

# Fujitsu Web Accessibility Guidelines

For English sites  
Version 1.02

February 12, 2003  
Fujitsu Limited

## 1. The Fujitsu approach to accessibility

In the Fujitsu group along with product/service functionality and performance, we place great importance on “high accessibility” (\*Note 1). To put this into practice, we make use of the following four concepts in the development of our group’s products and services.

- (1) Provide a wide variety of interaction options to ensure that differences in physical abilities, such as visual and auditory deficits, do not limit accessibility to our products and services.
- (2) Create dimensions, layout, and controls in order to minimize physical stress and fatigue and flexibly accommodate the physical differences of various users such as body type, strength, motor and posture controls, or the need for wheelchairs or other devices.
- (3) Present easy to understand and user-friendly information that takes into consideration users with different backgrounds, experiences, cultures, and languages.
- (4) Design interfaces with outstanding usability - enhancing safety, effectiveness, efficiency, and satisfaction for all people.

\*Note 1: Accessibility: the extent to which there is ease of use, as well as the ideology which endeavors to make use of environments, facilities, machinery, software and services easy for a diversity of people; those with disabilities, the elderly, etc.

## 2. In drawing up these guidelines

With the spread of Internet usage in recent years, information can be received and sent “whenever and wherever”. The Fujitsu group, a leading internet company, has carved the way for this new information age by providing a variety of services and solutions.

Taking this further, the Fujitsu group has set out to see that everyone can receive the benefits of this information age by developing and providing large numbers of “products with high accessibility” (\*Note 2).

Now we have drawn up the “Fujitsu Web Accessibility Guidelines” and are making it publicly available so that anyone can use the Internet without difficulty. The work involved in drawing up these guidelines was accomplished while preserving harmony with local and overseas trends.

(\*Note 2) Examples of products with high accessibility developed and provided by Fujitsu

- easy to operate ATMs made with elderly, visually impaired and wheelchair users in mind
- audio browsers and software with magnified displays for the visually impaired
- wireless phones with larger size character display for the visually impaired and the elderly

## 3. The policy of these guidelines

### (1) Placing importance on practical effect

We have set out to make the guidelines effective and easy to implement by consulting with external experts and internal and external Web designers.

### (2) Potential for global application

The guidelines will initially be applied to public Web sites provided by the Fujitsu group in Japan. We will then prepare other language versions and apply them to the Fujitsu group worldwide. However, these guidelines do not apply to Web sites designed for wireless devices.

### (3) Placing importance on consistency with existing guidelines and standards

We have placed importance on coordination with existing standards and guidelines, such as the WAI's (Web Accessibility Initiative) Web Content Accessibility Guidelines 1.0, the United States' Rehabilitation Act, Section 508 and the Soumu-sho (Japan's Ministry of Public Management, Home Affairs, Posts & Telecommunications) Web Helper (\*Note 3).

(\*Note 3) Ministry of Public Management, Home Affairs, Posts & Telecommunications' Web Helper: a Web Accessibility System under development by the Ministry of Public Management, Home Affairs, Posts & Telecommunications' Information & Communications group. As of April 2002, it is currently at the demo stage. (<http://www.jwas.gr.jp/> - in Japanese)

## 4. How to use these guidelines

### 4.1 Prioritization

The guidelines which are 1st Priority should be regarded as essential items for all Web sites. 2nd Priority guidelines are strongly recommended and 3rd Priority are recommended. Please consider whether to apply items of 2nd and 3rd Priority when you are building your sites.

### 4.2 Other

These guidelines bring together only those items which are concerned with accessibility. It is also necessary to give attention to the following points, which fall outside the subject of accessibility, when designing your sites:

- (1) Use correct HTML code, as officially published, when creating your pages.
- (2) Avoid using technology which is either not recommended or scheduled to be scrapped by the W3C.
- (3) Give consideration to usability.

## Reference: trends in the US and Japan

### - In the United States

In the United States, Web accessibility has been legislated by the Federal Government.

“Federal employees and individuals shall have comparable access to Federal data and services regardless of whether they have a disability” (1998 Amendment to Section 508 of the Rehabilitation Act:

<http://www.section508.gov/>)

### - In Japan

Japan’s central ministries, government offices and local governments are leading the way in giving consideration to Web accessibility.

“Development of IT devices and systems, taking into consideration the conditions of the elderly and persons with disabilities, will be encouraged, and support will be provided for raising the information literacy of such persons in order to create an environment in which they have full access to IT.”

(IT Strategic Headquarters’ “e-Japan 2002 Program”, June 26, 2001:

[http://www.kantei.go.jp/foreign/it/network/0626\\_e.html](http://www.kantei.go.jp/foreign/it/network/0626_e.html))

Discussions on creating an international standard (ISO/TS16071, etc) similar to Section 508, led by Europe, are also taking place.

# (1) On all pages, titles should be used to accurately portray the page content so that page identification is possible.

## Explanation

Audio browsers identify page content using the text in the <title> tag.

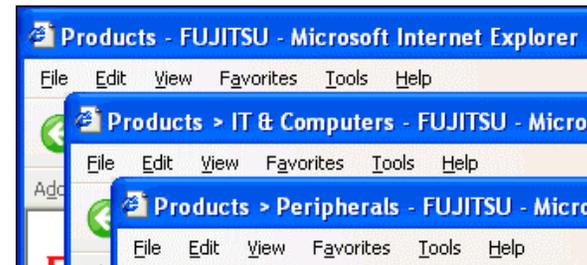
When the <title> text is insufficient, the page content is determined by the voiceover for the main body of the page, which takes a lot of time.

## Example and Implementation

- Page title is specified in the <title> within the <head> tag.
- Maximum number of characters should be less than 64.
- Page title should read “page name - site name (e.g. Accessibility Part 1 - Fujitsu)”, etc.



**Bad example:** when the <title> on all pages is the same



**Good example:** when the <title> is different, page identification is easier

## (2) Clearly display the main language of the page.

### Explanation

When the language is not specified in the HTML, sometimes audio browsers do not correctly pronounce the voiceover. For example, the word *voiture* in French meaning car would be pronounced “voter” when the initial settings for the audio browser have been set to English.

### Example and implementation

- Specify language page by page (specify the *lang* attribute in the <html> tag)
- .-In that case, specify the same language specified in the charset attribute in <meta> tag.
- Specify <span lang=“fr”> etc when the language changes within the page. However, it is not necessary to specify it for each individual word.

```
<!doctypehtml public "-//W3C//DTD HTML 4.01  
Transitional//EN">  
<html lang=“en”>  
<head>  
<title>FUJITSU</title>  
</head>
```

**Good example:** when specifying English by page

### (3) Make a clear distinction (by changing contrast, brightness, etc.) between the text and background colors.

#### Explanation

The smaller the difference between the contrast and brightness of the text and background colors, the more difficult it is to read. It is particularly important to ensure this distinction for the elderly and those with weak eyesight.

#### Example and implementation

- Ensure there is adequate difference in brightness.
- Persons with certain color perception conditions have trouble differentiating red and green or yellow and blue, while the elderly can have problems distinguishing white and yellow, blue and black, or purplish-blue and black.
- When using a color with high brightness and a background image with a low brightness, choose a background color (*bgcolor* attribute) with a low brightness.



Be sure to clearly differentiate the text color from the background color, especially for the elderly and persons with weak eyesight, who often experience problems as the brightness/contrast differential decreases.

**Bad example:** combination of white and yellow



Be sure to clearly differentiate the text color from the background color, especially for the elderly and persons with weak eyesight, who often experience problems as the brightness/contrast differential decreases.

