



Web Care Award

Easy Guide to Building No Barrier Website



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1. Introduction

Regardless of education, race, wealth or social background, everybody has the rights and opportunities to succeed in the knowledge based economy. Unquestionably, information is the power today. With the Internet as the delivering conduit, most people at all levels in the society can now get information in an unprecedented speed. Nevertheless, when it comes to those underprivileged and disabled, the gap of Digital Divide in web information access is widening.

iProA is mostly concerned with the negative impact of the growing Digital Divide among the underprivileged and disabled individuals. Accordingly to statistics, there are roughly 1.4 million underprivileged and 430,000 disabled in Hong Kong. The population of these two groups is growing due to inflow of new immigrants who are less educated.

iProA believes that the issue of Digital Divide needs immediately attention and cannot be resolved solely by enriching the web contents. It is vitally important to ensure everybody having the right to obtain information on a universal basis as this is an undisputable human right issue. In this context, the iProA Web Care Committee has its mandate to focus its effort on improving Internet Accessibility for all. Subsequently the Committee has organized a number of initiatives, including the production of this Easy Guide.

From a purely technical standpoint, iProA feels that web accessibility can be improved in two ways. Firstly, increase the number of websites with enhanced accessibility. Secondly, promote the Easy Guide to web designers in an effort to encouraging them to create more accessible web-pages.

Today, trouble-free websites that are easily accessible by the disabled remains low in Hong Kong. One of the reasons is that web designers are lack of skills and knowledge of understanding web accessibility, in particular when it concerns the disabled. This Easy Guide intends to list the challenges and promotes public awareness of the difficulties faced by the disabled when using the Internet.

iProA sees the development of simple and straightforward web accessibility as a win-win situation. When a web site has high accessibility, it will draw more visitors to view its contents. Therefore, it is advantageous to design and maintain a simple user interface with easy surfing of its contents. This Easy Guide will provide suggestions on how to best improve the accessibility of web pages.

2. What is Web Accessibility

Web accessibility refers to the practice of making websites usable by people of all abilities and disabilities. Web accessibility aims to address the needs of various disabilities including visual, auditory, mobility, speech, cognitive, and neurological.

In fact, web accessibility also benefits people *without* disabilities. For example, a key principle of web accessibility is to design websites and software that are flexible to meet different user needs, preferences, and situations. This flexibility becomes helpful to the most in situations such as having a slow Internet connection, during a "temporary disability" (for example, at the time of recovery from a broken arm), and with degrading abilities due to aging.

Web accessibility, therefore, is about designing web pages in such a way that disabled people can benefit from these technological and adaptive strategies.

3. Current Situation

According to the survey conducted by Harris Poll (www.harispollonline.com), disabled persons spend twice the time of others to locate the information they need when using the Internet. Nevertheless, the Harris Poll survey also indicates that the Internet has greatly improved the quality of life for the disabled.

Based on a research conducted by iProA on the behavior regarding online usage by the disabled, it is discovered that the primary reasons for the disabled to go online are as follows:

- Informational: Daily news, online radio, travel, leisure and job seeking
- Transactional: Payments, money transfer and online shopping
- Social: Text and voice messaging, email and discussion group.

While web site accessibility is still low amongst the disabled, the research indicates that the disabled were pioneers of using online payment and banking systems. Not surprisingly the research also found that the disabled more relied on the Internet to improve their social life quality than the average individuals.

4. Benefits of Accessible Sites

- More Website Traffic

It is important to removing most identifiable obstacles and focusing on simple design based on real user needs. This will allow a website to offer information more effectively. The more people are able to access the website, the more potential business and/or exposure it can gain.

- Improving Accessibility to More People

Enhancing an existing website or designing a new website with web standards and accessibility in mind will open up more business and corporate information to more people.

Using ‘one site fits all’ approach when creating website with the application of usability heuristics, web standards and accessibility guidelines will easily allow more people to access these websites.

- Higher Ranking by Search Engines

Websites that comply with Web Accessibility have more potential to be ranked higher by search engines and web crawlers because of more traffic. Again, this offers more business opportunities and/or exposure to the website.

- Increasing User’s Involvement

Usability and accessibility are inter-related. Designing for diversity not only increases the website traffic but also increases the user involvement.

5. Different Disabilities that can affect Web Accessibility

Types of Disabilities	Barriers
<i>Visual disabilities</i>	
<p>Blindness</p> <ul style="list-style-type: none"> • Involves a uncorrectable and substantial loss of vision in eyes. 	<ul style="list-style-type: none"> • Images that do not have alternative text. • Complex images (e.g., graphs or charts) that are not adequately described. • Video that is not described in text or audio. • Browsers and authoring tools that lack keyboard support for all commands. • Non-standard document formats that may be difficult for their screen reader to interpret.
<p>Low vision</p> <ul style="list-style-type: none"> • Involves poor acuity, tunnel vision, central field loss and clouded vision. 	<ul style="list-style-type: none"> • Websites with absolute font sizes that cannot be easily changed. • Web pages that, because of inconsistent layout, is difficult to navigate when enlarged, due to loss of surrounding context. • Web pages, or images, that have poor contrast, and whose contrast cannot be easily changed through user override of author style sheets.
<p>Color blindness</p> <ul style="list-style-type: none"> • Includes individuals with lack of sensitivity to certain colors. 	<ul style="list-style-type: none"> • Color that is used as a unique marker to emphasize text on a website. • Text that inadequately contrasts with background color or patterns. • Browsers that do not support user override of authors' style sheets.

