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A study of transmitting tourism information for foreigners with Web2.0

A case of Kyushu tourism information website for Korean

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Abstract
Web browsing is become one of the methods to gather tourism information. Also, Web 2.0 has led to the development of a variey of social media website characterized by the use of user-generated content. In Japan, many local governments have foreign language web pages with tourism-related information. However, many of those website do not have interactive system with tourists who need information. There are thousands of foreigners currently in the country producing information about Japan tour in native language. Tourism website is required to look for good ways to incorporate material already written in native language. A recent survey found that consumers trusted more websites with reviews than professional guides and travel agencies and far from being an irrelevance, blogs are often perceived to be more credible and trustworthy than traditional marketing communications. But there is a problem: given the sheer number of possibly relevant travel blogs there is a need to locate, extract and interpret blog content and this has proven so far to be time consuming, exhausting and costly, thus negating the relative value of the information obtained. It is necessary a empirical strategy based on the research and analysis to build an effective information system in tourism. In this paper, we present current issues of information system and services for travelers visiting Kyushu from South Korea. And we construct a intergrated tourism information system, 'OTakyu' for Korean tourists visiting Kyushu. It aims to develop a platform of tourism information based on Web 2.0. For the application, this study proposes to use the metadata interface to collect and classify much tourism information. This platform offer a varied and appropriate information already being produced by local government, personal blog, and so on. We found that this application can promote the information sharing and networking. And it can be beneficial for the public facilities suffering from the lack of budget and human resources to provide sustainability information. In the future, we will improve the quality of the site, while organizing a wide variety of data types from different sources and generating a more detailed categorization.

Keywords: tourism information, website, metadata, Web 2.0

1 Introduction

As the number of individual tourists increases, Web browsing has become one of the methods to gather tourism information. Prospective visitors are increasingly reliant in the Internet to get information on places they may want to visit.

For potential tourists, Web 2.0 has changed how they can get information about a destination. Web 2.0 has led to the development of a variey of social media website characterized by the use of user-generated content(UGC, sometimes referred to as consumer-generated content, or CGC and in Korea, user-created content, or UCC) such as social networks, podcasts, and blogs [1]. These features include information collection and information sharing by users. This information distribution form will extend increasingly, and the influence on the tourism industry will be significant [2].

2 Research background

In order to incease its share of foreign tourists, Japan has placed a lot of emphasis on its national tourism information. Japan Tourism Agency has strongly embraced the idea of developing effective information system and has formed international tourism promotion organization.

In Japan, cities and counties with foreign language version of their local gevernment website have tourism information, but the information provided on these websites is not interactive system with tourists who need information, have not intergrated tourism websites with the other components of information systems in the tourism industry. There are thousands of foreigners currently in the country producing information about Japan tour in native language. Nevertheless, it is not comfortable for a tourist to search the exact information that really wants from this huge information. Tourism website is required to look for good ways to incorporate material already written in native language.

3 Related works

Several studies have been conducted on application of Web2.0 in providing information. Kajiya[3] is reviewed the recent trend of drive information provisions and considered its future prospects from the viewpoint of "Web 2.0" based on the users'

responses and requests of “Northern Road Navi.” The Civil Engineering Research Institute for Cold Region (CERI) has operated the portal site of road in Hokkaido called “Northern Road Navi(northen-road.jp/navi)” and analyzed its user needs since July 1999.

Takaya[4] examined the possibility for local cities to solve the difficulty of transmitting tourism information, with web sites mainly composed of the user generated movie contents. By analyzing access data of the original site “Saihoku Net”(www.saihoku.net) and “YouTube”(www.youtube.com), it has become clear that one of the best solutions now is to create and publish movies of the scenery and the history in the region and to transmit them with CGM−Consumer-Generated Media−web sites.

4 Purpose of research

With Web 2.0, the users can create the web contents with their travel experience. It makes it easier for the tourism information providers and the tourists’ needs to match. Therefore it’s beneficial for both parties. However, since anyone can disseminate any information, this can cause a flood of unorganized information, however we want to seek valuable information we can trust. In addition, although we have gained users by introducing Web 2.0, many tourism information sites have not been updated consistently. Creating an effective tourism information system on the web requires an empirical strategy based on research and analysis.