**Good example:** combination of white (high-brightness) with brown (low-brightness)

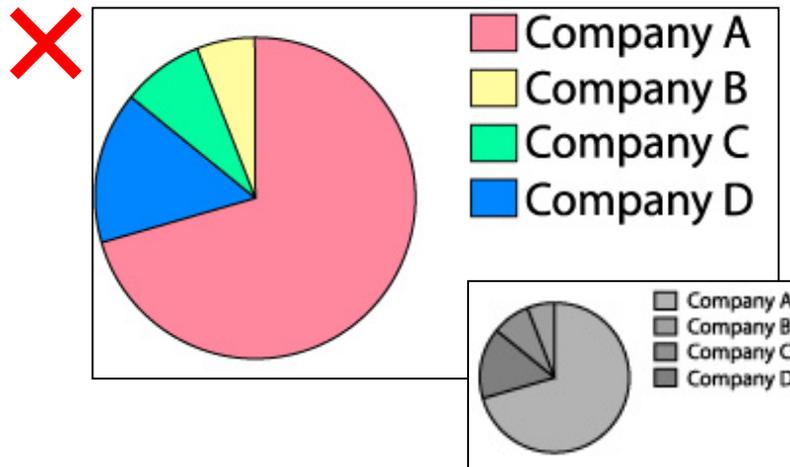
## (4) Go beyond color shading. Use a combination of text and pattern to highlight information.

### Explanation

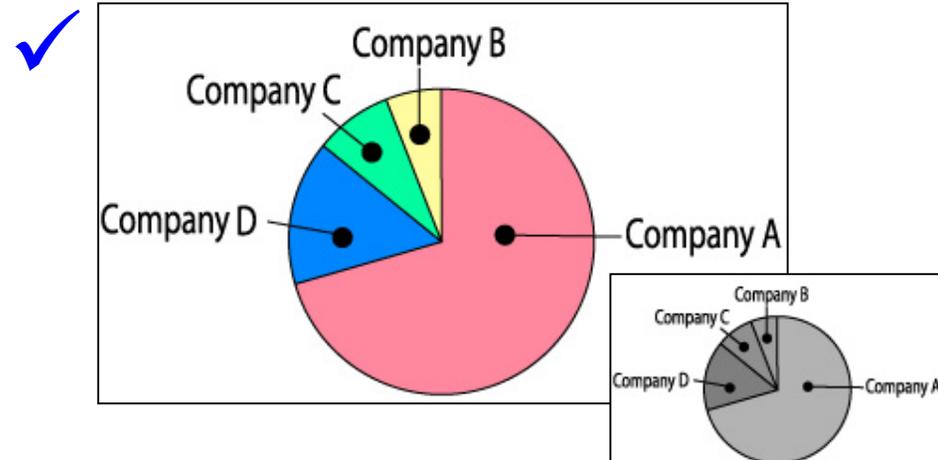
Persons with certain color perception conditions as well as the elderly (those whose vision is affected by changes associated with aging) can have trouble distinguishing colors.

### Example and implementation

Ensure information can be identified by utilizing appearance and text rather than just color.



**Bad example:** identifying segments of a pie chart with color only



**Good example:** highlighting differences in segments using pointers

## **(5) Do not include text that makes the whole screen flicker. Do not include flickering or scrolling text when displaying essential material or large volumes of information. When such styles are used, avoid extreme changes in contrast or speed.**

### **Explanation**

Persons oversensitive to light sometimes experience seizures due to drastic visual effects such as flicker rates above twice per second or strobe lighting. Those with vision disorders and persons with decreased visual acuity brought on by any of a variety of factors such as aging can have difficulty reading flickering or automatic scrolling text.

### **Example and implementation**

- Do not use text that makes the screen flicker more than twice per second. Especially avoid revolving screens with high contrast and red flickering, which has a high saturation.
- Avoid using repeating patterns such as concentric circles, whorls, or stripes over the whole screen. Also avoid color schemes with complementary colors that are found in these patterns.
- When using flickering or automatic scrolling for screen elements such as text or graphics, reduce the speed or provide the information in a stand-still form (explaining it using text, etc.) to make the content easy to grasp.
- Do not use the `<blink>` tag.
- Do not use the `<marquee>` tag.

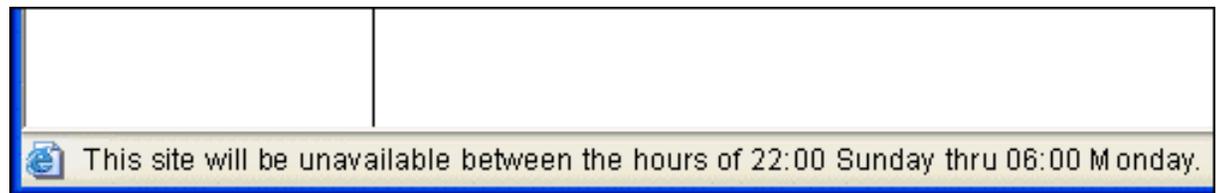
## (6) Do not display messages in the status bar.

### Explanations

Some audio browsers do not read out text appearing in the status bar. Also, the loading status and URL information originally displayed in the status bar cannot then be displayed (some audio browsers do not read aloud text displayed in JavaScript).

### Example and implementation

- Display messages in the main body of the page.



**Bad example:** displaying messages in the browser's status bar

## (7) Enable all information to be accessed through keyboard manipulation.

### Explanation

Some users with upper limb disabilities or complete blindness, conduct all of their operations using the keyboard due to difficulties in using pointing devices, such as a mouse. (It is generally desirable to enable all operations to be done on the keyboard regardless of the means of data entry.)

### Example and implementation

- In ordinary browsers it is possible to change focus using the Tab key or scroll the screen using the up and down arrows.
- Enable the execution and selection of all links and data entry items through the keyboard by using change of focus.
- Do not make programs such as JavaScript and Java applets dependent on the data entry means.

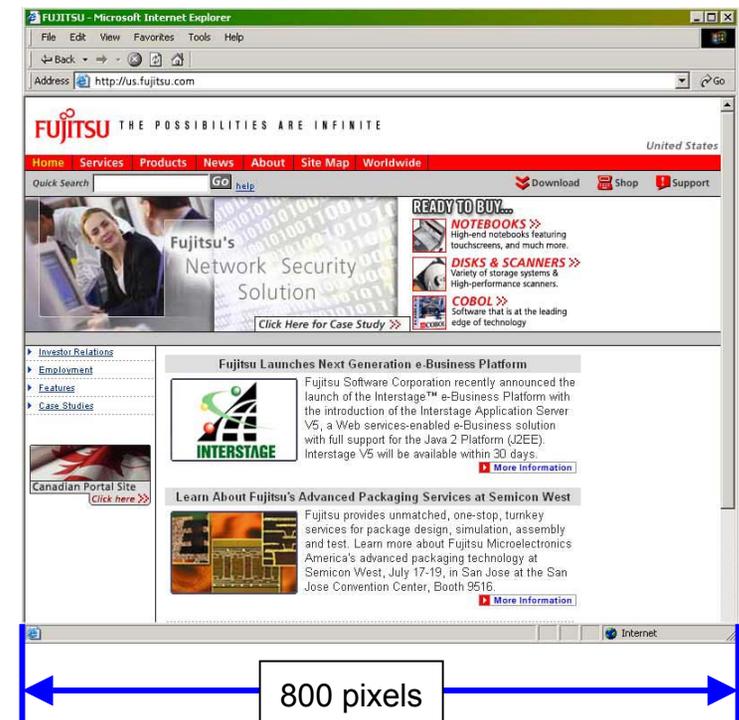
## (8) Do not allow a sideways scroll bar when the window is maximized.

### Explanation

People who have upper limb disabilities or weak eyesight can have difficulty operating the scroll bar. Persons with weak eyesight sometimes magnify parts of the screen using the magnify tool. The magnify tool scroll and the browser scroll are doubled up, further complicating operation of the browser.

### Example and implementation

- Enable display without a sideways scroll when the width of the window is 800 pixels.



**Good example: 800 pixels including the window border**

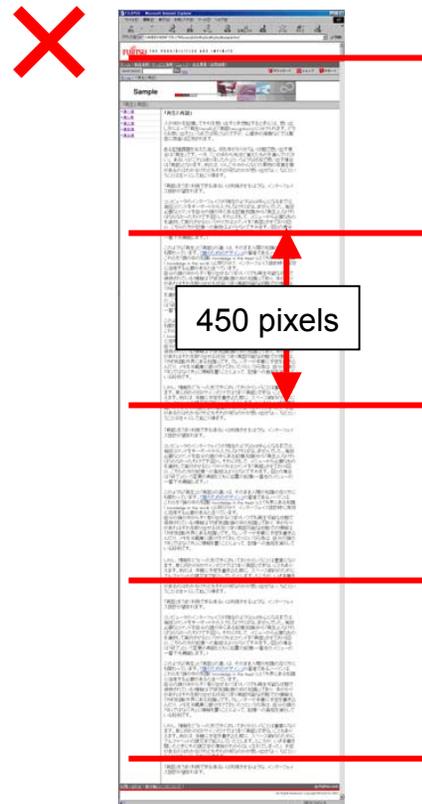
## (9) Make pages an appropriate length and when they are long, attach suitable navigation (internal links and links which return the user to the top of the page).

