Japan Geoscience Union Meeting 2012
(May 20-25 2012 at Makuhari, Chiba, Japan)

MTT38-01 Room:301A Time:May 21 15:30-15:45

Sustaining a Community with Social Media

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This paper introduces the way to organize and sustain a community, using social media such as Twitter. The members of the community have different background including computer technology, spatial information science, archaeology etc, and belong to different types of organization such as a university, a company and a public agency. People on the community not only discuss online, but held a meeting to study emerging GIS technologies. This paper introduces technologies and tools that enable organization of such types of community.

Keywords: GIS, Social Media, Organizing Community, Twitter

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Get connected, started, and developed interdisciplinary research with social media: a case study from archaeological GIS

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We reported our Ustream program ”Tomobiki Night!!” featured by archaeology and Geographic Information Systems and Sciences (GIS) at the ”Social Media and Geoscience” session in JpGU 2011 (http://www2.jpgu.org/meeting/2011/yokou/MTT034-02_E.pdf). By February 15, 2012, the program has been broadcasted for 25 times, on every other *tomobiki* day in Japanese lunar calendar system in theory. A live typically has one to ten viewers, and the recorded videos (http://ustre.am/fAyw) have been viewed for 884 times to date.

In addition to reports of academic conferences and workshops associated with archaeological GIS and demonstrations of research instruments, talk sessions to which a guest is invited from the archaeology-related fields of research is the most significant feature of the program among others. We have had five guests from geography and spatial information sciences, and casual talks after the live session have often resulted in a new development of research. For instance, after his participation in the Ustream talk, a researcher in human geography was invited to give a lecture at the special session titled ”The Present and Future of Field GIS for Human Science”, organized by the first author at the 20th annual conference of GIS Association of Japan in October 2011. Another guest, who was a master student in geography, talked about her dissertation and then she was invited to give a follow-up presentation in an offline meeting after her final examination.

Furthermore, we have provided technical supports of Ustream broadcasting to photography workshops coordinated by Fieldnet, a social network for field scientists, on the request from a viewer in cultural anthropology. Another viewer in medical GIS, with whom we are frequently communicating via Ustream and Twitter, has become a good collaborator to held GIS workshops and related excursions twice with young researchers and engineers. These events are further developed to a GIS-based multidisciplinary research project of a remote island.

These episodes have a common denominator in which communications through the social media such as Ustream and Twitter encouraged the real academic interactions such as scientific workshops and collaborative projects. It is also noted that the interactions we established, exemplified by those between archaeology, geography, and medical GIS, suggest that such communications may yield developments in research beyond the conventional boundaries of disciplines and interdisciplinary projects. It is also expected to develop a new relationship between geoscience and archaeology, mediated by the social media.

Keywords: Ustream, Twitter, archaeology, GIS, interdisciplinary research

Japan Geoscience Union Meeting 2012
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A study of the public relations for disaster prevention from the standpoint of advertising, and some problems of social

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There are many potential problems on social networking sites and the many people that use them. Social networking sites can be a great way for younger people to get connected to the public relations for diaster prevention, but there are some dangers. Initially, there are some people who cannot use.They are vulnerable groups in disaster, people with a handicap, elderly people,children, and people who cannot have a computer or a smartphone. Since they cannot use a computer technology, it is difficult for them to join a community, but they tend to produce'digital divide' by the social stratum. Next,it is different at the time of usnally and a disaster.

Of course,by use of social media, there is a big possibility. Therefore, public relaions for disaster prevention needs 'Media mix',combination of advertising channels employed in meeting the promotional objectives of a marketing plan or campaign, is major methods of advertising.

Keywords: social media, disaster prevention, digital divide, media mix

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Practical use of the social media in IUGONET

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The Inter-university Upper Atmosphere Global Observation NETwork (IUGONET) is a six-year research project of the National Institute of Polar Research, Tohoku University, Nagoya University, Kyoto University, and Kyushu University to clarify the mechanisms of the long-term variations in the upper atmosphere. We have opened to the public our metadata database of gournd-based observations of the upper atmosphere (http://search.iugonet.org/iugonet/). Moreover, we have released the iUgonet Data Analysis Software. The IUGONET project uses social media, for instance, 1. tweet the progress of our project by using Twitter, 2. public presentation of the demo movies of our data analysis software by using YouTube, 3. real-time distribution of our workshop by using Ustream.