In this study we derive the current problems and challenges in providing information to Korea, focusing on the Kyushu area. We would like to set up a strategy that is based on the information above. Our goal is to embody the Kyushu tourism information site and present a vision of dissemination of regional tourism information for foreigners in Web 2.0.

5 Base research

5.1 Providing information regarding travel to Kyushu for Korean

In Korea, rapid developments of ICT are driving and supporting the change from the industrial to the information age. To deal with these challenges, information has become a critical input for tourism. Personal blog in particular have achieved remarkable impact in life and stand as an effective means of information dissemination. 49.5% of Kyushu visitors from Korea use a personal blog as a source of tourism information. It is much larger compared with 6.4% of Japan National Tourist Office website.

Tourist organizations of the municipalities and facilities in Kyushu, in order to attract foreign tourists, and have promoted a multilingual tourist information websites. However, there are problems with mistranslation from Japanese into Korean caused by cultural differences. It has significantly reduced the Korean customer satisfaction.

The reason why the number of people using these website for gaining information is low, contents are not rich enough to satisfy needs of visitors. And the contents cannot be viewed by foreigner beacause of the operational problem. As result of research on search engine site “naver”, 9 websites were searched with the keyword “Kyushu”, and 8 websites were searched with the keyword “Nagasaki”.

5.2 Analysis of the Kyushu Tourism Site

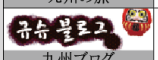
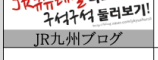
5.2.1 New trends in CGM

Consumer-generated media (CGM)—content created by consumers on blogs, discussion boards, forums, user groups and other social media platforms—is today’s fastest growing online segment. With the advent of Web2.0, focus has shifted towards sharing, communication and collaboration using social media.

In this study, we defined a CGM as a model providing value created by consumers and service by proactively providing information.

CGM has been recognized as validation tools, Kyushu has developed a interface which provides sightseeing information using CGM.

Table 1 Analysis of CGM of Kyushu tourism sites for Korean

	サイト名	CGM特徴
九州	 Join J-ROUTE	・フォトブックカテゴリ ・ユーザによるアップロード ・地域ごとにユーザたちがアップした写真とコメントが見られる ・TwitterとFacebookを通じてコンテンツを共有できる
	 九州の旅	・ブログカテゴリ ・運営者によるアップロード ・特定のブロガーの書き込みが見られる
	 九州ブログ	・NAVERにPRブログの設置 ・九州グルメ中心のコンテンツ
	 JR九州ブログ	・NAVERにPRブログの設置 ・イベントに参加した有名ブロガーの書き込みを紹介
	 日本情報交流99s	・スタッフブログカテゴリ ・スタッフたちが書き込んだ店や観光地の紹介が見られる ・TwitterとFacebookを通じてコンテンツを共有できる

Recent trends on CGM of Kyushu tourism are summarized in the following three strategies,

1) The use of blogs and social media services
2) Utilizing user-generated content
3) Service user involvement

In the first case uses a Korean server which easily to retrieves information and is equiped with a blog system function to easily diffuse information. However, Kyushu’s official blog is independently operated by committing a Korean provider and thereby it is not differentiated from common blogs. Also, the blog has focused on only updating contents without building the network based on the social media function. It makes it difficult to share information efficiently.

In the second case functions to upload contents and writings from certain users to the website by using capture and reediting functions. This provides users with the advantage to enable users to write their experiences in their native language, while there is a problem which the information for specific people and its selection criteria are not clearly defined and information is unreliable.

In the third case induces users to open a section which enable users to freely upload contents or write comments rather than

an administrator. However, Kyushu's tourist homepage has not been equipped with any bulletin board to be activated based on it. I think it is that there is no strategy motivating users to participate.

5.2.2 Web2.0 guidelines for evaluating

To survey the influence of Web 2.0 on Kyushu's tourist information and deduct how to utilize it more efficiently, an objective evaluation based on the tourist information guideline is required. This study set a guideline composed of four items (including eight sub-items) referring to the Web 2.0 Evaluation Model of Travel Agency Websites and then evaluated Kyushu's Tourist Information Website for Korean tourists.

