Applications of SNS and the Internet to future geographical education in high schools

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In 2022, a new course of geography will be compulsory for all senior high school students in Japan. Unlike the existing courses of geography in Japanese high schools, the new course focuses on practical applications of geographical skills such as the use of GIS (Geographical Information Systems). However, GIS have some complex aspects and its operation will be a challenge for many students. Easier introductory material related to GIS will be useful to solve this problem. This presentation provides some ideas of using SNS and other services on the Internet as an introduction of GIS for high school students.

Keywords: Geographical education, Senior high school, GIS, SNS, Internet

An Impact of a SNS Message from a Researcher: Case Study of Open Data in Public Transportation

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A researcher especially in engineering often wish to carry out his/her idea and fruit to the society. In the present age where distribution of idea is extremely easy by using blogs, SNS, not only by publishing the results to the expert community by writing a thesis, but also by disseminating information by blogs or SNS might lead chance to realize his/her idea in the society. Here, we discuss the effectiveness of information dissemination at SNS with the case by the authors aiming to realize open data in public transportation.

Keywords: An Impact of SNS, Open Data

Information Sharing on "GIS and Society" through Social Media: Case Study of Internet Broadcasting GeoGeoWest

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GeoGeoWest began with reference to "Tomobiki Night". In fiscal 2015, we conducted a talk show mainly on Youtube Live and Facebook Live online broadcasting twelve times in the evening of every Monday in the second half, twice in 2016.

GeoGeoWest is mainly focusing pick up a geo-based events. In addition, GeoGeoWest not only archives the broadcast itself, but by fully adopting "Hackpad" which can be edited in real time by multiple people online. It is also possible to browse the URL to be referred at anytime.

In order to improve the reusability of the program contents, we granted the CC-BY-4.0 license as a video and used Twitter hashtags. The main topics of each time are the topics of open source GIS such as FOSS4G and OpenStreetMap, although we would like to refer to the Hackpad site of the program, as well as social coding typified by GitHub and Ingress-PokemonGo. It is necessary for society to capture location information from all perspectives such as gamification,technology and institutional trends of unmanned aerial vehicles, which are rapidly growing interest in the past 1-2 years. Also, as well as comments on topics to be taken up as social media characteristics, further inputs and requests, such as referring to Hackpad, have interaction with viewers although the total number is small.

GeoGeoWest introduces trends of "GIS and society", and by opening as much as possible through Hackpad and SNS, we focus on focusing on accumulation and inheritance as a reusable archive. While such methods and ideas are thought to have high affinity with so-called open data movement, as discussed in the 14 th GeoGeoWest, Open Government Data and Open Science Data generated by policy change by 2016 US administration change The fear of the disappearance of reality has been realized. There is no doubt that archiving and reusability of activities and data by various positions and entities will become increasingly important in the future.

Keywords: geomedia, online broadcasting, opendata, hackpad

HACKPAD

第11回 2016-01-25

https://www.youtube.com/watch?v=jzMCXBor97Q

- Ingress
  - 1月16日に青山学院大学の最終発表会：「Ingressをコミュニケーションツールと捉えて、
  - Nianticの須賀さんにゲスト講師として来ていただいた
  - http://aplista.iza.ne.jp/f-iphone/219958
- OSM
  - The Book of OSM
  - SotM Japan は 2016年も開催します！
  - マッピングパーティー情報
- イベント紹介
  - 東京大学空間情報科学研究センター　「次世代社会基盤情報」寄付研究部門・第13

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WITH TAICHI FURUHASHI, HIROSHI OMATA, AND 3 OTHERS

第12回 2016-02-01
第11回 2016-01-25
第10回 2015-12-21
第9回 2015-12-14 #TOMOBIKI
第8回 2015-12-07
第7回 2015-11-30
第6回 2015-11-16 #TOMOBIKI
第5回 2015-11-09
第4回 2015-10-26
第3回 2015-10-19
HTTPS://WWW.YOUTUBE.C...
第2回 2015-10-05

1 RELATED PADS

Utilization of social media by Arctic Data archive System (ADS)

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1. National Institute of Polar Research

Arctic Data archive System (ADS, https://ads.nipr.ac.jp) the central repository of archived data on Arctic research in Japan. ADS is to archive and distribute multiple observational (atmosphere, ocean, terrestrial, and ecology) and model simulation datasets, and promote utilization of these datasets. Now, all over the world people are interested in Arctic region and they access ADS's web service. ADS started using Facebook and Twitter to promote the new service or submitted data by scientists. In the presentation, we want to introduce the utilization case of the social media in the data service site. And we want to talk about future prospects.

