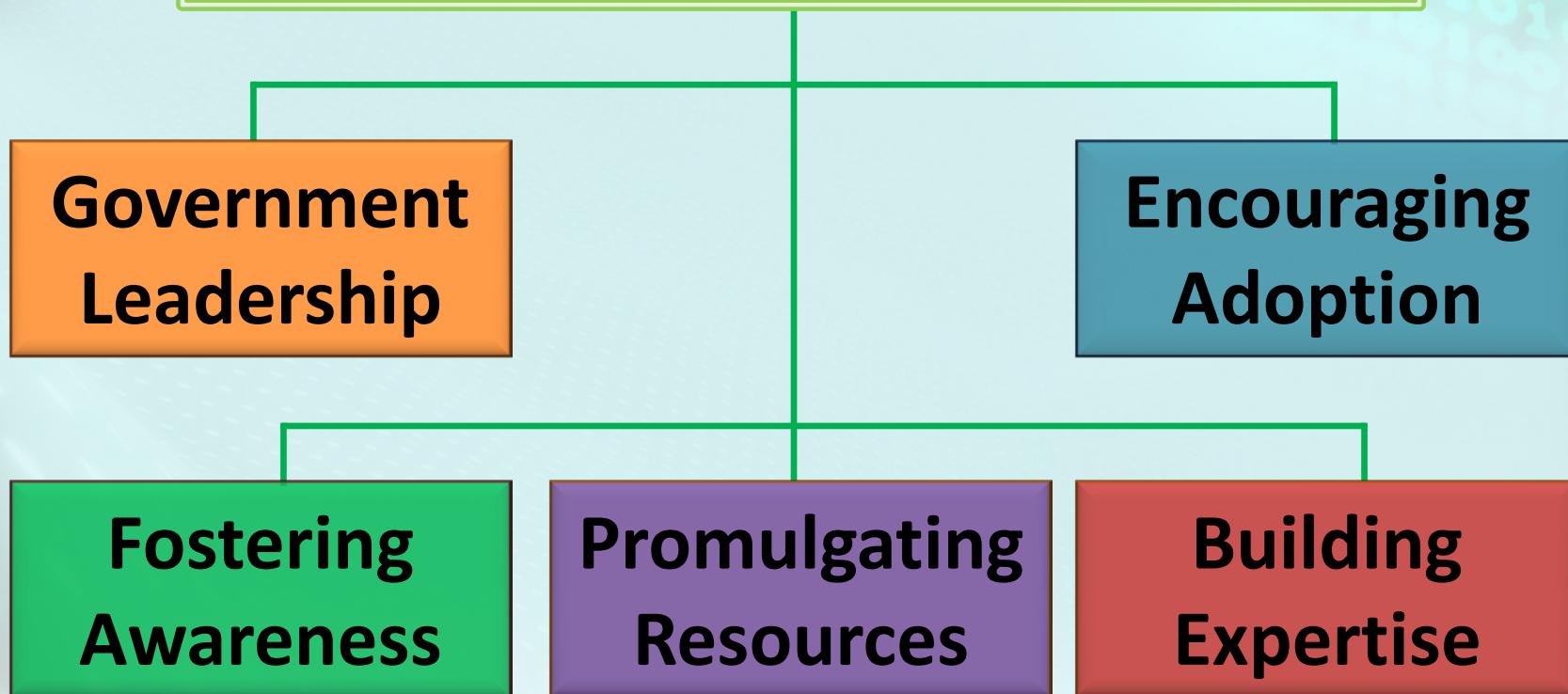
Web Accessibility Campaign since October 2011

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



Multi-pronged Approach

Web Accessibility Campaign



Government Leadership

Government Websites



Fostering Awareness

Seminars & Workshops



Public-sector organisations



Over 5000 participants



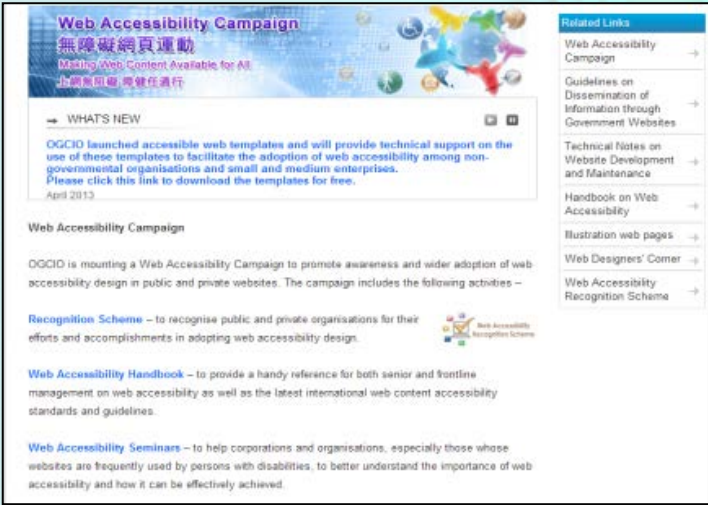
政府資訊科技總監辦公室
Office of the Government Chief Information Officer

