

Fujitsu's Efforts to Improve Web Accessibility

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Efforts to improve Web accessibility are intensifying around the world. For example, in June 2004, the Japanese Standards Association established JIS X 8341-3 as an official Japanese industrial standard for information accessibility. When a company constructs an accessible Website as part of a Web accessibility enhancement program, it should not only conform to JIS X 8341-3 but also provide a support system for organized corporate activities, standardize its procedures for Website construction, and use guidelines that are consistent with standards in Japan and other countries. The Fujitsu Group started enhancing the accessibility of its Internet Websites in 2002 as part of its brand development project. It enjoyed high commendations when it received a 2003 Good Design Award and won first prize in the Usability Ranking of Corporate Sites of the Nikkei Personal Computing magazine. This paper describes the Fujitsu organized activities for enhancing Web accessibility that yielded these results and the Fujitsu system for realizing accessible Websites.

1. Introduction

Similar to patents and brands, Websites have become important intangible assets of companies. Previously, Websites simply functioned as an advertising medium; however, they are now also a channel for communication with customers and stakeholders and a factor that influences the reputation and value of a company.

According to the 2004 White Paper, "Information and Communication in Japan,"¹⁾ issued by the Japanese Ministry of Internal Affairs and Communications, the Internet diffusion ratio among households at the end of 2003 was 88.1%, or nearly 90% of all families in Japan, and the Internet diffusion ratio to the total population was 60.6%. These figures show that the Internet is no longer exclusively used by companies but is spreading widely and deeply into people's lives. The white paper also indicates that the Internet usage rate among people at least 60 years of age

is 1.33 times as high as in the previous year.

In North America and Europe, the Web is not simply a marketing medium but has become a channel for promotions and sales. The Web is becoming an essential infrastructure in the daily lives of people in many countries.

Facing up to the further progress of the network-oriented society, Fujitsu considers it a corporate mission to make Fujitsu Websites also accessible and usable by older persons and persons with disabilities. Therefore, since 2002, the entire Fujitsu Group has made positive efforts to improve Website accessibility.

These efforts have enabled Fujitsu to establish a support system to perform organized activities in the Fujitsu Group, standardize the processes of Website construction, and create Web-accessibility guidelines that are consistent with related standards in Japan and other countries. As a result, Fujitsu has established a system to

realize accessible Websites.

The Fujitsu Website has been highly evaluated for its improvements in Web accessibility. It has been given a 2003 Good Design Award (**Figure 1**) by the Japan Industrial Design Promotion Organization and ranked first in the Usability Ranking of Corporate Sites of the Nikkei Personal Computing magazine.

This paper describes Fujitsu's Web-accessibility enhancement activities that have already yielded results and Fujitsu's system for realizing accessible Websites.

2. Fujitsu's strategy for operating its Internet Websites

In 2000, Fujitsu started the Global Brand Project to make it clear worldwide that we can provide Internet solutions globally and are a dependable partner for customers around the world.

The Global Brand Project defined Fujitsu's Internet Websites as elements for building the Fujitsu brand and was intended for not only the Fujitsu Website in Japan but also the Websites of every Fujitsu Group company in the world.

Back in 2000, business groups, parent companies, and group members usually operated their

Websites individually without uniformity of design and usability. Therefore, many Websites managed in business groups were lacking consistency and often made it difficult for customers to find the required merchandise.

Much the same was true on Fujitsu Websites. When the Global Brand Project was started in 2000, Fujitsu positioned its Internet Websites as elements of the global Fujitsu brand rather than market tools of individual Fujitsu Group members. In its Website strategy, Fujitsu switched from the conventional code of value centered on Japan to one based on a global view and attached special importance to global Website consistency.

Clarifying the corporate strategy for Websites in the Global Brand Project enabled the entire Fujitsu Group to share a common perception about Web accessibility improvement and established a foundation for implementing accessible Websites.

