НАЦІОНАЛЬНА АКАДЕМІЯ ПЕДАГОГІЧНИХ НАУК УКРАЇНИ

ІНСТИТУТ ЦИФРОВІЗАЦІЇ ОСВІТИ

ЕНЦИКЛОПЕДИЧНІ ДОСЛІДЖЕННЯ У ПРАЦЯХ ВІТЧИЗНЯНИХ І ЗАРУБІЖНИХ ВЧЕНИХ

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У реферативному огляді подано стислий виклад змісту іноземних наукових статей, що індексуються наукометричною базою даних Web of Science та висвітлюють питання еволюції електронних енциклопедичних видань, розгортання окремих енциклопедичних проєктів у різних галузях науки, їхній дидактичний потенціал, лінгвістичні аспекти функціонування та комунікацію у ході їх підтримки.

Тематично упорядкований перелік бібліографічних описів підготовлено працівниками відділу цифрової трансформації НАПН України Інституту інформаційних технологій і засобів навчання НАПН України у межах виконання наукового дослідження «Проектування і технологічне забезпечення функціонування відкритої Інтернет-платформи «Українська електронна енциклопедія освіти» (ДР №0121U108134, 2021–2023 р.) Інституту цифровізації освіти НАПН України.

Реферативний огляд виконано для орієнтування широкого кола зацікавлених осіб (дослідників, вчителів, студентів) в інформаційних потоках щодо використання енциклопедичних видань. Він може бути використаний в наукових установах і закладах вищої освіти у ході проведення наукових досліджень; перепідготовки і підвищення кваліфікації наукових і науково-педагогічних орієнтування працівників; підготовки студентів-магістрів і здобувачів наукових ступенів.

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ЗМІСТ

РОЗДІЛ 1. ЕВОЛЮЦІЯ ЕНЦИКЛОПЕДИЧНИХ ВИДАНЬ

Encyclopedias and encyclopedism in the era of the Web

The paper traces the development of digital encyclopedias through four main stages: 1. The age of the first text-based online services; 2. the age of multimedia CD-ROMs, mainly based on the idea of an offline multimedia encyclopedia; 3. the first generation of web encyclopedias, when the web version initially supplemented and then thoroughly replaced CD-ROMs; 4. the age of data oriented, semantic-aware encyclopedias. This chronological framework is used to discuss how different models of encyclopedias and encyclopedism - including the Wikipedia model - have been intertwined with technological developments on the one side, and with the cultural debate on the new digital ecosystem (and on its role for the publishing industry) on the other.

Encyclopedias and modern technology

The spread, of computer technology has significantly influenced the processing and distribution of all types of information. This trend has also appeared very significantly in the production of encyclopedias and the ways of making them accessible in the widest sense. The digital processing of basic sources of information has many advantages: Text and pictorial information can be made accessible as in classic printed encyclopedias but modem technology also enables the inclusion of audio,,film and animated information. Apart from this, high quality programmes enable much more effective work with extensive data,bases and provide interested people with information in a structure, which is impossible in a classic printed encyclopedia. At present we can trace three trends in modern digital encyclopedias. Firstly, there are classic encyclopedias made accessible in digital form. They include the classic British, German, French, Italian and Czech encyclopedias, which originated in the last century. However, the digitalization of information enables a much more rapid cycle of revising and publishing these classic encyclopedias. Computer technology and the World Wide Web also enable access to some classic encyclopedias for modern users for whom access to the traditional version is difficult. There is also a trend to produce digital encyclopedias with no classic printed form. ENCARTA is the pioneer in this area. Up to now, the modern digital encyclopedia culminates in works using all means of expression to create encyclopedias and data bases conceived in a modem way. The Italians are producing some of the best examples.

Wikipedia versus Encyclopedia Britannica: A Longitudinal Analysis to Identify the Impact of Social Media on the Standards of Knowledge

The collaboratively edited online encyclopedia Wikipedia is among the most popular websites in the world. Subsequently, it poses a great challenge to traditional encyclopedias, which for centuries have set the standards of society's knowledge with their printed editions. It is, therefore, important to study the impact of social media on the standards of our knowledge. This longitudinal panel study analyzed the framing of content in encyclopedia entries of top Fortune companies in Wikipedia and the online version of Encyclopedia Britannica in 2006, 2008, and 2010. Content analyses of the length, tonality, and topics of 3,985 sentences showed that Wikipedia entries were significantly longer, were more positively and negatively framed, and focused more on corporate social responsibilities and legal and ethical issues than the online entries of the traditional encyclopedia, which were predominantly neutral. The findings stress that the knowledge-generation processes in society appear to be fundamentally shifting because of the use of social media collaboration. These changes significantly impact which information becomes available to society and how it is framed.

РОЗДІЛ 2. СТВОРЕННЯ Е-ЕНЦИКЛОПЕДІЙ В РІЗНИХ ГАЛУЗЯХ НАУКИ

Digital Ark of Knowledge

The general problem of creating and using encyclopedic knowledge in the digital civilization is considered. The creation and use of a digital encyclopedia are an example of intellectual activities of a collective expanded personality. The basic principles concerning the creation and functioning the "Digital ark of knowledge" at Lomonosov Moscow State University are described in the case of mathematical sciences. The arising problems and their solutions are discussed.

Digital Encyclopedia "Romania 1918. People, moments and images"

The article describes in Premiere: The first project of the SIVECO Foundation, a free software product. "Romania 1918. People, moments and images" is a digital product created by SIVECO Romania, in partnership with prestigious cultural institutions and personalities of Romanian society. It is our gift to Romania. The digital encyclopedia is accessible on App Store, Google Play, Windows Store and online. The Encyclopedia is offered to Romanians everywhere, as a reminder of the most important national project: the national union. Chapters: I. The historical context (The Great War, The War in numbers and images), II. Romania under arms (From neutrality to belligerence, From noblemen to peasants: people and deeds), III. Homefront (The family, Everyday life). The digital encyclopedia is dedicated to the thousands of Romanians and Romanians who sacrificed themselves for Romania to be the whole of today, an epic work, built by volunteering and generosity, which will be offered free to the Romanian school. It is our gift to Romania. We propose that you be contemporary with those real, authentic models that, through generosity, tolerance, sacrificeand simplicity offered us, today a beautiful Romania. And stand in front of them by teaching them the story. The people you will find in this Encyclopedia do not appear in the textbooks, but they are much more precious in their character than many who have notoriety. Project Coordinator: Prof. Radu Jugureanu; Instructional Designer and Author: Prof. Magda Stan; Digital Creation, Coordinator: Bogdan Gornea.

DartWiki: A Semantic Wiki for Ontology-Based Knowledge Integration in the Biomedical Domain

Semantic Web languages and technologies can be used for the annotation, classification, and organization of knowledge assets and digital artifacts based on biomedical ontologies. In this paper, we present a semantic wiki, named DartWiki, to build ontology-based digital encyclopedia for the biomedicine domain. DartWiki provides a Web-based interface for accessing knowledge artifacts in both per-artifact and per-concept mode. In the per-artifact mode, users can access these artifacts, and annotate them in both short texts and logical statements in terms of domain ontologies. In the concept-based mode, users can navigate a graph of concepts, and review and edit the synthesized page about a selected concept, which contains meaningful information about the concept, and also its related concepts and artifacts. Smooth transitions between the two modes are achieved through semantic links. As a use case of the DartWiki, we provide an open platform for the management and maintenance of digital artifacts in Integrated Medicine. This system provides medical practitioners with relevant and trustworthy knowledge artifacts, and also means to input artifacts, to clarify their meaning, and to check and improve their quality, which encourages the inclusion and participation of users, and effectively creates an online community around knowledge sharing.

EIAH data model Semantic interoperability among distributed digital repositories

Purpose - The purpose of this paper is to provide a clear image of the information architecture used in the Encyclopedia of Iranian Architectural History (EIAH) and to show how it was crafted to meet the need for accessibility, expressiveness and interoperability.
Design/methodology/approach - In order to assess the level of interoperability in the system, two essential concepts of the system are identified and traced in every level of the three-layer information architecture. Federated repositories are studied for the level of accessibility that they can offer. Knowledge representation level, mediator level and the semantic portal are studied for expressiveness capabilities.
Findings - EIAH information architecture is capable of establishing links among resources available in the information pools connected to the system by using EIAH metadata application profile (EMAP). Different modules in this architecture, which are localized for the Persian language, can work on similar environments for other languages, for example Arabic.
Originality/value - EIAH is the first example of a digital encyclopedia for the history of Iranian architecture, which is basically different from other digital encyclopedias in the way that it offers information to users. EIAH is aimed at domain experts and provides them not with pre-written and quality articles but with a wide range of resources and documents relative to what they are seeking.

The role of the e-encyclopedia media of Indonesian customary law systems as a means of strengthening national identity and student concern on local wisdom values (опитувальник)

In the information society era, communities no longer put primary concern on the richness related to Indonesian identity. In particular, the knowledge and practices of Indonesian customary law systems begin to be forsaken

gradually. With respect to this issue, it also happens within students in the Higher Education environment. In fact, student interests in the nation cultures, especially their customary law systems are still low. Based on this specific issue, the researchers are motivated to make an innovation in the learning process of the Indonesian Customary Law Systems course by designing the E-Encyclopedia of Indonesian Customary Law Systems: The Fulfillment of Local Culture Literature in Strengthening Student Competencies towards the Information Society Era. The purpose of this study is to determine the stages of making, roles, and benefits of the E-Encyclopedia of Indonesian Customary Law Systems, as the Fulfillment of Local Culture Literature in Strengthening Student Competencies towards the Information Society Era. This study employed the Research and Development method. The data were collected using the techniques of interviews, observation, questionnaires, and documentation studies. The subjects of the study were the Civic Education students who are taking the Customary Law course in the academic year of 2018/2019. The results showed that the role of the EEncyclopedia media was very significant in strengthening the national identity and cultural awareness of the students. This significant impact was important since they began to more love their country. In addition, there are also micro benefits (narrow) for the Civic Education Department students because this innovative Customary Law learning media helped facilitate the digital literacy of students. In terms of its macro benefits (broad), the community also took benefits of it by easily accessing the E-Encyclopedia website.

Radiation Protection Aspects Of Emitel Encyclopaedia Of Medical Physics

The Encyclopaedia of Medical Physics EMITEL was developed under the EU pilot project European Medical Imaging Technology e-Encyclopaedia for Lifelong Learning. This large reference material includes 3400 articles on 2100 pages supported by thousands of illustrations. All materials are available free at the website, www.emitel2.eu. The articles are grouped in seven categories-physics of: X-ray diagnostic radiology, nuclear medicine, radiotherapy, magnetic resonance imaging, ultrasound imaging, radiation protection and general terms. The radiation protection part of EMITEL includes 450 articles. These were organised in several sub-groups including: nuclear and atomic physics; ionizing radiation interactions and biological effects; radiation detection and measurement; dosimetric quantities and units; and general radiation protection and international bodies. EMITEL project was developed over 3 y and attracted as contributors 2501 senior specialists from 35 countries. After its successful launching, EMITEL is actively used by thousands of professionals around the world.

