Web Accessibility

Digital Inclusion Division
Office of the
Government Chief Information Officer

19 February 2013

Agenda

1. **What is Web Accessibility?**

2. **International Standards & Testing Methods**

3. **Web Accessibility Campaign**

4. **Web Accessibility Recognition Scheme**

What is Web Accessibility?

- Making website **Content** available for **ALL**

- **ALL** people of the community

- Including persons with disabilities (361,000 about 5.2% of total population)

Common Pitfalls in Web Accessibility

1. **No alternatives for non-text content**

    -   **Persons with visual impairment cannot perceive the image content**

    Alt = "Image 1"

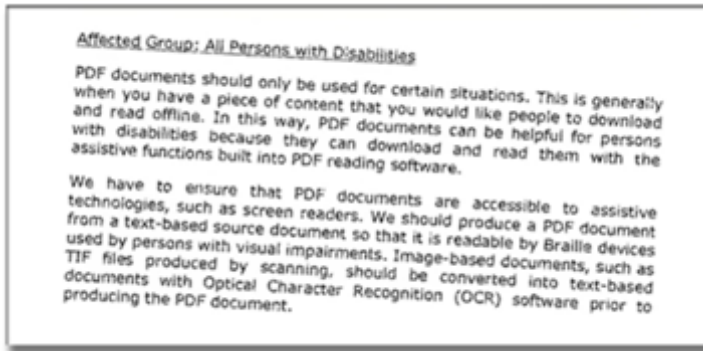   Alt = "Officiating guests attending the Launch Ceremony of the Web Accessibility Recognition Scheme"
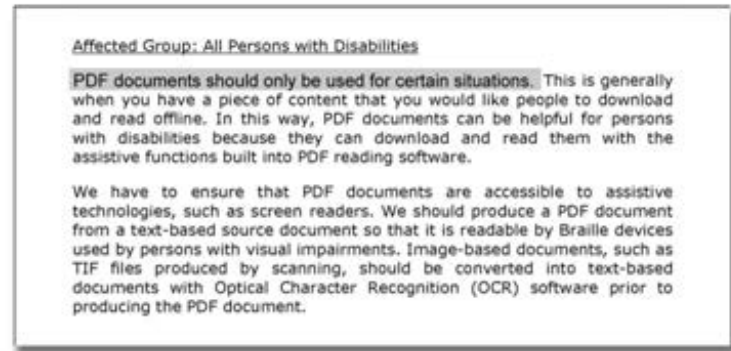
    ✓ e.g. contain descriptive text alternative for image

Common Pitfalls in Web Accessibility

2. Inaccessible PDF Files

- **Screen reader cannot read the content**

Scanned Image not accessible
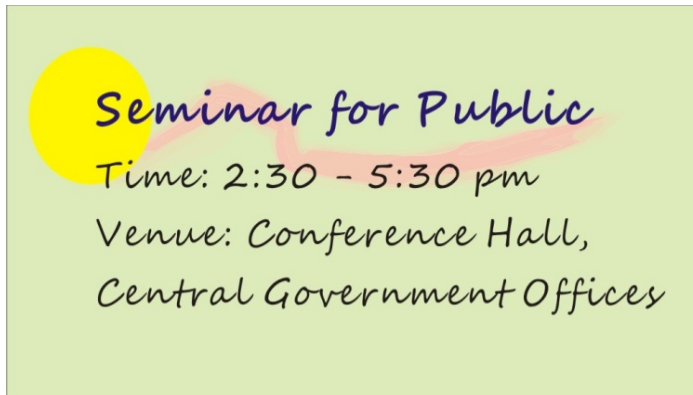
Text-based accessible PDF

✓ 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 in Web Accessibility

3. Text in Image is not accessible

- **Information is not conveyed to all**

Text in image

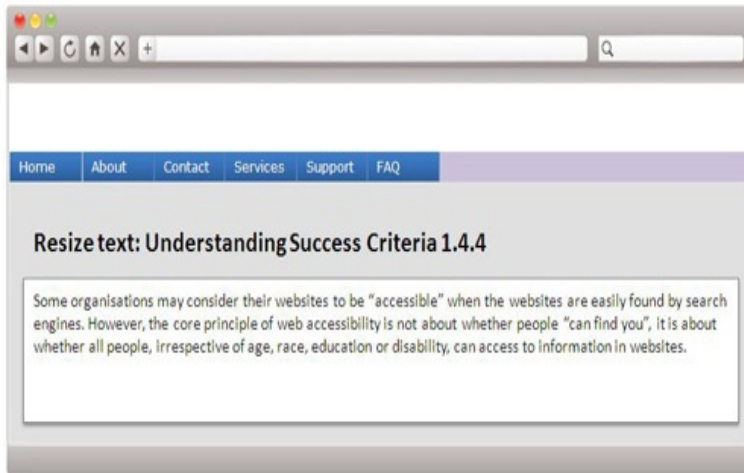Accessible text on a webpage

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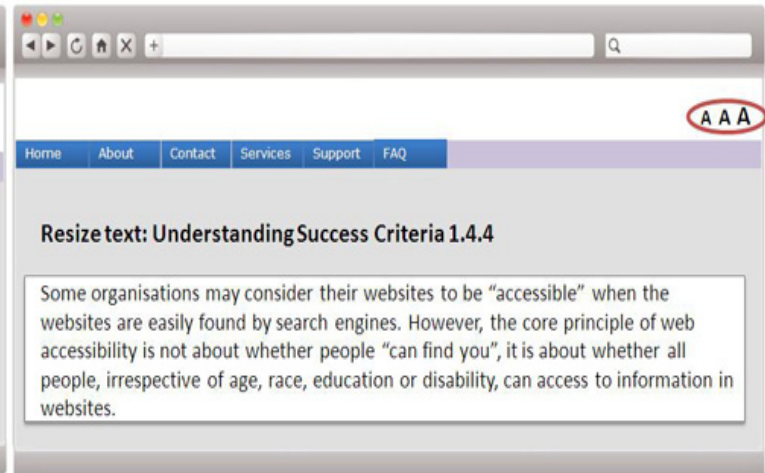
✓ If avoidable, provide descriptive text alternatives

