

# **Web Accessibility (WCAG)**

An abstract graphic featuring a central bright white sphere with colorful, flowing ribbons in yellow, green, blue, and red. The background is a light blue gradient with faint, semi-transparent icons representing various accessibility needs: a person in a wheelchair, a large eye, an ear, a hand, a speech bubble, and a speaker. Binary code (0s and 1s) is also visible in the background.

**Adapted from Slides from  
Office of the  
Government Chief Information Officer  
HKSAR**

# What is Web Accessibility?

---

- Making website **Content** available for **ALL users**
  - Including persons with disabilities (about 5.2% of total population)
  - Aged people
  - Good interaction benefits ALL users

## **Four Major categories of disabilities**

- Physical Impairment
- Hearing Impairment
- Visual Impairment
- Cognitive Impairment



# Legislation / Guideline

Country	Legislation / Guideline
Australia	<ul style="list-style-type: none"><li>• Disability Discrimination Act (DDA) of 1992</li><li>• WWW Access: DDA Advisory Notes</li><li>• The Guide to Minimum Website Standards</li></ul>
Canada	<ul style="list-style-type: none"><li>• Canadian Human Rights Act of 1977</li><li>• The Government of Canada Internet Guide</li></ul>
China	<ul style="list-style-type: none"><li>• 國務院令第622號 - 《無障礙環境建設條例》 (State Council Order No. 622 - "Construction of Accessible Environment")</li></ul>
United Kingdom	<ul style="list-style-type: none"><li>• The Equality Act 2010</li><li>• Formal investigation report on Web Accessibility</li></ul>
United States	<ul style="list-style-type: none"><li>• American with Disability Act (ADA)</li><li>• Section 508 of the Rehabilitation Act</li><li>• Assistive Technology Act of 1998</li><li>• Section 255 of the Telecommunications Act of 1996</li></ul>
European Union	<ul style="list-style-type: none"><li>• Accessibility of Public Websites – Accessibility for PWDs: Council Resolutions, 2002</li></ul>

# Legal Risks: Lawsuits and Complaints

---

- Complaint against Sydney Organising Committee for the Olympic Games 2000
  - No alternative text for image and contained inaccessible image map
  - Compensation sum of AU\$20K paid by respondent
- National Federation of the Blind filed a class-action suit against Target.com in 2006
  - No alternative text for image and inaccessible image maps, etc.
  - Penalty of \$6 million + plaintiff legal fees \$3 million + defense legal fees, court monitoring, loss of reputation, ...





# Legal Risk: Lawsuits and Complaints (Cont.)

- A NGO complained about inaccessible PDFs on Hong Kong Government website in June 2012



# Business Cases: Accessibility for All Users (1)

---

## Apple

- **"iTunes U"** educational program was not fully accessible to blind students. Teachers in California State University prohibited its use. Apple worked to make iTunes accessible and CSU System adopted the program widely.
- **VoiceOver on iPhone:** VoiceOver is the world's first gesture-based screen reader (double and triple taps, two-finger and three-finger interactions).



# Business Cases: Accessibility for All Users (2)

---

- **Google's** accessibility enhancements initially designed for users with disabilities benefit all users:
  - Contrast minimums for people with low vision help all people see in bright light glare situations
  - Auto-complete, reducing typing for people with disabilities, is now widely used by all
  - Voice control, for users with physical impairments, is a great convenience for all users
  - Provide visual context to users with visual impairments
  - Auto-captioning for deaf users are useful for users speaking other languages and great for search engines.



# Business Cases: Accessibility for All Users (3)

---

- In 2011, the radio station **This American Life** started to create transcripts for their entire archive of recorded programs; the results:
  - Search traffic increased 6.86%, 7.23% of visitors viewed at least one transcript,
  - Unique visitors increased 4.18%, and
  - New inbound links to transcript accounted for an increase of 3.89%



# What you should do in Web Accessibility

---

1. Use **ALT** with meaningful description for non-text content
2. **OCR** scanned documents so text-to-speech software works
3. You want text message to look nice, use **CSS**, do not use graphical images
4. Provide **text resizing** function
5. Maintain sufficient **color contrast**
6. Use **simple page layout** (structured by row or column)
7. Provide skip button to skip video and animation, etc.
8. Avoid background audio/music
9. Provide **caption** and **description** for video and audio

