A WEB COMMUNITY FOR UPLIFTING REGIONAL VITALITY USING AN OPEN SOURCE CMS

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ABSTRACT
Regional activation highlights the importance of activities led by residents, a concept which has recently been gaining ground. The main purpose of these activities is to solve regional problems that residents have through cooperation. “Regional vitality” is the power to solve these problems. Since a large number of residents need to cooperate to boost regional vitality, a social system through which residents can share information is required. This paper puts forward the concept of a web community for uplifting regional vitality using an open source CMS.
community for boosting regional vitality. By using and customizing an open source CMS it is possible to build a web community similar to social systems in the real world. In the community, residents can not only share information about activities in the real world, but they can also share this information and publicize these activities more widely on the web.

Keyword: Web Community, Regional Vitality, Open Source CMS, Resident-government-academic Cooperation

INTRODUCTION

Regional activation is becoming more and more important in Japan. Although these activities have previously been conducted through government initiatives, we put together data on regional activation initiatives and community information and studied the practical use of this data by local administration authorities in the city of Seto (Masahiro URA, 2008). As the importance of activities led by residents has been increasing through regional activation, research into these activities has been undertaken in a number of regions (Research Institute of Urban and Regional Planning, 2010).

In a single region, various people will have various different problems. "Regional Vitality" is a term used to denote activities whereby residents cooperate to solve these problems. Therefore, in order to lead these activities successfully, residents have to understand what each person is doing and join up activities by sharing information. In the city of Seto, the government administration supports residents' activities by conducting an operation aimed at the boosting regional vitality. The administration presents the results of these activities on the city’s website; however, the information is only published as archives, not as a usable resource.

In this study, through citizen-government-academic cooperation we were able to develop and operate a web community site where residents can provide and share information about regional activities and interact with each other. In order for the site to be managed together with the local government it is important to ensure that the information is reliable and that the site is secure and safe to use to share information. These issues have been solved by using an open source CMS through resident-government-university cooperation. We conducted an experimental study to evaluate the performance of a proposed website for the city of Seto, to show how this site is useful in boosting regional vitality.

ACTIVITIES TO BOOST REGIONAL VITALITY AND THE PROBLEMS THESE FACE

About Regional Vitality
Regional Vitality is the power by which the people in a certain region, including residents and persons who go to schools or offices in the region, try to solve regional problems (Seiji MIYANISHI, 2004). Although previously regional vitality was taken to mean the “driving force which makes a region strong against disasters”, it is now “a concept required for the solution of various problems which regions have”.

Since activities for boosting regional vitality are mainly carried out by regional people, it is important that each person involved is aware of the issues faced, so communication between residents and a way to air information about activities is needed. To do this, many regional vitality projects use Information and Communications Technology (ICT).

For example, in the city of Yashiro, the city government runs a regional Social Networking Service (SNS) called “Gorotto Yacchiro”. In the SNS, visitors can get information about shops and the regional community, and users who are registered for the SNS can use functions such as the diary and Bulletin Board System (BBS). There are over 2,000 users, who post around 600 articles on the diary and 200 comments on the BBS per day (Takao KOBAYASHI, 2009).

In the city of Takamatsu, the city government runs a regional portal site called “Comnet Takamatsu”. The city area is divided into blocks, with a community conference for each block. On the site, visitors can see information published by conference members, such as introductions to regional community conferences, volunteers, activities, events, and lectures at community centers. In addition, users who are registered for the site can sign up to attend events and lectures.

The Current Situation and Problems in the City of Seto

The city of Seto has set its vision for the future as “a society in which residents can demonstrate excellent abilities through independence and mutual cooperation” (Seto City Public Administration Division, 2005). The city endorses “projects which promote activities for boosting regional vitality” to realize a society in which the region determines and assumes a role for itself. A “regional support section” has been established to take charge of the project.

As the city of Seto is divided into 18 blocks, various activities are run for each block. At first, activities for boosting regional vitality were initiated in five blocks, which were selected to trial this concept; now activities are run in 10 of the 18 blocks. In these blocks, residents build “committees for boosting regional vitality”. The committee discusses regional problems in workshops, and forms groups to try to solve these problems. In some cases, blocks share common problems, such as “raising children”, “senior people”, and “security”, so a group may work in collaboration with groups from other blocks. The results of activities appear on the website as “activity...
reports” after the activities have been completed. In addition, information such as “progress on the activity”, “byelaws”, “results of questionnaires”, and “action plans” are published to people in the region. However, feedback such as “only a few young persons participated in the activities”, “information about activities is not aired effectively” and “there is no place for exchanges between residents after the conclusion of the activities” indicate that the project still has its limitations and the city administration must respond to these opinions.