Keywords: Data Repository, Arctic, Facebook, Twitter

System to Support Tourists' Excursion Behavior Using Augmented Reality

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In recent years, regarding Japan, which has progressed in advanced information development, various information has been transmitted by means of the internet. Regarding the tourism field also, the internet transmits various information, and is the main information source for planning sightseeing tours and searching for information about tour destinations. However, because of the volume and variety of information, it has become difficult for users to appropriately select and obtain necessary information on their own. Especially for urban tourist spots, because the amount of information submitted and made public is great compared to that of regional tourist spots, and this makes it difficult for those with little knowledge or good sense of locality to efficiently obtain vital information for sightseeing, an information system to help users obtain the appropriate information is necessary.
The purpose of this study, which is based on the background as shown above, is to develop an information system (AR recommended GIS) to support tourists' excursion behavior by making the accumulating, sharing, and recommending of information concerning urban tourist spots possible. More specifically, Web-GIS, SNS, and the recommendation system will be integrated to develop a system appropriate for three information terminals including PC, mobile information terminal, and AR Smart Eyeglass, in order for the system to be available in various situations.
The conclusion of this study can be summarized into three points as shown below.
(1) In order to support tourists' excursion behaviors by integrating SNS, Twitter, Web-GIS, recommendation system, and Smart Eyeglass, in addition to making the accumulating, sharing, and recommending of information regarding urban tourist spots possible, the AR recommended GIS was designed and developed. This made the ameliorating of information search constraints, spatial constraints taking into consideration safety, and constraints related to continuous operation possible. In addition, the Minato Mirai area, situated in the center part of Yokohama City, Kanagawa Prefecture, was selected as the operation area, and the system details were developed after field surveys were conducted.
(2) Because the operation was conducted over a period of 8 weeks, an operation test was conducted 2 weeks prior to the operation, and the system was reconfigured by extracting points needing improvement. All subjects, whether inside or outside the operation area, were over the age of 18, and among the 91 users, 91% were between the age of 20-40. Additionally, the ultimate number of submitted information was 161. In addition, concerning the operation using Smart Eyeglass, which was conducted with tourists in the Minato Mirai area, the total number of users were 34, age of users were spread out, and all users had no experience in using Smart Eyeglasses.
(3) From the results of the Web questionnaire survey given to users after the operation, the system, which sets using information terminals according to use as a premise, is compatible for the collection method of tourist spot information for users, and is mainly used to collect tourist spot information using the viewing and recommendation functions. From the results of the access analysis using the log data form during the operation, the utilization method of the system with PCs and mobile information terminals were very similar. Additionally, as the system using AR Smart Eyeglass was rated extremely highly, it was evident that it is possible to support tourists' excursion behavior using PCs, mobile information terminals, and AR Smart Eyeglasses are possible.

Keywords: Augmented Reality, Web-GIS, Social Media, Recommendation System, AR recommended GIS, Tourists' Excursion Behavior

Possibility of open innovation with social media -Case study of the CS topographic map

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Open Innovation (OI) is a new method of innovation that utilizing open resources inside and outside of an organization. In recent years, Open Innovation 2.0, which is led by citizen and technology users, attracts attention mainly in European countries. Social media is considered to play an important role in the OI created by the diverse participant. The purpose of this paper is to report about role of social media in utilization of CS topographical maps and characteristic as OI.