<i>Hearing Impairments</i>	
<p>Deafness</p> <ul style="list-style-type: none"> • Involves a substantial and uncorrectable impairment of hearing in ears. 	<ul style="list-style-type: none"> • Lack of captions or transcripts of audio on the website, including webcasts. • Lack of content-related images in pages full of text, which can slow comprehension for people whose first language may be a sign language instead of a written/spoken language. • Lack of clear and simple language. • Requirements for voice input on websites.
<p>Hard of hearing</p> <ul style="list-style-type: none"> • Involves mild to moderate hearing impairment. 	<ul style="list-style-type: none"> • Lack of captions or transcripts for audio on the website including webcasts.
<i>Physical disabilities</i>	
<p>Motor disabilities</p> <ul style="list-style-type: none"> • Includes weakness, limitations of muscular control, and limitations of sensation, joint problems, or missing limbs. 	<ul style="list-style-type: none"> • Time-limited response options on Web pages. • Browsers and authoring tools that do not support keyboard alternatives for mouse commands. • Forms that cannot be tabbed through in a logical order.
<i>Speech disabilities</i>	
<p>Speech disabilities</p> <ul style="list-style-type: none"> • Includes difficulty producing speech that is recognizable by some voice recognition software, either in terms of loudness or clarity. 	<ul style="list-style-type: none"> • Websites that require voice-based interaction and have no alternative input mode.

<i>Cognitive and neurological disabilities</i>	
<p>Visual and Auditory Perception</p> <ul style="list-style-type: none"> • Includes difficulty processing language or numbers, difficulty processing spoken language when heard and/or difficulty with spatial orientation. 	<ul style="list-style-type: none"> • Lack of alternative modalities for information on websites, e.g. lack of alternative text that can be converted to audio to supplement visuals, or the lack of captions for audio.
<p>Attention deficit disorder</p> <ul style="list-style-type: none"> • Includes difficulty focusing on information. 	<ul style="list-style-type: none"> • Distracting visual or audio elements that cannot easily be turned off. • Lack of clear and consistent organization of websites.
<p>Intellectual disabilities</p> <ul style="list-style-type: none"> • Includes learning more slowly, or difficulty understanding complex concepts. 	<ul style="list-style-type: none"> • Use of unnecessarily complex language on websites • Lack of graphics on websites. • Lack of clear or consistent organization of websites.
<p>Memory impairments</p> <ul style="list-style-type: none"> • Includes problems with short-term memory, missing long-term memory, or some loss of ability to recall language. 	<ul style="list-style-type: none"> • Lack of clear or consistent organization of websites.
<p>Mental health disabilities</p> <ul style="list-style-type: none"> • Includes difficulty focusing on information, or difficulty with blurred vision or hand tremors due to side effects from medications. 	<ul style="list-style-type: none"> • Distracting visual or audio elements that cannot easily be turned off. • Web pages with absolute font sizes that cannot be enlarged easily.
<p>Seizure disorders</p> <ul style="list-style-type: none"> • Includes some types of epilepsy, including photo-sensitive epilepsy, which are triggered by visual flickering or audio signals at a certain frequency. 	<ul style="list-style-type: none"> • Use of visual or audio frequencies that can trigger seizures.

6. Suggested Solutions

Problems and suggested solutions at a glance

Problem	Solution
<p>Pop up windows:</p> <p>Trigger the users to read the latest appeared windows. Users have no idea this is a new window, and no instruction on how to jump to other pages.</p>	<p>Provide text description of “Top of the page” and “Close” so that disabled users know this is a new window and have a way to exit.</p>
<p>Image, banner (non text based) and hyperlink with URL or non descriptive explanation:</p> <p>User interprets all these image and hyperlink as equivalent subjects, which are meaningless for user.</p>	<p>Provide alternative text description, use ALT command.</p>
<p>Insufficient background and foreground color contrast:</p> <p>The visually impaired are unable to distinguish the two colors.</p>	<p>Test the colors used in web pages against a monochrome screen or a black and white printer. Ensure that a sharp contrast is displayed.</p>
<p>Auto-refresh feature:</p> <p>Trigger the user to refresh and re-read text from top line again. Users would get confused and lose the navigated position.</p>	<p>Re-refresh function upon user’s request only or an option to disable the auto-refresh feature.</p>
<p>Time limit:</p> <p>Users are unable to complete tasks (read or use the content) in website within the time limit.</p>	<p>Provide ways to adjust/turn off the time limit.</p>
<p>Font size:</p> <p>People with visual impairment are unable to use Screen Magnifier to resize the characters.</p>	<p>Do not set the font size attribute to a number of points or pixels but set it to a percentage for the default font size.</p>

