

# Survey on the Accessibility of Websites in Singapore

## Introduction

1. The use of the Internet has become a crucial component of our day-to-day lives. We use the Internet to search for information, perform transactions, interact with others, as well as participate in online learning. The use of the Internet as a repository of information has grown dramatically in the last decade. Not only has the Internet become a primary and key source of public information, wireless and mobile broadband technology has further entrenched the use of the Internet in our lives.

2. With the exponential growth of information available on the Internet and the widespread use of the Internet in our daily lives, making websites accessible to people with disabilities is crucial in preventing a knowledge divide.

## Objective of Survey

3. This survey on web accessibility aims to provide an indication on the accessibility of local websites by evaluating their level of compliance to the Content Accessibility Guidelines (WCAG) established by the World Wide Web Consortium Web Accessibility Initiative (W3C WAI).

## Web Accessibility

4. The Internet has been a powerful enabler for people with disabilities, removing physical barriers to information and social interaction. However the Internet itself is not without digital obstacles for people with disabilities.

5. People with disabilities use and experience the Internet in different ways. Accessible websites provide access features that allow people with disabilities to employ adaptive strategies to experience the web.

6. The following are some examples of the challenges faced by people with disabilities and how accessibility features can help them.

### Visual Impairment

a. People with visual impairments might use screen magnifiers or screen readers to access the Internet. These readers will not be able to interpret graphics or images. Hence information in a pictorial format will not be accessible to people with visual impairments. Accessible websites provide alternative text for images such that users with visual impairments can use a screen readers that reads aloud the information on the page, including the alternative text for the visual image.

## **Hearing Impairment**

b. Many websites on the Internet have multimedia files as part of their content. These files can be in video or audio formats that are meant to enrich the users' web experience. This can be especially frustrating for people with hearing impairment as they cannot hear or understand the audio message behind these multimedia files. Providing a text transcript makes the audio information accessible for people with hearing impairments.

## **Physical Disabilities**

c. People with physical disabilities may have difficulty using pointing devices e.g. mouse or track ball. Websites offering only a point-and-click input would be inaccessible to such users. An accessible website does not rely solely on the mouse; it provides all functionality via keyboard.

## **Intellectual Disabilities**

d. People with intellectual disabilities need more time to understand the content of a website. Websites that automatically redirect or generate pop-up windows may confuse and disorientate such users. The use of consistent design and navigation options as well as using clear and simple language can make the website more useable for people with intellectual disabilities.

## **Seizure Disorders**

e. Websites with visual flickering or certain audio effects can trigger the onset of seizure in individuals with seizure disorders. These users need to be able to turn off animations, blinking text, or certain audio frequencies to safely access the website.

7. An accessible website allows people with disabilities to perceive, understand, navigate and interact with the web. This includes people with visual, print, physical, auditory, cognitive and learning disabilities.

8. The W3C Web Accessibility Initiative (WAI) develops strategies, guidelines, and resources to help make the Web accessible to people with disabilities. In 1999, WAI developed the Web Content Accessibility Guidelines (WCAG) to address accessibility issues. WCAG 1.0 defines three levels of web accessibility, and provides a set of checkpoints for each level. A web page must satisfy all Priority 1 checkpoints to be considered minimally accessible. Priority 2 and Priority 3 are increased levels of accessibility for the web users.

## **Sampling**

9. To provide an overview of the web accessibility in both public and private sectors in Singapore, 4 sample pages from 162 local websites were surveyed. The public websites were selected from the Singapore Government Online Directory, while the private website were selected from the STI index and FTSE ST Mid-Cap list.

## Methodology

10. Evaluation was conducted on 4 web pages for each website, consisting of the homepage and three other representative pages, selected based based their content relevance, variety of layout and functionality. These web pages were evaluated using an online automated evaluation tool EvalAccess 2.0.

11. EvalAccess 2.0 identifies accessibility errors against the WCAG guidelines. These errors will limit the ability for people with disabilities to access the website. Amongst a variety of automated tools available, EvalAccess 2.0 was chosen for this survey in view of its ease of use and ability to provide specific information on errors.

12. This methodology serves only to provide a baseline indication of the level of web accessibility in Singapore. For a website to be deemed accessible and compliant with WCAG, the entire site must at a minimum be free of Priority 1 Errors. No single automated tool alone can determine if a site meets accessibility guidelines. A full conformance evaluation will require human evaluation.

## Preliminary Findings

13. The following is the key observation on the results from the survey:

- 56 websites (35%) surveyed had at least one webpage free of WCAG Priority 1 errors.
- A total of 11 websites (7%) had four web pages free of WCAG Priority 1 errors.

Please refer to the following table below for more details.

**Table A: Results for EvalAccess 2.0**

	Error free pages							
	At least 1 page		At least 2 pages		At least 3 pages		At least 4 pages	
	No.	%	No.	%	No.	%	No.	%
Public (89 websites)	31	35%	16	18%	13	15%	8	9%
Private (73 websites)	25	34%	7	10%	4	5%	3	4%
Total (162 websites)	56	35%	23	14%	17	10%	11	7%

## Observations

14. Based on the survey findings, there seems to be limited web accessibility for websites in both the public and private sectors. The public sector appears to have a slight lead in terms of providing accessibility features for people with disabilities in its websites. Out of 11 websites with a minimum of four error free web pages, 8 websites came from the public sector.

## Evaluators

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## Additional Resources on Web Accessibility

- <http://www.w3.org/standards/webdesign/accessibility>
- <http://www.w3.org/WAI/intro/wcag>

## References

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4. **Shawn Lawton Henry and Liam McGee.** Accessibility. *World Wide Web Consortium*. [Online] 2009. <http://www.w3.org/standards/webdesign/accessibility>.