The CS topographical map (CS Map) is a stereographic projection developed by the Nagano Prefecture Forestry Research Center (Fig. 1). It is widely recognized among forestry sector, but were not popular in other fields. In addition, there was software for creating the CS Map using ArcGIS, but the method of making CS Map using other software was not enough.

The first mention about the CS Map on social media was posted to Facebook by "the forest civil engineering memo" about how to make the CS map using QGSI, on November 20, 2016. In December 9th, the implementation of CS Map using leaflet was posted on "FOSS4G Advent Calendar 2016" which had held on Qiita. By this implementation it became possible to browse the CS Map without using GIS. This entry mentioned that the CS map is useful for hobby such as climbing. It can be confirmed that usage of CS Map was expanded. In addition, this CS Map was used in workshop for local resident in Ueda city, Nagano, held on January 21, 2017. Then, "the forest civil engineering memo" released the CS Map of Hokkaido and Kyushu-Okinawa area on 26 Jan. and 15 Feb, respectively. It is created in the tile map format and used in Web map services, such as the MIERUNE Map. In addition, on "FOSS4G Advent Calendar 2016", a new entry about utilization of CM Maps with Deep Learning was posted on December 16, 2016. In this entry, it is described that open methods, such as CS Map is very helpful.

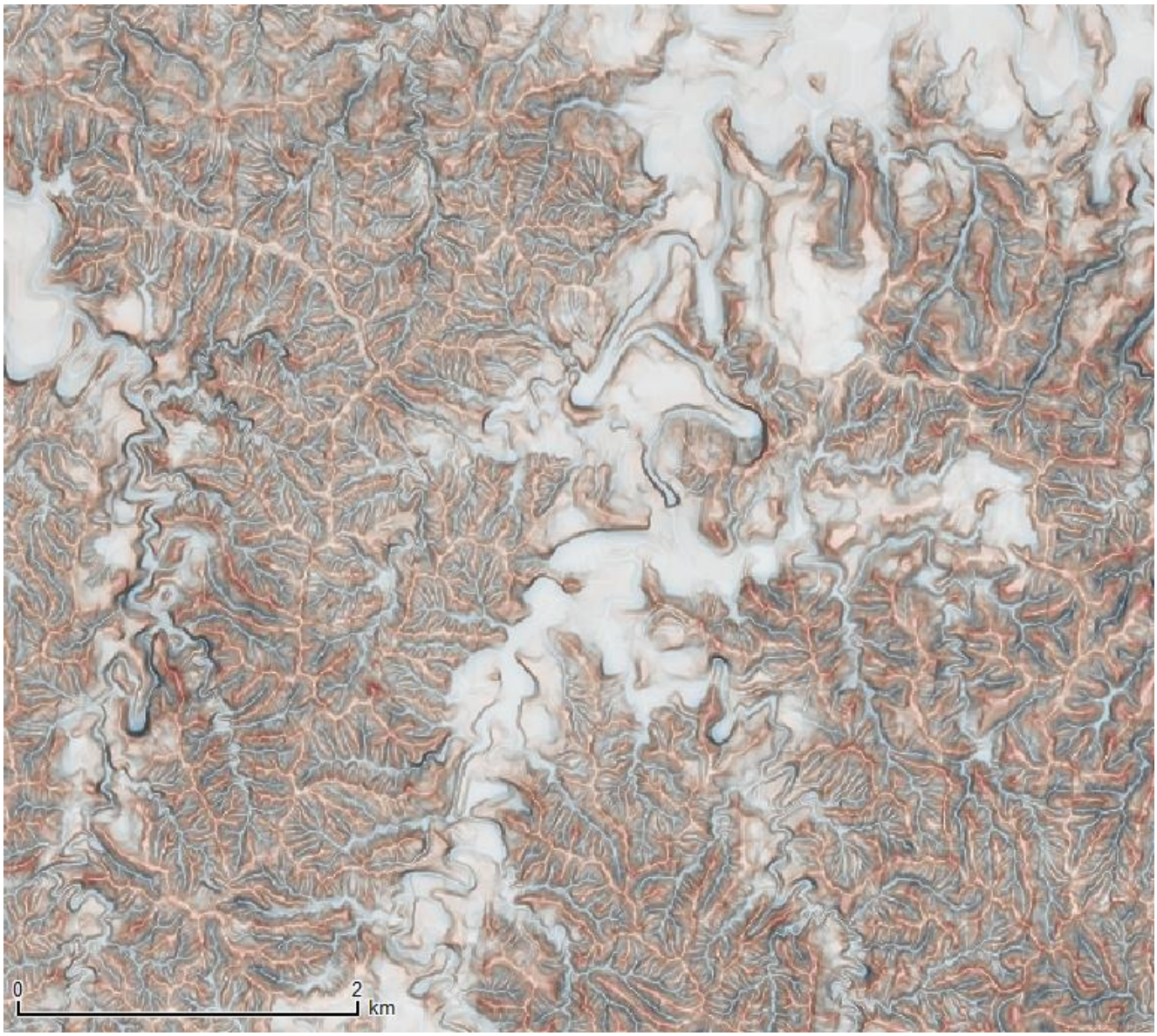
Based on such social media connections, two study sessions about utilization of CS Map were held. The first was held on January 19, 2017, and the participants from various fields exchanged opinions and utilizations about CS Maps. At this meeting, the demand for development of CS Map using open source GIS was high, Thus, on January 30, a meeting about development CS Map with QGIS was held mainly by members of OSGeo.JP. The second result was published using Hackpad. In addition, a plug-in for creating the CS Map with QGIS was developed and published on January 31 at GitHub.