Table 2 Web2.0 evaluation of tourism websites

提供	サイト名	Community	Communication	Contents	Connection	ウェブ2.0 活用度(%)
日本政府観光局	地域観光情報 九州	0	0	0	0.5	12.5
	Join J-ROUTE	1	0	0.5	1	62.5
九州観光推進機構	九州の旅	0	0	0.5	0.5	25
	九州ブログ	1	1	0.5	0.5	75
福岡県観光連盟	クロスロード ふくおか	0	0	0	1	25
佐賀県観光連盟	佐賀県 観光情報	0	0	0.5	1	37.5
	佐賀県ブログ	1	1	0.5	0.5	75
長崎県観光連盟	長崎 ホームページ	0	0	0.5	0.5	25
佐世保観光協会	佐世保 ブログ	1	1	1	0.5	87.5

As a result, it has been identified that the blog generally keeps a higher score than the homepage and creates a good environment in Web 2.0. That is why the blog system provides users with Web 2.0 functions such as membership, comments, Trackback, tag, and RSS.

The different scores among blogs is from the blogs that were classified into blogs using user contents actively and there were different scores in the Contents item. factors unprovided in any blog is an item of 'Combine Technologies or Contents Provided by other Multiple Suppliers', which is the second item of Connection. This is a representative trend of Web 2.0, Mashup. Recently, it has been much used to improve the website's usability or visitation rate. However, it has not yet been applied in Kyushu's blog.

5.3 Challenge of tourism information services in "web 2.0"

"Building platform which implements collective intelligence and cooperation"

As blog, SNS, and Web technologies are innovated, a definite division between service providers and service receivers vanish. Accordingly, a new strategy of tourist information supply is required that tourists can directly participate in supplying tourist information produce and share it. As mentioned above, the blog system being serviced has the function to which this strategy is applicable. However, its use cannot be expanded only by opening the blog. What is needed are strategies that utilize user's information more efficiently, persuade users to participate and cooperate, and arrange these strategies efficiently on one website.

6 Production of tourism site for foreigners

6.1 Overview and Significance

Based on the basic survey above, this study suggests an integrated tourist information website for foreigners, 'OTakyu' based on Web 2.0. This website is designed to build database through RSS of information being distributed in the website, extract and structuralize the data by a format that users can use it easily, and then characterize it for tourist information.

The following two goals are set to plan this website. The first goal is to build a automatic collection system to enable users to efficiently use user contents which provide effective tourist information. Tourism-related user contents characterizes that tourist information is continuously produced by potential information providers and tourists. Also, the website for foreigners requires a lot of manpower and spending for the production and management of contents, while the operating work and cost can be reduced by using user contents and its management system.

The second goal is to build a space connecting regions with foreign tourists. Unlike unilateral provision of information so far, this website enables users to spread and share much information by using various links like Web 2.0 and Mashup. In addition, this ultimate objective is to act as a role of Kyushu Tourist Portal Site which enables users to simultaneously share various information contents being provided everywhere in Kyushu. Provision of tourist information with this unity of Kyushu is expected to reduce expenses which occur to promote respective region websites.

6.2 Establishing web environment

To set this system, this paper uses and modularizes open-source software, 'Bloglounge' created by 'Daum foundation' for tourism information web site. Also uses PHP programming language and the MySQL4 database.

6.3 Processes and basic settings

This system processes collection and classification based on database of tourism-related information which are describes by metadata.

A system provider searches for website or blog that are relevant tourism and regesters its RSS feed. It allows this system to read metadata of the RSS feed and automatically collect RSS feed content items. Also, this system asks all the servers in its feed list if they have new content.

The collected content is displayed according to the category provider create on this system. To organize and present the gathered content, this system use category plugin installed.

