

Research for Local Information on the Web and Suggestion of "XML Designed for Life-Related Information for Inhabitants"

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1.1. Research for "Local Life-related information for inhabitants" on the web

We define "Local Life-related information for inhabitants" as meet these conditions: information which depends on specific area, and is provided to support inhabitants life. Research in demand on local portal sites was done for marketing. On the other hand, there are many studies discussed what is required information for inhabitants for the purpose of realizing Electronic Government. They search "Internet democracy" [1], online communities, [2] especially "Digital City" [3], and so on. On the other hand, W3C publish Web contents accessibility guidelines [4]. But it isn't clear that what kind of contents are on actual web sites.

This research examine two hypothesis.

Working hypothesis 1) Company management sites provide mainly information about shopping.

Working hypothesis 2) Company management sites are provided mainly in urban area.

Method: We took 5 biggest Japanese sites providing local area information for instance, and searched in how wide area we can get information.

Findings:

25km; 46/60, 5km; 21/60, 500m; 9/60. Contents of countryside were far outnumbered by urban area. All of these contents are information about shopping and a real estate agent. This findings suggest gap in information depends on population density.

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1.2. Research on the public management sites

Working hypothesis 1) Public management sites provide required contents.

Working hypothesis 2) Company management sites provide information of both urban area and countryside.

Method: We referred some research to see demand on local sites [5][6], and made the list of required contents (table 1).

We sampled 88 sites of low population density and 45 sites of high population density by random sampling from public sites link. And we checked whether there were any kind of required contents or not. We didn't check all of these page, but we checked five pages following the links of the sites. And we didn't count the links to other sites.

Finding: Figure 1 shows this finding.

There is the gap of supply and demand on public sites. Especially, medical, welfare, and traffic information are in short supply. We think that it is not caused by lack of information itself because every area has information about clinics opening in holiday, and safe shelter for earthquake in Japan.

1.3. The analysis of making advisable local site model

Some studies say "Life-index" whose classification is based on inhabitants' life is effective in concerning improvement of usability. [7][8] But its effect has not been proved yet. Accordingly, we verify effect of life-index and suggest agreeable architecture of local sites.

Method: First, we defined an indicator, that was superior when the number of click to find required contents was smaller, and sampled websites that met it.

We regarded web-page as node and hyperlink as link, and analyzed samples by network analysis. Then, we collected qualitative descriptions of web usability [9][10] in order to

describe it as peculiarity in a matrix. This is a try to quantitative describe that is said difficult subject [11].

Findings: Almost all the samples were classified by life-index mostly. And, descriptions of web usability were described from the matrix as follows;

1) A starting point was on a top page, and all of the nodes linked to the top pages.

2) A node linking to a top was a starting point of sub network which resembled role equivalence.

Figure3 shows the model.

We could get required contents and agreeable architecture of local site, but it isn't easy to realize this model. Accordingly, we suggest "XML designed for Local Life-related information for inhabitants" as a solution to construct web sites containing usable architecture and to provide required contents.

2.1. Studies on local information

Some studies suggest own XML for local site. One of the group aim at contents recycling. They search and recovery web page in their server and write in XML on the web page[12][13][14]. Other study construct 3D space on the web that is mach the same real city and user can get information by their mobile agents[15].

Recycling of web pate is important, but we manage new web page/site and our suggestion is lower cost than others and easy to introduce.

2.2. Suggestion "XML designed for Local Life-related information for inhabitants"

We design this new tug-set to support construction local site that set it's links to specific user and specific period partly automatically.

We suppose this XML file is made by partly computer system and partly HTML file maker when the HTML file is uploaded.

First, contents holder select contents type.

<type></type>

It baced on table1.

shopping, event, emergency, daily infomation,working, security, education, medical, welfare,procedure, community, traffic,information from local government.

Second, contents holder input Tags are based on geographical attribute.

<place></place>

It point to the place of the contents.

<area></area>

It set a target of the contents.

Second,contents holder select a period of contents shows.

<period></period>

And, system give a tag when the content imputed.

<time></time>

These tow tags are choose becoming content.

Last, contents holder input Tags are based on user's propaty.

<interset></interest>

It baced on table1. This content give priority.

<adress></adress>

User input his postal code. Close area contents show by <area>.

We think that tags work for demanded web sites.

3. Conclusions

We researched this kind of information on the company management sites and public management sites by contents analysis to grasp what kind of contents are provided, and to check whether there is any gap in information. Second, we analyze some sites those provides required contents by network analysis to make site model that have agreeable architecture. Finally, we suggest "XML designed for Local Life-related information for inhabitants" to construct web sites having usable architecture and to provide required contents.

We try to struct a system that have tag-input tool ,link-making program,and output web page.