In this presentation, we will explain the practical use of the social media in IUGONET project.

Keywords: Upper Atmosphere, Metadata, Database, Twitter, YouTube, Ustream

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Gathering, analysis, and visualization of meteorological phenomena using social media

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Meteorological phenomena have influence on all the people, so it is one of the most popular topics in daily conversations on social media. On the other hand, social media can also be used as a place for reporting emergency information instantly during meteorological hazards such as typhoons, and there has been strong expectation that social media will evolve into an effective platform for collecting and sharing on-site reports for emergency response. Hence this paper focuses on meteorological phenomena and social media, and discusses how we can gather, analyze, and visualize social media based on our experiences.

This paper mainly deals with the case study of four systems, namely ”Typhoon Front” (http://front.eye.tc/), ”Twiphoon” (http://twiphoon.eye.tc/), ”Typhoon Now!” (http://typhoonnow.eye.tc/), and ”Futtekitter” (http://agora.ex.nii.ac.jp/futtekitter/). We started an experiment of collecting typhoon information from weblogs in 2004, and from Twitter in 2009. These services are based on a ”call-based gathering method” that requires user’s actions to report events. This method has an advantage of controlling the format and quality of user’s reporting, but it has limitation in the amount of information collected due to the necessity of user’s active involvement. Hence we employed a ”patrol-based gathering method” for ”Futtekitter” started in 2012, and build a system that actively gathers information about events without explicit involvement of users. This system increased the amount of information we can collect to the level of several thousand tweets per hour, for instance, during the event of snowfall in Kanto Region.

The problem of a patrol-based gathering method, however, is that we cannot expect users to assign well-organized metadata. This problem is especially apparent in the problem of named entities. For example, which place and what kind of events a tweet is referring to? This kind of metadata is sometimes given by users in the form of hashtags on Twitter, but it is generally difficult to control because there is no single standard for this kind of metadata. To solve this problem, we need to apply natural language processing (NLP) to natural language text for analyzing content, extracting named entities, and integrating them. To realize this process for placenames, we are now developing a geocoding tool, GeoNLP (http://agora.ex.nii.ac.jp/GeoNLP/), which can extract place names from text and resolve them to a unique location. This tool still has a problem of accuracy, but the automatic mapping of text is now easier than before.

We built ”futtekitter” with functionalities addressed above, and applied it to the gathering, analyzing, and visualizing tweets on rain and snow. By analyzing tweets, to what spatial and temporal resolution we can collect information about rain and snow from social media, and to what degree we can rely on uncertain information? We discuss the result of analysis based on this motivation.

Keywords: Meteorological phenomena, Social media, Twitter, Named entity, Geocoding, Natural language processing

Japan Geoscience Union Meeting 2012
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MTT38-06 Room:301A Time:May 21 16:45-17:00

Educational interaction using wiki between teacher and students

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A paper for measuring understanding of students in university lectures, it is often after the class, and only to be returned. In order to increase the educational effect, it is necessary to modification by the faculty of repetition. In this presentation I report the educational practice of using wiki.

Keywords: wiki, internet, education in University

Japan Geoscience Union Meeting 2012
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MTT38-P01 Room:Convention Hall Time:May 21 17:15-18:30

Information exchange among researchers of various fields using Twitter

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Although the JpGU has significantly enhanced mutual interactions and understanding among geologists, mineralogist, geographers and geophysicists in Japan, interactions between geoscientists and researchers of other disciplines such as physics, chemistry, biology, and engineering are still relatively limited. Social media contribute to this kind of broader scientific exchange. This paper introduces a case of discussion using Twitter, concerning how to write units and numbers in scientific publications. The discussion began with a tweet of a geoscientist, followed by numerous comments from researchers with various backgrounds. The discussion revealed differences in common sense among disciplines. Use of social media enables fast discussion without depending on conventional academic societies and conducting workshops or alike. Particularly the retweet function of Twitter is effective. It is necessary for geoscientists to facilitate the use of social media for broad scientific exchange.

Keywords: social media, Twitter, interaction among different disciplines, mutual understanding

Japan Geoscience Union Meeting 2012
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Utilizing of geomedia in geopark

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1. North Ibaraki Geopark and Geomedia

North Ibaraki Geopark, which was authorized as ”Japanese Geopark” in 2011, is trying to build a best model of communication with its customer through using social media, including geomedia.Geomedia is a service to use the GPS information. In North Ibaraki Geopark, we have been trying to utilize a geomedia called ”foursquare”, that makes a social network with geological information.