Common Pitfalls in Web Accessibility

4. Small font sizes

- **Persons with low vision cannot read the text**

Cannot resize text

Can resize text
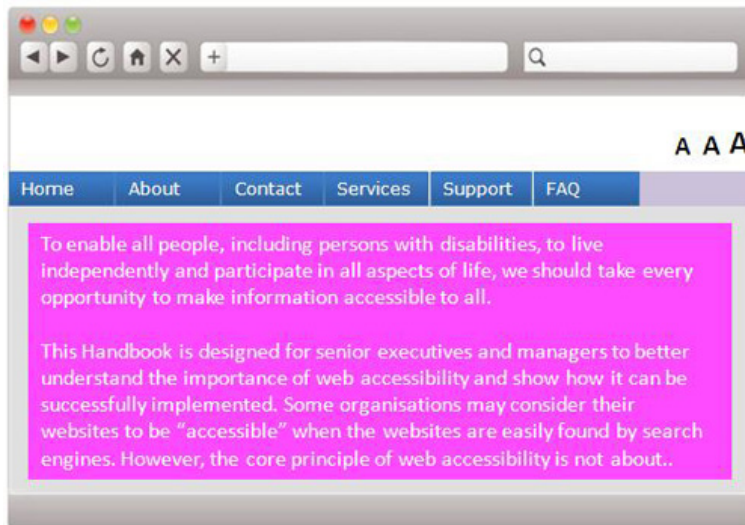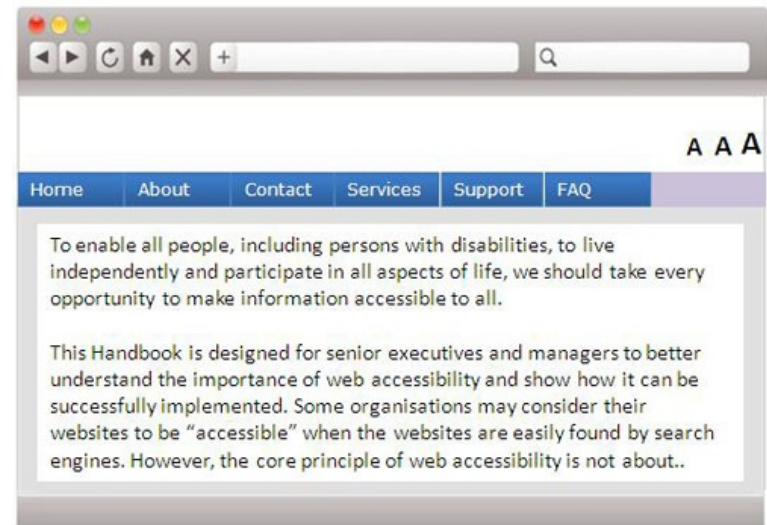
✓ e.g. provide text resize function

Common Pitfalls in Web Accessibility

5. Insufficient colour contrast

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

Poor background contrast

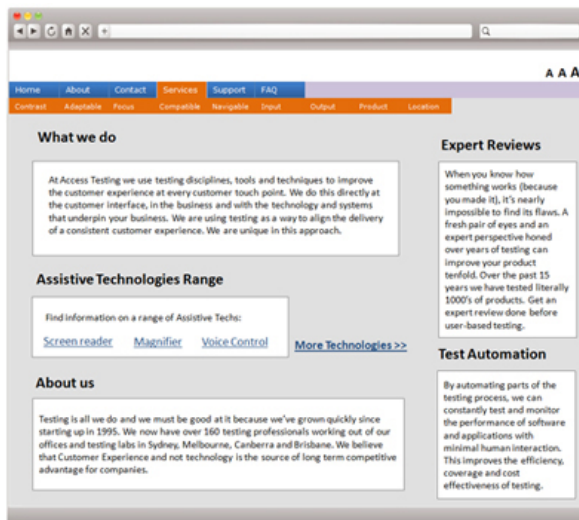Easier to read with higher contrast

✓ e.g. provide sufficient contrast ratio

Common Pitfalls in Web Accessibility

6. Complicated website infrastructure

- **Persons with cognitive impairment have difficulty reading complex website structures**