As described above, the CS Map that developed for the the forestry is more easy to use and utilization expanded by contribution of users and engineers in other fields. This can be said a typical example of OI that committed by citizen and user. The reason why the OI was realized in such a short time, is there were three open factors, that is open method, open data and open source software. In addition, the map tile format used as a known method was also important. Social media was used as a medium linking these elements. In this case, not only social media for sharing information like Facebook, but also social media targeted mainly for engineers such as Qiita, Hackpad, Github, have been used to create a new application.

Many researchers and engineers related to geosience felt that there is a gap between fundamental research and innovation. However, as the case of the CS Map, users' demand and interest are varied, and

there are unexpected applications. It is expected more open data, open methods and open source software to be released and disseminated through social media and contributed to progress of OI.

Keywords: Social Media, CS Map, Open Inovation



Dissemination of the charm of San'in Kaigan UNESCO Global Geopark through SNS, especially by Facebook.

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Introduction of our internet dissemination method, such as operating portal site for activity information and providing multilingual application for tourists by augmented-reality (AR).

Outreach activity for geoparks using Facebook Page

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The outreach activity of geoparks is very important for the increase understanding of them in Japan. We have utilized Facebook Page related to Facebook, Twitter and Website. The results and effects of this system in 2016 and 2017 will be presented and also discussed about a challenge in the North Ibaraki Geopark.

Keywords: Facebook Page, North Ibaraki Geopark, SNS

Using SNS Log Data in Understanding Geopark Visitors

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Geopark visitors not only visits specific geo-sites but also to various places to see landscapes and to do various activities. It is therefore difficult to understand who they are, and what they do within Geopark. While questionnaires and interviews are the main methods to gather behavioral data, these methods are only able to take the sample at specific time and place. Previous studies that analyzes visitors in Geopark have not solved these problems. This study presents the analysis of geo-tagged posts on Twitter, a popular social networking service (SNS), of the users who visited Biei-Kamifurano in Hokkaido, Japan, where geopark designation is being pursued.
This study’s target is two-fold. To understand where visitors to Biei-Kamifurano come from, by finding the center of the user’s posts but with a robust estimate that remove the effect of user’s occasional trips away from home. After distinguishing visitors and local residents, locations where visitors visited (and posted) within Biei-Kamifurano is revealed. This study considers how the behavioral information of the visitors retrieved by these methods can be used to various aspects such as “geo-conservation”, “local promotion and tourism” and “disaster prevention”.

Keywords: Geopark, Geotourism, Social Networking Service, Behavior Analysis, Big Data