EMITEL e-Encyclopaedia Links with EMERALD e-Learning Modules

The paper is related to the large international project EMITEL, developing the first e-Encyclopaedia in Medical Physics. The links between EMITEL and the previous project EMERALD are introduced. In this connection special attention is paid to the EMITEL e-Encyclopaedia sub-sections of Radiotherapy, Nuclear Medicine and Diagnostic Radiology.

Web site Development for EMITEL e-Encyclopaedia and Multilingual Dictionary

The development of the EMITEL Web site includes specific features aiming to allow fast access both to the Encyclopaedia and Dictionary of Medical Physics terms. The paper describes the main functions of the web site and the additional Content Management System, allowing online update and editing of the information. The EMITEL e-Encyclopaedia and Multilingual Dictionary provides free information to all colleagues worldwide.

EMITEL e-Encyclopaedia of Medical Physics with Multilingual Dictionary

The international project EMITEL, funded by the EU Leonardo programme and including partners from King's College London and King's College Hospital, University of Lund and Lund University Hospital, University of Florence, AM Studio Plovdiv and the International Organization for Medical Physics (IOMP) has developed an e-Encyclopaedia for Medical Physics with Multilingual Dictionary. This web tool will be free to use over the Internet for all colleagues. The paper describes the main elements of this first Medical Physics e-Encyclopaedia.

EMITEL - an e-Encyclopedia for Medical Imaging Technology

The paper gives a brief explanation of a new International project EMITEL and its associated multilingual e-Dictionary. The project is developing the first web-based e-Encyclopedia in the profession. EMITEL will address the lifelong learning of a wide range of specialists and will be available free on Internet. The project advanced work-in-progress - the c-Dictionary is already functioning at www.emitdictionary.co.uk

E-Encyclopaedia Of Medical Physics With Multilingual Dictionary Of Terms - Emitel

The international project EMITEL has developed an c-Encyclopaedia for Medical Physics with Multilingual Dictionary. The project attracted 250+ specialists from 35 countries. This web tool will be free to use over the Internet for all colleagues. The paper describes the main elements of this first Medical Physics e-Encyclopaedia (web address: www.emite12.eu). The use of EMITEL is also explained in the paper.

Expanded encyclopaedias of DNA elements in the human and mouse genomes

The authors summarize the data produced by phase III of the Encyclopedia of DNA Elements (ENCODE) project, a resource for better understanding of the human and mouse genomes.

The human and mouse genomes contain instructions that specify RNAs and proteins and govern the timing, magnitude, and cellular context of their production. To better delineate these elements, phase III of the Encyclopedia of DNA Elements (ENCODE) Project has expanded analysis of the cell and tissue repertoires of RNA transcription, chromatin structure and modification, DNA methylation, chromatin looping, and occupancy by transcription factors and RNA-binding proteins. Here we summarize these efforts, which have produced 5,992 new experimental datasets, including systematic determinations across mouse fetal development. All data are available through the ENCODE data portal (), including phase II ENCODE(1)and Roadmap Epigenomics(2)data. We have developed a registry of 926,535 human and 339,815 mouse candidatecis-regulatory elements, covering 7.9 and 3.4% of their respective genomes, by integrating selected datatypes associated with gene regulation, and constructed a web-based server (SCREEN;) to provide flexible, user-defined access to this resource. Collectively, the ENCODE data and registry provide an expansive resource for the scientific community to build a better understanding of the organization and function of the human and mouse genomes.

New developments on the Encyclopedia of DNA Elements (ENCODE) data portal

The Encyclopedia of DNA Elements (ENCODE) is an ongoing collaborative research project aimed at identifying all the functional elements in the human and mouse genomes. Data generated by the ENCODE consortium are freely accessible at the ENCODE portal (https://www.encodeproject. org/), which is developed and maintained by the ENCODE Data Coordinating Center (DCC). Since the initial portal release in 2013, the ENCODE DCC has updated the portal to make ENCODE data more findable, accessible, interoperable and reusable. Here, we report on recent updates, including new ENCODE data and assays, ENCODE uniform data processing pipelines, new visualization tools, a dataset cart feature, unrestricted public access to ENCODE data on the cloud (Amazon Web Services open data registry, https://registry.opendata.aws/encode-project!) and more comprehensive tutorials and documentation.

The Encyclopedia of DNA elements (ENCODE): data portal update

The Encyclopedia of DNA Elements (ENCODE) Data Coordinating Center has developed the ENCODE Portal database and website as the source for the data and metadata generated by the ENCODE Consortium. Two principles have motivated the design. First, experimental protocols, analytical procedures and the data themselves should be made publicly accessible through a coherent, web-based search and download interface. Second, the same interface should serve carefully curated metadata that record the provenance of the data and justify its interpretation in biological terms. Since its initial release in 2013 and in response to recommendations from consortium members and the wider community of scientists who use the Portal to access ENCODE data, the Portal has been regularly updated to better reflect these design principles. Here we report on these updates, including results from new experiments, uniformly-processed data from other projects, new visualization tools and more comprehensive metadata to describe experiments and analyses. Additionally, the Portal is now home to meta(data) from related projects including Genomics of Gene Regulation, Roadmap Epigenome Project, Model organism ENCODE (modENCODE) and modERN.

Usability Evaluation to Enhance Software Quality of Cultural Conservation System Based on Nielsen Model (WikiBudaya)

WikiBudaya is a web-based encyclopedia application specifically processing information and knowledge on Indonesian culture in forms of articles. It is managed by the Department of Culture and Tourism in East Java Province, Indonesia (DISBUDAPAR JATIM). In the process of its development, the required software quality is not yet controlled. Consequently, WikiBudaya is not yet officially released in accordance with software development life cycle (SDLC). Accordingly, it is necessary to evaluate it by means of software quality control, specifically focused on a usability aspect, i.e.: component of non-functional need to assess the website success. WikiBudaya usability evaluation is based on Nielson Model by adopting user testing method with descriptive statistic data for interpreting the usability quality evaluation. Next, to draw comprehensive results, the result of hypothesis testing is followed up with conclusion of final results in form of recommendations for WikiBudaya website enhancement in order to facilitate better usability by the users and sustainable development. (c) 2018 The Authors. Published by Elsevier B.V.

CASIA-KB: A Multi-source Chinese Semantic Knowledge Base Built from Structured and Unstructured Web Data

Knowledge bases play a crucial role in intelligent systems, especially in the Web age. Many domain dependent and general purpose knowledge bases have been developed to support various kinds of applications. In this paper, we propose the CASIA-KB, a Chinese semantic knowledge base built from various Web resources. CASIA-KB utilizes Semantic Web and Natural Language Processing techniques and mainly focuses on declarative knowledge. Most of the knowledge is textual knowledge extracted from structured and unstructured sources, such as Web-based Encyclopedias (where more formal and static knowledge comes from), Microblog posts and News (where most updated factual knowledge comes from). CASIA-KB also aims at bringing in images and videos (which serve as non-textual knowledge) as relevant knowledge for specific instances and concepts since they bring additional interpretation and understanding of textual knowledge. For knowledge base organization, we briefly discussed the current ontology of CASIA-KB and the entity linking efforts for linking semantically equivalent entities together. In addition, we build up a SPARQL endpoint with visualization functionality for query processing and result presentation, which can produce query output in different formats and with result visualization supports. Analysis on the entity degree distributions of each individual knowledge source and the whole CASIA-KB shows that each of the branch knowledge base follows

power law distribution and when entities from different resources are linked together to build a merged knowledge base, the whole knowledge base still keeps this structural property.

Active Recommendation of Tourist Attractions Based on Visitors Interests and Semantic Relatedness

Many visitors always search on tourist attractions related information on the Web so as to get more information on the places they are visiting or plan their next trips. In this study, we introduce CASIA-TAR, an active tourist attractions recommendation system, which provides relevant knowledge of specific tourist attractions and make recommendations for other relevant places to visit based on semantic relatedness among the specific tourist attraction and potentially interesting places. Two algorithms are introduced to calculate the semantic relatedness among different tourist attractions based on the tourist attraction semantic knowledge base with relevant knowledge mainly extracted from Web-based encyclopedias. As an integrated portal for tourist attraction recommendation, CASIA-TAR also provides images, news and microblog posts that are relevant to specific tourist attractions so that visitors could obtain relevant information in an integrated Web-based system.

Statistical and Structural Analysis of Web-based Collaborative Knowledge Bases Generated from Wiki Encyclopedia

Web-based collaborative knowledge bases collect human knowledge through the Web. They can be used for answering questions or support different knowledge intensive applications on the Web. From a statistical point of view, they usually reveal some interesting characteristics, which can be acquired through statistical analysis to get deeper understanding of these kinds of knowledge bases. In this paper, we build a semantic knowledge base using the triples extracted from a Chinese wiki Web site called Baidu Baike. We make an investigation on the statistical results on the building process and structural characteristics of this knowledge base. We explain what we have observed and inferred and how the conclusion can help to understand the process of building large scale Web based collaborative knowledge bases and how to make them better.

The Transcription Factor Encyclopedia

Here we present the Transcription Factor Encyclopedia (TFe), a new web-based compendium of mini review articles on transcription factors (TFs) that is founded on the principles of open access and collaboration. Our consortium of over 100 researchers has collectively contributed over 130 mini review articles on pertinent human, mouse and rat TFs. Notable features of the TFe website include a high-quality PDF generator and web API for programmatic data retrieval. TFe aims to rapidly educate scientists about the TFs they encounter through the delivery of succinct summaries written and vetted by experts in the field. TFe is available at http://www.cisreg.ca/tfe.

The KEGG Databases and Tools Facilitating Omics Analysis: Latest Developments Involving Human Diseases and Pharmaceuticals

In this chapter, we demonstrate the usability of the KEGG (Kyoto encyclopedia of genes and genomes) databases and tools, especially focusing on the visualization of the omics data. The desktop application KegArray and many Web-based tools are tightly integrated with the KEGG knowledgebase, which helps visualize and interpret large amount of data derived from high-throughput measurement techniques including microarray, metagenome, and metabolome analyses. Recently developed resources for human disease, drug, and plant research are also mentioned.

VisHue: Web Page Segmentation for an Improved Query Interface for MedlinePlus Medical Encyclopedia

World Wide Web has become the largest source of information. Consequently web based information retrieval, information extraction: automatic page adaptation and querying deep-web are gaining importance. The need for information retrieval applications is increasing. To address the problems of the ever expanding information over the internet, traditional information retrieval techniques have been applied. Such techniques are sometimes time consuming, and laborious, and the results obtained may be unsatisfactory. This study is an attempt to query web pages like MedlinePlus medical encyclopedia by segmenting the web pages. It summarizes the existing approaches for web page segmentation from the perspective of "structure realization for improved querying" on the web. It proposes a new algorithm VisHue for web page segmentation based on visual cues and heuristics and further uses the hierarchical structure generated by it to develop the Query by Segment or Tag (QBT) query interface. This interface is close to the end-user and exploits the relationships among the various content groups within a web page. Such an improved query-interface enables the user to perform in-depth querying. It is a step beyond the page-level search.