A MODEL FOR SUPPORTING A BOOST IN REGIONAL VITALITY

The Components of Regional Activity

Regional activity is divided into three steps: “preparation”, “carrying out the activity”, and “publicizing the results after its completion” (Fig. 1).

When preparing for the activity, it is important that participants are able to acquire information about the activity simply and share it. In order to make the activity a success, it is necessary to hold a number of workshops where people can share information about the present situation; however, it is difficult to arrange a time and a place for regular meetings that fit in with the various participants’ life styles. Therefore participants need a forum where they can discuss preparations for the activity, without needing to meet at a particular time in a particular place. Each activity will have different requirements for support and preparation so these will not be discussed in detail here.

When publicizing the results after the conclusion of the activity, it is necessary to publish and broadcast what the activity entailed and its results to many people. Since the activities that interest different visitors may vary, it is important to publish information about as many activities as possible as soon as they have been completed. The information about regions is published generally in the city government public relations magazine; however, due to limitations in the frequency and length of the publication, it is difficult to publish all the information required. A new structure is required in which the residents can publish information themselves and gather together information about as many activities as possible.

Figure 1. The components of regional activities.
Regional Activation Using Websites: challenges to face in the city of Seto

Since the World Wide Web (WWW) is not restricted by time or the amount of information that can be published, a website is ideal for realizing the above-mentioned structure. In the city of Seto, information about regional vitality is published on the city’s website (Fig. 2); however, it is difficult to share information between residents and air this information using the website. During validation of the website, three problems were found.

The first problem concerns the place where information is published. As content about regional vitality is at the bottom of the tree of the city’s website, it is hard for visitors to find this information. Furthermore, the information is published in MS Word document files so the visitors can only see the document in environments with software that can open MS Word files installed, and it is not possible to find documents using the search function.

The second problem is the frequency of updates. Information about activities is sent to the person responsible within the city government and is published on the website at this person's convenience; therefore, the time required to publish information can be anything from one to thirty days after it is submitted.

The third problem is the amount of information. Since published information on the website is limited to that which has high public responsibility, it is difficult for visitors to get to know about the present conditions and activities in other regions. For this reason, cooperation between regions can be difficult.

The Definition of Website Requirements

In light of these problems, many regional websites have a low level of user satisfaction in terms of the amount of information provided or the frequency of
updates (Ministry of Internal Affairs and Communications, 2002). CMS have attracted attention as a means to solve these issues and a new web community just for information about regional vitality based on CMS was established in the city of Seto (Fig. 3). Based on the problems outlined above, the requirements for the website’s build and management are described below.

The first requirement is for residents to be able to update information. In order to increase the amount of information and the frequency updates, simplification of the publication process was vital. For that purpose one needs a structure in which residents who are information providers can publish information directly; this calls for a dynamic update function. In addition, since there are many middle to old age residents who are unaccustomed to using a PC, it is necessary hold lectures or courses on how to use the website.

The second requirement is reliability of information. Visitors trust the published information because the city government participates as an operator. In the proposed web community, residents publish information directly; therefore measures for ensuring the reliability of this information are needed, such as connecting information to publishers by a user registration system.

The third requirement is security. Since dynamic pages tend to generate more of a security hole than static pages, it is important to be mindful of security. Additionally, as site users have an account and password, this information needs to be managed to prevent passwords being leaked.

![Figure 3. The structure of the new web community based on CMS.](image)

CONSTRUCTION AND OPERATION OF THE WEBSITE

Constructing the site based on a CMS

We constructed the site using "XOOPS Cube Legacy", which is an Open Source CMS that is secure and easy to customize. XOOPS is made up of parts called modules,
such as a bulletin board and a calendar. When a new function is required, it can be realized easily by adding another module. Moreover, since it is open source, it has high reliability in terms of security, making it suited to our demands. In addition, it is possible to customize portions of the site that cannot respond to a default function. The Seto website consists of three functions: a "future activity guide", an "activity report", and a "bulletin board system." The university plays a central role in holding workshops in which we teach residents how to use the site so that they can join in.

In the future activity guide, users can write and browse information about future activities (Fig. 4). Activities consist of an activity name, the activity field, the time, place, application destination, contact details for organizers (telephone number, FAX number), notes, and contents. When writing a report you can choose which items you wish to publish. This information can be checked in the calendar, which is currently installed in the page for every area. Activity information is displayed by the icon inside a date column. This icon relates to the genre of the activity, so users can immediately know what kind of activity it is. If you move the cursor over the icon, the time and title of the activity are displayed; you can view more detailed information by clicking on the icon. This information is automatically updated on the page for the whole city, which displays activities in all of the areas in one calendar.