Complex structures
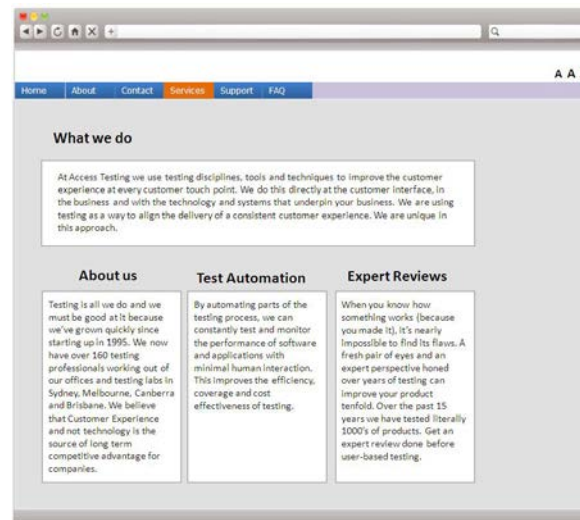
Simple structure

✓ e.g. provide simpler and ordered website structure

Common Pitfalls in Web Accessibility

7. Unable to skip inaccessible Adobe Flash and moving objects
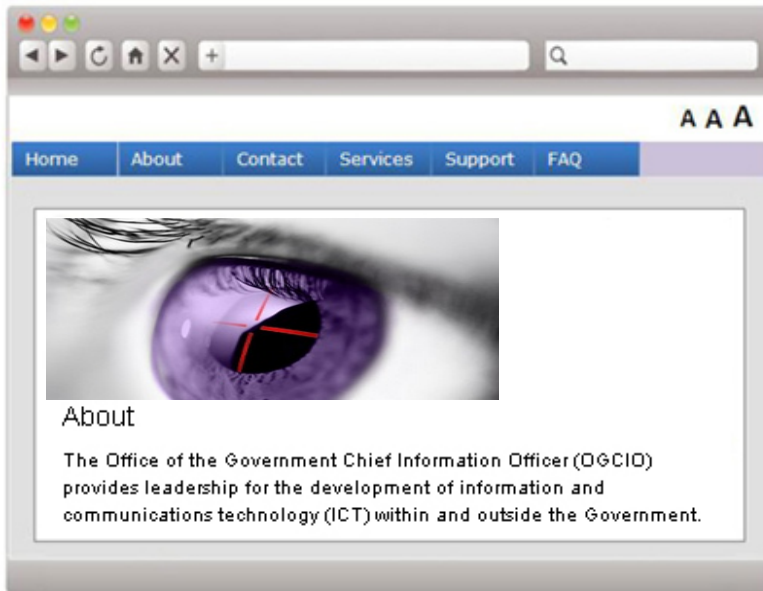
Unable to skip
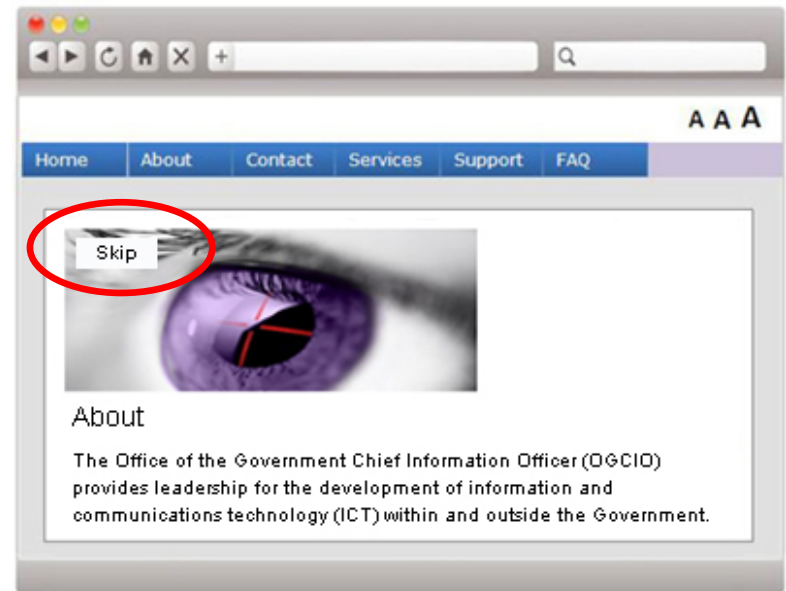
Skip function added

✓ e.g. add a skip function

Common Pitfalls in Web Accessibility

8. **Websites with background audio**

✓ e.g. add a turn off function

Common Pitfalls in Web Accessibility

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

Benefits for 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

Benefits for 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	• Disability Discrimination Act (DDA) of 1992 • WWW Access: DDA Advisory Notes • The Guide to Minimum Website Standards
Canada	• Canadian Human Rights Act of 1977 • The Government of Canada Internet Guide
China	• 國務院令第622號 -《無障礙環境建設條例》
United Kingdom	• The Equality Act 2010 • Formal investigation report on Web Accessibility
United States	• 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	• 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

Agenda

1. **What is Web Accessibility?**

2. **International Standards & Testing Methods**

3. **Web Accessibility Campaign**

4. **Web Accessibility Recognition Scheme**

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

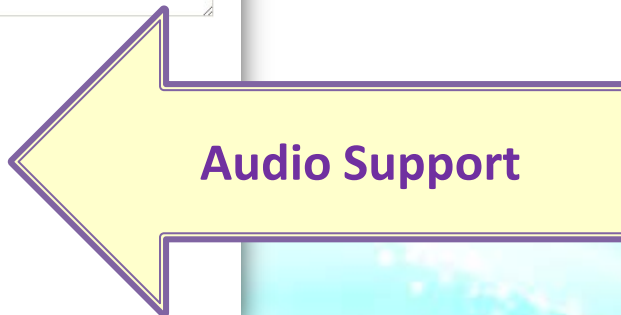**Web Accessbility Suggestion Box**

Name :

