Proposal for Attractive *ASAICHI* website based on Expanded Participatory Design Process Approach

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Abstract: Most system designers propose new systems using their intuitive sense based on ambiguous input (or specs) from the client. Clients do not have adequate system knowledge which results in communication difficulties between clients’ wants, users’ needs, and system requirements. This approach also requires additional system design work after installation. We proposed a new HAKODATE ASAICHI website (*ASAICHI* website) based on specs determined by an Expanded Participatory Design Process Approach (EPDPA). EPDPA involves all the players from the beginning: designers, programmers, the client, system analysts and consultants. Using the *ASAICHI* website, Users can search and purchase various seafood products, souvenirs and check sightseeing information for HAKODATE. In January, 2009, Mr. Kato, a professional system analyst, conducted many HAKODATE website evaluations, including our *ASAICHI* website. Six evaluation criteria were used: 1) a get-level search engine, 2) comprehensive website evaluation, 3) accuracy of HTML files, 4) degree of conformance to global standards, 5) appearance-ratio of keywords and 6) bookmark registration number count. Our new *ASAICHI* website conforms to these criteria. From the results, we believe that a website based on our EPDPA ensures a superior system design product.

Key words: Participatory Design, Information design, website.

1. Introduction
There are still some traditional markets in HAKODATE. However, the numbers of traditional markets is steadily decreasing due to the large number of new big supermarkets and department stores. Probably the most famous market is HAKODATE ASAICHI (*ASAICHI*) near by Hakodate Station. *ASAICHI* means Morning Market in Japanese. *ASAICHI* is also a very popular tourist destination. Because of *ASAICHI*’s position as a tourist spot, the city of HAKODATE often subsidizes events and festivals for the market. *ASAICHI* has had a website for 17 years and often uses it for sales and promotion. Users can search and purchase various seafood products, souvenirs and check sightseeing information for HAKODATE. However, the existing website system has some problems, so the administrative board of the *ASAICHI* Cooperative Association decided to modify and upgrade their system.

Most system designers propose new systems based on ambiguous input (or specs) of the client. Clients do not have adequate system knowledge that results in communication difficulties between clients’ wants and users’ needs and system requirements. This approach also requires additional system design work after installation. Because of the lack of communication between the ‘User-side’ and ‘Designer-side’ using the normal system development process, the EPDPA was chosen in this research. Although there are researches available for
Participatory Design Process, the research focuses only on the relationship between the user and designer [1-3]. There is still a lack of research on bringing together ‘User-side’, ‘Designer-side’, ‘System Engineer-side’, and ‘Client-side’ in the information system design field.

Consequently, our proposal for the ASAICHI website was based on a broader meaning of Participatory Design Process that included ‘User-side’, ‘Designer-side’, ‘System Engineer(SE)-side’, and ‘Client-side.’ All of the parties are a part of the design process. The results of our EPDPA demonstrate its superiority over the traditional design process.

2. Method

The new ASAICHI website was proposed using EPDPA for to facilitate and enhance communication between all parties (Fig. 1). EPDPA required the necessary parties to meet and discuss more often. Figure 2 shows the design process flow with the numbers representing the number of people.

![Fig. 1 Traditional Design Process (left) and EPDPA (right) in this research](image)

![Fig. 2 Design Process Flow](image)

2.1 Study of ASAICHI and the existing ASAICHI website system

Mr. YOKOSHIMA (president of the HAKODATE ASAICHI Cooperative Association) as ‘Client-side’ explained the ASAICHI and the existing website in ‘SE-side’, ‘Designer-side’ and ‘Consultant-side’. This work process is important to decide a direction and a concept for proposal of new website.

2.2 Problem Investigation

A total of nine people (two Designers, one SE, two Clients, two Consultants, and two Users) used and analyzed the existing ASAICHI website. They used the existing system as is, and cited problems with eight main pages: Top Page, What’s New, About ASAICHI, Access Map, Shop Introduction, Coupon Page, About ASAICHI United Association and Overall. Next, they evaluated and graded 46 criteria. The grading used was Totally Unsatisfactory, Unsatisfactory, A Little Unsatisfactory and No Problems. Using the KJ method by four people, the 46 criteria were then categorized into four categories.