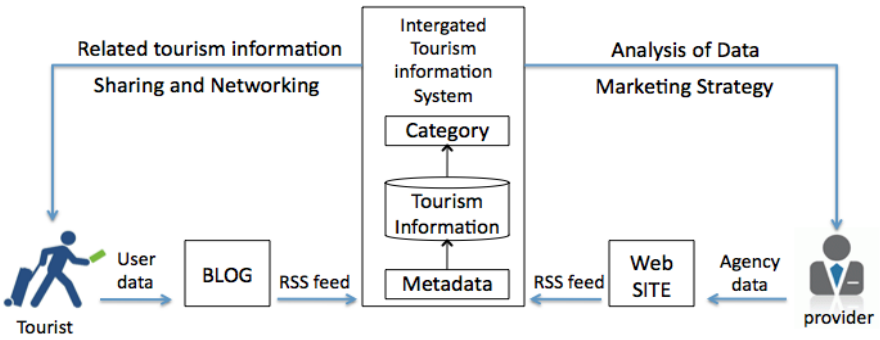


Figure1 The Basic Phases of the System

6.3.1 Data collection

The metadata system is structured data which describes the characteristics of a resource. It creates a new representation where it contains

meta-information such as that usually does not appear in the original resource, that is, metadata about the original information (data) [5]. RSS is used to deliver content syndication, or feeds, in XML metadata format. Lately, RSS has been widely used in many web service. [6]

This study tries to describe tourism information with metadata. All information can be described by its attributes or specifications such as, title, URL(link), description, classification or tag. This metadata is useful in collecting data and classifing according to subject.

This system can create a filter by a specific keyword. We filter the names of the top 25 most visited tourist attractions in Kyushu for the keywords.

6.3.2 Data classification

This system is equipped with a plug-in that is automatically categorized to extract the tag of the data collected. It allow users to set the category in the "classification" of the management screen.

Using the two categories of regional and thematic tourism on Kyushu, we have multiple situations installed on the same server. After operating each situations separately, it has been set for two categories from each management screen.

6.3.3 Data extension

This system can be configured to aggregate a large number of data access and keywords to display as popular content. That is, realizing that the data can be reused as a new content by systematic analysis of trends in user-interest and re-processing of log data.

Since the data accumulated by the system automatically create their own RSS feeds by the system. Users can get updated information and use the service with RSS feeds. For example, a service called RSS widget has been commonly used.

The widget will help users to get website updates directly to their inbox. Also RSS adds a feed link where readers can subscribe directly in a feed reader.

Figure2 A use case for RSS widget

6.4 Configuration of the main page

The production site “OTakyu” involves three types of tourism information by information sources. First, agency data is information from agencies such as local governments and tourism organizations in Kyushu. Second, user data is information collected from personal blogs and sites in Korea. Third, analysis data is the unit of information itself that has been analyzed.

All three types of data is divided into ‘New area’ ,’Updated area’,’PR area’, and needs to be well organized in a manner that it is easily searched, and easily managed.

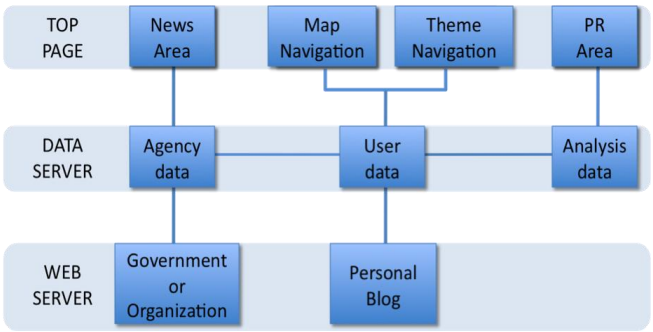


Figure3 A Configuration Diagram Hierarchy of ‘OTakyu’

News area including information had been provided timely such as events is placed at the top of main page for an eye-catching. Now three of agency data are set to be visible in the top page, all data list can be seen by clicking the title called 'Kyushu News'.

Updated area is put in well designed category to reduce the chances of various information themes leading to confusion. As this area has been constantly updated and replaced by more and more, needs to provide navigation system tailored to the specific needs of users. Creating a region map for category allows users to access information on this site more quickly.

Figure4 New area and Updated area

PR area concerned with analysis and recommendation by provider of this system is grouped and placed at side of main page. This section offers information that include hit item, post rankings, popular keyword etc. These optional services is good way of getting people to into come to this site.

Also, to take advantage of real-time bulletin board and exchange information, we installed a widget of the social networking service "Twitter".