### Explanation

There are difficulties in grasping the content of pages which must have a diversity of up and down scrolling because they are lengthy. Persons who have upper limb disabilities or sight impairments can have difficulty with operating the scroll bar.

### Example and implementation

- Make a single screen a page length of 450 pixels, or two to three screen lengths at the most.
- When you cannot make the page this length, add internal page navigation. (Place navigation on the screen which returns the user to the top of the page, etc. If this is the case, use this navigation consistently throughout the site).



Bad example: lengthy page



Good example: Add internal page navigation.

## (10) Provide a site map, displaying the organization of your entire site.

### Explanation

Sites that are complicated by a large volume of content can cause time delays in finding necessary information for elderly and audio browser users.

### Example and implementation

Provide a site map with links to items.



Company \*\*\*\*\* Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media History

Address http://www.fujitsu.com/sitemap/

**FUJITSU** THE POSSIBILITIES ARE INFINITE

FUJITSU Global Service

Home Services Products News About Site Map Worldwide

Quick Search  Go help

Download Shop Support

Home > Site Map

### Site Map

- ▶ **About**
  - Corporate Profile
  - Naoyuki Akikuga
  - Investor Relations
  - Management
  - Corporate History
  - Community
  - Environment
  - Employment
- ▶ **News**
  - Investors
  - Events
  - Download
    - PRIMEPOWER
    - PRIMERGY
    - Desktop PCs
    - Notebook PCs
    - Pen Tablet PCs
    - Printers
    - Scanners
    - Magnetic Optical Drives
    - Hard Disk Drives
    - Tape Drives
    - Monitors
- ▶ **Support**
  - Global Server
  - PRIMEPOWER
  - PRIMERGY
  - PCs
  - Financial Products
  - Retail Products
  - Printers
  - HDDs
  - Storages
  - MDS
  - Imagescanair
  - Telecommunication e-device
  - Software
  - FAX (discontinued)
  - Shop
- ▶ **Worldwide**
  - Japan
  - Americas
  - Asia and Middle East
  - Australia
  - Europe
  - Africa
  - Fujitsu Companies (Alphabetically)
  - Fujitsu events the world
  - Contact
  - Products and Services inquiries
  - Subsidiaries Information
  - Employment
  - Corporate Information
  - Terms and Privacy
- ▶ **Products**
  - IT & Computers
  - Peripherals
  - Telecommunications
  - Semiconductor
  - Software
  - Speciality Products
  - Discontinued Products

**Good example:** Provide a site map for sites with a large volume of information.

## (11) Ensure the current location within the site structure is easy to grasp from the page you are visiting.

### Explanation

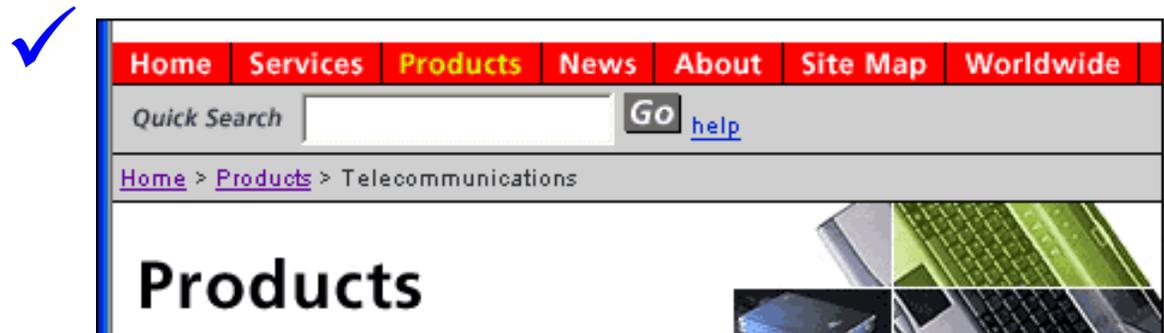
Sites that are complicated by a large volume of content can cause time delays in finding necessary information for the elderly and audio browser users.

### Example and implementation

Display the information structure and the path to the current location:

Example 1: Display on each page navigation which outlines layers and relationships.

Example 2: Place emphasis on the tab for the chosen item by displaying navigation using the tab, etc.



**Good example:** display navigation

## (12) Prepare alternative language pages for target users.

### **Explanation**

Please prepare alternative language pages for users who make up the target audience of your Web site.

### **Example and implementation**

How much content to present in alternative languages is to be decided by each site. (It may be adequate to either display pages which only summarize the site, or to provide the exact same quantity.)

## **(13) Make sure if you are setting time limits on entry of data, etc. that users can either disable or change the time setting.**

### **Explanation**

Users who are elderly or have sight or upper limb disabilities can take some time to complete their task once they have become aware of the content.

### **Example and implementation**

- Don't set time limitations.
- Set time limits with plenty to spare, displaying the time elapsed and time remaining on the page.

## **(14) When you cannot make the page accessible, prepare text pages which hold the same information. Conduct your text page updates at the same time as the regular page.**

### **Explanation**

For example, when text cannot be substituted when the essential information is provided using specific technology or plug-ins (JavaScript, Java applets, Flash, PDF etc.) please provide a separate text page.

### **Example and implementation**

It is acceptable to use images on text pages as well, as long as they do not pose a threat to accessibility.

## (15) Use the *alt* attribute for images to clearly outline the gist of the image.

### Explanation

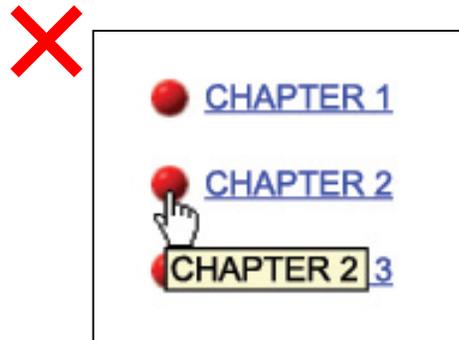
Persons using audio browsers run into difficulties grasping the content of images (<img>). Display the gist of the image using the *alt* attribute.

### Example and implementation

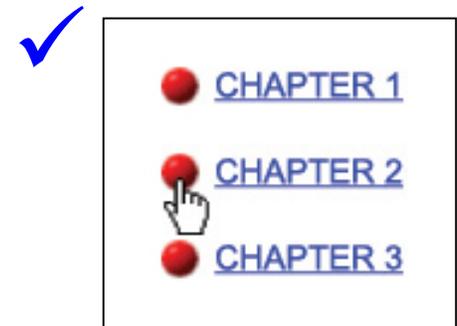
- Display the gist of the image using the *alt* attribute.
- Leave the *alt* attribute blank between the quotations (*alt*="") for images which have no significance (such as bullet points) or images which have accompanying text.



**Good example:** Describe the image using the *alt* attribute.



**Bad example:** "Paragraph 2" is read aloud twice.



**Good example:** Images with no meaning are displayed as *alt*="" .

## (16) Use the *alt* attribute for linked images to precisely outline the gist of the target link.

### Explanation

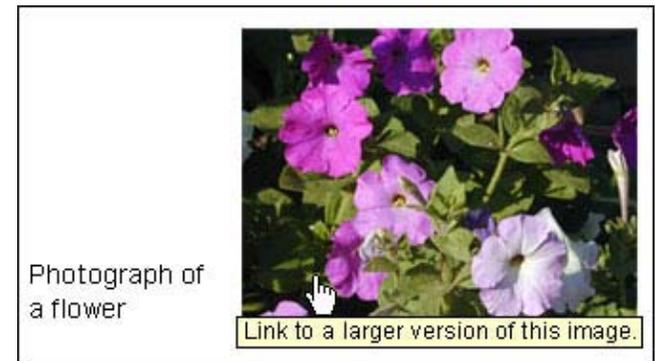
Audio browsers, when the *alt* attribute is not specified in the `<img>` tag for linked images, read aloud the URL of the target link. Audio browser users thus cannot get an idea of the target link content.

