

The introduction of usability and accessibility design process into practical business

The survey of web design business for small size web sites.

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Abstract: In the web business, importance of usability and accessibility are increasing but there are some difficulties to introduce design process especially a middle size company like us. Advanced web design companies and clients have enough realization for usability and accessibility design but some people don't. First, we would like to clear up such difficulties from two aspects from "order/plan process" and "design/work process" then we analyzed those barriers. Our hypothesis is that there are two main obstacles to improve web usability and accessibility. One is budget issue and another is no realization. Next, we inspected this idea by questionnaire and interview and made provision. Lastly we introduced a usability and accessibility design process into practical business.

Key words: *Usability, accessibility, Web design.*

1. Purpose

The recognition about the importance of Web usability and accessibility is increasing, and the site construction based on usability engineering is progressing in the large-scale site. On the other hand, on a small-scale, many websites which are not still user-friendly and which held the problem also exist. Why it is difficult to build high usability and accessibility web sites because there are various restrictions and problems when the process that builds and designs a website is regarded as business. In this paper, I would like to investigate the cause that the website as which usability accessibility is not considered from a business-viewpoint, and to consider about problems and future desirable directivity.

2. The present condition of website

2.1 The website as media

For the company, the present website is used as one channel of media, like the mass media and also it is considered as a tool of customer service etc. from the tool of an advertisement and advertisement. However, as compared with the conventional media, it can be said from the rapid development that it is difficult media to find the way that should be generally for both information providing side and user side. Then, the role, which a website can play also, changes dynamically and is considered that there is big variation also in the purpose of each website as compared with the conventional media. Consequently, it can be said that methodology with the client standard also about from what viewpoint it evaluates which processes an order for a website is immature. [1]

2.2 Design of website

As I described above, websites are media which developing quickly and creating method technologies are also

becoming new every day. In such a situation, the difference has arisen also in people's view and skill in connection with website construction [2]. New creating websites technologies will be useful to get high paid job, but if clients do not have high recognition of usability and accessibility, it is difficult to get an order, then study volition may be low.

2.3 Hypothesis

In the present situation which was mentioned above, the following things can be considered as a factor which checks the work process in consideration of usability accessibility.

(1) Order/plan process

This process is a process unifies ideas of the website as media, which change with individuals, and to catch, and creates a plan proposal. In it, cautions may turn to only the Web technology as the graphic design, which is externally conspicuous, multimedia, or a business system. The person in this position needs to appeal the existence of a website to their company people or their customers, then contents also with a presentation tend to be a more intelligible for general users. Therefore, the viewpoint of usability and accessibility is considered that there is possible, which is missing in this order/plan process.

(2) Design/work process

Here, we have to make a good project plan that will be covered whole web building process, which will get enough profit. In limited work budget and schedule, visual design and coding are performed from the basic design of a site, and a usability test etc. is evaluated. However, in the website work project of a minor scale, it is thought that the priority to the consideration of usability and accessibility, which cannot be easily, becomes low.

3. Method

3.1 Research

A questionnaire and interview investigation were conducted for the recognition to the usability accessibility in each stage about the following items [3].

3.1.1 Order/plan process

(1) An importance order for an issue order received

- Visual design
- Multimedia expression technology
- System technology
- Planning and concept
- Usability

(2) The recognition situation of usability and accessibility.

I asked the recognition situation of usability and accessibility by heard about following items.

Definition: a site identity, a purpose, a target, a demand, a brand and unified design.

Structure: a contents list, a task list, navigation design and UI, a prototype.

Implementation: contents design, accessibility HTML, a syntax check.

Evaluation: guideline check, a usability test, and log analysis.

(3) Interview.

- Contribution of usability and accessibility to the business-purpose of a website.
- Budget of usability and accessibility.

- Comprehension of a client for usability and accessibility.

3.1.2 Design / work process

(1) An importance order for work skills.

Owning skill and wish.

- Held skill visual design (a layout, an image, illustration).
- Multimedia expression technology (flash, animation, sound)
- System technology (ASP, JAVA, CGI).
- Planning and concept (marketing).
- Usability (usability, accessibility, an information design, and evaluation).

(2) The recognition situation of usability and accessibility.

I asked the recognition situation of usability and accessibility by heard about following items.

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Evaluation: guideline checks, a usability test, and log analysis.

(3) Interview.

- Contribution of usability and accessibility to their business.

3.2 Investigation subjects and the number.

In this research, subjects have more than one year working experience in this industry and their average project budget is less than 3 million yen. The investigation candidate is as follows.

3.2.1 Order / plan stage.

Subjects work as a web producer or web a director. The number of subjects is 5.

3.2.2 Design / work stage.

Subjects work as a web designer or web programmer. The number of subjects is 7.

4. Result and consideration.

It was shown to the hypothesis mentioned above as a result of investigation that there are the following tendencies.