2.Utilizing a geomedia ”foursquare”

How to use ”foursquare” is checking in to the place where user is. They can share their geological information on the social network such as twitter or facebook, through checking in with foursquare. And more, they can add photos and some kind of valuable information such as discount sale of the store. We can get the information that the number of visitor, who checked in, which is the most popular point. At first, we have put records of 36 tourism area in geopark, ”geopoint” on foursquare. Then we announced and promoted the new service with our website, twitter and facebook page.

3.Checking in to North Ibaraki Geopark and the effect of foursquare

We have calculated the number of people who checked in to the geopoints with foursquare. Fukurodanotaki-fall:85, Ryujinohtsurihashi-bridge:8, Takimachinotaki-fall:18, Kaimonnkyou-bridge:12, and so on. Though we should improve promotion, we have had information of movement of visitors in each geopoint. In general, geosites are simply natural environment and it’s hard to grasp how many people visit the place and how popular there is. Using foursquare, it would be possible to conprehend the movement of visitors in North Ibaraki Geopark.

4.Apply ”Product Portfolio Management” to Geopark

We have tried to estimate the value of geopoint, using ”Product Portfolio Management”, known as a management technique. We made a portfolio chart, the vertical axis is the increasing rate of visitors in the area, and the horizontal axis is the number of checked in. Following this chart, we can classify the geopoints into 4 categories, 1)high increasing rate and frequently chacked in; 2)low increasing rate and frequently chacked in; 3)high increasing rate and infrequently checked in; 4)low increasing rate and infrequently chacked in. We can make No.3 geopoints grow to No.1 combining these categories suitably. It would be possible to raise in the number of visitors of geopark.

5.In future

For the development of North Ibaraki Geopark, we are required to utilize the geosites which have not been popular. In future, we are going to validate this trial combining the geopoints from a viewpoint of PPM and hold a geotour, advertise the sightseeing plan with medias including social media.

Keywords: social media, geomedia, geopark, foursquare, product portfolio management

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Utilization of image medium for geopark

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We have utilized the image medium like Ustream and YouTube of SNS for the North Ibaraki geopark. Virtual geotours using Ustream and YouTube were worked out for the five geo-sites in the northern Ibaraki prefecture. The valuable method for the ulilization of the image medium to heighten public concerns about geoparks can be discussed.

Keywords: geopark, social media, image medium, Ustream, YouTube

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Supports for the Correct Understandings of Natural Disasters through Leaflets Provided in the Geoparks

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The Earth Communication Group, which has been organized by the Japanese Geoparks Network after the large earthquake and tsunami that occurred on March 11, 2011, makes leaflets in order to voice concerns regarding natural disasters and to convey correct information about the movement of the earth. We have already made two leaflets, namely, ”tsunami” and ”the mechanism of earthquakes”.

First, three individuals started discussing the issue ”tsunami” on March 12, 2011, through e-mail and Twitter. At present, ECG has 14 members who reside in various regions in Japan. They work as volunteers for EGC. Our personnel comprise geopark staffs, researchers, curators, office workers and administrative officers. We communicate with each other through a mailing list. The process of making a leaflet involves four steps, namely, deciding the issue, selecting the components of the leaflets, writing the text and drawing illustrations, and translating from Japanese to English.

Our leaflets have the following five characteristics:

1. They are written in simple language for the sixth-grade pupils of elementary schools.
2. A4 sized papers, with both side printed on, are used A4 is the popular page size in Japan.
3. A blank column is provided to enter the name of the geopark tour guide or facility.
4. You can freely download these files from the website of Japanese Geoparks Network (JGN website http://www.geopark.jp/).
5. These leaflets have been made in English for the benefit of not only the Japanese but also for people who cannot read Japanese.

Keywords: geopark, natural disaster, communication, twitter, mailing list

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Consideration of Effective Transmission of Information Using Twitter in Geoscience

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Twitter is one of the very important tools of gathering and transmission of information. Institutions for academic research can use this for effective way of publication. And it is no exception in geoscience. Therefore, it is important to operate twitter account which can get many retweet and favorite and communicate with follower.

We counted the number of retweet and reply, favorite, non-official retweet.

We researched effective operation of Twitter account in geological science and report the researched results.

Keywords: Twitter, Social Media, Geoscience