Based on the results, the data was broken down into the following categories: Appearance, Arrangement of Information, Construction and Etc. The 46 criteria were rated on a four-point scale to help visualize and prioritize the necessary improvement areas. This work process could prevent differences of opinion and future miscommunication between clients, designers, and SE because everyone’s opinion was heard, identified and quantified. Table 1 shows the results.

The biggest problems were the following categories in order of magnitude: Overall, Shop Introduction, Top Page and Access Map. The results of the criteria scores showed that Arrangement of Information was the biggest problem in the current website system (Fig. 3). The result means that the existing website needs to improve Arrangement of Information before Appearance.
2.3 Concept

With all parties meeting, some keywords and the color scheme for the new site were selected. The key words were Animated Feeling, Fresh, Friendly and Cheerfulness. The main color chosen was red. This work was a very important part of the EPDPA as it prevented future disagreements and revisions.

2.4 Proposal

The results in Figure 3 show that most of the problems are concentrated in Overall, with Shop Introduction, Top Page and Access Map also needing improvement. From these weighted evaluation results we determined our priorities for work concentration. All proposals were the result of everyone’s input and evaluations.
3. Analysis

3.1 Clients’ evaluation

Table 2 shows the results of evaluations done on our proposed site by the administrative board of the HAKODATE ASAICHI Cooperative Association. They were extremely impressed with our new ASAICHI website based on the EPDPA and they became aggressive opinion leaders within their Association to use new website.

Table 2 the evaluation result by Administrative board of HAKODATE ASAICHI cooperative associations

<table>
<thead>
<tr>
<th>Positive Comments</th>
<th>Negative Comments</th>
<th>To Themselves</th>
</tr>
</thead>
<tbody>
<tr>
<td>The right atmosphere of ASAICHI by good main color.</td>
<td>Difficult to understand locations of each shop.</td>
<td>A need of international versions (English, Korean and Chinese).</td>
</tr>
<tr>
<td>The new system is easy to use.</td>
<td>Too small font size for elders.</td>
<td>A scheduled survey to improve the new web-site with EPDPA.</td>
</tr>
<tr>
<td>The blog of new system shows friendly.</td>
<td>Lacking contents (Coupon and Motion picture)</td>
<td>A need of User’s feedback to new web-site.</td>
</tr>
<tr>
<td>Simple information to easy understand.</td>
<td></td>
<td>A need of plan to lead users to ASAICHI.</td>
</tr>
<tr>
<td>Organized information to compact.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2 Professional system analyst’s evaluation

In January, 2009, Mr. KATO, a professional system analyst, conducted many website evaluations for HAKODATE, including our new ASAICHI website. Table 3 shows that our ASAICHI website conforms to the six criteria he used.

Table 3 the evaluation result by KATO

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Material</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Google</td>
<td>○</td>
<td>Accuracy of HTML files</td>
</tr>
<tr>
<td>Yahoo!</td>
<td>○</td>
<td>Top page</td>
</tr>
<tr>
<td>MSN</td>
<td>○</td>
<td>27 Errors</td>
</tr>
<tr>
<td>Rank (A,B,C,D)</td>
<td>C</td>
<td>Hakodate</td>
</tr>
<tr>
<td>Phone</td>
<td>40 / 170</td>
<td>Asaichi</td>
</tr>
<tr>
<td>Number to be linked (Google)</td>
<td>31</td>
<td>6.40%</td>
</tr>
<tr>
<td>Number to be linked (Yahoo!)</td>
<td>27 Errors</td>
<td>1.96%</td>
</tr>
<tr>
<td>Number to be linked (MSN)</td>
<td>27 Errors</td>
<td>0.98%</td>
</tr>
</tbody>
</table>

4. Conclusions

Through EPDPA, the following results were clarified: 1) Communication based on client needs, designer and SE inputs and user comments helped us to evaluate and analyze the current system more effectively. 2) The very specific, quantifiable and achievable design specs we determined were the direct result of the EPDPA. This approach and the results reduced needless modification works. 3) New ASAICHI website was evaluated by the client and a professional system analyst. Their conclusion is that our new website is a great system and better than their current one.

Based on these results, using the EPDPA is superior to the traditional design process. Our next step is to conduct user feedback evaluations to further improve the ASAICHI website.

5. References