Figure5 PR area

Figure6 Main page of 'OTakyu'

7 Evaluation

7.1 Statistical analysis of access data

The daily average number of visits in OTakyu is 60 times. The total number of visits is 4,506 times at the lapse of three months after opening. It is a low value as a portal site. However, it is absurd to say that the value is low considering that the website handles only tourist information confined to Kyushu.

OTakyu focuses on providing and sharing much information if possible. The satisfaction level can be forecasted by analyzing the index which indicates the traffic visiting the website again. In consideration that the world's biggest SNS, Facebook has the revisiting traffic of 70%, the revisiting traffic (66.39%) of OTakyu is never low. But, it is a low value in consideration of the high the percentage of website visitors that leave the website (74.79%). Therefore, the strategy required is to increase the number of website visitors conforming to OTakyu's characteristics and also to enhance the revisiting traffic to enable users to reside in the website. The website should be composed that even though a visitor clicks various information icons in the main page and goes into other site, users can return to OTakyu and search desired information.

7.2 Analysis for update intervals of data sets

OTakyu has a total of 12 registered sites: 6 personal blogs and 6 institutional blogs. Only blog among Kyushu tourist information sites for Korean people provides a RSS service. This study only registered and verified blogs.

At the time which twelve sites have been registered, the average daily frequency of content updates of OTakyu is 6 times. It is expected that if registered sites increase, the update frequency will also increase. The survey result of updating frequency for Kyushu's multilingual homepage shows that a majority of update was once a year. Therefore, it is identified that the above value is very high. Also, this is based on the automatic collection system. Therefore, it has the advantage which separate cost and manpower are not required. It will be more profitable for regional cities which have been difficult of providing information continuously because of securing budget.

7.3 Limitations and challenges

In this time, this study brings only the upper part of contents title and its substance from registered sites and then sets it to view in OTakyu that by clicking links, users can go to relevant sites and read a whole of the sites. If users move to other site, the secession rate of visitors increases and it is thereby difficult to grasp user's needs.

When making the original region tourist site like OTakyu, the greatest problem results from the low level of awareness. If you refer to AISAS (Attention → Interest → Search → Action → Share) for a user behavior model proposed by Tentsu, when there is no advertising budget through mass media, how to implement Attention first remains as an important issue.

Basic data of OTakyu are based on information collected from respective sites. There is no unique information of OTakyu. Therefore, the role of OTakyu is to efficiently arrange and display valuable information out of infinite information being searched by a keyword of Kyushu Tourism. For this, user evaluation data affecting the value of information should be well utilized. The website should provide users with unique information of OTakyu by adding communication factors which include favorite information ranking by theme or user participation questionnaire, etc.

8 Conclusions

With this study from the point of view of a new trend Web 2.0, we analyzed the current situation of information dissemination towards attracting Korean tourists in Kyushu, embodied the total tourist information website based on the issues that are derived from the analysis and obtained the findings below about the role model of the local tourism dissemination towards foreigners in Web 2.0.

First, we have found that the issues of "the lack of knowledge (human resources) about multilingualization", which currently many information websites have been faced with, will be solved by foreigners using CGM that leads to the enhancement of web contents.

However as a result of analyzing the trends of CGM for Kyushu tourism information websites for Korean people, it reveals many websites are left with no strategic practical use because the management system and the function for the use of CGM are not provided. To solve this problem, on the assumption of the introduction of Web 2.0, we evaluated the Kyushu tourism information websites for Korea in order to derive the empirical challenges. The result shows that blogs have a better system for the Web 2.0 environment than a Homepage. However there is no guarantee that the usage will expand only by starting a blog. We found a concrete strategy to induce the users' cooperation and integrate as well as diffuse their information efficiently as needed.

Based on this basic analysis we created this tourism information site called 'Otakyu' using the automated data collection system to propose the total tourism information website for foreigners using Web 2.0 with this study. We know that 'Otakyu' is updated 6 times a day on average and it's beneficial for provincial cities, where they barely disseminate information continuously due to the lack of a budget and human resources. We found we could elaborate a variety of strategies such as arrangements by the attention level using the data classification function as well as the understanding of the trend of the users by using the data analysis function to attract customers.

We think we need to upgrade the website, expand the range and volume of collecting data and improve a more detailed categorization from now on.

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