### Example and implementation

- Describe the target link using the alt attribute.
- When an explanation of the image is made superfluous by a description of the target link in the alt attribute, it is adequate to abbreviate the image explanation.
- When it is necessary to describe in detail the content of the image, describe the target link in the alt attribute and describe the image in text in the HTML.



**Bad example:** with no alt attribute specified (URL is read aloud)



**Good example:** Target link is described in alt attribute.

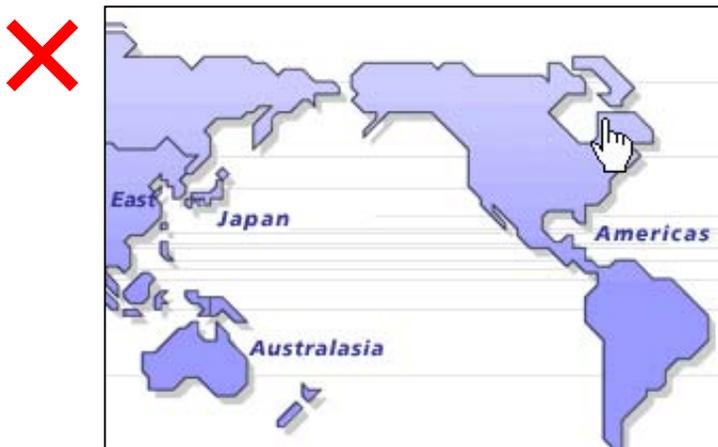
## (17) Use the alt attribute for image maps to precisely outline the gist of the target link.

### Explanation

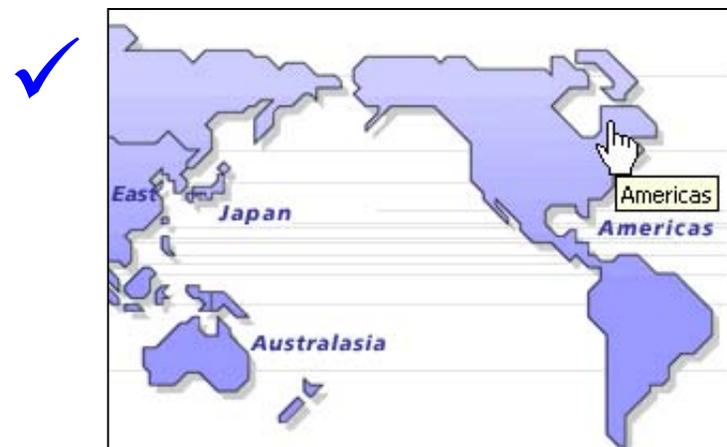
When the alt attribute is not specified in image map links, audio browsers read aloud the URL of the target link. Therefore, audio browser users cannot get an idea of the target link content.

### Example and implementation

- Specify the alt attribute in the <area> tag. Outline the alt attribute so that the content of the target link can be understood.



**Bad example:** with no alt attribute specified (URL is read aloud)



**Good example:** Target link is described in alt attribute.

## (18) Make image maps client side rather than server side. When they are server side, add a text link on the same screen.

### Explanation

Audio browsers do not read aloud target link information for server side image maps. As such, audio browser users cannot get an idea of the target link content.

### Example and implementation

- Use client side image maps.
- It is acceptable to use server side image maps if you provide separate text links in the same HTML file as the image.
- However, even in client side image maps, links cannot be selected when the browser setting “do not display images” is chosen. It is therefore a good idea to provide separate text links in the same HTML file as the image.



**Good example:** Provide text links in the HTML of the same page as the image.

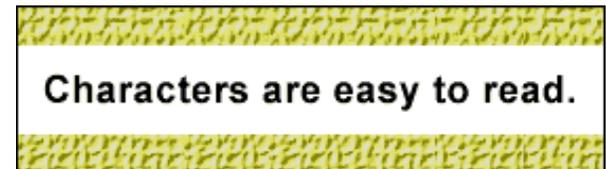
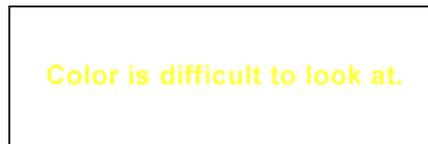
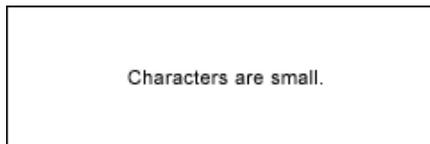
## (19) Make text images easy to read by considering contrast, size and font.

### Explanation

The size and contrast for characters drawn within an image cannot be altered using a browser. People who have mild eyesight weaknesses and the elderly, who adjust text size and color in their browsers, can have trouble seeing these characters.

### Example and implementation

- Minimize use of character decoration (slanting, etc.).
- Avoid using photos and graphics with patterned backgrounds. When they are used, make sure the characters aren't obscured into the background by surrounding the characters with green.
- A character size of 12 pixels or larger is recommended to emphasize and ensure readability of the text. A smaller font is acceptable if the emphasis is not on readability or the image text is not critical to the page content.



**Good example:** easy to read

**Bad examples:** all make the text difficult to decipher

## (20) Do not use transparent colors around images with text.

### Explanation

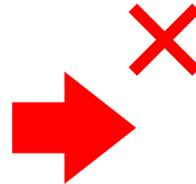
Persons with weak eyes sometimes display their screens by reversing black and white. There are instances when the characters cannot be deciphered when the background color in images with characters in them is transparent.

### Example and implementation

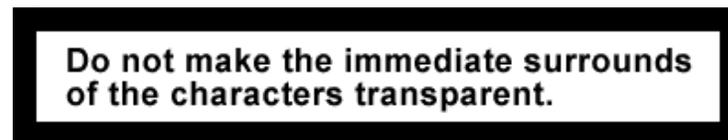
- Do not use transparent colors around text in images.



Can be read with normal settings, but...



**Bad example:** Text with transparency around the characters is difficult to read on screens which have black and white reversed



**Good example:** no transparent color around the characters in the image

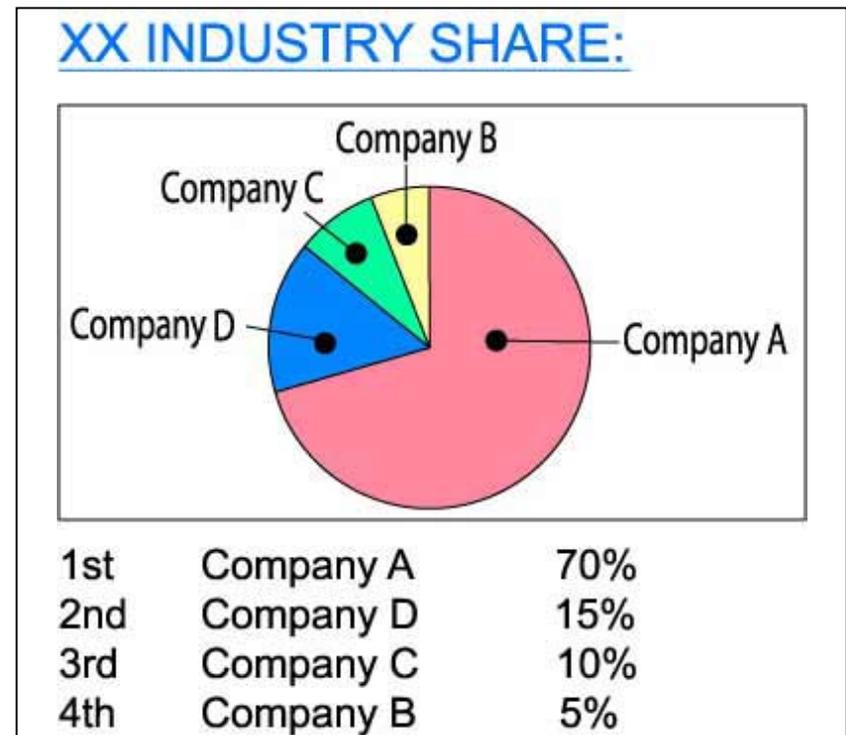
## (21) Key images (charts, graphs) should have an accompanying outline on the same page or a link to a page with details.