3. Efforts for improving Web accessibility

By improving its Website accessibility, a company is enhancing its corporate brand. Therefore, Fujitsu has made strong efforts to improve the accessibility of its own Websites. At the same time, Fujitsu has considered that one of the vital roles of an information technology (IT) company is to popularize its accessibility improvement activities in society and make the fruits of its efforts freely available to the public. This philosophy is based on Fujitsu's mission of continually creating value and enhancing mutually beneficial relationships within our communities worldwide. Improvement of Web accessibility should not be implemented just by individual companies; instead, it should be achieved through society-wide collaborative activities. Fujitsu has consistently practiced the following activities to enhance Web accessibility:

- 1) Releasing the Fujitsu Web Accessibility Guidelines²⁾ to the public
- 2) Applying the Fujitsu Web Accessibility Guidelines to Fujitsu Websites
- 3) Providing Fujitsu Accessibility Assistance³⁾



Figure 1
Fujitsu's Website won 2003 Good Design Award.

- (an accessibility verification tool) free of charge
- 4) Introducing the public to a method for implementing Web accessibility⁴⁾
 - 5) Releasing accessible Flash content^{note 1)} and the technical knowledge regarding its production⁵⁾ to the public
 - 6) Giving outside lectures on Web accessibility

Since 2002, Fujitsu has been systematically carrying out these Web-accessibility improvement activities and has already produced many successful results.

Figure 2 shows the steps toward constructing accessible public Websites based on Fujitsu's concept of Web-accessibility improvement.

The following section describes the accessibility standards and guidelines for constructing accessible Websites, activities for standardizing the processes of Website construction, and a system for realizing accessible Websites.

4. Standards for accessibility

This section describes the Web guidelines for internal use and the Fujitsu Web Accessibility Guidelines made available to the public as standards for implementing Web accessibility.

note 1) Dynamic content that includes image or sound data.

Fujitsu's activities to improve the accessibility of public Websites have not been intended solely for the improvement of accessibility. Instead, the main focus has been how to enhance Website quality to realize accessible Websites as elements of a corporate brand.

Much importance is usually given to the quality of merchandise sold by a company, and customers purchase merchandise on the basis of its brand and quality. Fujitsu unexceptionally has its own strict quality standards for both hardware and software products. Products are developed through standardized processes and methods. Each product is tested in the final process and delivered to the customer only after it has been determined to meet a specified standard.

Fujitsu has positioned its Internet Websites as elements of its corporate brand and has regarded any deterioration in Website quality as a degradation of the value provided to customers. Therefore, update delays, display problems, and link errors must not occur on any Website, even when the webmaster is transferred or the administration organization is changed.

In 2001, Fujitsu had no standardized development processes or methods for Websites, neither did it have common perceptions about a comprehensive standard for Web quality. At that time, the Global Brand Project had already

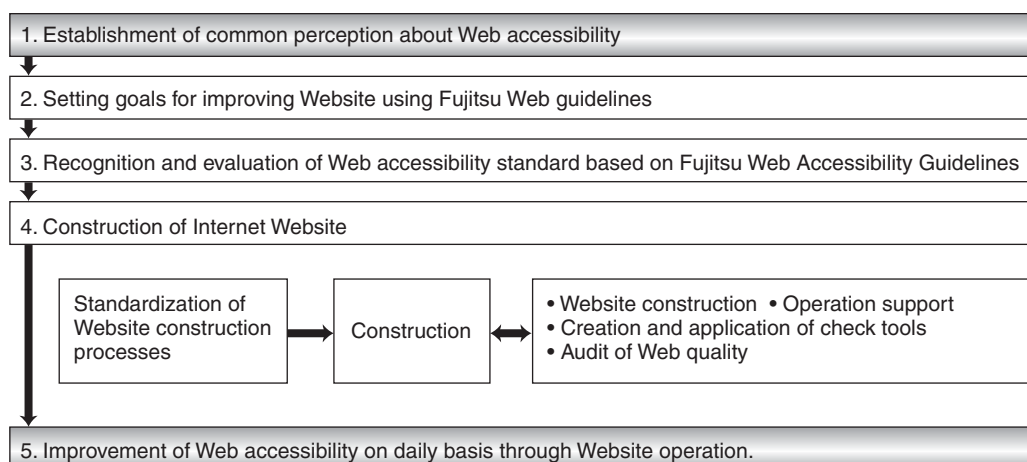


Figure 2
Steps toward constructing accessible Internet Websites.

started and Fujitsu formulated its internal Web guidelines for integrating the look and feel of Website designs and technical HTML description and took a step toward maintaining Website consistency as part of the Fujitsu corporate brand.