An integrated model of interaction experience for information retrieval in a Web-based encyclopaedia

An experiment, using two versions of a Web site varying in usability, tested three models of user experience: an interaction experience model, a technology acceptance model and an integrated experience-acceptance model. We found that the perceptions of three product attributes (Pragmatic Quality, Hedonic Quality-stimulation and Hedonic Quality-identification) and technology acceptance variables (the beliefs of Perceived Ease of Use, Perceived Enjoyment and Perceived Usefulness, and Intention to Use) are separate underlying psychological dimensions. A positive effect of usability on task performance, interaction experience and acceptance was found. In the interaction experience model, the evaluation of Goodness (overall interaction quality) was less stable and influenced by both Pragmatic Quality and Hedonic Quality, but the evaluation of Beauty was more stable and only influenced by Hedonic Quality. In the

technology acceptance model, Perceived Ease of Use was a determinant of Perceived Enjoyment and Perceived Usefulness, and the latter two were independent determinants of Intention to Use. In the integrated model, perceptions of product attributes were independent determinants of beliefs, but evaluations were not independent determinants of Intention to Use. Future modelling work should address a range of interactive systems, information architecture and individual differences.

Mirage of us: A reflection on the role of the Web in widening access to references on Southern African arts, culture and heritage

This article outlines the broad aims of the Encyclopaedia of South African Arts, Culture and Heritage (ESAACH) Project then goes on to consider the ESAACH Website as a networked resource that speaks to the project's vision of accessibility and participation. The wiki architecture is highly accessible to users and contributors alike. In addition to its robust structure as a reference work, a wiki encyclopaedia facilitates networked social collaboration uniquely suited to the co-operative principles of the project. Subject area specialists will exercise editorial control over the content of the wiki, and work with the Editor-in-Chief, Associate Editors and peer reviewers to assess contributions, recommend editorial corrections, and select articles, essays and entries for inclusion in the printed volumes of the encyclopaedia. The paper surveys existing Web-based reference sources on Southern African literature, arts and culture; provides an account of the evolution of the Verbal Arts section of the ESAACH wiki; and discusses the prototype ESAACH wiki.

Mosssbauer effect: a dual method for myriad applications

This essay summarises the author's admittedly partial thoughts on the applications of the Mosssbauer effect. After a short overview of the history of Mosssbauer effect and Mosssbauer spectroscopy, we focus on recent difficulties of the applications of the method. These emerge from the complexity of Mosssbauer spectroscopy, which is now extensively used by experts of other fields. Finally the plan of setting up a Web-based Encyclopaedia of Mosssbauer Spectroscopy is put forward.

An encyclopedia of software resources - A possible and realistic project

Personally, I strongly believe that it is very difficult to imagine today's civilized world without computers and Information Technology. Within a relative short period of time, computing has been implemented in all the possible domains of activity. Technology has developed rapidly and the notions of information society and knowledge-based society have become familiar. In my view, there is no doubt that the humanity's future goals cannot be accomplished without a solid understanding of how to use a computer properly and of the art of computer usage. In this sense, all of us who aim to be well informed and productive need to understand not only a limited number of specific software applications to work with, but also to have the possibility to access valuable information about software packages of all kinds. Starting from the definition of an encyclopedia as "A book, or set of books, or digital version of such, containing authoritative information about a variety of topics..." (1), in this paper I will try to show that this Encyclopedia of Software Resources which I envisage will be a collection of information related to all possible software applications, very useful for students, for developing specific lessons/courses, for the research community, the industry, and the general public.

Best practices on delivering a wiki collaborative solution for enterprise applications

Wikis have become a hot topic in the world of collaboration tools. Wikipedia.org [1], a vast, community-driven encyclopedia, has proven to be an invaluable information resource that has been developed through collaboration among thousands of people around the world. Today wikis are increasingly being employed for a wide variety of uses in business. Consequently, one of the key challenges is to enable wikis to interoperate with informational and business process applications. The ability to dynamically change the content of webpages and reflect the changes within an enterprise application brings the power of collaboration to business applications. This paper includes general information about wikis and describes how to use a wiki solution within an enterprise application. Integrating an enterprise application with a wiki permits real-time updates of pages in the application by certain groups of experts, without deploying riles from the Web application server.

Using hyperdocuments to manage scientific knowledge: the prototype Encyclopedia of Southern Appalachian Forest Ecosystems

Despite the overwhelming body of research available on the ecology and management of Southern Appalachian forests, a gap exists between what scientists know and what the management community is able to apply on the ground. Most research knowledge still resides in highly technical, narrowly focused research publications housed in libraries. The internet, combined with increasingly sophisticated hyperdocument authoring systems, makes web-based hyperdocuments a practical and affordable way to manage this scientific knowledge. The USDA Forest Service developed the Encyclopedia of Southern Appalachian Forest Ecosystems (ESAFE; http://www.forestencyclopedia.net), a hyperdocument-based encyclopedia system available on the internet, to address this need for more accessible, understandable, condensed, and synthesized research knowledge. This project aims to synthesize what we know scientifically about the management and ecology of Southern Appalachian forest ecosystems, organize it logically, and make it universally available at no cost to users. ESAFE is composed of original summaries of hundreds of topic areas compiled from over 5000 literature sources by over 15 authors specifically for this purpose. Presently, ESAFE has over

1100 pages of content that includes over 150 tables, 150 figures, 3000 internal hyperlinks, and 1800 external hyperlinks. Unlike most internet-based hyperdocuments, quality control of the encyclopedia is ensured through a complete peer-review process similar to traditional scientific journals. The encyclopedia is built upon a dynamic content management system (CMS), developed using Zope software, that provides a platform for authoring, editing, reviewing, publishing, and updating content directly through the internet. This CMS creates a mechanism for updating the site with peer-review content directly through the internet, so that the knowledge base can be continually updated, expanded, and improved. Using tools like ESAFE, busy forest managers can more easily find answers to questions from their own desks. It has been favorably evaluated by a diverse group of land managers, the general public, and ecosystem scientists. It is also currently being used as a prototype for several other forestry-related hypertext encyclopedias.

Raising community awareness about the environment through dynamically generated stories

This paper discusses issues raised in the design of a dynamically generated Web-based natural history encyclopedia for children. The novelty of our proposal is the dynamic creation of encyclopedia entries using domain-specific middleware to access biological and ecological readers (users) with tailored reports summarizing information drawn from distributed datasets. A prerequisite, however, is a domain-dependent standardized data labeling system. Our project will piggyback on the host of projects currently developing metalabeling frameworks to dynamically create stories which are peopled by creatures from biological collections, are set in locations of local or other interest to the site visitor, and use scenarios based on relevant ecosystems. The underlying scientific databases provide a much broader range of subject matter (species and locations) that would not otherwise be feasible and alleviate content maintenance problems that beset community Web sites or professional encyclopedias. To incorporate such information in the sorts of format expected in a children's encyclopedia involves developing sets of "story templates, rules for selection of a template, and rules for design of the multimedia presentation of the story. It also requires comprehensive labeling systems for data in the scientific databases.

Web-based encyclopedia on physical effects

Web-based learning applications open new horizons for educators. In this work we present the computer encyclopedia designed to overcome drawbacks of traditional paper information sources such as awkward search, low update rate, limited copies count and high cost. Moreover, we intended to improve access and search functions in comparison with some Internet sources in order to make it more convenient. The system is developed using modern Java technologies (Java Servlets, Java Server Pages) and contains systemized information about most important and explored physical effects. It also may be used in other fields of science. The system is accessible via Intranet/Internet networks by means of any up-to-date Internet browser. It may be used for general learning purposes and as a study guide or tutorial for performing laboratory works.

The 'Stanford Encyclopedia of Philosophy' - A developed dynamic reference work

The present information explosion on the World Wide Web poses a problem for the general public and the members of an academic discipline alike, of how to find the most authoritative, comprehensive, and up-to-date information about an important topic. At the Stanford Encyclopedia of Philosophy (SEP), we have since 1995 been developing and implementing the concept of a dynamic reference work (DRW) to provide a solution to these problems, while maintaining free access for readers. A DRW is much more than a web-based encyclopedia, and its scope far exceeds that of an electronic journal or preprint exchange. Int his article we document the progress of the SEP toward full implementation fo the DRW concept. We discuss the fiscal challenges posed by our desire to maintain free or los-cost access to the contents of the SEP, and we consider technological challenges posed by the desire to stay abreast of technological developments in document markup while making it easy for authors and subject editors to write and maintain entries representing the very best scholarship.

An Online Collaborative Ecosystem for Educational Computer Graphics

We introduce a coding framework that supplements introductory computer graphics courses, with the goal of teaching graphics fundamentals more effectively and lowering the excessive barrier of entry to 3D graphics programming. In particular, our framework provides tiny-graphics.js, a new WebGL-based software library for implementing projects, including an improved organization system for graphics code that has greatly benefited our students. To mitigate the difficulty of creating 3D graphics-enabled websites and online games, we furthermore introduce the "Encyclopedia of Code"-a World Wide Web framework that encourages visitors to learn 3D computer graphics, build educational graphical demos and articles, host them online, and organize them by topic. Our own contributed examples include various interactive tutorials and educational games. Some of our modules expose students to new graphics techniques, while others explore new modes of online learning, collaboration, and computing. In comparison to earlier online graphics coding platforms and mainstream graphics educational materials, the resources that we have developed offer a significantly unique set of features for both inside and outside our classrooms.

Basic Research 1 for Compilation of Korean Language Educational Science Encyclopedia - Centered on its Microstructure

This research is a pioneering work about assignment that is carried out as Korean studies project. The result of this study will combine the personality of Korean studies and social science into a special form. According to the recent

tendency of Korean language study the technical terms needed for teachers and investigator making clear scientific study.Based on the personality of this science and established sphere of lemma in poly science, researchers called this Korean Studies.Researchers marked both morphological and methodological sides of the dictionary and descriptive mode of lemma before considering categories at the theoretical level and practical stratigraphy in the microstructure of this encyclopedia. It also include minor domains such as authentic information and usage. Specifically, when writers describe standard language, they have to arrange relevant entry words according to political necessity and as an authentic teaching method.In the case of foreigners learning Korean language as an educational object, it is considered in public language section. Korean language educational science has system which is included the wide scope from educational policy, course of instruction, teaching material, teaching method, assessment to the relevant basis studies. Just use educational basis and refer it as the inner circle and the outer circle as educational policy and so on. Inner depth is detected as proceeding to seeking the center. Investigators find core section(lexeme) if they enter deeply in each domain. This encyclopedia is constructed through these process. Researchers referred to foreign language education dictionaries and analyzed those structure. Entry word category is deeply examined in the basis study when researchers think about how to describe a lemma. Because this encyclopedia is suited for environment of users,the final will be developed to electronic dictionary as well as paper dictionary. In conclusion, researchers found that microstructure of this encyclopedia make clear scientific results or point at issue. Hereafter,there is remained of dividing off description methods at layers of lemma and finding description typology in entry word category. (Seoul National University)

Practical Experience from a Pan-European Educational Project

The paper provides detailed description of experience from practical use of a newly developed "TechPedia" educational system tailored mainly for professional secondary schools specializing in ICT, electrical engineering and automation. The content for the system has been authored by experts from several European universities. Its purpose is to increase the attractiveness of secondary education and training, so that students' professional growth can seamlessly continue at technical universities. The project consortium has developed modern electronic learning environment and hundreds of learning objects, such as learning modules, worksheets, tests, multilingual dictionary and encyclopedia that gave the name to the whole project - TechPedia, which is currently in its pilot phase, i.e. practical testing with students and teachers at many schools across Europe. Students can also compare their knowledge thanks to an international "Technical Olympiad". The project results were also awarded the first prize at eLearning 2016 nationwide competition.