### Explanation

When the comments attached to key images (charts, graphs) are lengthy, placing it in the alt attribute makes it difficult to read and reference. Because the alt attribute text is displayed in the tooltip control, people who have trouble using a mouse or slight sight impairments have difficulty grasping the content.

### Example and implementation

- Use a text description in the same HTML file.



**Good example:** Display graph description in text.

## (22) Linked words should give an understanding of the content of the link target (do not merely use “here”, “click here” or demonstrative pronouns to refer to link targets).

### Explanation

Some Web browsers provide a function which only reads aloud text which is linked. If linked words are shown as “here” or “click here” there is no indication of the difference between links nor the content of the link target.

### Example and implementation

- Words which are linked should allow the user to make inferences about the content of the link target.



For a detailed explanation click [here](#).  
For related links please click [here](#).  
To print, please download the data from [here](#).

### Bad example

Distinctions between link targets cannot be made because if “here” or “click here” is used, only those words are read aloud.

## (23) Make the basic tools for operating your site (such as “back”) as well as the expressions for basic elements (wording, color scheme, positioning and button shapes) consistent throughout the site.

### Explanation

If the basic tools for performing actions within your site (such as “back”) and the expressions for basic elements (wording, color scheme, positioning, button shapes, etc.) differ from page to page, persons who have visual and upper limb disabilities have trouble manipulating and grasping the content.

### Example and implementation

- Make expressions for basic elements and basic actions, through positioning, shape labeling and color, consistent throughout the site.
- Provide a common navigation bar throughout the site.



### Good example

use of the same navigation bar on every page

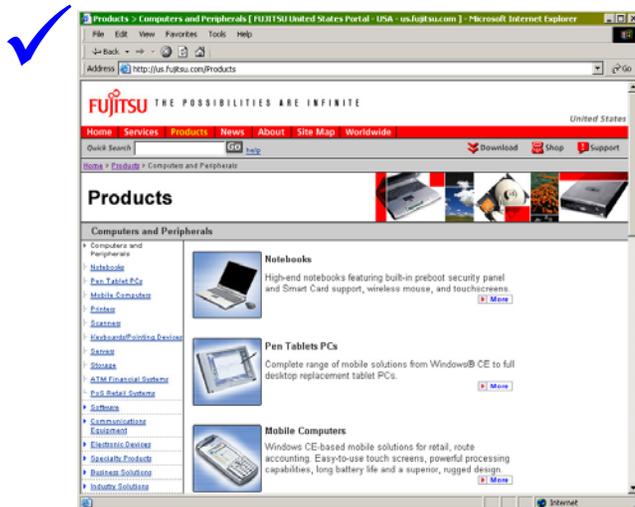
## (24) Provide internal links to the main body of content so that the common navigation bar or menu can be skipped.

### Explanation

If there are long navigation bars at the beginning of every page in your site, audio browsers read aloud the navigation bar when displaying the page. There is a time delay before the browser gets to reading the main body of the page.

### Example and implementation

- Place a link to the main body of page content right before the navigation bar. By making this a one pixel transparent image, the visual display is not effected.



**Good example:**  
Provide an internal link with a transparent image. Audio browsers can reference these links.

## (25) Ensure there is adequate space between adjoining screen elements (words, images, etc.) which have differing functions (links, etc.).

### Explanation

When linked screen elements (words, images, etc.) are alongside each other, it can be difficult to distinguish where one link ends and the other starts. Persons with upper limb disabilities and the elderly can also have trouble selecting the link they want with the mouse.

### Example and implementation

- Provide adequate space around screen elements which are linked.
- When listing links horizontally, insert vertical lines or slashes between each text link to break them.
- When listing text links vertically, use style sheets to widen the space between the lines.
- Place a space between adjoining letters for single-character text links.



[Link A](#) [Link B](#) [Link C](#)

**Bad example:** nothing but a space in between links



[Link A](#)  
[Link B](#)  
[Link C](#)  
[Link D](#)  
[Link E](#)

**Bad example:** narrow space between lines



[Link A](#)  
[Link B](#)  
[Link C](#)  
[Link D](#)  
[Link E](#)

**Good example:** wide space between lines



[Link A](#) | [Link B](#) | [Link C](#)  
[Link A](#) / [Link B](#) / [Link C](#)

**Good example:** slashes or lines between links

## (26) Provide an adequate link area for key elements (words, images) to be certain they can be manipulated.

### Explanation

When the linked area of key elements is small, persons with upper limb disabilities and the elderly can have difficulty selecting the link they want.

### Example and implementation

- Link the entire text segment, use large images or text so that the link range can be deciphered.



**Bad example:** when only the arrow is linked



**Good example:** when the text is also linked

## (27) Make it obvious that a key element (words, images) is linked just by looking at it.

### Explanation

Beginners and the elderly can overlook the existence of links if text is not underlined or photographs are used.

### Example and implementation

- Do not eliminate underlines from linked text.
- Make linked images look like buttons. (Surround with a frame, attach a drop shadow, etc. Style should be consistent throughout the site.)



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**Bad example:** link without an underline

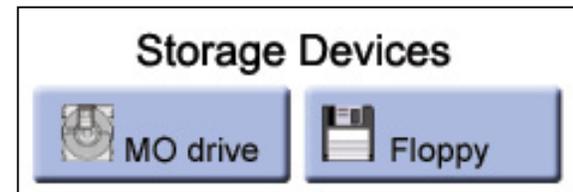


Any materials, information, or ideas that you transmit to or post to the Website or the Subsites [Transmitted Material](#) is deemed non-confidential and non-proprietary and the company has no obligations including without

**Good example:** link with an underline



**Bad example:** images not in button form



**Good example:** images expressed with buttons

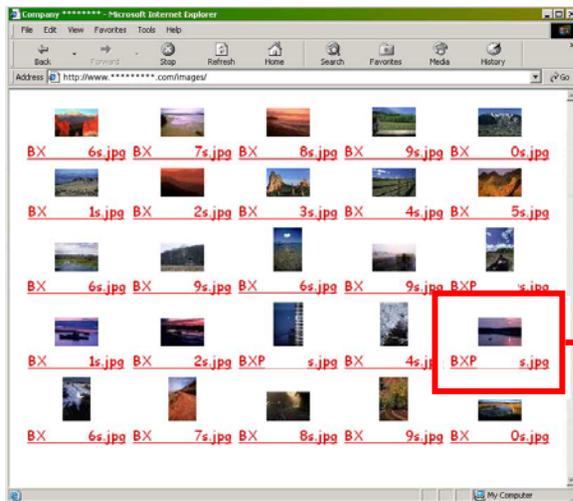
## (28) Do not link directly to graphics files, instead make an HTML file to display the image and link to the HTML file.

### Explanation

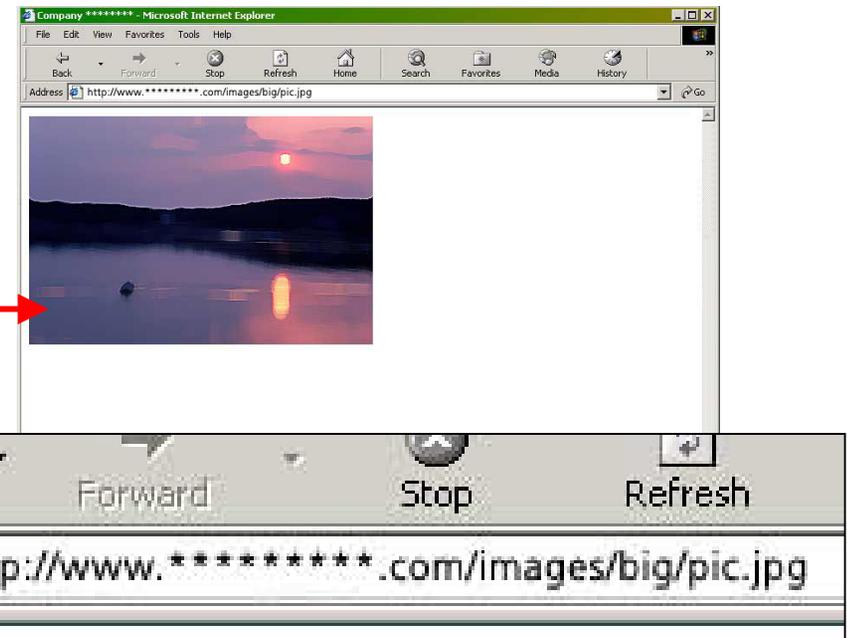
When the target link is a graphics file, audio browsers cannot read aloud the content of the graphic. Please avoid direct display of graphics files, whether in windows or frames.