Telephone Number :

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

E-mail Address :

Suggestion / Comment :
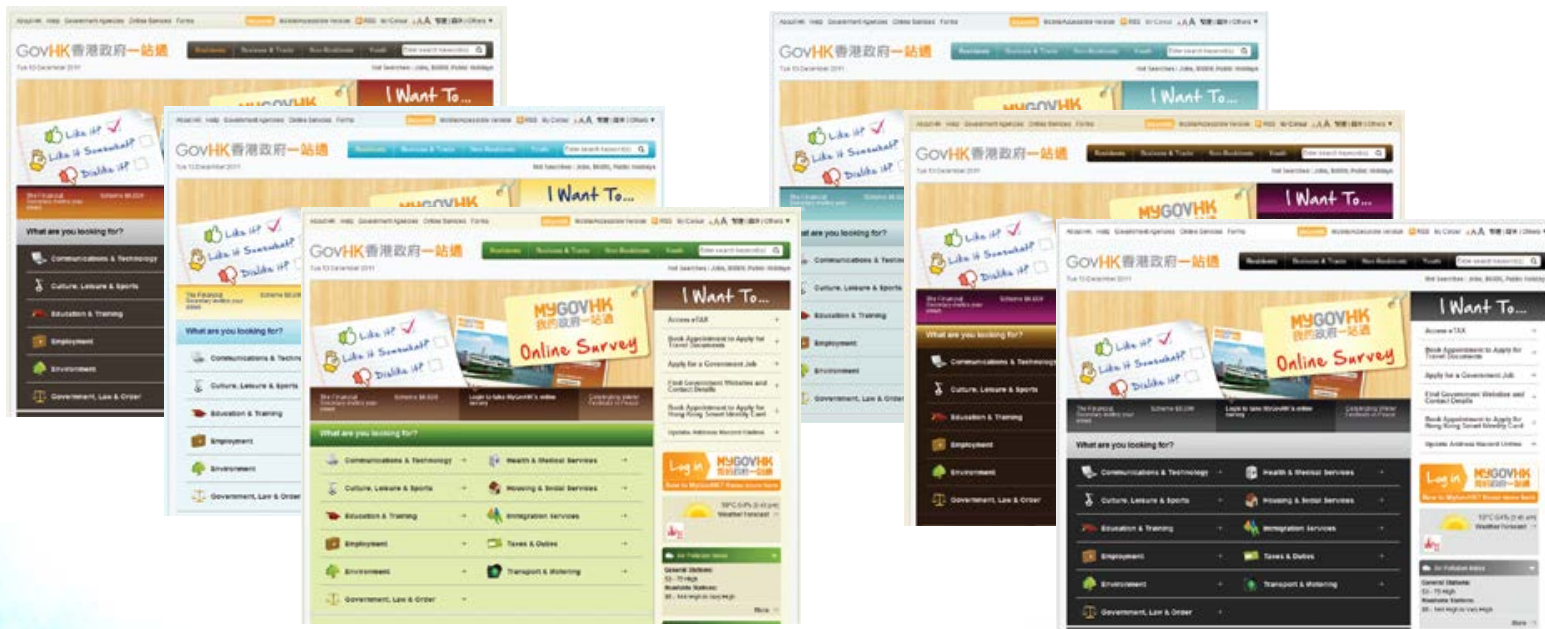
Enter the characters in the image
(CAPTCHA):