Electronic Encyclopedia Of Construction Engines And Vehicles

Purpose of the contribution is to demonstrate possibilities of computer program for learning process of the subjects focused on road personal vehicles and show his main upgrades in version 2.0. Education is based on visualizing and description of the components of function groups in personal vehicles. Objective of the program is to explain in a simple and interesting way the function and technical principles of the components of motor vehicles, to explain the terms and abbreviations and present newest trends and technologies in construction of motor vehicles.

A comprehensive e-education engine for a virtual diabetes centre

It seems likely that the development of effective diabetes education for patients, carers and staff would prove highly cost-effective. Diabetes-e is an electronic diabetes encyclopaedia designed to provide comprehensive education to patients, carers (e.g. family, schools, care homes) and health professionals (specialist and non-specialist). In addition, educational media such as information leaflets (that can be printed during a consultation), streaming educational video and slide resource packs are available. Self-assessment questionnaires with feedback guide further education and facilitate targeted continuing professional development (CPD) for health professionals. The prototype has been developed with a particular emphasis on patient input. It is anticipated that Diabetes-e will be implemented across Central Nottinghamshire, including training of key personnel, by the end of 2005. The project has already gone live for insulin commencement.

Graph applications in programming

Graph theory, which used to be a purely academic discipline, is now increasingly becoming a prerequisite to effective application of computers in numerous applied fields. In the paper, current works are surveyed on creation of support tools for application of graphs in programming conducted by the Laboratory for Program Construction and Optimization of the Ershov Institute of Information Systems, Siberian Division, Russian Academy of Sciences. These works are supported by the Russian Foundation for Basic Research and the Ministry of Education. We start by considering the works on creation of an encyclopedia of graph algorithms for programmers. Techniques and tools for visual processing of graphs and graph models are described. An explanatory dictionary on graph theory in computer science and programming and its electronic version are discussed.

The electronic encyclopaedia of aminoacidurias

Electronic encyclopaedia of human hereditary disorders of amino acid metabolism (aminoacidurias) has been created. The disease inheritance, gene location, phenotype, gene structure, gene mutations, biochemistry, and gene therapy of aminoacidurias are described in most detail. The database (DB) is integrated with international DBs available in Internet. The electronic encyclopaedia may serve as an educational system connecting medicine with modern molecular genetics.

Extranet SGML editorial system for encyclopaedias

Grupo Anaya is engaged in a 3 years project to create an educational encyclopaedia for the XXI century. The editorial work starts from scratch with no legacy information. From day one the encyclopaedia has been conceived as a product and media independent database, ready to be deployed in traditional paper based media as well as through any electronic media and channel (CD-ROM, Internet, cable services, etc.). Textual information is SGML coded, and hyperlinks are HyTime compliant; quantitative and perishable information is stored and maintained in relational databases linked to queries embedded into SGML structures.
The editorial team, more than 100 authors, works in a distributed environment using internet, intranet and extranet technologies. All of them have access to the central encyclopaedia database (text and images), and also to an electronic library with hundreds of textbooks and reference sources available for documentation purposes. A detailed workflow has been designed to manage the editorial flow between authors, copy editors, documentalists, and managers.
An evaluation of different SGML-based editorial systems has been undertaken (ASTORIA and SigmaLink among them) together with other standard solutions (Oracle Interoffice). The results of these evaluations together with the architecture of the solution finally adopted will be presented.
On top of these SGML structures, a knowledge database is built in the form of an object network with semantic relations that will allow the creation of very sophisticated JAVA-based interfaces for Internet access and delivery of the encyclopaedic information. For this purpose, technology developed by GMD-IPSI in the context of MacMillan's Dictionary of Art, will be used.

SGML and the on-line legislature

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Croner & SGML - the first 3 years: opening the envelope

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Electronic encyclopedia of astronomy and localization problems

The first version of en electronic encyclopedia in the Serbian language is presented. The localization problem (especially the Cyrillic letters and historical terminology) is mentioned as well. The basic tools for realizing such a project are described.

An evolving electronic encyclopedia - The World's Coasts: Online

The following is an introduction to The World's Coasts: Online. A brief overview of what is covered is given as well as a listing of the contents of the website.

Comparison of the different electronic versions of the Encyclopaedia Britannica: a usability study

Over the years, Encyclopaedia Britannica has undergone a number of revisions and has been provided in a number of formats other than print. The different electronic formats include a CD-ROM version, a subscription online version, a free online version that was recently changed to a subscription version, and a DVD-ROM version. The purpose of this study was to evaluate the usability and effectiveness of the different electronic versions of the Encyclopaedia Britannica. The objectives of this study were to find out if one of the electronic versions of the Encyclopaedia Britannica is easier to use than the others, to see if the users are satisfied with the information that they retrieved from each version, and to see if the users retrieve the same information from each version. Over one third (six) of 15 participants thought that britannica.com was the easiest to use. The main reason mentioned was the set-up of the initial results screen. Most of the participants felt that all of the databases answered the searches sufficiently and nine participants felt that britannica.com answered the searches the best. The main reason mentioned was the variety of information sources provided on the search results page (Encyclopaedia Britannica articles, magazine articles, Web sites, and books). Seven of the participants were satisfied with using all of the databases.

Effective Language Representations for Danmaku Comment Classification in Nicovideo

Danmaku commenting has become popular for co -viewing on video-sharing platforms, such as Nicovideo. However, many irrelevant comments usually contaminate the quality of the information provided by videos. Such an information pollutant problem can be solved by a comment classifier trained with an abstention option, which detects comments whose video categories are unclear. To improve the perfor-mance of this classification task, this paper presents Nicovideo-specific lan-guage representations. Specifically, we used sentences from Nicopedia, a Japanese online encyclopedia of entities that possibly appear in Nicovideo contents, to pre-train a bidirectional encoder representations from Trans-formers (BERT) model. The resulting model named Nicopedia BERT is then fine-tuned such that it could determine whether a given comment falls into any of predefined categories. The experiments conducted on Nicovideo comment data demonstrated the effectiveness of Nicopedia BERT com-pared with existing BERT models pre-trained using Wikipedia or tweets. We also evaluated the performance of each model in an additional senti-ment classification task, and the obtained results implied the applicability of Nicopedia BERT as a feature extractor of other social media text.

Semantic MediaWiki in applied life science and industry: building an Enterprise Encyclopaedia

The popularity of Wikipedia makes it a very enticing model for capturing shared knowledge inside large distributed organisations. However, building an Enterprise Encyclopaedia comes with unique challenges of flexibility, data integration and usability. We propose an approach to overcome these challenges using Semantic MediaWiki, augmenting the mature knowledge sharing capabilities of a wiki with the structure of semantic web principles. We provide simple guidelines to control the scope of the wiki, simplify the users' experiences with capturing their knowledge, and integrate the solution within an enterprise environment. Finally, we illustrate the benefits of this solution with enterprise search and life sciences applications.

Technologies of designing and implementation of an electronic encyclopedia on the example of the electronic encyclopedia of tomsk state university

The aim of this article is to identify the key milestones in the creation of the Electronic Encyclopedia of Tomsk State University, mechanisms of its functioning in the Internet space, as well as to analyse its potential for further development. The object of the research is electronic encyclopedias in the Internet space, and the subject is the Electronic Encyclopedia of Tomsk State University. To solve the aim, the authors analysed the problems and challenges they faced during the design and creation of the electronic encyclopedia. Based on the identified experience, key elements that distinguish the encyclopedia from a similar kind of resources have been identified. The history of the creation and implementation of the project of the Electronic Encyclopedia of Tomsk State University was described. In addition, in the final part of the article, the achievements of the project over the past four years and the potential for further development of this electronic resource were described. As a result of the work done, the authors of the article came to a conclusion that the features that distinguish the Electronic Encyclopedia of Tomsk State University from other similar publications is the orientation of the project primarily on the internal history of Tomsk State University. During the writing of each published article in the encyclopedia, the scientific academicity principle was used. The scientific academic content of the material is preserved due to the impossibility of editing the encyclopedia articles from the outside. In addition, for the past three years, the project has been implemented exclusively on a volunteer basis. Currently, a small team of authors and content managers work on the project on a regular basis. Thanks to their joint work, the electronic encyclopedia has been first in the Yandex and Google search engines during the year when entering the search query "electronic encyclopedia". Moreover, the information posted in the encyclopedia helped to find relatives or add information about them to dozens of interested people living not only in Russia but also abroad. All this together shows that the Electronic Encyclopedia of Tomsk State University is currently one of the most promising regional encyclopedic publications in Russia, as well as an important element in the positioning of Tomsk State University in the Russian-language sector of the Internet.

Online Around the World: A Geographic Encyclopedia of the Internet, Social Media, and Mobile Apps

Development of a Web Based, Internationally Certified 'Encyclopedia' of Pediatric Heart Disease

Reol: R interface to the Encyclopedia of Life

РОЗДІЛ 3. РОЗРОБЛЕННЯ ДОДАТКОВОГО ФУНКЦІОНАЛУ Е-ЕНЦИКЛОПЕДІЙ

Modeling Navigation in Information Networks

Navigation in an information space is a natural way to explore and discover its content. Information systems on the Web like digital encyclopedias (e.g., Wikipedia) are interested in providing good navigational support to their users. To that end, navigation models can be useful for estimating the general navigability of an information space and for understanding how users interact with it. Such models can also be applied to identify problems faced by the users during navigation and to improve user interfaces.