### Example and implementation

- Create an HTML file to locate the image, and make it the link target.



**Bad example:** link to a graphics file



Voiceover by an audio browser is impossible.

## (29) Display the target link in the same window, and reserve use of opening a new window for when it is absolutely necessary.

### Explanation

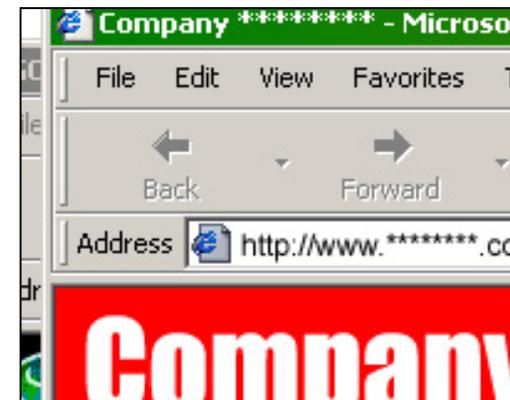
People with visual disabilities and the elderly either do not notice that a new window has been opened, or can be disoriented by the change. This means that the action of displaying the previous page can be difficult. Furthermore, unnecessary windows need to be closed when a number of new windows are opened, and persons with upper limb disabilities may have trouble with this action.

### Example and implementation

- Restrict the use of display in new windows to information that you want to have referred to simultaneously, such as help.



**Bad example:** when too many new windows are opened



No back button for when you want to display the previous page.

## **(30) Not automatically displaying another page (redirecting to another page) or automatically updating the page you have on display.**

### **Explanation**

People with visual disabilities and the elderly either do not notice the automatic change of page, or can be disoriented by the change.

### **Example and implementation**

- It is acceptable to automate such things as a page redirection when a site's URL has changed, but please describe this automatic shift using text.
- It is acceptable to automatically change the page when the user is able to adjust the time between the updates and has the choice of whether to update or not.

## **(31) When reporting important information, provide it using both aural - with a warning sound, and visual - displaying a message methods.**

### **Explanation**

In consideration of persons with hearing disabilities, when using warning sounds, display the same content within that page. In consideration of persons with visual disabilities, add an audio form of the information and/or enable voiceover in audio browsers. Particularly try to avoid displaying dialog boxes using JavaScript. Some audio browsers cannot read aloud the text displayed with JavaScript.

### **Example and implementation**

- When presenting information using sound, display the same content within that HTML page.
- Do not display messages or dialog boxes using JavaScript.

## **(32) Supply the same information in text when presenting something in audio.**

### **Explanation**

Persons with hearing disabilities cannot decipher information presented in audio format. When you do things like only provide presentations in narration and slides, allow the information to be understood by also providing a visual form such as text.

### **Example and implementation**

- Provide text display for your audio data.
- It is acceptable to present the text at the same time as the audio data. It is also all right to abbreviate the audio when it is fast.
- There is no need to add text information for BGM or sound responses to actions (except errors or warnings).

## **(33) Provide the same information in text or audio for animated graphics.**

### **Explanation**

Persons with visual disabilities cannot decipher information contained in animated graphics which have no audio. Provide text which can be read aloud or audio, thus enabling the information to be understood using the sense of hearing.

### **Example and implementation**

- Provide text or audio which explains the content of the animated data.
- It is acceptable to present the text at the same time as the animated data. It is also all right to abbreviate the animation when it is fast.
- Sound should be provided at the same time as animation.

## **(34) Enable users to control audio data for animations by allowing them to play, stop and adjust the volume. Provide clear controls within the content.**

### **Explanation**

Persons with visual or hearing disabilities and the elderly can either miss or fail to hear information in animations and audio. Allow them to replay and listen again, to stop it and listen again later.

### **Example and implementation**

- Provide controls for important audio and animated data, such as play, stop, fast-forward and rewind. (It is all right to have plugin controls used when using a plugin.)
- It is unnecessary to provide controls for banner advertisements or animated GIFs with only a single stanza.

## (35) Provide accompanying words such as “cancelled” avoiding using tags alone which greatly modify the meaning, such as strikethrough.

### Explanation

In some cases character modifications are not read aloud by audio browsers. For example, strikethrough lines are not read aloud, ending up relaying an exact opposite meaning.

### Example and implementation

- Display the fact that something has been “cancelled” in text rather than using strikethrough tags such as <strike>, <s> or <del>.



What to bring  
1. Plastic tape  
~~2. Knife cutter~~  
3. Scissors

**Bad example:** Display only with a strikethrough.



What to bring  
1. Plastic tape  
2. Knife cutter (no longer applies)  
3. Scissors

**Good example:** Display the “cancellation” in text.

## (36) Provide accompanying words, avoiding using symbols ( ✕, △ or ✓ etc) alone to identify concepts.

### Explanation

Some audio browsers do not read aloud the intended text symbol. Please avoid only using symbols to display important information. Pictographs (ASCII art) are not read aloud as intended. Please do not use pictographs, but instead use characters or images. Machine-dependent characters also lead to mistaken display, so please avoid using these as well.



Test results

✓ price, size, speed

✕ weight, color, function

**Bad example:** ✕ and ✓ may not be read aloud



Test results

✓ (good) price, size, speed

✕ (bad) weight, color, function

**Good example:** With the text also provided in brackets, audio browsers can make sense of the symbols.

## **(37) When specifying placement, space between lines, font size, etc., make it easy to read.**

### **Explanation**

Small characters and lines of text which have only a small gap between lines and/or characters are difficult for many people to read. Specify character sizes and gaps between lines which make for easy reading, and also allow the user to change these to his or her own liking.

### **Example and implementation**

- Character size
  - Specify using style sheets:
  - Set using relative values (This will enable the size to be changed in the browser.)
- Space between lines:
  - Specify using style sheets
  - Line-height should be between 160 and 250% in English.

## (38) Do not use words which are not commonly known: foreign language, technical, acronyms, company-internal, etc.

### Explanation

Foreign language words, technical terms, acronyms and company-specific words are only understood by a select few. Either replace them with general terms or add some notes or comments.

### Example and implementation

- Do not misuse.
- When the technical term first appears, provide an explanation, using brackets.



According to a 1997 **WHO** survey, 59% of Japanese men over the age of 15 are smokers.

**Bad example:** only displaying the acronym



According to a 1997 **WHO (World Health Organization)** survey, 59% of Japanese men over the age of 15 are smokers.

**Good example:** displaying the full official name in brackets

## (39) For tables, give consideration to the relationship between rows and columns and the order in which they are displayed (cell-by-cell, top left to bottom right), making them easy to understand.

### Explanation

In audio browsers tables are read aloud from top left to bottom right. Because of this the relationship between rows and columns becomes difficult to understand. Please create your tables bearing in mind the order in which data will be read out. There are also times when the headings for each row or column are not read aloud, making the content difficult to grasp.

### Example and implementation

- When used for layout:
  - Create your tables bearing in mind the order in which data will be read out . (In particular, when using tables in forms, make sure they are read out in the order of label, then control.)
- When used as a table:
  - Headings for columns and rows should be specified using the `<th>` tag (not `<td>`).
  - Use the *scope*, *id* and *headers* attributes.
  - Cell merging should be minimized, to only when strictly necessary and not used complicated intricate tables.
  - Provide text commentary for important complicated tables.