Audio Support

Submit

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

Provide Pause function

www.ogcio.gov.hk

WCAG - Principles

Principle 2 - Operable

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

Breadcrumb

Sitemap

www.ogcio.gov.hk
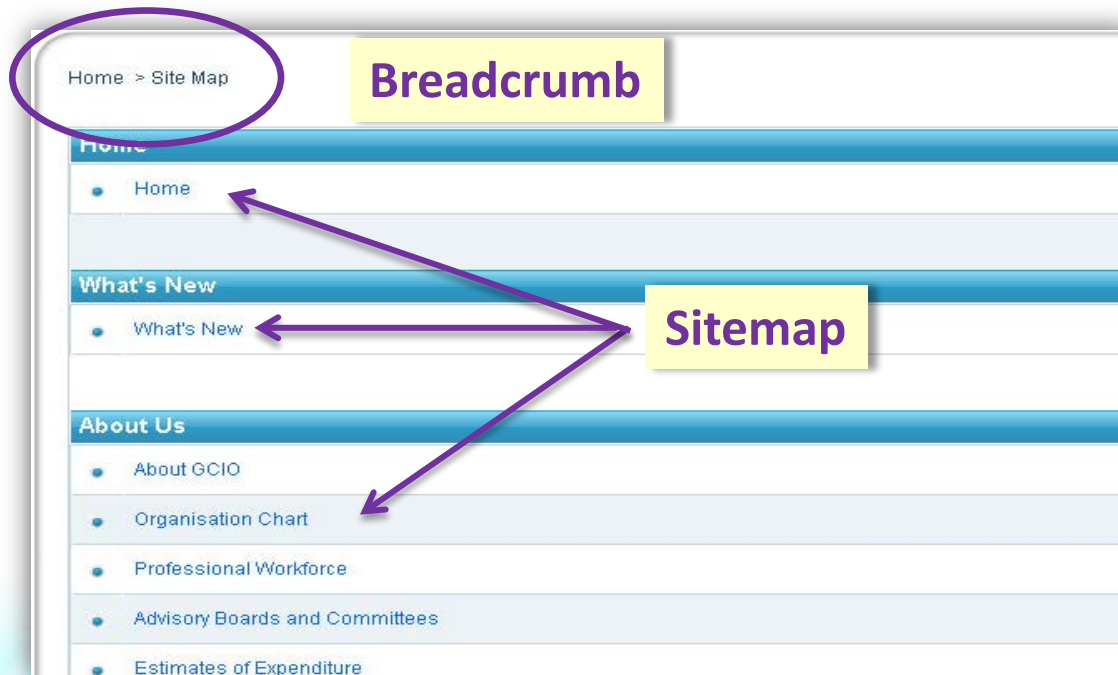
WCAG - Principles

Guidelines for Principle 3 and 4
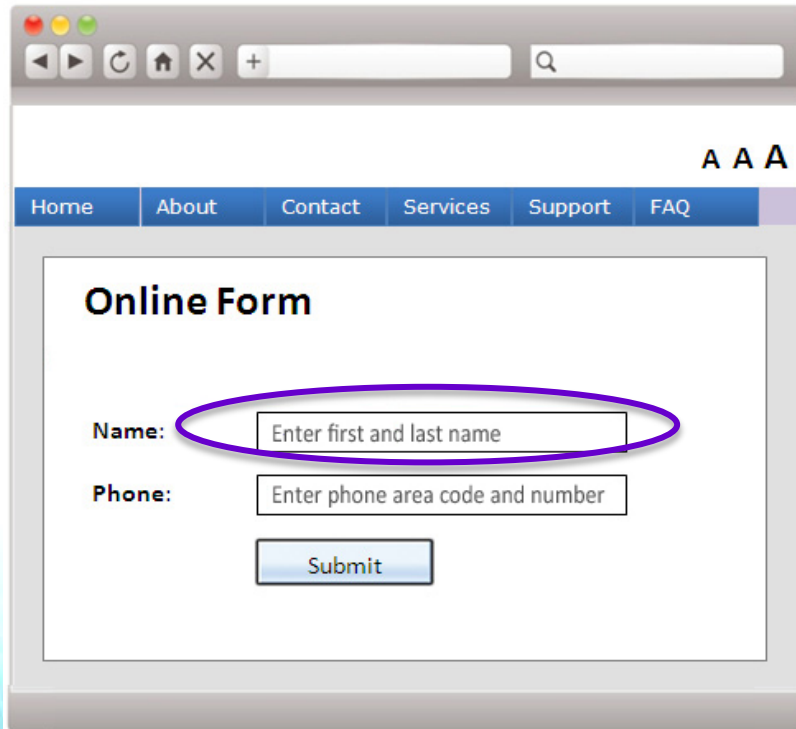
3.1   **Readable**: Make text content readable and understandable

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
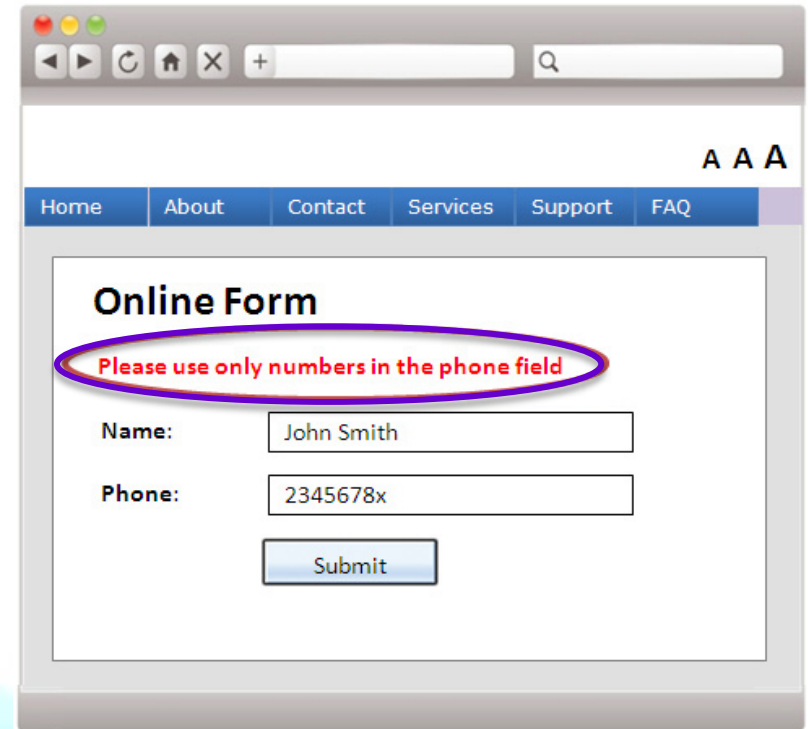
Principle 3 – Understandable