# International Standards

---

- **World Wide Web Consortium (W3C)**
  - **Web Content Accessibility Guidelines (WCAG)** have been developed over the years by W3C
  - Version 1.0 in 1999
  - Version 2.0 in 2008
  - Version 2.1 in 2017

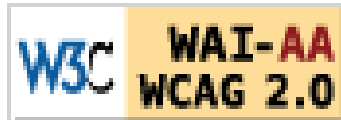
<http://www.w3.org/WAI/>

# 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



# HKSAR WCAG Conformance

- Every government department website has a conformance statement; this one is [www.gov.hk](http://www.gov.hk)
- Thus, government contracts involving webpages must commit to meeting WCAG 2.0 standard; a requirement from a government project:

The  pages shall conform to the W3C Web Content Accessibility Guidelines 2.0 Level AA; and

GovHK 香港政府一站通



Home > Accessibility on GovHK > Web Accessibility Conformance Statements

## Web Accessibility Conformance Statements

Share:      

### Web Accessibility Conformance Statements

We are committed to ensuring that our website conforms to the World Wide Web Consortium (W3C) Web Content Accessibility Guidelines (WCAG) 2.0 Level AA requirements to the maximum extent possible. However, due to the following reason(s), we are unable to incorporate all Level AA accessibility features at this point in time.



# 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, there are links for 'Login' and 'Register', and the 'Web Accessibility Checker' title. The main section is titled 'Check Accessibility By:' and has three tabs: 'Web Page URL', 'HTML File Upload', and 'Paste HTML Markup'. The 'Web Page URL' tab is active, showing an 'Address:' input field and a 'Check It' button. A yellow arrow points to the input field with the text 'Enter webpage address for testing'. Below the input field is an 'Options' section with a dropdown arrow. It contains 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), WCAG 1.0 (Level A), WCAG 2.0 (Level A), Section 508, WCAG 1.0 (Level AA), WCAG 2.0 (Level AA) (which is selected), Stanca Act, WCAG 1.0 (Level AAA), and WCAG 2.0 (Level AAA). Below the guidelines is a 'Report Format' section with radio buttons for 'View by Guideline' (selected) and 'View by Line Number'. A second yellow arrow points to this section with the text 'Select testing options'. At the bottom, there is a 'Welcome to AChecker' message and a copyright notice: 'Web site engine's code is copyright © 2011'.

**Check Accessibility By:**

**Web Page URL** **HTML File Upload** **Paste HTML Markup**

Address:

**Options**

☐ Enable HTML Validator ☐ Enable CSS Validator ☐ Show Source

**Guidelines to Check Against**

☐ 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) ☐ WCAG 2.0 (Level AAA)

**Report Format**

☒ View by Guideline ☐ View by Line Number

**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.

Web site engine's code is copyright © 2011

# Code Scanning

- Sample report - no known problem

[Login](#) [Register](#)

Web Accessibility Checker

Web Accessibility Checker

Check Accessibility By:

Web Page URL HTML File Upload Paste HTML Markup

Address:

Check It


Options

Accessibility Review

Export Format: PDF Report to Export: All Get File

Accessibility Review (Guidelines: WCAG 2.0 (Level AA))

Known Problems(0) Likely Problems (2) Potential Problems (505) HTML Validation CSS Validation

 **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.

### 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:*



# Policy in Hong Kong

- Require all government websites, except archive materials, to achieve [W3C WCAG 2.0 Level AA](#) conformance by **January 2013** within practicable means
- Ask quasi-government and public service organisations to take corresponding action
- Webforall Portal: [www.webforall.gov.hk](http://www.webforall.gov.hk) and Web Accessibility Handbook
- Web Accessibility Recognition Scheme (Gold and Silver Awards)
  - HKUST: Auditory and Speech Training App" for hearing-impaired children, Gold Award in Web Accessibility Recognition Scheme **2014**  
[http://www.seng.ust.hk/web/eng/news\\_detail.php?id=823](http://www.seng.ust.hk/web/eng/news_detail.php?id=823)
  - HKUST: Android mobile application for hearing impaired children, Gold Award in Web Accessibility Recognition, **2015** and **2016**  
<https://www.cse.ust.hk/News/WARS2015/>



# How you can help?

---

- Develop awareness, attitude and mindset on web accessibility in your organization
  - 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
- “I had never thought about it ...” is not an excuse