4.1 Order/plan process

(1) An importance order for an issue order received

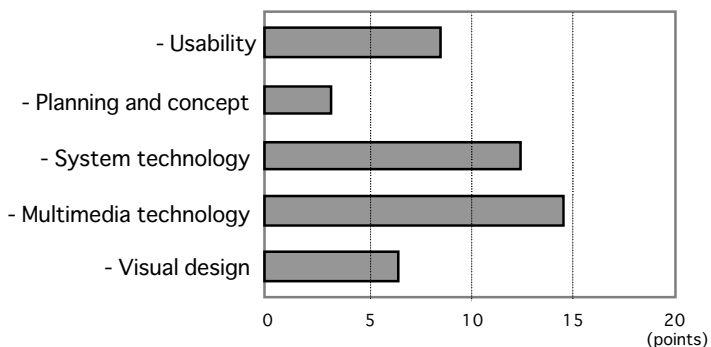


Fig1. Important issue for web design business

Above Fig1, points was calculated that order 1st is 1 point, 2nd is 2point then add all subjects answer. "The plan

and the concept" became reply of being the most important and "visual design" and the "easy using" followed it. To "system technology" and "multimedia expression technology," it became a tendency that it thinks that importance is low in this stage.

(2) The recognition situation of usability and accessibility.

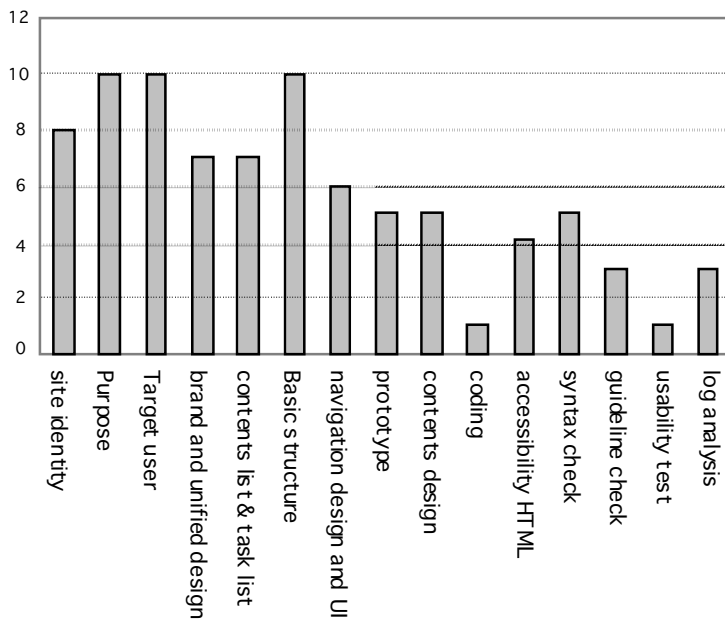


Fig.2 Consideration degree of each web tasks

In this question, subjects answered a consideration degree of each web tasks by “often” “sometime” and “no.” Fig2 was calculated that often was 2 point, sometime was 1 point and no was 0 then add all subjects answer. It is mainly dealing with the definition of a website, and the information structure design. Each worker separated each of two-work process, then in this process; the degree of relation of this process worker will fall. Even if incorporated in the process of a plan about "the easy using," that a producer and a director are hardly involving became whether to be clear. Moreover, about accessibility, a creator’s hand is entrusted and there are few degrees of consideration in this stage.

(3) Interview.

Although most subjects replied that usability and accessibility contributes to the business-purpose of a website and is connected also with an order received, it is hard to say that the degree of comprehension about concrete methodology is enough. The other hands, the budget allotment for usability and accessibility in a project was 10-20%, but the budget scale was small, so it was not enough to perform a usability test then starts just an examination meeting within a team. About the degree of comprehension to usability and accessibility of a client, it is telling that it is inadequate and it is difficult to gain a budget and a schedule so.

4.2 Design/work process

(1) An importance order for work skills.

As a background of those who perform business of this stage, work of graphic designer or a program system was done in many cases. Therefore, the skill of visual design or a system technology is held in many cases. It is desires that they wants to improve good ability of "a plan and a concept" to it to participate a project from a plan stage in the future. Subsequently, the high reply gathered for "the ease of using", and "system technology." Actual answer’s choices are “Most or already have” “If possible or could have” and “no desire or don’t have.” Following

Fig.3 was calculated that “Most or already have” is 2 point, “If possible or could have” is 1 point and “no desire or don’t have” is no point then add all subjects answer.

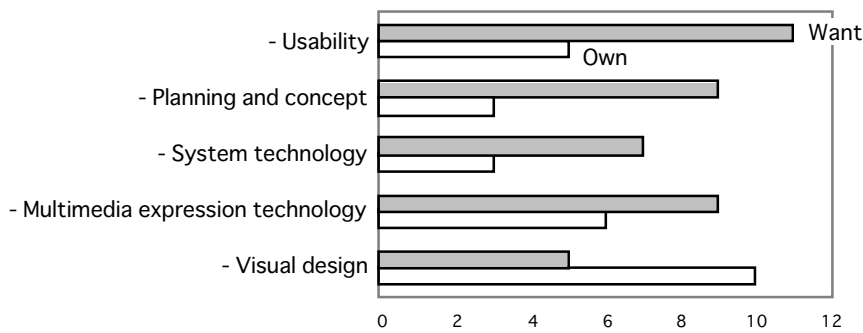


Fig.3 Owning skills and wishes

(2) The recognition situation of usability and accessibility.