Promulgating Resources

Webforall Portal

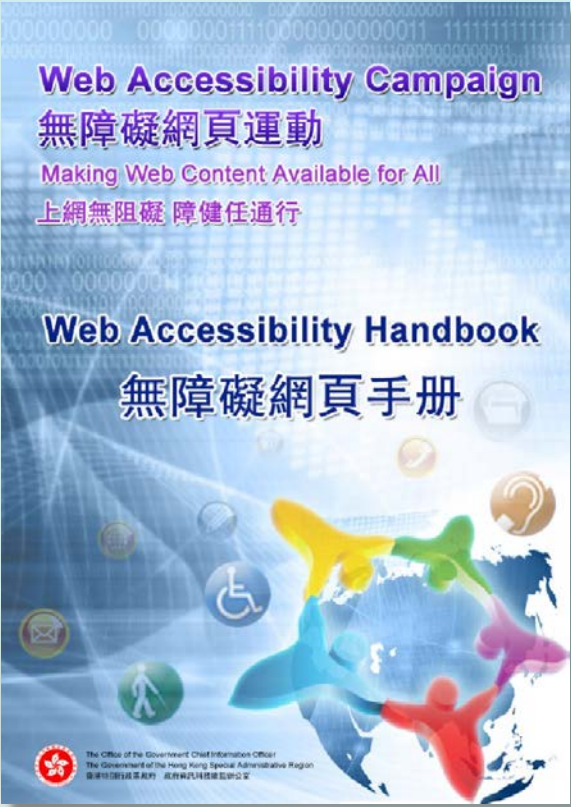


- Live-examples of success criteria (WCAG 2.0 Level AA)
- Presentation slides of seminars / technical workshops
- Government’s best practices
- Web Designers’ Corner
- Lawsuit reference cases



Promulgating Resources

Web Accessibility Handbook



- Designed for senior executives and management
- Introduce WCAG 2.0 and success criteria
 - Web Accessibility Concept
 - How Persons with Disabilities use Websites
 - Illustration of Each Criterion
 - Testing Strategy
 - Useful Reference



www.webforall.gov.hk/en/wahandbook

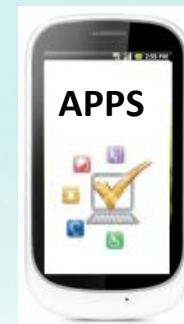


Promulgating Resources

Mobile Application Accessibility Handbook



- Designed for mobile application owners and developers
- Based on the WCAG 2.0 and feedbacks collected from local disability groups
 - Basic Concept
 - Best Practices
 - Checklist for Developers
 - Testing Strategy
 - Useful Reference



www.webforall.gov.hk/en/maahandbook



政府資訊科技總監辦公室
Office of the Government Chief Information Officer



Promulgating Resources

Accessible Webpage Templates

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

4. Provide User-initiated background audio

1. Provide "Skip To Content"

2. Provide meaningful alt text for images

3. Allow to play or pause the auto-scrolling latest news



5. Allow text resize

6. Provide keyboard accessible menu

7. Provide transcript for video

8. Provide sufficient colour contrast

Building Expertise

Incorporate Web Accessibility into ICT curricula



Encouraging Adoption

Web Accessibility Recognition Scheme since 2012

Objectives

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



Web Accessibility Recognition Scheme

Structure

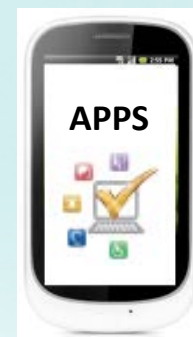
- Co-organise with the Equal Opportunities Commission
- Led by an Advisory Committee comprising members from
 - Office of the Government Chief Information Officer (政府資訊科技總監辦公室)
 - Equal Opportunities Commission (平等機會委員會)
 - Labour and Welfare Bureau (勞工及福利局)
 - Non-profit making organisations —
 - Visual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



Web Accessibility Recognition Scheme

Framework

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



Web Accessibility Recognition Scheme

Two-tier Accreditation System

- **1st tier (Silver Award)**
 - Websites incorporating basic web accessibility features
- **2nd tier (Gold Award)**
 - Websites incorporating basic and key features
- Accreditation logos will be granted to awardees for display in their accredited websites



Web Accessibility Recognition Scheme

Highlights of Awards Presentation Ceremony of the Web Accessibility Recognition Scheme 2012-13



http://www.ogcio.gov.hk/tc/community/web_accessibility/recognition_scheme/video/wars_video3.mp4



What you can help?

- Observe latest guidelines and standards
- Adopt web accessibility designs in institution
- Help business partners or clients aware of the importance and relevant skills
- Encourage and incorporate web accessibility elements in design stage in information and communication systems, products and services
- Uphold the professional ethics



Q & A

Web Accessibility Campaign Programme Office

Email : wac@ogcio.gov.hk

Tel. no. : 2582 6079





Thank you!



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IT Champions



- seven exciting episodes based on real life stories of ICT professionals
- broadcast every Monday at 9:00 p.m. on RTHK's Digital TV Channel 31 from January 2014
- popular artistes, including Hotcha, Sammul Chan (陳鍵鋒), Jason Chan (陳柏宇), Zac Kao (高皓正), Joman Chiang (蔣祖曼), Det Dik (狄易達), and many more