The idea of Web quality arose subsequently in the course of accessibility improvement.

Enhancement and maintenance of quality require a standard. Therefore, Fujitsu's first step toward improving Web accessibility was to establish the required standard for accessibility. This standard was based on Web guidelines for in-house Web creators that were revised in 2002 for the purpose of renewing Websites. The revised guidelines defined a new value to be provided to customers: the implementation of accessibility improvement as the core of Web quality enhancement.

The technical implementation methods given in the guidelines and the results of previous studies were summarized in the Fujitsu Web Accessibility Guidelines. These guidelines define the priorities of items in three levels. Level 1 indicates a requirement, level 2 indicates a strong recommendation, and level 3 indicates a recommendation. The guidelines also specify that, on Fujitsu public Websites, level 1 and level 2 items must meet the respective accessibility standard.

While implementing Web accessibility based on the Fujitsu Web Accessibility Guidelines, it became clear that items other than HTML description techniques must also be considered for accessibility improvement. In particular, the level 2 priority items (as defined in the above guidelines) were sometimes unavailable for visu-

al, mechanical, and numerical verification. To make these items strictly conform to the accessibility standard specified in the guidelines, they must be made accessible based on an accurate understanding of the meaning of accessibility, easy-to-understand writing, proper text structures, and verification by a voice browser, which cannot be covered by HTML production processes. In other words, these items require treatment in a pre-process such as planning and post-processes such as evaluation and operation.

Figure 3 shows a typical example of poor accessibility due to a lack of understanding of the meaning of accessibility. Website content often includes inappropriate descriptions in alternative (alt) attributes^{note 2)} for the images used for decorative and layout control purposes. In the example in Figure 3, the alt attribute for the transparent GIF image^{note 3)} for layout control contains the text "space" (alt="space") and that for the decorative horizontal line contains the text "line" (alt="line"). When these alternative texts are read by a voice browser, they are not only meaningless to the Website users but also annoying. The correct way to implement accessibility is to describe nothing in these alt attributes (alt="").

The above method is just an example of accessibility improvement, and it is difficult to make a general rule that can be applied to a wide range of actual content. Proper descriptions of alt attributes consequently depend on the skills and sensitivity of individual creators. Therefore, it is important that people who create accessible content have good HTML description skills and also have an accurate understanding of accessibility.

The following section describes the guidelines Fujitsu established for a standard method that can be used by the entire organization to implement Website accessibility.



Figure 3
Typical example of poor accessibility.

note 2) Attribute for describing an alternative text for image data.

note 3) A type of GIF image that has a transparent background.

5. Guidelines

Fujitsu started systematic administration of Websites throughout the Fujitsu Group early on. The driving force behind this operation was the internal Web guidelines.

The Global Brand Project called for Web accessibility improvement at Fujitsu and about 500 Fujitsu Group companies in 35 countries and regions (**Figure 4**). The Internet Websites to be controlled amounted to several hundred, and the persons related to Website administration totaled nearly 1000. Fujitsu obliged itself to standardize these Internet Websites operated in different countries and regions as a single brand. Therefore, a way was required to make it easy for the large number of interested persons to know about the decisions and rules regardless of their language, culture, Internet environment, and Web technology. This was achieved by using the internal Web guidelines. These guidelines have been revised as needed up to the current second edition. The revision history is summarized below.

- 1) 2000 - Draft: Definition of brand
 - Definition of brand identity

- 2) 2001 - First edition: Brand integration
 - Definition of look-and-feel designs conforming to the Fujitsu brand
 - Rules about HTML description
- 3) 2002 - Second edition: Brand enhancement
 - Accessibility improvement: Release of Fujitsu Web Accessibility Guidelines for external use
 - Usability improvement
 - Definition of Website construction processes
Website creation using a spiral process that switches between preparation, strategy, planning, and construction
 - Definition of Web quality standard
Establishment of Fujitsu's original, basic Web quality guide

JIS X 8341-3^{note 4)} was enforced in June 2004 as a Web accessibility standard. Before then, there was no standard that specified a practical implementation of Web accessibility. Because the internal Web guidelines had already spread in-house, Fujitsu incorporated accessibility

note 4) JIS X 8341-3: Guidelines for older persons and persons with disabilities - information and communications equipment, software and services - Part 3: Web content.