Many workers, involved from creation of a prototype, can be grasped about actual work. In this stage, since the plan and the basic design are made, a portion of mounting of a site or the lead is taken. However, the degree of the participation about evaluation was low and a result that most usability tests are not performed was brought. moreover, "which the example with which log analysis which leads to problem discovery of the completed website is also carried out had, and was examined in the plan. It can be said that the check is not performed. Although there was an example to which coding which utilizes the check list based on advice of WWW consortium is carried out about accessibility, it was a reply when a margin is in the request from a client, and a schedule to the last, that it is restricted.

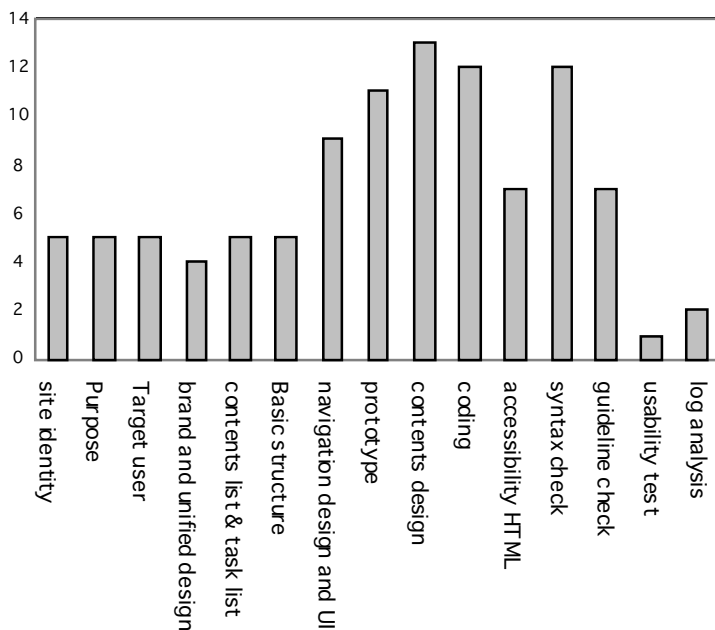


Fig.4 Consideration degree of each web tasks

In this question, subjects answered a consideration degree of each web tasks by “often” “sometime” and “no.” Fig4 was calculated that often was 2 point, sometime was 1 point and no was 0 then add all subjects answer.

(3) Interview.

The idea, which wants to take in usability and accessibility to its business, is the situation that the budget or

schedule of a certain thing cannot become positive in being severe. I recognize it as it being required for a website to raise the ease of using, and think that a web designer will want to correspond if there is a request from a client. However, in order the knowledge about usability is not enough and to tackle as business, it is thought that training is required.

4.3 Consideration.

It is a conclusion that there are many difficulties in small website building business to consider usability and accessibility from restriction of a budget and a schedule. The improvement in an understanding in each stage is required for this situation. Although there was also an answer that an understanding of a client is insufficient mostly, there was an answer which can be thought that the skill as work which has not presented data sufficient required by the proposal side in many cases, and receives a countervalue as business as work organization is not ready. I think that the following policies are needed for realizing the business process that high site work of usability and accessibility is performed, in view of such a situation.

- In order to obtain an understanding of a client, prepare the example which shows business merits, such as cost effectiveness [4], concretely. Moreover, about accessibility, it is making situations, such as JIS-izing [5], knows promptly, and appeals against the necessity for correspondence.
- Although a director has at a process the tendency for the degree of participation to become low after a plan / structure design is completed, he needs to recognize the usefulness of evaluation and needs to prepare test/check process of usability and accessibility in each process. Moreover, a tool, which can realize a useful evaluation easily, is requiring. [6]
- In a design/work process, construction of the organization taken in by the work process in a usability test is needed. It is a difficult situation for the talented people who bear such a task to run short in the present condition, and to correspond actually. Probably, curriculum offer of human-resources development, which can respond also to the business of usability and accessibility in the future, is needed in various educational facilities.

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4. Jakob Nielsen showed a result as follow URLs;
<http://www.useit.com/alertbox/20030107.html>
<http://www.usability.gr.jp/alertbox/20030107.html>
5. About accessibility of JIS-izing is under discussing.
<http://www.jsa.or.jp/domestic/instac/index.htm>
6. Jakob Nielsen proposed a cheap easy usability test as follow URLs;
<http://www.useit.com/alertbox/20030602.html>
<http://www.usability.gr.jp/alertbox/20030603.html>