Company Comparisons

	Company A	Company B	Company C
(1) Hard Dive Size	40 GB (GigaByte)	60 GB	20 GB
(2) Placement	Internal	Internal	External
(3) Price	\$150.00	\$199.00	\$100.00

**Example:** Cells are generally read in order of left to right, cell-by-cell.

## (40) Present the title of the table at the top of the table.

### Explanation

When the table title is not at the top of it, audio browser users do not realize that the text being read aloud is from a table.

### Example and implementation

- Display an easy-to-understand table title using <caption>.
- Tables which are used for layout purposes do not need titles.



<b>Basic Software</b>	Server : Windows NT (R) Server 4.0 Windows (R) 2000 Server  Client : Windows NT (R) Workstation 4.0 Windows (R) 2000 Professional Windows (R) 95 / 98
<b>Memory Requirement</b>	Server : 128 MB Client : 128 MB

**Good example:** Table title is specified at the top.

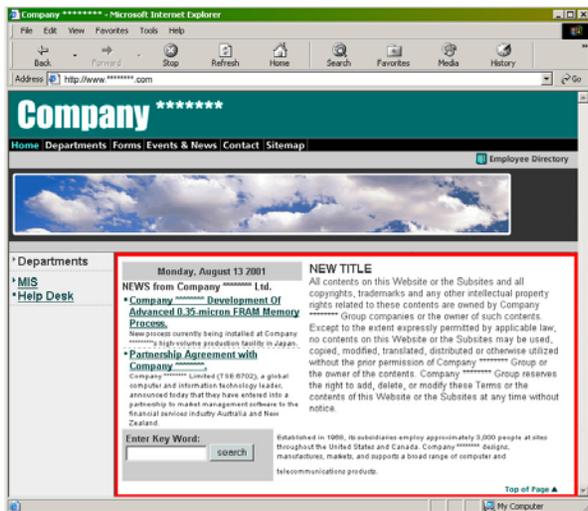
## (41) Minimize the use of frames.

### Explanation

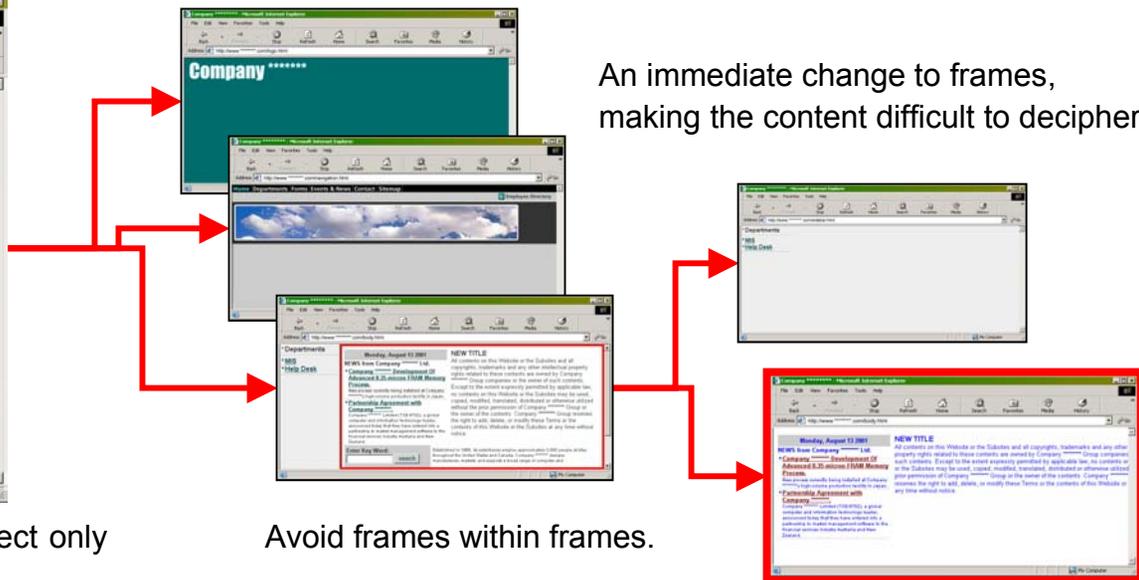
Audio browser users can run into difficulties grasping the content of pages which have been minutely separated into frames.

### Example and implementation

- Do not create frames within frames.
- When frames are used, separate into no more than four areas.



**Bad example:** Audio browsers must select only one frame to read aloud.



**Avoid frames within frames.**

## (42) Attach titles to and clearly display the content of all frames so that they can be easily distinguished from one another.

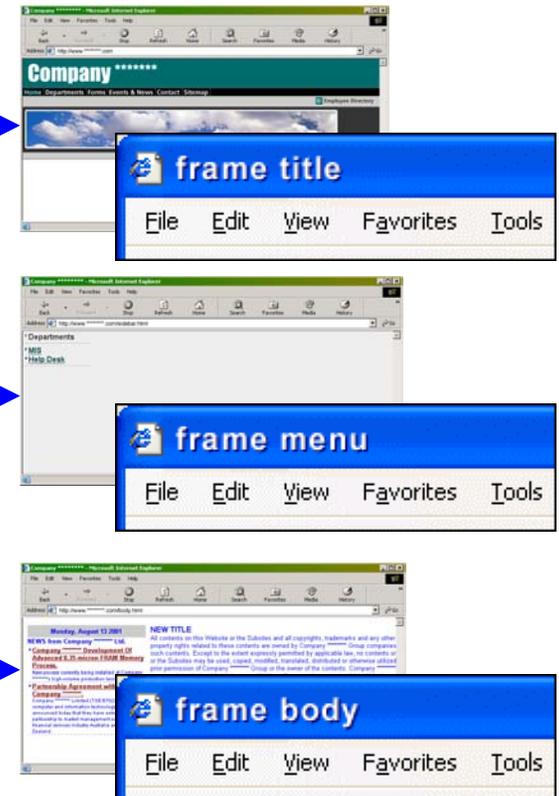
### Explanation

Some audio browsers assign a number to each frame and read them aloud. When there are no titles, users must remember how the frames numbers correspond with the content.

### Example and implementation

- Use the <title> tag on each frame page to specify a title.
- The <title> should indicate the page content and the page's role within the frame (menu, main body, etc.).

**Good example**  
specifying the title on the frame page using <title>



## (43) Consider browsers that do not yet support frames, making sure the content can be read if frames are not used.

### Explanation

Some audio browsers either read aloud the content of the `<noframe>` or `<iframe>` tags instead of or in addition to what is on the frame page itself.



### Example and implementation

- Specify content for the `<noframes>` and `<iframe>` tags (in the case of `<iframe>`, the text between `<iframe></iframe>` becomes the page content).
- Make the content of `<noframes>` and `<iframe>` either link(s) to the page displayed in the frame or the frame page.

To view this page you need a browser which supports frames.

To not use frames, we would recommend jumping to the page shown below.

[> To menu page](#)

### Good examples: displaying `<noframes>`

```
<noframes>
<body><p> To view this page you need a browser
which supports frames. <br>
To not use frames, we would recommend
jumping to the page shown below. <br>
<a href="menu.htm">&gt; To menu page</a></p>
</body>
</noframes>
```

## (44) Allow a scroll bar in a frame.

### Explanation

If the character size is enlarged, sometimes the text cannot fit inside the frame. If scroll bars or frame borders are disallowed, difficulties can arise viewing the entire content.

### Example and implementation

- Allow scroll bars in frames (using the *scrolling* attribute in the <frame> tag).
- Allow a frame border (using the *frameborder* and *border* attributes in the <frame> tag).
- Make the frame border optional for users (allow use of both frame borders and scroll bars).



**Bad example:**  
no scroll bar



**Good example:**  
With the scroll bar present, users can guess there will be a No. 10.

## (45) In drop-down and pop-up menus, do not automatically execute the user's choice.

### Explanation

Drop down boxes can immediately jump the user to the item they have selected. When users with upper limb disabilities are using the keyboard, the jump can happen before the intended item is selected, making it difficult for them to select an item.

### Example and implementation

- Make sure to add an “execute” button to drop down menus (<select>). Do not automatically execute the user's choice.



#### Bad example:

Although the user wishes to select (2), the page jumps to (1) .

