EXAMINING THE WAY OF PRESENTING RELIABLE INFORMATION ON WEB PAGE

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Abstract

Recently, Internet is used widely. Many Web sites, however, are not designed based on user's view. So, this research aimed at grasping the user needs and structure of Web site which user used easily. First, to grasp user needs, questionnaires about the motivation, the purpose and the evaluation items of Web page were done.

As a result, we found the easiness for the retrieval of the information, the operation and the legibility were important design elements for the user. Next, we made subjects operate test pages in which the number of classes and the amount of information were changed. We collected the quantitative data of the optimum number of classes, amount of information and retrieval time. As a result, there was a significant difference in each numerical value. The results of this research are available when constructing a web site. So, usability of Web site can be improved by them.

Keyword : User needs, a layered structure, informational reference , Visibility, operativity

1.Introduction

Recently, the Internet came to be used for many people. And many information is exchanged between the user and the site. In connection with it, an economic activity also comes to be performed on Web and it has a new appreciation of the necessity and importance. However, there aren't especially the standard and guideline. And, user-friendliness is also various. And a site concept differs from user needs and it cannot be said that many sites can be reflecting the opinion which stood on a user's viewpoint. It is thought that it is necessary to grasp the characteristic about the information retrieval and the presentation method in Web when designing Web site from these things. In the improvement in the usability in the site design of Web, the following things are important. One should think of what a user does to the site. It is important for another that the user itself can understand the structure of a site.[1)]

In order to build Web site which a user to use from these things, it is necessary to grasp more knowledge about the layered structure of a Web page.

In this research, first, user needs are taken out by the questionnaire. And next, both relation is clarified by collecting data quantitive about the number of classes, and information retrieval time. And an item required for the usability of web is extracted from these things.

2. Questionnaire

2.1The outline of a questionnaire

It was performed to a total of 35 persons by the student and the member of society about the following.

(1) The motive of using Web

In order to give intelligible information to a user, it is important to grasp their use motive.For that the characteristic of 15 items was extracted on the basis of the 22-item social motive of Murray,H.A and EPPS inspection of A.L.Edwards, and the subject was made to answer the main motives out of it.

(2) The purpose of using Web

Recently, the purpose for which web is used has been diversified. The research about these is also needed in research of usability. Therefore,the user made it choose from four items, [1]informational reference, [2]procedure work, [3]an inquiry, [4]a communication, and [5]others, as main purposes using Web.

(3) The evaluation items of Web

The important evaluation point of an interface for a user is grasped.Therefore, the factor regarded as important when evaluating the interface of Web was made to choose.

There items are

An informational relation

Reference

Metaphor

Mapping

Mental model etc.

2.2. a result and consideration

(1) The motive of using Web

The result which there is most “knowledge” and is next called "acquisition" and "play" as a motive was brought.(figure 1) As a general trend, there were few items which ask for the relation with the others. A user can say that they are asking for self demand and a material demand from this investigation. (figure 2)

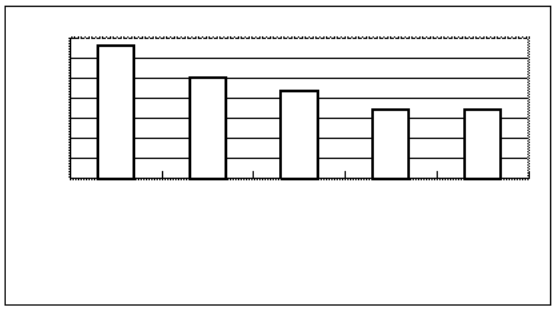

Figure 1: The motive of using Web

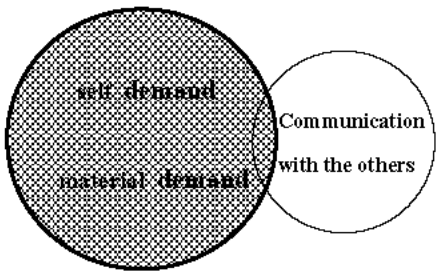

Figure2: The rate of a motive

(2) The purpose of using Web

The result with more informational reference than other items was brought. (figure3)From this, it seems that Web is used for information retrieval in many cases. However, information exchange between a user and a site is seldom carried out. Therefore, it is considered that the research for the improvement in the usability about an exchange of the information on both directions is also required.