Studying navigation on the Web is a challenging task that has a long tradition in our scientific community. Based on large studies, researchers have made significant steps towards understanding navigational user behavior on the Web identifying general usage patterns, regularities, and strategies users apply during navigation. The seminal information foraging theory has been developed suggesting that people follow links by constantly estimating their quality in terms of information value and cost associated with obtaining that value by interacting with the environment. Furthermore, models describing the network structure of the Web like the bow tie model, and the small world models have been introduced. These models contributed valuable insights towards characterizing the underlying network topology on which the users operate and the extent to which it allows efficient navigation. In the context of information networks, researchers have successfully modeled user navigation resorting to Markov chains and to decentralized search. With respect to the users' navigational behavior and their click activities to traverse a link, researchers have found a valuable source of information in the log files of Web servers. Click data has also been collected by letting humans play navigational games on Wikipedia. With this data, researchers tested different navigational hypotheses; for example, (i) if humans tend to navigate between semantically similar articles, (ii) if they experience a trade-off between following links leading towards semantically similar articles and following links leading towards possibly well-connected articles. For navigation with a particular target in mind, users are found to be greedy with respect to the next click if they are confident to be on the right path, whereas they tend to explore the information network at random if they feel insecure or lost and have no intuition about the next click.

Although these research lines have advanced our understanding of navigational user behavior in information networks, for the goal of the proposed thesis modeling navigation related work does not address and cover the following questions: (i) What is the relationship between the user's awareness regarding the structure and the topology of the information network and the efficiency of navigation, i.e., modeled as decentralized search and (ii) How do users interact with the content to explore and discover it, i.e., are there some specific links that are especially appealing and what are their characteristics? My research focuses on modeling navigation in an information space represented as an information network. Regarding the first question, I introduce and apply partially informed decentralized search to model the extent to which a user is exposed to the network structure of the information space and can make informed decisions about her next step towards exploring the content [1]. I test different hypotheses regarding the type and the amount of network structural information used to model navigation. My results show that only a small amount of knowledge about the network structure is sufficient for efficient navigation.

For the second question, I study large-scale click data from the English version of Wikipedia. I observe a focus of the users' attention towards specific links. With this part of the proposal, I want to shed light on a different aspect of navigation and concentrate on the question why some links are more successful than others. In particular, I study the relationship between the link properties and the link popularity as measured by transitional click data. To that end, I formulate navigational hypotheses based on different link features, i.e., network features, semantic features and visual features [2, 3]. The plausibility of these hypotheses is then tested using a Markov chain-based Bayesian hypothesis testing framework. Results suggest that Wikipedia users tend to select links located at the top of the page. Furthermore, users are tempted to select links leading towards the periphery of the Wikipedia network.

To conclude, I believe that the won insights may have impact on system design decisions, i.e, existing guidelines for Wikipedia contributors can be adapted to better reflect the usage of the system.

Towards a Semantic Network of Dante's Works and Their Contextual Knowledge

We present the achievements of the 'Towards a Digital Dante Encyclopaedia' project, a 3-year Italian National Research Project that aims at building a digital library endowed with services supporting scholars in creating, evolving, and consulting a digital encyclopaedia of Dante Alighieri and his works. Our main goal is to represent and visualize the knowledge of the primary sources that Dante refers to in his works. Currently, this information is scattered in many books, making it difficult to systematically overview the culture of Dante in order to obtain a well-founded perception

of how this culture was gradually constructed over time. We describe a semantic representation of the involved texts and knowledge based on the Semantic Web languages. The representation is freely available as an XML document, and it can be easily acquired, e.g. by other researchers in order to extend the representation with additional texts and knowledge. We also present a web application that allows users to extract and display these texts and knowledge in the form of charts and tables. In particular, the application supports the visualization of the data related to the primary sources according to different parameters (e.g. in chronological order, by author, by work). Furthermore, it allows exploring the dynamics of the multi-faceted culture of Dante in relation to the diverse and often conflicting stages of his biography.

Dynamic and Efficient Search System for Digital Encyclopedia of Intangible Cultural Heritage: The Case Study of ICHPEDIA

In this paper, we have presented the three ways of search functions in Ichpedia, the web-based intangible cultural heritage encyclopedia database and archives system. The search system consists of simple search, semantic search and map search. All functions can promote dynamism and efficiency in the achievement of best results from the user's point of view. First, the simple search provides not only exact results associated with keywords but also providing two statistical graphs. The graphs show the ratios of the search results according to classification and regional distribution of an individual ICH element. Second, map search provides graphical interface so that users are easy to follow the search result. It is constructed extensively by interconnecting two other searches, simple and semantic search functions. Third, semantic search is the most difficult and meaningful function but not perfect yet. However, it already shows some important implications in terms of that an ICH element is associated with other elements and its characteristics can be understood within the wider networks of ICH resources. The proficiency of our search system highlights in finding the connected elements and by doing so, in expanding users' knowledge and safeguarding awareness of intangible cultural heritage.

Exploiting Wikipedia for Evaluating Semantic Relatedness Mechanisms

The semantic relatedness between two concepts is a measure that quantifies the extent to which two concepts are semantically related. In the area of digital libraries, several mechanisms based on semantic relatedness methods have been proposed. Visualization interfaces, information extraction mechanisms, and classification approaches are just some examples of mechanisms where semantic relatedness methods can play a significant role and were successfully integrated. Due to the growing interest of researchers in areas like Digital Libraries, Semantic Web, Information Retrieval, and NLP, various approaches have been proposed for automatically computing the semantic relatedness. However, despite the growing number of proposed approaches, there are still significant criticalities in evaluating the results returned by different methods. The limitations evaluation mechanisms prevent an effective evaluation and several works in the literature emphasize that the exploited approaches are rather inconsistent. In order to overcome this limitation, we propose a new evaluation methodology where people provide feedback about the semantic relatedness between concepts explicitly defined in digital encyclopedias. In this paper, we specifically exploit Wikipedia for generating a reliable dataset.

Application of Semantic Tagging to Generate Superimposed Information on a Digital Encyclopedia

We can find in the literature several works regarding the automatic or semi-automatic processing of textual documents with historic information using free software technologies. However, more research work is needed to integrate the analysis of the context and provide coverage to the peculiarities of the Spanish language from a semantic point of view. This research work proposes a novel knowledge-based strategy based on combining subject-centric computing, a topic-oriented approach, and superimposed information. It subsequent combination with artificial intelligence techniques led to an automatic analysis after implementing a made-to-measure interpreted algorithm which, in turn, produced a good number of associations and events with 90% reliability.

Comparative Evaluation of Two Systems for the Visual Navigation of Encyclopedia Knowledge Spaces

Modern digital encyclopedias contain hundreds of thousands of textual articles and multimedia elements. Alternative discovery techniques facilitating the visual exploration of encyclopedia knowledge spaces have recently received much attention. We present the results of a comparative usability evaluation of a two-dimensional and a three-dimensional visualization system integrated with the Brockhaus encyclopedia. Both systems enable visual navigation of article context. Results indicate that both systems perform comparably and that users prefer the threedimensional visualization system.

Chronological terms and period subdivisions in LCSH, RAMEAU, and RSWK - Development of an integrative model for time retrieval across various online catalogs

After a fundamental examination of the phenomenon of time, this paper presents the history, authority, and structure of period subdivisions and chronological terms in the three subject heading languages LCSH, RAMEAU, and RSWK Their usefulness in online searching is demonstrated using the online catalogs of the Library of Congress, the Bibliotheque nationale de France, and the Deutsche Bibliothek and is compared to the search options in selected digital encyclopedias (Encyclopaedia Britannica, Encarta, Brockhaus-Enzyklopddie). The author develops a model for

common time retrieval across all three online catalogs, outlines the conditions for that model (time period code, chronological code, and chronology authority file), and proposes a search interface.

Search for multi-modality data in digital libraries

Developing effective and efficient retrieval techniques for multimedia data is a challenging issue in building a digital library. Unlike most previously proposed retrieval approaches that focus on a specific media type, this paper presents 2M2Net as a generic framework for retrieval of multi-modality data in digital libraries. As its specific approaches, a learning-from-elements strategy is devised for propagation of semantic descriptions, and a cross media search mechanism with relevance feedback is proposed for evaluation and refinement of user queries. Experiments conducted on a digital encyclopedia manifest the effectiveness and flexibility of our approaches.

A Web-oriented System to Manage the Translation of an Online Encyclopedia Using Classical MT and Deconversion from UNL

We start from a web-oriented system for evaluating, presenting, processing, enlarging and annotating corpora of translations, previously applied to a real MT evaluation task, involving classical subjective measures, objective n-gram-based scores, and objective post-edition-based task-related evaluation. We describe its recent extension to support the high-quality translation into French of the large on-line Encyclopedia of Life Support Systems (EOLSS) presented as documents each made of a web page and a companion UNL file, by applying contributive on-line human post-edition to results of Machine Translation systems and of UNL deconverters. Target language web pages are generated on the fly from source language ones, using the best target segments available in the database. 25 documents (about 220,000 words) of the EOLSS are now available in French, Spanish, Russian, Arabic and Japanese. MT followed by contributive incremental cheap or free post-edition is now proved to be a viable way of making difficult information available in many languages.

Mapping the links between gender, status and genre in Shakespeare's plays

The Arts and Humanities Research Council-funded Encyclopaedia of Shakespeare's Language project has produced a resource allowing users to explore Shakespeare's plays in a variety of (semi-automatic) ways, via a web-based corpus query processor interface hosted by Lancaster University. It enables users, for example, to interrogate a corpus of Shakespeare's plays using queries restricted by dramatic genre, gender and/or social status of characters, and to target and explore the language of the plays not only at the word level but also at the grammatical and semantic levels (by querying part of speech or semantic categories). Using keyword techniques, we examine how female and male language varies in general, by social status (high or low) and by genre (comedy, history and tragedy). Among our findings, we note differences in the use of pronouns and references to male authority (female overuse of 'I' and 'husband' and male overuse of 'we' and 'king'). We also observe that high-status males in comedies (as opposed to histories and tragedies) are characterised by polite requests ('please you') and sharp-minded 'wit'. Despite many similarities between female and male usage of gendered forms of language ('woman'), male characters alone use terms such as 'womanish' in a disparaging way.

DeepEncyclolink: A Cross-Encyclopedia, Cross-language Article-Linking System Based on Deep Learning

DeepEncyclolink is a web-based system for linking pairs of corresponding articles from different encyclopedias in different languages. The core technology of DeepEncyclolink is based on paragraph embeddings calculated by a long-short-term-memory network with attention. Compared to our previous feature-based machine learning model, DeepEncyclolink has made great strides in coverage and accuracy. DeepEncyclolink offers an easy-to-use user interface and is supported by a powerful service backend for retrieving and selecting equivalent articles between English Wikipedia and Chinese Baidu Encyclopedia. DeepEncyclolink breaks the barriers of different encyclopedias and different languages, making it easy for users to access knowledge written in various languages.

