



GLOBAL ISLAND UNIVERSAL DESIGN ACCESS CHART

This Universal Design Access Chart was compiled from various Internet sources* for the purpose of assembling a wide variety of access issues and barriers that relate to disabilities, yet may also improve the user experience for those who have needs relating to age, education, income, environment or other intersectionalities.

DISABILITY	ACCESS ISSUES	BARRIERS CAN INCLUDE:
Blindness	<ul style="list-style-type: none"> A substantial, uncorrectable loss of vision in both eyes. Many individuals rely on screen readers and outputs this information to a speech synthesizer and/or refreshable Braille display. 	<ul style="list-style-type: none"> Images that do not have alt text. Complex images (e.g., graphs or charts) that are not adequately described. Video that is not described in text or audio. Tables that do not make sense when read serially (in a cell-by-cell or "linearized" mode). Frames that do not have "NOFRAME" alternatives, or that do not have meaningful names. Forms that cannot be tabbed through in a logical sequence or that are poorly labeled. 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.
Low Vision (poor acuity; tunnel vision)	<ul style="list-style-type: none"> Some people with low vision use extra-large monitors, and increase the size of system fonts and images. Others use screen 	<ul style="list-style-type: none"> Web pages with absolute font sizes that do not change (enlarge or reduce) easily. Web pages that, because of

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DISABILITY	ACCESS ISSUES	BARRIERS CAN INCLUDE:
	<p>magnifiers or screen enhancement software.</p> <ul style="list-style-type: none"> ▪ Some individuals use specific combinations of text and background colors, such as a 24-point bright yellow font on a black background, or choose certain typefaces that are especially legible for their particular vision requirements. 	<p>inconsistent layout, are difficult to navigate when enlarged, due to loss of surrounding context.</p> <ul style="list-style-type: none"> ▪ Web pages, or images on Web pages, that have poor contrast, and whose contrast cannot be easily changed through user override of author style sheets.
Color Blindness	<ul style="list-style-type: none"> ▪ Lack of sensitivity to certain colors – difficulty distinguishing between red and green, or between yellow and blue. ▪ Some people with color blindness use their own style sheets to override the font and background choices. 	<ul style="list-style-type: none"> ▪ Color that is used as a unique marker to emphasize text on a Web site. ▪ Text that inadequately contrasts with background Color or patterns. ▪ Browsers that do not support user override of authors' style sheets.
Deafness	<ul style="list-style-type: none"> ▪ Substantial uncorrectable impairment of hearing in both ears. Some deaf individuals' first language is a sign language. ▪ People rely on captions for audio content. 	<ul style="list-style-type: none"> ▪ Lack of captions or transcripts of audio on the Web. ▪ 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.
Hard of Hearing	<ul style="list-style-type: none"> ▪ Mild to moderate hearing impairment. ▪ People may rely on captions for audio content and/or amplification of audio. ▪ People who are hard of hearing may need to toggle the captions on an audio file on or off, or adjust the volume of an audio file. 	<ul style="list-style-type: none"> ▪ Lack of captions or transcripts for audio.
Motor Disabilities	<ul style="list-style-type: none"> ▪ Can include weakness, limitations of muscular control limitations of sensation, joint problems or missing limbs. ▪ People with motor disabilities affecting the hands or arms may use a specialized mouse; a keyboard with a layout of keys that matches their range of hand motion; a pointing device such as a head-mouse, head-pointer or mouth-stick; voice-recognition 	<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.

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DISABILITY	ACCESS ISSUES	BARRIERS CAN INCLUDE:
	<p>software; or an eye-gaze system.</p> <ul style="list-style-type: none"> ▪ They may activate commands by typing single keystrokes in sequence with a head pointer rather than typing simultaneous keystrokes ("chording") to activate commands. ▪ They may need more time when filling out interactive forms on Web sites if they have to concentrate or maneuver carefully to select each keystroke. 	
Speech Disabilities	<ul style="list-style-type: none"> ▪ Can include difficulty-producing speech that is recognizable by some voice recognition software. ▪ Someone with a speech disability needs to be able to use an alternate input mode such as text entered via a keyboard. 	<ul style="list-style-type: none"> ▪ Web sites that require voice-based interaction and have no alternative input mode.
Dyslexia, Dyscalculia	<ul style="list-style-type: none"> ▪ Learning disability. ▪ To use parts of the Web that rely on voice recognition, someone with a speech disability needs to be able to use an alternate input mode such as text entered via a keyboard. 	<ul style="list-style-type: none"> ▪ Lack of alternative modalities for information on Web sites, for instance lack of alternative text that can be converted to audio to supplement visuals, or the lack of captions for audio.
Attention Deficit Disorder	<ul style="list-style-type: none"> ▪ 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.
Impairments of Intelligence	<ul style="list-style-type: none"> ▪ May take more time on a Web site. ▪ May rely more on graphics to enhance understanding of a site ▪ Unnecessarily complex language. 	<ul style="list-style-type: none"> ▪ Use of unnecessarily complex language on Web sites. ▪ Lack of graphics on Web sites ▪ Lack of clear or consistent organization of Web sites.
Memory Impairments	<ul style="list-style-type: none"> ▪ Problems with short-term memory, missing long-term memory or some loss of language 	<ul style="list-style-type: none"> ▪ Lack of clear or consistent organization of Web sites.
Mental Health Disability	<ul style="list-style-type: none"> ▪ May have difficulty focusing on information on a Web site, or difficulty with blurred vision or hand tremors due to side effects 	<ul style="list-style-type: none"> ▪ Distracting visual or audio elements that cannot easily be turned off. ▪ Web pages with absolute font sizes

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DISABILITY	ACCESS ISSUES	BARRIERS CAN INCLUDE:
	from medications.	that do not enlarge easily.
Seizure Disorders	<ul style="list-style-type: none"> Visual flickering or audio signals at a certain frequency may trigger seizures. 	<ul style="list-style-type: none"> Use of visual or audio frequencies that can trigger seizures.
Anxiety Disorders	<ul style="list-style-type: none"> Can be any of the following: Depressive, Bipolar, Panic, Generalized Anxiety, Obsessive Compulsive, and Personality Disorders. A simple and concise design for the homepage that was pleasing to the eye and easy to read. 	<ul style="list-style-type: none"> An “overwhelming” homepage where the user leaves the site.
Senior Citizens	<ul style="list-style-type: none"> Changes in people's functional ability due to aging can include subtle and/or gradual changes in abilities or a combination of abilities including vision, hearing, dexterity and memory. Web sites offer a clearly visible – preferably in large text – way for seniors to reach a large-text version of their content. Web sites that actually target seniors are advised to display large text by default, 12-point type at the minimum. 	<ul style="list-style-type: none"> Hyperlinks be in large type, with lots of space between them, so that older users don't accidentally click on the wrong link. This is especially important for seniors with motor-skill difficulties. Sites that seek seniors' traffic should do away with navigational devices such as pull-down menus that require precision with the cursor. As well as any of the above barriers can affect a senior citizen.

* Sources:

<http://www.useit.com/alertbox/9610.html>
<http://ctl.unbc.ca/disabilities.html>
<http://www.webable.com/>
<http://www.webable.com/library.html>
<http://www.webable.com/files/usabilitystudy.pdf>
<http://www.trace.wisc.edu/world/web/index.html>
<http://www.nngroup.com/reports/seniors/>