**Good example:** Provide a “decided” button.

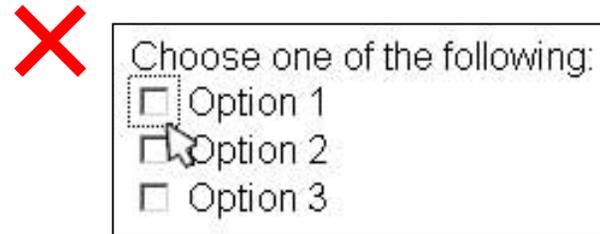
## (46) Make forms easy to understand and operate by clarifying the relationship between labels and controls and grouping the settings.

### Explanation

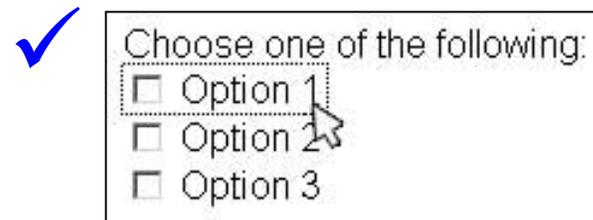
Persons with upper limb disabilities and the elderly can have problems selecting minutely-displayed controls such as check-boxes with the mouse. By relating controls with labels (names), the label can be clicked making it easier to select the control. Also, by appropriately grouping multiple controls and relating the controls with the labels, the controls which should be set are easy to find.

### Example and implementation

- Relate the label (name) to the control using the `<label>` tag.
- When there are many controls, use the `<fieldset>` tag to group the controls. Also use the `<legend>` tag to attach titles to the groups.



**Bad example:** When the `<label>` tag is not used, users can only check the check box.



**Good example:** When the `<label>` tag is used the text item can also be clicked.

## **(47) Use accessible special technology and plug-ins (JavaScript, Java applets, Flash, PDF, etc.). Where accessible ones do not exist, provide an alternative method.**

### **Explanation**

Some specific technology and plug-ins do not give consideration to accessibility. Persons with disabilities and the elderly can have troubled grasping the content and operating them.

### **Example and implementation**

- Use accessible special technology or plug-ins.
  - Avoid only providing information in PDF format (as of March 2002), in consideration of audio voiceover.
- Use the following as reference in providing alternative methods:
  - Provide the plug-in or special technology content, or the information which enables usage of these (such as the URL for the download page), in text form.
    - Use the `<noscript>` tag for JavaScript.
    - Use the `<object></object>` tags for Java applets and plug-ins. (When specifying `<embed>` for plug-ins, use `<noembed>`, and when specifying `<applet>` for Java applets, use `<applet></applet>`.)

## (48) Display information in accordance with structural logic, using attributes and essential elements for structure and display purposes correctly. Use style sheets for essential display elements.

### Explanation

Through the usage of content division into elements and attributes for both display and structure, these can be used by a variety of browsers, including audio ones. For example, one audio browser sounds a tone before the voiceover of text which is designated as a title (<h1> to <h6>), perhaps indicating that it is a title. However, when a title is only specified by character size (<big>, etc), the same effect cannot be gained. Examples of visual elements are: <b>, <i>, <big>, <small> and <tt>.

### Example and implementation

Use logical structural descriptions rather than character decoration to display structural tags.

- Titles

Use <h1> to <h6> for titles. Do not only use size designation.

- Quotations

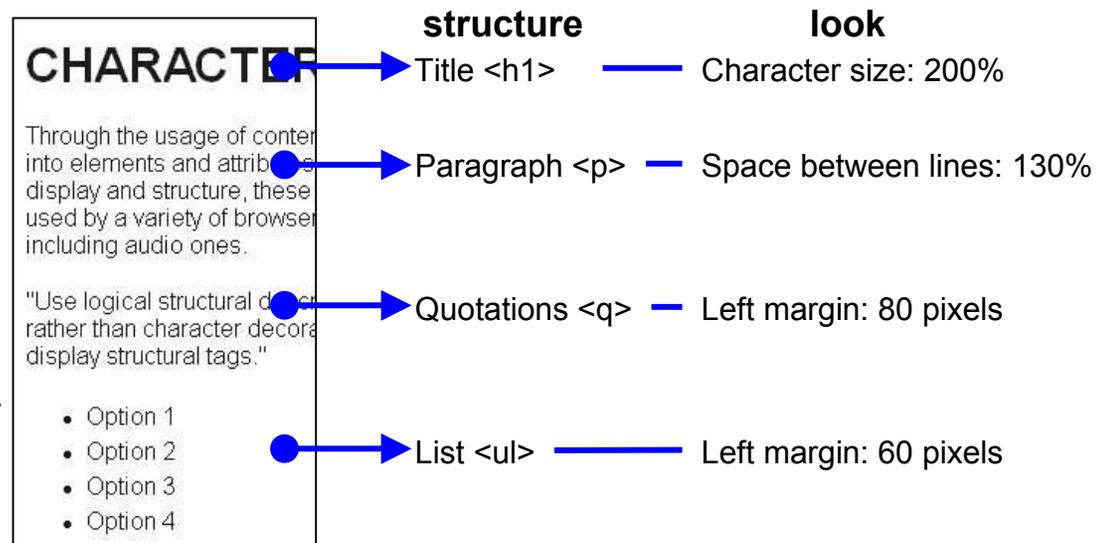
Use <q> or <blockquote> for text in quotations.

Do not use to indent text.

- Lists

Use <ul> or <ol> for lists

Do not use to indent text.



## **(49) When using style sheets, enable viewing by browsers which do not support them.**

### **Explanation**

Some regular browsers and audio browsers do not support style sheets. For example, when the display order (layout) is specified using style sheets (layers, etc), that specification is not reflected in the audio browser and they are read aloud in an incomprehensible order.

### **Example and implementation**

- Check your content by disallowing the specification of style sheets.

## Verification Method (Reference)

Fujitsu recommends these methods for validating items in this guideline:

### **1. Modify web browser setting and confirm whether the information is appropriately provided.**

- (1) Turn off graphics display. Confirm text specified in alt tags provides appropriate information.
- (2) Turn off sound. Confirm that important information is not missing.
- (3) Turn off the style sheet. Confirm the page is still readable.
- (4) Change display color to high contrast\* and change color schemes like white on black or black on white. Confirm the pages are readable.

### **2. Confirm that you can control all functions using only the keyboard.**

For instance, confirm that you can select all links using the Tab key and can move the scroll bar using cursor keys.

### **3. Confirm that all information can be displayed appropriately and is distinguishable under grayscale display.**

Store web browser screen as an image file. Then convert the image file into the grayscale file using imaging software and confirm that information is distinguishable by differences in brightness.

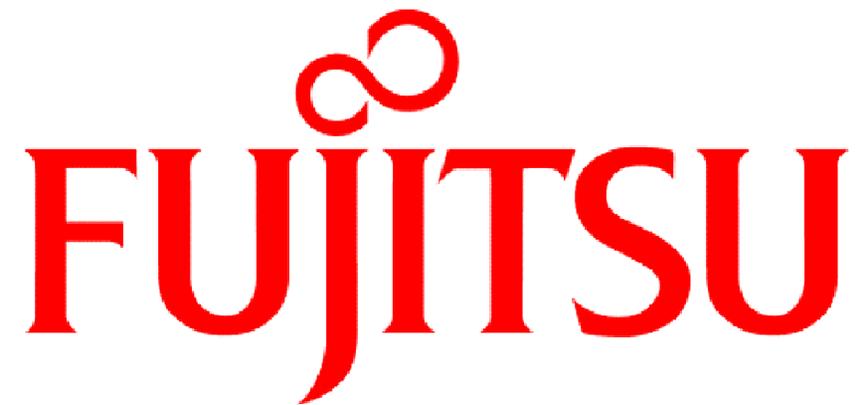
### **4. Apply an HTML check tool.**

Check existence of alt attributes and others by using an HTML check tool. Some items may be validated by using an HTML grammar check tool.

### **5. Validate with an audio browser.**

Confirm whether the content itself, for instance alt attribute, is appropriate.

\*In case of Microsoft ® Windows 2000®, You can select from [Control Panel], [Accessibility Options], [Display].



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**THE POSSIBILITIES ARE INFINITE**