PIACAN: Pathway Integration and Analysis of Cancer Networks

We developed a web-based software tool, Pathway Integration and Analysis of Cancer Networks (PIACAN), to identify key cancer genes, pathways and sub-pathways that are implicated in more than one type of cancer. PIACAN is the result of merging biological pathways associated with 15 different human cancer types mined from the Kyoto Encyclopaedia of Genes and Genomes (KEGG). The Cytoscape software was used to port the mined information for pathway merging and subsequent analysis. Web-determined visualization of the merged networks was achieved by programming using the JavaScript library Data-Drive-Documents (D3). The results of PIACAN allow us a mechanistic glimpse into the potential development of secondary cancers spreading to distant tissues, following the primary tumour-localization in a specific tissue, via traversal of the blood-brain barrier. Given the similarities in biological networks between different cancers, PIACAN allows us a glimpse into the similarities in cancer development in remote tissues. PIACAN is a free, public, web-accessible resource (https://adrquint.githubio/integrated-cancer-networks), where users can identify how and where biological pathways and or sub-pathways, depending on the cancer type. A video-demonstration of the preliminary work can be found at: https: "wwwyoutube.com watch?v=tOJ-EOY33fD. PIACAN is also developed as a knowledge- dissemination tool. In its current iteration, for each gene in the pathway, the system links to cancer gene information in KEGG, GeneCards, Gene Ontology, NCBI AceView. and Ensembl.

Ordino: a visual cancer analysis tool for ranking and exploring genes, cell lines and tissue samples

The Summary: Ordino is a web-based analysis tool for cancer genomics that allows users to flexibly rank, filter and explore genes, cell lines and tissue samples based on pre-loaded data, including The Cancer Genome Atlas, the Cancer Cell Line Encyclopedia and manually uploaded information. Interactive tabular data visualization that facilitates the user-driven prioritization process forms a core component of Ordino. Detail views of selected items complement the exploration. Findings can be stored, shared and reproduced via the integrated session management.

Wikipedia Tools for Google Spreadsheets

In this paper, we introduce the Wikipedia Tools for Google Spreadsheets. Google Spreadsheets is part of a free, Web-based software office suite offered by Google within its Google Docs service. It allows users to create and edit spreadsheets online, while collaborating with other users in realtime. Wikipedia is a free-access, free-content Internet encyclopedia, whose content and data is available, among other means, through an API. With the Wikipedia Tools for Google Spreadsheets, we have created a toolkit that facilitates working with Wikipedia data from within a spreadsheet context. We make these tools available as open-source on GitHub,(1) released under the permissive Apache 2.0 license.

A Visual Semantic Framework for Innovation Analytics

In this demo we present a semantic framework for innovation and patent analytics powered by Mined Semantic Analysis (MSA). Our framework provides cognitive assistance to its users through a Web-based visual and interactive interface. First, we describe building a conceptual knowledge graph by mining user-generated encyclopedic textual corpus for semantic associations. Then, we demonstrate applying the acquired knowledge to support many cognition and knowledge based use cases for innovation analysis including technology exploration and landscaping, competitive analysis, literature and prior art search and others.

Wikipedia Chemical Structure Explorer: substructure and similarity searching of molecules from Wikipedia

Background: Wikipedia, the world's largest and most popular encyclopedia is an indispensable source of chemistry information. It contains among others also entries for over 15,000 chemicals including metabolites, drugs, agrochemicals and industrial chemicals. To provide an easy access to this wealth of information we decided to develop a substructure and similarity search tool for chemical structures referenced in Wikipedia.
Results: We extracted chemical structures from entries in Wikipedia and implemented a web system allowing structure and similarity searching on these data. The whole search as well as visualization system is written in JavaScript and therefore can run locally within a web page and does not require a central server. The Wikipedia Chemical Structure Explorer is accessible on-line at www.cheminfo.org/wikipedia and is available also as an open source project from GitHub for local installation.
Conclusions: The web-based Wikipedia Chemical Structure Explorer provides a useful resource for research as well as for chemical education enabling both researchers and students easy and user friendly chemistry searching and identification of relevant information in Wikipedia. The tool can also help to improve quality of chemical entries in Wikipedia by providing potential contributors regularly updated list of entries with problematic structures. And last but not least this search system is a nice example of how the modern web technology can be applied in the field of cheminformatics.

Temporal Summarization of Event-Related Updates in Wikipedia

Wikipedia is a free multilingual online encyclopedia covering a wide range of general and specific knowledge. Its content is continuously maintained up-to-date and extended by a supporting community. In many cases, real-world events influence the collaborative editing of Wikipedia articles of the involved or affected entities. In this paper, we present Wikipedia Event Reporter, a web-based system that supports the entity-centric, temporal analytics of event-related information in Wikipedia by analyzing the whole history of article updates. For a given entity, the system first identifies peaks of update activities for the entity using burst detection and automatically extracts event-related updates using a machine-learning approach. Further, the system determines distinct events through the clustering of updates by exploiting different types of information such as update time, textual similarity, and the position of the updates within an article. Finally, the system generates the meaningful temporal summarization of event-related updates and automatically annotates the identified events in a timeline.

Supporting multi-agent reputation calculation in the Wikipedia Recommender System

The Wikipedia is a web-based encyclopedia, written and edited collaboratively by Internet users. Over the past decade, the Wikipedia has experienced a dramatic growth in popularity and is considered by many the primary source of information on the Internet. The Wikipedia has an extremely open editorial policy that allows anybody, to create or modify articles. This has resulted in a broad and detailed coverage of subjects, but it has also caused problems relating to the quality of articles. The Wikipedia Recommender System (WRS) was developed to help human users determine the credibility of an article based on feedback from other Wikipedia users. The WRS calculates a personalised rating for any Wikipedia article based on feedback (recommendations) provided by other Wikipedia users. As part of this process, WRS users are expected to provide their own feedback about the quality of Wikipedia articles that they have read. This makes the WRS a rating-based collaborative filtering system, which implements trust metrics to determine the weight of

feedback from different recommenders. In this paper the authors describe the WRS outlining some of the requirements and constraints that shaped the design of the system. The authors also provide a brief overview of the implementation of the WRS prototype. The WRS addresses the general problem of establishing trust in a collaboratively generated resource in a distributed multi-agent system, so the authors believe that the general architecture that underlies the WRS applies to many other applications in such systems.

Automatic Invocation Linking for Collaborative Web-Based Corpora

Collaborative online encyclopedias or knowledge bases such as Wikipedia and Planet Math are becoming increasingly popular because of their open access, comprehensive and interlinked content, rapid and continual updates, and community interactivity. To understand a particular concept in these knowledge bases, a reader needs to learn about related and underlying concepts. In this chapter, we introduce the problem of invocation linking for collaborative encyclopedia or knowledge bases, review the state of the art for invocation linking including the popular linking system of Wikipedia, discuss the problems and challenges of automatic linking, and present the NNexus approach, an abstraction and generalization of the automatic linking system used by PlanetMath.org. The chapter emphasizes both research problems and practical design issues through discussion of real world scenarios and hence is suitable for both researchers in web intelligence and practitioners looking to adopt the techniques. Below is a brief outline of the chapter.
Problem and Motivation. We first introduce the problem of invocation linking for online collaborative encyclopedia or knowledge bases. An online encyclopedia consists of multiple entries. An invocation link is a hyperlink from a term or phrase in an entry representing a concept to another entry that defines the concept. It allows a reader easily "jump" to requisite concepts in order to fully understand the current one. We refer to the term or phrase being linked from as link source and the entry being linked to as link target. The problem of invocation linking is how to add these invocation links in an online encyclopedia in order to build a semantic concept network.
State of the Arts. We review the state of arts for the invocation linking in current online encyclopedia and knowledge bases. The existing approaches can he mainly classified into: I) manual linking where both the link source and link target are explicitly defined by the user (such as blog software), 2) semi-automatic linking where the link source are explicitly marked by the user but the link target is determined automatically (such as Wikipedia), and 3) automatic linking where both the link source and link target are determined automatically. We discuss the representative systems for each approach and illustrate their advantages and disadvantages. We will also review potential technologies such as web search and recommender systems and discuss their applicability for invocation linking.
Automatic Invocation Linking. We advocate in this chapter the automatic linking approach as we believe that the manual and semi-automatic approaches are an unnecessary burden on contributors, and in addition, require continuous re-inspection of the entire corpus by writers or other maintainers for a growing and dynamic corpus. We discuss the challenges and design goals for developing such an automatic linking system including linking quality, efficiency and scalability, and generalization to multiple corpus.
NNexus Approach. In particular, we present the NNexus system, an automatic linking system that we have developed as an abstraction and generalization of the linking component of PlanetMath (planetmath.org), PlanetPhysics(planetphysics.org), and other sites. We discuss a number of key features and design ideas of NNexus in addressing the challenges for invocation linking. NNexus provides an effective linking scheme utilizing metadata to automatically identify link sources and link targets. It achieves good linking quality with a classification-based link steering approach and an interactive entry filtering component. It achieves good efficiency and scalability by its efficient data structures as well as a mechanism for efficiently updating the links between entries that are related to newly defined or modified concepts in the corpus. Finally, its implementation utilizes OWL and has a simple interface, which allows for an almost unlimited number of online corpora to interconnect for automatic linking.
Conclusions and Open Issues. We close the chapter by discussing a set of interesting issues and open problems for invocation linking.

Integration of wikipedia and a geography digital library

In this paper, we address the problem of integrating Wikipedia, an online encyclopedia, and G-Portal, a web-based digital library, in the geography domain. The integration facilitates the sharing of data and services between the two web applications that are of great value in learning. We first present an overall system architecture for supporting such an integration and address the metadata extraction problem associated with it. In metadata extraction, we focus on extracting and constructing metadata for geo-political regions namely cities and countries. Some empirical performance results will be presented. The paper will also describe the adaptations of G-Portal and Wikipedia to meet the integration requirements.

Geospatial anchoring of encyclopedia articles

An encyclopedia provides a written compendium of knowledge consisting of articles concisely and exhaustively covering topics of interest. Most general encyclopedias are structured in an alphabetical manner and favor keyword queries and link-based navigation as the primary form of access. On closer examination, many encyclopedia articles can directly or indirectly be associated with geospatial references. This publication explores ways of anchoring encyclopedia articles to geospatial references and presents a web-based 3D interface which allows navigation of the German Brockhaus Encyclopedia through a geospatial metaphor.

An interactive online database for the selection of woody ornamental plants

Web sites such as the University of Connecticut (UConn) Plant Database allow large volumes of information and images to be stored, published and accessed by users for the purpose of informed decision-making. Sorting information on the World Wide Web (Web) can be difficult, especially for novice users and those interested in quick results. The advent of Internet search and retrieval software fosters the creation of interactive decision support systems. The Plant Selector was designed to complement the UConn Plant Database plant encyclopedia by allowing Web site users to generate lists of woody ornamental plants that match specific criteria. On completion of an HTML-based search form by users, a Web-enabled database is searched and lists of matching plants are presented for review. To facilitate analysis of the Plant Selector's efficacy, an online questionnaire was implemented to solicit user feedback. Survey data from 426 responses to the online evaluation tool were analyzed both to understand user demographics and gauge satisfaction with the Plant Selector module. Survey data revealed that most Plant Selector users are between 40 to 65 years of age and homeowners with minimal horticultural experience. A large percentage of Web site visitors (68%) is located across the United States beyond Connecticut and the New England region. The great majority of survey respondents (65%) use this tool to select plants for the home landscape. Most (77%) either agree or strongly agree that the Plant Selector is easy to use and delivers results that are useful (66%), while 70% agree or strongly agree that the categories used by the Plant Selector are sufficient. The survey results in general suggest that Web-based decision support systems may serve useful roles in the field of horticulture education.