<p>Complicated table:</p> <p>A complicated message that is hard to comprehend.</p>	<p>Break down the table into smaller sections.</p>
<p>Audio Content:</p> <p>Hearing impaired could not access the auditory information.</p>	<p>Provide captions for all audio content.</p>
<p>Chinese and English appears on same web page:</p> <p>An English user interprets the Chinese code as alien code and may make the computer system hang.</p>	<p>Avoid putting two languages on the same page and allow users to switch between languages.</p>
<p>Entry point flash and animation:</p> <p>Visually disabled do not know when will the flash and animation stopped.</p>	<p>Provide an alternative entry point that skips the flash section.</p>
<p>Keyboard:</p> <p>Visually disabled could not use devices such as mouse that require eye-hand coordination, or have trouble finding or tracking a pointer indicator on screen.</p>	<p>Provide operation through a keyboard or keyboard interface.</p>
<p>Web Pages with Predictable Operations:</p> <p>Users may become confused if components appear in different places on different pages.</p>	<p>Provide content in a predictable order in web pages and by making the behavior of functional and interactive components predictable</p>
<p>Input Assistance:</p> <p>Users may have difficulties in creating error-free input.</p>	<p>Provide error identification, description and suggestions if an input error is detected.</p>
<p>Compatibility:</p> <p>Users are not able to programmatically determine or set the user interface components (e.g. elements, links and components generated by scripts), the name, role states, properties, and values; and notification of changes to these items is available to user agents, including assistive technologies.</p>	<p>Complete elements start and end tags, nest elements according to the specifications, avoid containing duplicate attributes, and any IDs are unique in content implemented using markup languages except where the specifications allow these features.</p>

7. Award Standard & Evaluation Criteria

The Web Care Award was established with the goals of:

- Encouraging public organizations as well as business corporations to build no-barrier websites
- Serving the needy communities with equal opportunities
- Sharing the benefits brought about by the Internet in Hong Kong

Numerous Awards are established to show the appreciation of various degree of effort on enhancing the website accessibility and bridging the Digital Divide.

Evaluation criteria are based on the Web Content Accessibility Guidelines (WCAG) provided by World Wide Web Consortium (W3C). Official validators # recommended by W3C are used to validate the degree of web accessibility.

Certificate of Merit

To acknowledge the support of the participants, the entries have to fulfill below criteria:

Achievement Criteria:

- The front page of the website has to fulfill the requirement stated in the above “Suggested Solutions”.

Bronze Award

To achieve a higher recognition on building no-barrier website, the entries have to fulfill below criteria:

Achievement Criteria:

- Fulfill requirements of Certificate of Merit
- Fulfill the requirement stated in the above “Suggested Solutions”.

Ruby Award

Well-developed no-barrier website will be granted the Ruby Award. The entries have to fulfill below criteria:

Achievement Criteria:

- Fulfill requirements of Bronze Award
- Pass the official validators# checking with no critical error.

Diamond Award

More-advanced and sophisticated no barrier website can make an attempt on Diamond Award. The entries have to fulfill below criteria:

Achievement Criteria:

- Fulfill Requirement of Ruby Award.
- Pass the judgment lead by visually impaired people.

Remarks

*For entries with text / light version in the website obtaining the award, it is restricted that the award can only be used in text/light version.

Referral Award

In order to encourage more companies and organizations to participate in this meaningful programme with social responsibilities, a Referral Award is created for recognize those entities that refer other companies / organizations to participate in the programme.

Remarks:

- A company being referred has to be new to this programme and has never obtained any awards
- A company being referred will be registered once it submits a completed application.
- The referred website must contain at least 10 web-pages and has been established for more than one month.

Official Validators

Recommended by the World Wide Web Consortium (W3C):

HTML validator: <http://validator.w3.org/>

CSS validator: <http://jigsaw.w3.org/css-validator/>

8. Useful Links

- W3C How People with Disabilities Use the Web:
<http://www.w3.org/WAI/EO/Drafts/PWD-Use-Web/#diff>
- W3C Web Accessibility Initiative Working Groups and Interest Groups:
<http://www.w3.org/WAI/groups.html>
- COI Usability Toolkit Beta:
<http://usability.coi.gov.uk/theme/qa-standards/standards-accessibility.aspx>
- InfoUse Project of the National Institute on Disability & Rehabilitation Research Site:
<http://www.infouse.com/disabilitydata>
- UCLA Disabilities and Computing Program:
<http://www.dcp.ucla.edu>
- Boddy:
<http://www.cast.org/bobby/>