- Example - Clear label with cue and error identification

Input assistance

Error identification

WCAG - Principles

Principle 4 – Robust

- Compatibility with browsers

Top 12 Browser Versions in Hong Kong on Jan 2013

Stat: **Browser Version** ▾   Region: Hong Kong ▾   Period: **Jan 2013 (edit)**

http://gs.statcounter.com/
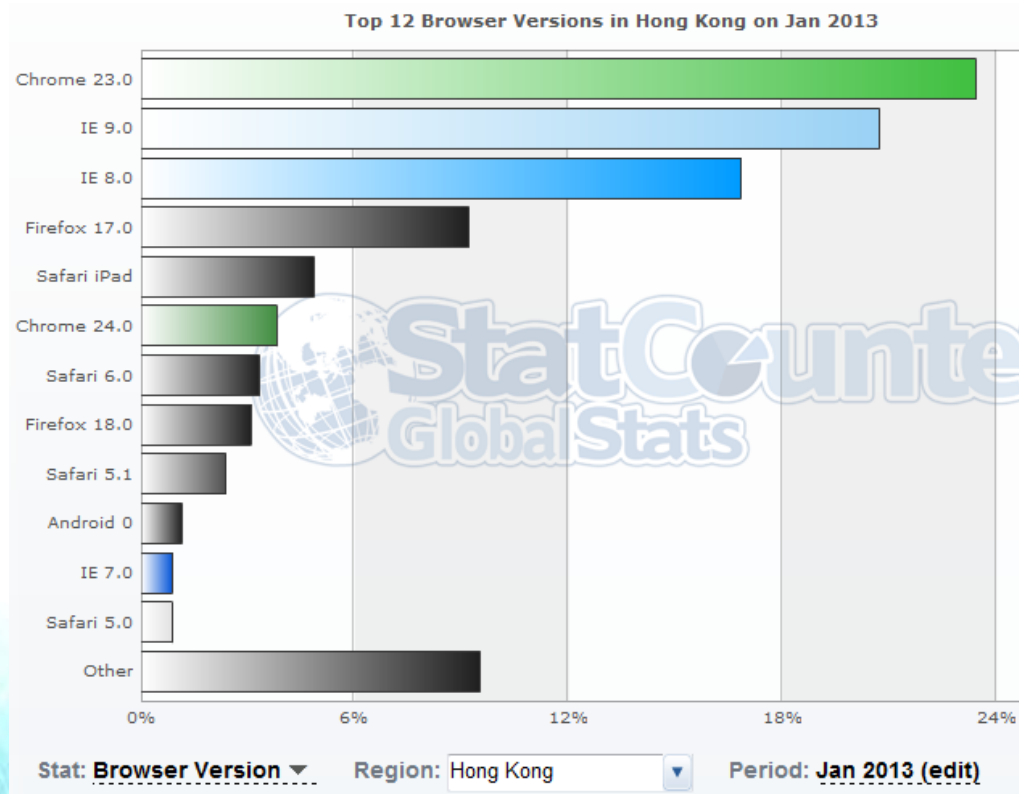
WCAG - Conformance

- 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

| W3C WAI-A WCAG 2.0 | W3C WAI-AA WCAG 2.0 | W3C WAI-AAA WCAG 2.0 |
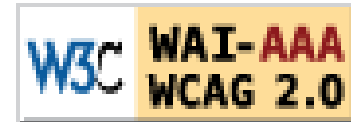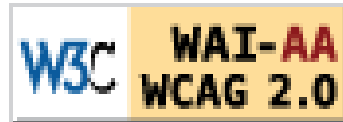
WCAG - Conformance

- Example - Video Requirements

	Level A	Level AA	Level AAA
Pre-recorded Video	Captions + (audio description / text transcript)	Captions + audio description	Extended audio description + Text description + Sign language

Overseas Government Practices

- Governments websites adopting WCAG

Country	Standard	Timeline to achieve standard
New Zealand	WCAG 2.0 Level AA	June 2010
United Kingdom	WCAG 1.0 Level AA	March 2011
Hong Kong	WCAG 2.0 Level AA	January 2013
Canada	WCAG 2.0 Level AA	July 2013
Singapore	WCAG 1.0 and key aspects of WCAG 2.0	December 2013
Australia	WCAG 2.0 Level A & AA	December 2014

Testing Techniques

1. **Code scanning**

- Many accessibility issues can be detected automatically using specialist software and tools

- Example tools –
  - AChecker
  - WAVE
  - PDF Accessibility Checker

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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

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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Web Accessibility Campaign

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

Web Accessibility Campaign

Government Leadership

- **Conformance of websites to W3C WCAG Level AA**
  - Government Policy
  - Appeal Letter by FS
  - Conformance Monitoring
- **Promulgation of Guidelines & Good Practices**
  - HAB's Guidelines
  - Technical Notes
  - Circular on Avoiding Common Pitfalls
  - Guidelines on Mobile App
- **Promotion with Public Sector Network**
  - Introduction to HoDs
  - Briefing for eBCs
  - Experience Sharing for B/Ds, ITMUs, AP Grades

Capability Building

- **Resource Development**
  - Webforall Portal
  - Web Accessibility Handbook
  - Helpdesk
  - Facilitation of Sourcing Service Providers
  - Reference Cases
  - Webpage Templates & User Guide
  - Educational Video
- **Talks / Seminars / Workshops**
  - Oct 2011 Gov Depts
  - Nov 2011 Private, NGOs, Public Orgs
  - Mar 2012 Internet Developers
  - Apr 2012 Tertiary Students
  - May 2012 Practitioners
  - Jun 2012 IT staff of Public Orgs
  - Jul 2012 ICT Industry
  - Sep 2012 Gov Depts
  - Oct 2012 Private, NGOs, Public Orgs
- **Empowerment**
  - Curriculum Development
  - Advisory Coaching
    - Social Services Organisations
    - Tertiary Students