HisVA: A Visual Analytics System for Studying History

Studying history involves many difficult tasks. Examples include searching for proper data in a large event space, understanding stories of historical events by time and space, and finding relationships among events that may not be apparent. Instructors who extensively use well-organized and well-argued materials (e.g., textbooks and online resources) can lead students to a narrow perspective in understanding history and prevent spontaneous investigation of historical events, with the students asking their own questions. In this article, we proposed HisVA, a visual analytics system that allows the efficient exploration of historical events from Wikipedia using three views: event, map, and resource. HisVA provides an effective event exploration space, where users can investigate relationships among historical events by reviewing and linking them in terms of space and time. To evaluate our system, we present two usage scenarios, a user study with a qualitative analysis of user exploration strategies, and in-class deployment results.

Visualising knowledge maps for encyclopedia articles

This publication presents a prototype visualisation system for navigation of encyclopaedia articles based on knowledge maps connecting articles to each other. A turning table is used as a metaphor to depict a result set as a whole, while three-dimensional objects of various shapes placed on top of the table represent individual encyclopaedia articles. The system employs a number of depth cues to enhance spatial perception and uses depth-dependent semi-transparency of labels to avoid display cluttering. A concrete implementation for the German language "Brockhaus Multimedia" electronic encyclopaedia is presented and discussed.

Semantic Navigator for Internet search

This article describes Semantic Navigator which is a novel system providing semantic drive for users through Internet. The authors discuss how to search Internet source documents, select terminology for new articles, and choose relevant keywords and key phrases. The article describes an automated system for the creation of "Encyclopedia of Keywords" (www.keywen.com). The approaches for automatic creation of Electronic Encyclopedias and other reference materials using information from the Internet are presented For improving system efficiency, it is necessary to develop and use some special Artificial Intelligence methods. In the future the system should be able to select semantic information from natural language texts, such as different objects and their parameters that are of interest to users. For this purpose the authors plan to use a semantically oriented linguistic processor.

Wikipedia on the CompTox Chemicals Dashboard: Connecting Resources to Enrich Public Chemical Data

The online encyclopedia Wikipedia aggregates a large amount of data on chemistry, encompassing well over 20,000 individual Wikipedia pages and serves the general public as well as the chemistry community. Many other chemical databases and services utilize these data, and previous projects have focused on methods to index, search, and extract it for review and use. We present a comprehensive effort that combines bulk automated data extraction over tens of thousands of pages, semiautomated data extraction over hundreds of pages, and fine-grained manual extraction of individual lists and compounds of interest. We then correlate these data with the existing contents of the U.S. Environmental Protection Agency's (EPA) Distributed Structure-Searchable Toxicity (DSSTox) database. This was performed with a number of intentions including ensuring as complete a mapping as possible between the Dashboard and Wikipedia so that relevant snippets of the article are loaded for the user to review. Conflicts between Dashboard content and Wikipedia in terms of, for example, identifiers such as chemical registry numbers, names, and InChIs and structure-based collisions such as SMILES were identified and used as the basis of curation of both DSSTox and Wikipedia. This work also allowed us to evaluate available data for sets of chemicals of interest to the Agency, such as synthetic cannabinoids, and expand the content in DSSTox as appropriate. This work also led to improved bidirectional linkage of the detailed chemistry and usage information from Wikipedia with expert-curated structure and identifier

data from DSSTox for a new list of nearly 20,000 chemicals. All of this work ultimately enhances the data mappings that allow for the display of the introduction of the Wikipedia article in the community-accessible web-based EPA Comptox Chemicals Dashboard, enhancing the user experience for the thousands of users per day accessing the resource.

Make a Difference in a Different Way: Twitter Bot Creators and Wikipedia Transparency.

Software robots (bots) are a major part of contemporary Internet culture, employed by businesses for customer service, artists for digital expression, and 'bad actors' for misinformation. A recent line of Twitter bots, known as WikiEdits bots, has attempted to increase information transparency on the online encyclopedia Wikipedia. This study expands on previous work on Twitter bots by investigating the motivations and experiences of the developers who created bots that monitor Wikipedia for edits made by government bodies and other primary stakeholders. Thirteen qualitative interviews were conducted with a global sample of WikiEdits contributors, revealing various opinions on the successes, shortcomings, and significance of the project. The data reveal that participants hold a high level of computer and programming literacy, and while some creators were driven by activist ideals, others used the project more as a personal technical challenge. This study contributes to CSCW's interest in how activism is materialized, enabled, and constrained by examining the ways in which a loose network of developers with various motivations use platform affordances to highlight data transparency possibilities.

Cross-language article linking with deep neural network based paragraph encoding

Cross-language article linking (CLAL), the task of generating links between articles in different languages from different encyclopedias, is critical for facilitating sharing among online knowledge bases. Some previous CLAL research has been done on creating links among Wikipedia wikis, but much of this work depends heavily on simple language patterns and encyclopedia format or metadata. In this paper, we propose a new CLAL method based on deep learning paragraph embeddings to link English Wikipedia articles with articles in Baidu Baike, the most popular online encyclopedia in mainland China. To measure article similarity for link prediction, we employ several neural networks with attention mechanisms, such as CNN and LSTM, to train paragraph encoders that create vector representations of the articles' semantics based only on article text, rather than link structure, as input data. Using our "Deep CLAL"method, we compile a data set consisting of Baidu Baike entries and corresponding English Wikipedia entries. Our approach does not rely on linguistic or structural features and can be easily applied to other language pairs by using pre-trained word embeddings, regardless of whether the two languages are on the same encyclopedia platform.

Knowledge graph construction from multiple online encyclopedias

In recent years, lots of knowledge graphs built from Wikipedia, the largest multilingual online encyclopedia, have been published on the Web to support various applications. However, since non-English data in Wikipedia are sparse, some projects work on knowledge graph construction from multiple non-English online encyclopedias, but many technical details are missing, so it is hard to reuse their frameworks or techniques. In this paper, we propose a new framework to solve knowledge graph construction from multiple online encyclopedias. The core modules are knowledge extraction and knowledge linking. Knowledge extraction consists of regular extraction, i.e., extracting targeted article contents in the whole online encyclopedias periodically, and live extraction, which only extracts the article contents of new and updated entities. Knowledge linking utilizes heuristic lightweight entity matching strategies and a semi-supervised learning method to find duplicated entities and properties from different online encyclopedias. Experimental results show that our approaches for knowledge extraction and linking outperform state-of-the-art baselines in different evaluation metrics, and our framework can generate a large-scale knowledge graph after inputting multiple online encyclopedias.

EncyCatalogRec: catalog recommendation for encyclopedia article completion

Online encyclopedias such as Wikipedia provide a large and growing number of articles on many topics. However, the content of many articles is still far from complete. In this paper, we propose EncyCatalogRec, a system to help generate a more comprehensive article by recommending catalogs. First, we represent articles and catalog items as embedding vectors, and obtain similar articles via the locality sensitive hashing technology, where the items of these articles are considered as the candidate items. Then a relation graph is built from the articles and the candidate items. This is further transformed into a product graph. So, the recommendation problem is changed to a transductive learning problem in the product graph. Finally, the recommended items are sorted by the learning-to-rank technology. Experimental results demonstrate that our approach achieves state-of-the-art performance on catalog recommendation in both warm- and cold-start scenarios. We have validated our approach by a case study.

Tables as a Means to Enhance the Structure of Encyclopedic Works

Encyclopedic works are a synthesis of knowledge of a certain field of interest, and often of the whole human achievement at the time in which they arise. As highly informative works of a tertiary type, an important part of their concept is content structure, the purpose of which is to make them easier to understand and use. This paper explores the extent of tables, their means of organization, and their functionality in encyclopedic works. This research was conducted on well-known traditional (printed) encyclopedic works, such as the Encyclopaedia Britannica, Encyclopedia Americana, Chambers's Encyclopaedia, World Book Encyclopedia, Brockhaus Enzyklopiidie, La Grande

Encyclopedic., as well as Croatian encyclopedic works: Croatian Encyclopedia, Proleksis Encyclopedia, Croatian Encyclopedia of Technology. Content analysis was conducted on tables in encyclopedic projects as important components of the structure of relevant data, providing an overview of the extent of tables and their content in selected encyclopedic works. By comparing the results of the content analysis of multiple encyclopedic works, differences, and similarities in table types and their content are shown to indicate possibilities and requisites when compiling such highly structured content. Furthermore, insight is provided into the functionalities of such structured content in online editions of some of these encyclopedic works as well as of Wikipedia as the most commonly used online encyclopaedia. The aim of this paper is to present the evolution of tables in encyclopedic works, from the mere rendering of systematized data in traditional works to tables as elements of structure in online works that can be used to develop ontologies, this, in turn, generates new possibilities in the development of encyclopedic studies and a new approach to the creation of online encyclopedic works.

You Shall Not Publish: Edit Filters on English Wikipedia

Ensuring the quality of the content provided in online settings is an important challenge today, for example, for social media or news. The Wikipedia community has ensured the high-quality standards for an online encyclopaedia from the beginning and has built a sophisticated set of automated, semi-automated, and manual quality assurance mechanisms over the last fifteen years. The scientific community has systematically studied these mechanisms but one mechanism has been overlooked - edit filters. Edit filters are syntactic rules that assess incoming edits, file uploads or account creations. As opposed to many other quality assurance mechanisms, edit filters are effective before a new revision is stored in the online encyclopaedia. In the exploratory study presented, we describe the role of edit filters in Wikipedia's quality assurance system. We examine how edit filters work, describe how the community governs their creation and maintenance, and look into the tasks these filters take over. Our goal is to steer researchers' attention to this quality control mechanism by pointing out directions for future studies.

COEA: An Efficient Method for Entity Alignment in Online Encyclopedias

Knowledge graph is the cornerstone of artificial intelligence. Entity alignment in multi-source online encyclopedias is an important part of data integration to construct the knowledge graph. In order to solve the problem that traditional methods are not effective enough for entity alignment in online encyclopedias tasks, this paper proposes the Chinese Online Encyclopedia Aligner (COEA) based on the combination of entity attributes and context. In this paper, we focus on (1) extracting attribute information and context of entities from the infobox of online encyclopedias and normalizing them, (2) computing the similarity of entity attributes based on Vector Space Model, and (3) further considering the entity similarity based on the topic model over entity context when the similarity of attributes is between the lower bound and the upper bound. Finally, data sets of entity alignment in online encyclopedias are constructed for simulation experiments. The experimental results, which show the method proposed in this paper outperforms traditional entity alignment algorithms, verify that our method can significantly improve the performance of entity alignment in online encyclopedias in the construction of Chinese knowledge graphs.