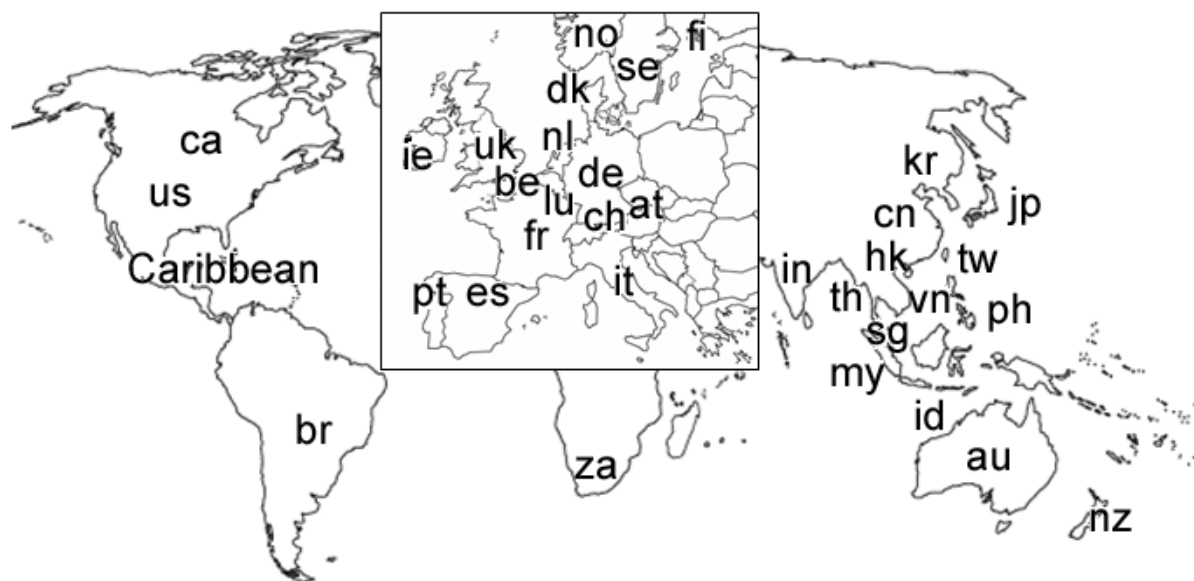


Figure 4
Scope of Global Brand Project.

requirements in the guidelines at its revision in 2002 and was therefore able to perform systematic activities for improving Website accessibility.

6. Processes of Website construction

The Web guidelines are a requisite for constructing an accessible Website. In addition, for the construction, construction processes must be standardized and systematic activities must be performed according to the standards in the Web guidelines.

Fujitsu defined the standard processes for constructing an accessible Website to enable a dedicated organization to administer all processes from preparation to launching so that other organizations can construct Websites that meet the quality standard. The standard processes from preparation to launching are as follows:

- 1) Preparation
 - Application for site name
 - Registration of webmaster
- 2) Strategy and planning
 - Acquisition and understanding of planning guideline
 - Formulation of strategy and plan
- 3) Building
 - Acquisition and understanding of production guidelines
 - Design and production
 - Quality check (self-check)
 - Total quality check (audit by dedicated organization)
- 4) Site launching

Actually, work does not usually progress in a sequence of processes but with several alternations between the planning and building processes.

The definition of standard processes has clarified the standards, schedules, and person-hours and made the systematic construction of Websites possible. Individual processes were defined to include accessibility enhancement work that is required to systematically implement over-

all Web accessibility.

7. Conclusion

This paper introduced Fujitsu's systematic activities for improving Website accessibility and the accessibility standards, guidelines, and Website construction processes by which the Fujitsu Group has improved its Web accessibility.

More than ever, every company together with their subsidiaries will have to emphasize the consistent systematic approach to Web accessibility enhancement. Implementing Website accessibility will become a corporate social responsibility (CSR) rather than a traditional social action program. Fujitsu is determined to enhance Web accessibility throughout its entire organization and continue to improve the quality of Fujitsu Websites. As a leading IT company, Fujitsu will create new value and then share it with the rest of society.

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