Encouragement and Recognition

- **Assessment and Advisory Service**
  - As at Feb 2013 Websites Assessment
  - As at Feb 2013 Websites Accessibility Advisory
  - As at Apr 2013 Helpdesk
  - As at Mar 2013 Final Assessment
- **Recognition Scheme**
  - As at Dec 2012 Recruitment
  - As at Apr 2013 Accreditation

Legend :
Box in white = task in progress or task to start

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Government Leadership

- 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 including thematic websites, except archive materials, to achieve W3C WCAG 2.0 Level AA conformance by January 2013 within practicable means W3C WAI-AA WCAG 2.0

- Ask quasi-government and public service organisations to take corresponding action

Capability Building

www.webforall.gov.hk

- Illustration examples of success criteria (WCAG 2.0 Levels A & AA)
  http://www.ogcio.gov.hk/en/community/web_accessibility/handbook/live_example.htm

- Presentation slides of seminars / technical workshops

- Government's best practices

- Web Accessibility Handbook

- Web Designers' Corner

- Frequently Asked Questions

Capability Building

- *Nov 2011 >* Awareness Seminars for non-government sector
- *Mar 2012 >* Talk in World Internet Developers' Summit
- *Apr 2012 >* Seminars in tertiary institutions
- *May 2012 >* Workshops for ICT practitioners
- *Jun 2012 >* Experience sharing with public organisations' IT staff
- *Jul 2012 >* Talk in ICT Industry Forum
- *Oct 2012 >* Seminar for non-government sector
- *Dec 2012 >* Talks for CIOs, Chamber, NGOs
- *Jan 2013 >* Talks for tertiary students

Current Adoption

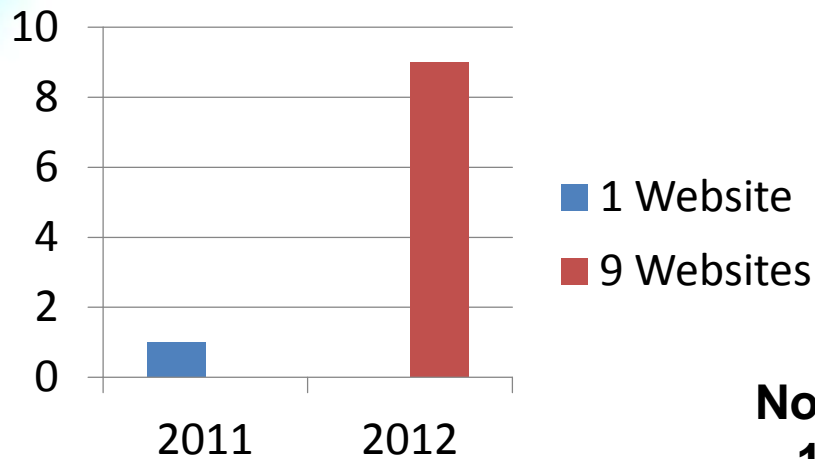**Testing Report on Web Accessibility**

- Conducted by Hong Kong Blind Union in 2011 and 2012
- 30 local websites frequently used by the visually impaired
  - Media
  - Banking
  - Public Services
  - Education Institutions
  - Restaurants
  - Super Markets
  - Telecommunications
- Against 15 pre-defined criteria
- Same set of websites and criteria in both 2011 and 2012

Testing Results

**No. of websites meeting ALL
15 Web Accessibility criteria**

Chart: No. of websites meeting all 15 Web Accessibility criteria. Y-axis 0 to 10. 2011: 1 Website (blue). 2012: 9 Websites (red).

- 1 Website
- 9 Websites

2011   2012

**9 out of 30 websites
(30%)**

**25 out of 30 websites
(83%)**

**No. of websites meeting at least
13 Web Accessibility criteria**

Chart: No. of websites meeting at least 13 Web Accessibility criteria. Y-axis 0 to 30. 2011: 9 Websites (blue). 2012: 25 Websites (red).

- 9 Websites
- 25 Websites

2011   2012
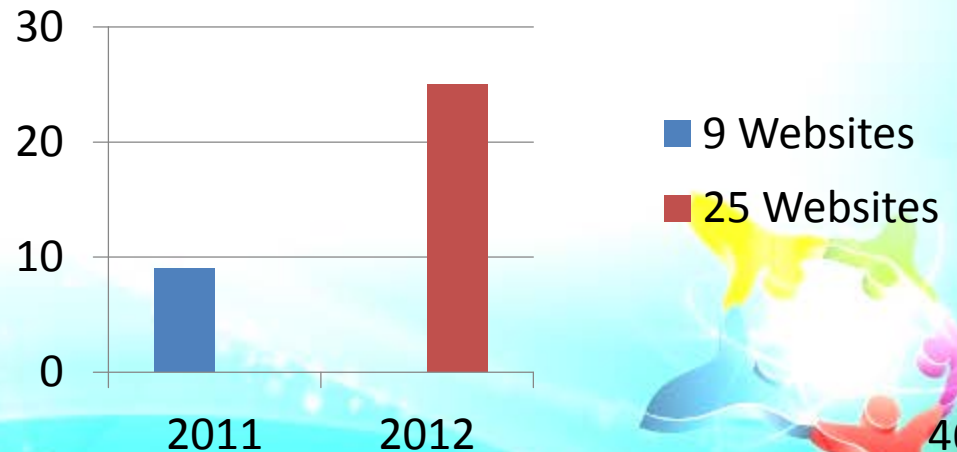
Local Complaint Cases

- 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=201
20723/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

