Japan Geoscience Union Meeting 2011
(May 22-27 2011 at Makuhari, Chiba, Japan)

MTT034-P01 Room:Convention Hall Time:May 24 14:00-16:30

Development of Mobile Applications Facilitate Citizens for Participation of Disaster-Prevention Activities

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1. Introduction

It is difficult to convey disaster risk information to citizens to realize actual disaster-prevention activities only through the hazard maps (Meiji Yasuda Life Insurance Co., 2009). On the other hand, the recently popularized device called a smart phone (mobile below) is widely adoptive to the disaster prevention activities from normal basis to the time of disaster (Mori et al., 2009). We developed easy-use mobile applications as an attempt to offer the disaster risk information for citizens. And these approach refer from a basic prerequisites for the informational environment in which mobile is used in the disaster prevention activities based on the arranged research (Usuda et al., 2010).

2. Feature analysis for Mobile application

Technical attributions of the mobile application are arranged to three points of the following. We developed applications using these elements.

A. Geo location service

Particular information based on the current place should be applied.

B. Use of existing social media network

Applications should be run in an existing network of social media should be able to be made the best use of without reserve. Putting in mobility, beginning to use, studying new social media to seeing for the disaster-prevention activity, and becoming accustomed are never to be suggested.

C. Intuitive interface

An intuitive user-interface is needed to be kind to people who are not familiar with mobile like a smart phone daily.

3. Developed Mobile Applications

All these applications below scheduled to be distributed from an online application stores. Free for charge.

3.1. Minna no Bosai (Everyone's activities for disaster prevention)

It is mixi mobile application with the hazard assessment function to display the radar chart by six stages from A to F as for the hazard risk at the present place.

3.2. Saigai Repo (Disaster Reports)

It is the twitter-posting application that even people who are bad at entering up characters with smart phone can finish posting only for 20s. After posting, they can check how other posters feel on a map screen.

3.3. Mosimo Jishin (If an earthquake occurs...)

It is the application that has user take their images with smart phone camera and displays some kinds of images about possible damage there. The result of damage is extracted the date from hazard information about the place and real damage data. Thus, their images are displayed each time the place and timing changes.

3.4. Disaster Risk Finder

It is the application that gets the disaster risk information directly from WMS/WFS/WCS GIS interoperable server, and displays the image of damage through mobile camera using AR technique.

4. Future development

We will try the strategy that uses users at remote locations mutually as a disaster prevention peer network as the notification goes to the user that there is a friend in the stricken area in an urgent and warning, etc. as a trigger by occurring of disaster.

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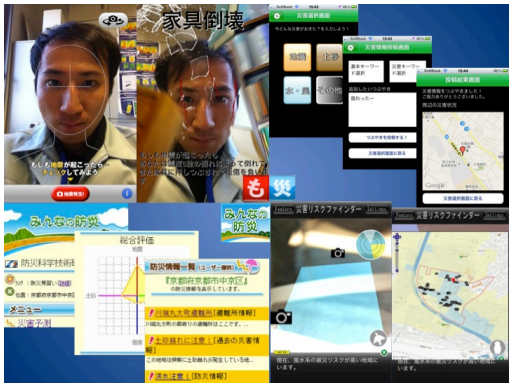

Keywords: social media, mobile application, Interoperability, API, Disaster Risk Information, AR

Japan Geoscience Union Meeting 2011
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Model for transmission of information of geopark by social media -Case study of North Ibaraki Geopark Plan-

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By using social media which provides the platform for interactive communication, we have tried to build a model of the effective communication in the North Ibaraki Geo-Park Plan after the promotion council was set up in 2010. The communication strategy is 1) getting attention of people by mass-media, brochure, sign boards, 2) providing detailed information and continuous communication through web site and social media in order to enlighten, educate users, changing the potential clients to the real clients and making clients repeaters. Daily communication through twitter construct the relationship with the potential clients of geopark. Enlightening of the project is also done by broadcasting Geo-tour with Twitter. Communication using long articles, images and movies are done by Facebook. A community was set in mixi and discussions about given themes are done using message boards. Attractive sceneries of Geopark are introduced with movies on YouTube and with images on Facebook. The effect of Twitter in the North Ibaraki Geopak Plan will be discussed.

Keywords: geopark, North Ibaraki, social media, Twitter, Facebook

Japan Geoscience Union Meeting 2011
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Organizing a Community on GIS Related Technologies Utilizing Social Media

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This paper introduces the way to organize our community, which discuss GIS related technologies that are organized using Twitter and other social media. 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.

The community began in November 2009, when Free and Open Source Software for Geography (FOSS4G) Tokyo Conference was held, and have . Attendees of the conference were exchanging their opinion on Twitter during the conference by sharing a hash-tag, and started following each other. After the conference, people who are interested in the topic related to GIS have joining to the Twitter network, and exchanging opinion and information.

Due to Twitter that connects people to have the same interest, we could organize such community. I am searching for the best way to apply its power and community to my research activity.

Keywords: GIS, Social Media, Organizing Community, Twitter

Japan Geoscience Union Meeting 2011
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Contribution of Twitter to social propagation of earth and planetary sciences: a case related to marine transgression

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We present how Twitter contributed to correcting widely distributed wrong information about earth science. In Japan, marine transgression occurred in the mid Holocene with a maximum height of ca. 2 to 3 m above the present sea level. However, a book written by a famous professor of religion indicates that the transgression was much greater, >50 m above the present sea level. This wrong recognition was due to his incorrect usage of geological and geomorphological maps, but the book was written as if it was based on geoscientific knowledge. The book discusses the historical origin of social landscape in Tokyo in relation to the marine transgression, and it has been sold well. It also received a famous award of literature, and many common people ”learned” the erroneous idea about the transgression. Using Twitter, various people including earth scientists, archaeologists, cartographers, architects, and landscape ecologists discussed this problem. Some earth scientists described research history and introduced important academic publications about the transgression. All relevant tweets were assembled in a web page, and it has been used as an online reference about the transgression.

Keywords: Earth and Planetary Science, society, Twitter, mid-Holocene marine transgression

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Use of social media in academic societies and universities in earth and planetary science: present situation & problems

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The use of social media in the geoscience-related academic societies and universities has recently been increasing. American Geophysical Union (AGU) promotes the use of social networking systems (SNSs) such as blog, Facebook, Twitter, LinkedIN and YouTube, as they have their official account and put the links on the top page of AGU website. European Geosciences Union (EGU) operates their original SNS (COSIS.net) to promote information distribution and the mutual communication among the members. Such social media has also been frequently used as the official accounts by universities, as well as by departments and personal levels. Also in Japan, more private universities are using blogs and Twitter with their official accounts, and the number of their personal- or laboratory-level use has also been increasing. For instance, although Japanese-style lectures often do not have an atmosphere of discussing or talking during the lecture time, the use of Twitter in our teaching classes helps us to communicate with many students in the class at real time. However, we should care of, under the current situation, the discrepancy between the users and non-users of such social media, and even within the users whose information literacy highly varies when we use social media as a communication tool in the academic society and universities. In terms of the use of Twitter in teaching classes, for instance, not all the students can use it effectively and it should be regarded as a supplementary tool. Social media, however, will become a powerful tool to enhance science when they develop maturely in the near future.

Keywords: social media, academic society, university, information literacy