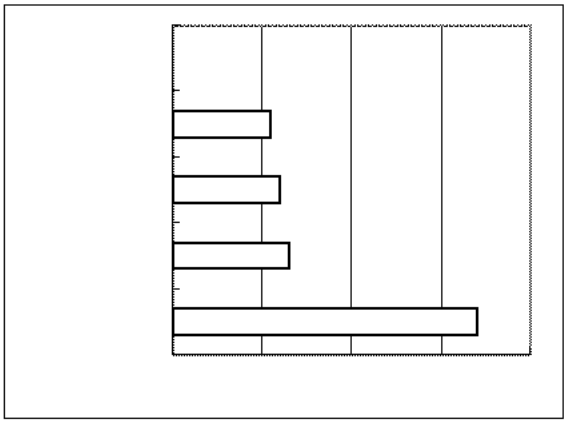

Figure3: The purpose of using Web

(3) The evaluation items of Web

As a result of a reply, there were much the ease of

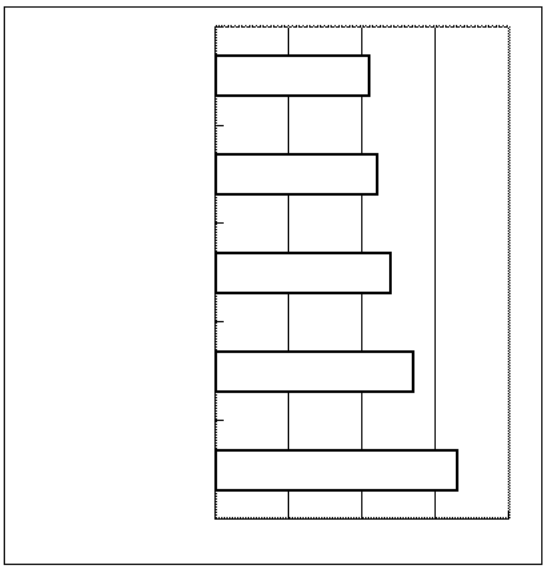

Figure4:Five items of the higher ranks of an evaluation element

3. Measurement of time to operate it

3.1 Measuring method

The created test screen was installed on Web and the subject was made to give a task and operate .And operation time was measured in analyzing the operation log from start of each task to an end. Moreover, subjectivity evaluation was taken about operation by five stage evaluation at the time of each task end.

3.2 Task

The following three kinds were set up as a scene of the information retrieval in Web. The number of classes until it finds goods, the amount of information of one screen, and the information presentation method were changed by each task. From these results, the structure of a screen and the relation of reference time were investigated.

structure 1 Reference of the goods which fulfill the given conditions

structure 2 Comparison reference of more goods (Comparison of the performance between different screen structures)

structure 3 Comparison reference of more goods (The number of move classes and performance for searching in the screen where structure is the same)

3.3 a result and consideration

(1) About structure 1

NO.	Q1-1	Q1-2	Q1-3	Q1-4	Q1-5
Structure	Class	Class	Class	Class	Flame
The number of classes	4	3	2	1	3
The number of screens	4	3	2	1	1
The number of clicks	4	3	2	1	3
An average of task execution time	13.9	13.2	13.4	13.0	17.9
Subjectivity evaluation	4.5	2.7	2.9	1.4	2.6

Table 1: The outline of structure 1, and a result

In search of known information, when there are few classes, task execution time is early a little. However, in comparatively simple reference, test

showed that there was no difference of the performance by the number of classes.

It seems that a user thinks that it is hard to use so that there is much amount of information of one screen. But even if there was much amount of information, when information was collected, evaluation of being easy to carry out operation was obtained.

(2) About structure 2

NO.	Q2-1	Q2-2	Q2-3	Q2-4	Q2-5
Structure	Class	Class	Class	Class	Flame
The number of classes	4	3	2	1	3
The number of screens	4	3	2	1	1
The number of clicks	22	15	8	1	9
An average of task execution time	78.3	49.7	32.0	30.4	35.0
Subjectivity evaluation	2.5	2.7	3.8	2.9	3.0

Table 2: The outline of structure 2, and a result

Task execution time increased that there were many classes to which it goes and comes back like Q 2-1. It is for the burden of memory to increase so that the number of classes increases. Therefore, if task execution time increases, it can be said so that the number of classes and screen movement increase.

(3) About structure 3

NO.	Q3-1	Q3-2	Q3-3	Q3-4
Structure	Class	Class	Class	Class
The number of classes	4	4	4	4
The number of screens	0	1	2	3
The number of clicks	4	10	16	22
An average of task execution time	16.8	41.0	45.9	65.6
Subjectivity evaluation	4.4	2.8	1.9	1.3

Table 3: The outline of structure 3, and a result

By the hypothesis, it was thought that task execution time was the same regardless of the number of move classes. However, the increase in operation time was seen so that there were many clicks to a correct answer. From this result, in the screen of the same layered structure, if the number of classes to move increases, it can be said that task execution time increases. It is thought that this is for the burden of memory to increase so that there are many classes to move.

When there were many classes, a subject's consciousness was concentrated on the direction which memorizes a price. Since the burden of memory increased, it mistook in many cases by the middle. The result which says that a subject's feeling of operation also becomes bad was brought.

(4) About a layered structure and frame structure

The difference between a layered structure and frame structure performance investigated by the structure 1 and the structure 2. As a result, in the case of structure 1, the direction of frame structure increased operation time. In the layered structure 2, the frame structure of reference time was conversely quicker. From this, in the case of a comparatively simple task which is completed by number click, the profitableness of frame structure cannot be found out. However, in the case of a complicated task which carries out comparison evaluation of two or more information, it can be said that frame structure is effective.

4. Conclusion

In recent years, the Internet progresses also as a communication tool and is used. However, it was able to say that the user is thinking informational reference, visibility, and operativity as important from investigation by the questionnaire to Web. When designing a site from this, it is important to always set informational reference nature in mind, to

give unification to the whole site, and to make it legible. From the performance result of layered structure investigation, when carrying out comparison reference of the information,task execution took time so that there were many numbers of classes and move screens. From this, at the time of a screen design of Web, the amount of information of one screen is increased , and not to make a layered structure deep as much as possible is desired.

Moreover, when the number of classes to move increased, the execution time of a task increased. Therefore, when designing a screen, it is necessary to make information structural pertinently so that a user's task assumed may be analyzed and information retrieval may be completed in as narrow space as possible. And, when the number of clicks increased, the upward tendency was seen also at task execution time. Therefore, task execution time can be predicted from the number of clicks of a user's task expected. And it is thought that this can be used as one judgment standard when evaluating two or more design proposals.

5. References

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