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　　f 推薦 ⟨0⟩　　🐦 推文　　g +1　　🖨 列印

【明報專訊】失明者鄺灼培〈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。

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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. **International Standards & Testing Methods**

3. **Web Accessibility Campaign**

4. **Web Accessibility Recognition Scheme**

Web Accessibility Recognition Scheme

Objectives

- Recognise efforts and accomplishments in adoption of web accessibility design
- Further raise the awareness in the community and encourage adoption

Structure

- Co-organise with Equal Opportunities Commission
- Open to local businesses, NGOs, academia and quasi-government organisations
- Not a competition or compliance audit
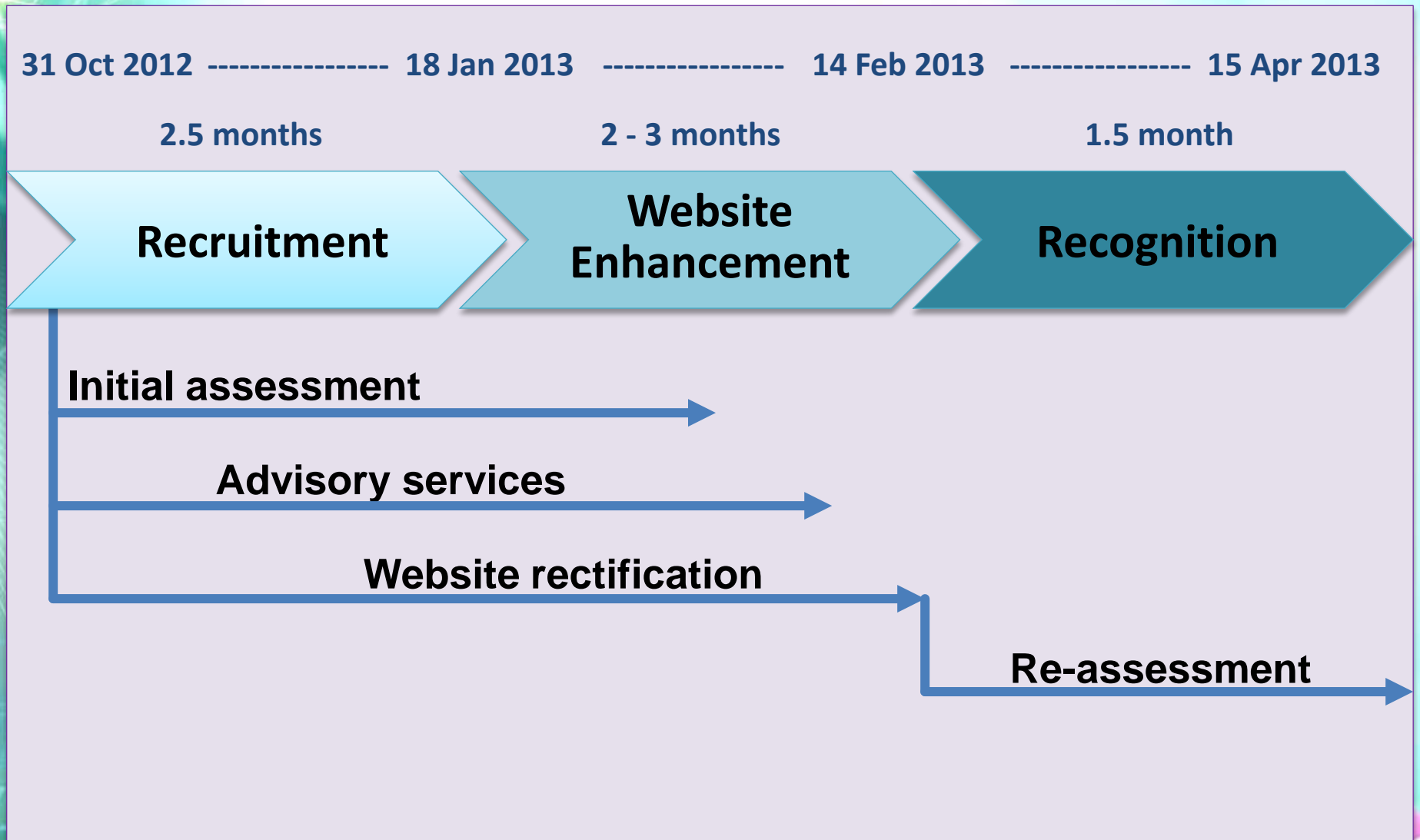
Web Accessibility Recognition Scheme

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

- The accreditation needs to be renewed annually

Web Accessibility Recognition Scheme

31 Oct 2012 ---------------- 18 Jan 2013 ---------------- 14 Feb 2013 ---------------- 15 Apr 2013

2.5 months   **2 - 3 months**   **1.5 month**

Recruitment → **Website Enhancement** → **Recognition**

Initial assessment →

Advisory services →

Website rectification →

Re-assessment →

What you can help?

- Observe latest guidelines and standards

- Adopt web accessibility designs in school website

- Specify web accessibility requirements when website service procurement

- Help colleagues and content providers aware of the importance and relevant skills

- Join Web Accessibility Recognition Scheme

For any enquiries,

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Let's join hands in making a digitally inclusive society

Thank you!

Questions and Answers