![Figure 4. Screen shoot of the "Future Activity Guide".](image)

In the activity report, users can write and browse photographs and descriptions of events in each area (Fig. 5). When users contribute an article, they simply upload text and up to five photographs for each event so the viewer can visually understand the atmosphere of an activity. It is possible to search for events in the same area, or by photographer or the date. An activity report can be browsed from the "new activity log" in the lower part of each area page, which shows information and a photograph from the ten most recent articles. If you click on a photograph, you can see more...
information about that activity. Each report has a comment and a vote function and this can be used as a place for discussion after the event.

The Bulletin Board System (BBS) is a function which only registered users can use to provide and share information, interact with each other and keep up with the current situation (Fig. 6). This system has a BBS for every group and every area, as well as a BBS for the whole city. A user can use only the BBS of their own group or area, but all users can access the BBS for the whole city to allow users from different areas to interact and share information.

Figure 5. Screen shoot of an "Activity Report".

Figure 6. Screen shoot of the "Bulletin Board System".
Management system

Some parts of the website cannot be maintained just by residents so the web community site is operated through citizen-government-academic cooperation. The government and university manage the website. Both hold user information; however, for security reasons, the government administration manages users’ personal information, and the university holds only the information which is not personal to users. This information is managed but is never held for a longer period than is necessary to protect against leaks. Moreover, the application of users’ registration details is limited to those who have already participated in regional activities, and registration is done during a workshop to determine the activity indicator in each area. As a result, it is easy to set specifications for an individual’s data and the user can expect a high level of security.

The website utilizes a server as a hosting service and this is installed from the outside. As such, security is high and will not be influenced by network troubles linked to the government administration or the university. To manage the website smoothly, the users are divided into three groups: administrators, press officers (who take the lead on projects for each block), and other general members. An administrator has complete authority over changes to the website, while the government administration and university are charge of administrators. A press officer contributes a future activity guide and activity report for the area; there are 3-5 persons per area taking charge of public relations. A general member is a user who can contribute a comment. For users to register, they are required to apply by contacting a press officer during a workshop.

The university plays a central role in holding workshops at which university members teach residents how to use the site so that they can join in the activities. The university staff not only lecture on how to use the site, but also use the time to exchange opinions and advertise the site to residents. Based on the results of this exchange, we can evaluate the performance of the website, compared to the more conventional website for regional activity. Thus it is possible to investigate how similar sites may be used in the future.

DISCUSSION

We conducted an experimental study to evaluate a proposed website for regional vitality in the city of Seto. The site went live on October 1, 2011. In the first phase, its usage and access was limited to leaders of regional activation projects. It was then open to all users from August 1, 2012. Through this we investigated the usability of the website by asking residents to complete questionnaires and tracking the number of users the site attracted over time. At time of writing, there were six city areas involved
in the website project, with 21 press officers and 100 general members for each area. 167 activity reports have been compiled and 171 future activity guides have been made available. The total number of users was 7,593 and the total number of page views was 34,356. On average, 10 people used the site each day.

The most popular page was the “Activity report” page, followed by the “Members’ Registration” page. This is probably because the “Activity Report” page has photographs of activities so users can understand and visually identify the types of activities that are taking place. The “Members’ Registration” page can only be accessed by registered members, indicating that many of the site users are registered members.

As for the activity reports, it turned out that most of these were contributed within two days of the activity taking place. Compared with the regular government site for regional activities, residents were able to provide information about activities at a much earlier stage. In terms of the number of articles, this has increased substantially after the addition of the “future activity guide”, but there has been no significant increase in the number of “activity reports”.

As previously mentioned, many of the site users are registered members but the logs show that many users fail to contribute posts and interact with other users after login. Possible reasons given for this include: “no activities available in my area”, and “it is difficult to contribute reports”. In the latter case, there was an inquiry about how easy it was to upload photographs. In the past, many residents who took part in workshops were of the opinion that the input page of activity guide was incomprehensible; therefore, this page was customized, for example by dividing the input space in to related items and improving the input check page. We believe it is important to continue to accept, reflect on and respond to users’ opinions.

CONCLUSION

This paper proposed a model for supporting a boost in regional vitality, and a method for producing and managing a web community based on the model described. The effectiveness of the model and methodology were confirmed by comparing the government website which previously published information about regional vitality with the new proposed web community in the city of Seto.

ACKNOWLEDGEMENTS

This work was supported in part by Grant-in-Aid for Scientific Research from the Ministry of Education, Culture, Sports, Science and Technology of Japan, and project-based educational research grant from Chukyo University.
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