Improving the Performance of Wikipedia Based on the Entry Relationship between Articles

Wikipedia is the largest online encyclopedia in the world. It is free to access by anyone and its main advantage is that it can also be edited by any person at any time. On the one hand, this caused a rapid growth to its number of available articles and languages. It is likely to cause that most users are difficult to differentiate various synonymy and polysemy terms from the millions of articles in Wikipedia. On the other hand, traditional semantic analysis models are mainly focus on to deal with the semantic relationships between terms, or terms and documents. However, these models are lacking to deal with the semantic relationships between documents. In this paper, to enhance the semantic relationships between documents, we use the entry relationship between any two Wikipedia articles to design our Latent Entry Analysis (LEA) model. The advantages of LEA have the following several aspects: (1) it can effectively deal with the problems of synonymy and polysemy; (2) it is a good model to find the semantic relationships between terms, terms and documents, or documents; (3) it is a good model with a high-performance and low-cost compared to other semantic analysis models; (4) it is a suitable model to effectively handle big data sets in Wikipedia.

Application of SEO Metrics to Determine the Quality of Wikipedia Articles and Their Sources

The leading online encyclopedia Wikipedia is struggling with inconsistent article quality caused by the collaborative editing model. While one can find many helpful articles with consistent information on Wikipedia, there are also a lot of questionable articles with unclear or unfinished information yet. The quality of each article may vary over time as different users repeatedly reedit content. One of the most important elements of the Wikipedia articles are references which allow to verify content and to show its source to user. Based on the fact that most of these references are web pages, it is possible to get more information about their quality by using citation analysis tools. For science and practice the empirical proof of the quality of the articles in Wikipedia could have a further signal effect, as the citation of Wikipedia articles, especially in scientific practice, is not yet recognised. This paper presents general results of Wikipedia analysis using metrics from the Toolbox SISTRIX, which is one of the leading providers of indicators for Search Engine Optimization (SEO). In addition to the preliminary analysis of the Wikipedia articles as separate web pages, we extracted data from more than 30 million references in different language versions of Wikipedia and analyzed

over 180 thousand most popular hosts. In addition, we compared the same sources from different geographical perspectives using country-specific visibility indices.

Notability Determination for Wikipedia

Being the ever-growing online encyclopedia, Wikipedia requires a keen investigation about which articles are to be included for it to maintain its indispensability. To prevent unnecessary articles from being included, official guidelines of Wikipedia demand these named entities to meet "notability" standards for their article inclusion. In this paper, we evaluate named entities for their notability by using reliability and entity salience features. Evaluations of our system provide evidence for the viability of our solution as an alternative to the manual decisions made by the reviewers for inclusion of an article using the notability rules. solution as an alternative to the manual decisions made by the reviewers for inclusion of an article using the notability rules.

CN-DBpedia: A Never-Ending Chinese Knowledge Extraction System

Great efforts have been dedicated to harvesting knowledge bases from online encyclopedias. These knowledge bases play important roles in enabling machines to understand texts. However, most current knowledge bases are in English and non-English knowledge bases, especially Chinese ones, are still very rare. Many previous systems that extract knowledge from online encyclopedias, although are applicable for building a Chinese knowledge base, still suffer from two challenges. The first is that it requires great human efforts to construct an ontology and build a supervised knowledge extraction model. The second is that the update frequency of knowledge bases is very slow. To solve these challenges, we propose a never-ending Chinese Knowledge extraction system, CN-DBpedia, which can automatically generate a knowledge base that is of ever-increasing in size and constantly updated. Specially, we reduce the human costs by reusing the ontology of existing knowledge bases and building an end-to-end facts extraction model. We further propose a smart active update strategy to keep the freshness of our knowledge base with little human costs. The 164 million API calls of the published services justify the success of our system.

Cross-language article linking with different knowledge bases using bilingual topic model and translation features

Creating links among online encyclopedia articles in different languages is crucial in the construction and integration of large multilingual knowledge bases. Most research to date has focused on linking among different language versions of Wikipedia, yet other large online encyclopedias in a variety of languages exist. In this work, we present a cross-language article-linking method using a bilingual topic model and translation features based on an SVM model to link articles in English Wikipedia and Chinese Baidu Baike, the most widely used Wiki-like encyclopedia in China. To evaluate our approach, we compile data sets from Baidu Baike articles and their corresponding English Wikipedia articles. The evaluation results show that our approach achieves at most 0.8158 in MRR, outperforming the baseline system by 0.1328 (+19.44%) in MRR. Our method does not heavily depend on linguistic characteristics, and it can be easily extended to generate cross-language article links among different online encyclopedias in other languages.

Enhancing Wikipedia Search Results Using Text Mining

Wikipedia is an online encyclopedia which contains millions of articles related to different subject domains. Wikipedia also has a search page itself to display the links corresponding to Wikipedia articles for a given user query input. This search result page displays the search results according to the relevance order, without any content based grouping. This paper presents an experimental deduction of a search result clustering methodology to group the links, returned by the search result page for a particular keyword, based on the contents of the HTML documents, represented by the links and label these resulted groups meaningfully. The proposed methodology is based on the concepts and theories of Text Mining. Grouping of search results makes easy and efficient for the user in finding the desired Wikipedia document. It is also possible to view the different applications and usages of a given keyword very quickly. This work identifies the best clustering algorithm for document clustering and investigates the ways to determine optimum number of clusters to have a better grouping and label the groups. We evaluate our proposed method by conducting several experiments and the results indicate that our method has a higher precision and recall.

Noun Ontology Generation from Wikipedia Article Using Map Reduce with Pattern Based Approach

Recently, data on the internet grows and it can be used as supporting information for human life. Wikipedia as an online encyclopedia provides many resources, data, and information on the internet. Main problem in our research is how to represent information from Indonesian Wikipedia article into some knowledge representation such as ontology. Ontology is a set of related concept and relation between those concepts. Ontology usually has a large and complex structure because ontology is made to cover a large area topic. Our approach in this ontology building is focused on hyponymy relation and meronymy relation. Our proposed method is using taxonomy template information in Wikipedia to extract hyponymy relation and some pattern to extract the meronymy relation. Our experiment shows that hyponymy relation can be extracted into 5038 relations. For our meronymy relation extraction process has 82.23% as the highest accuracy.

Topic Modeling for Wikipedia Link Disambiguation

Many articles in the online encyclopedia Wikipedia have hyperlinks to ambiguous article titles; these ambiguous links should be replaced with links to unambiguous articles, a process known as disambiguation. We propose a novel statistical topic model based on link text, which we refer to as the Link Text Topic Model (LTTM), that we use to suggest new link targets for ambiguous links. To evaluate our model, we describe a method for extracting ground truth for this link disambiguation task from edits made to Wikipedia in a specific time period. We use this ground truth to demonstrate the superiority of LTTM over other existing link- and content-based approaches to disambiguating links in Wikipedia. Finally, we build a web service that uses LTTM to make suggestions to human editors wanting to fix ambiguous links in Wikipedia.

Self-Supervised Chinese Ontology Learning from Online Encyclopedias

Constructing ontology manually is a time-consuming, error-prone, and tedious task. We present SSCO, a self-supervised learning based chinese ontology, which contains about 255 thousand concepts, 5 million entities, and 40 million facts. We explore the three largest online Chinese encyclopedias for ontology learning and describe how to transfer the structured knowledge in encyclopedias, including article titles, category labels, redirection pages, taxonomy systems, and InfoBox modules, into ontological form. In order to avoid the errors in encyclopedias and enrich the learnt ontology, we also apply some machine learning based methods. First, we proof that the self-supervised machine learning method is practicable in Chinese relation extraction (at least for synonymy and hyponymy) statistically and experimentally and train some self-supervised models (SVMs and CRFs) for synonymy extraction, concept-subconcept relation extraction, and concept-instance relation extraction; the advantages of our methods are that all training examples are automatically generated from the structural information of encyclopedias and a few general heuristic rules. Finally, we evaluate SSCO in two aspects, scale and precision; manual evaluation results show that the ontology has excellent precision, and high coverage is concluded by comparing SSCO with other famous ontologies and knowledge bases; the experiment results also indicate that the self-supervised models obviously enrich SSCO.

Extracting Attributes and Synonymous Attributes from Online Encyclopedias

In this paper, we present an approach that extracts attributes of open-domain named entities for the Chinese language. The approach contains two steps. The first step consists in an unsupervised technique which captures high frequency attributes from online encyclopedias. The second step discovers uncommon attributes with low frequency. Lastly, an integrated framework is proposed to obtain attributes and their synonymous attributes simultaneously. Experimental results show that the proposed approach boosts the coverage of extracted attributes without losing the precision.

An Approach for Deriving Semantically Related Category Hierarchies from Wikipedia Category Graphs

Wikipedia is the largest online encyclopedia known to date. Its rich content and semi-structured nature has made it into a very valuable research tool used for classification, information extraction, and semantic annotation, among others. Many applications can benefit from the presence of a topic hierarchy in Wikipedia. However, what Wikipedia currently offers is a category graph built through hierarchical category links the semantics of which are undefined. Because of this lack of semantics, a sub-category in Wikipedia does not necessarily comply with the concept of a sub-category in a hierarchy. Instead, all it signifies is that there is some sort of relationship between the parent category and its sub-category. As a result, traversing the category links of any given category can often result in surprising results. For example, following the category of "Computing" down its sub-category links, the totally unrelated category of "Theology" appears. In this paper, we introduce a novel algorithm that through measuring the semantic relatedness between any given Wikipedia category and nodes in its sub-graph is capable of extracting a category hierarchy containing only nodes that are relevant to the parent category. The algorithm has been evaluated by comparing its output with a gold standard data set. The experimental setup and results are presented.

Wikipedia as a means of scientific dissemination and communication: influence in the educational, research and library-documentary field

This article identifies practical elements of application of Wikipedia in its contributions towards the popularization and scientific communication applied to different disciplinary fields, such as: (1) educational (means of transfer in collaborative learning processes, constructivism, critical thinking and transdisciplinarity); (2) scientific research (structured system of big data and derivation of findings through its contents); and (3) library-documentary (application of information metrics, derivation of controlled and uncontrolled document languages, and training of information users). The development of the article is based on the use of a methodology focused on phenomenology (from the perspective of science), for which, a body of knowledge about Wikipedia was studied, related to educational, scientific research and library science fields. -documentation, through a consistent analysis, which led to the description and interpretation of lived experiences, recognizing its meaning and importance as an information system with the capacity for positive and ethical influence. The results offer elements that strengthen the credibility of Wikipedia as an information system, since it has been paradigmatically questioned in a negative way, therefore, the identification of contributions that justify its value as a complex, innovative and unique system in the socialization of the academic and scientific knowledge, with wide influence in various formal fields of knowledge, without yet having a sufficiently solid recognition.

Entity Recognition and Relations Extraction Based on the Structure of Online Encyclopedia

In order to construct the knowledge base in the field of journalism, this paper improved the knowledge representation framework of Freebase to make it more suitable for the knowledge in journalism domain. On the basis, we chose to extract entities, entity attributes and relationships between entities from Baidu Encyclopedia websites in order to analyze its structure. According to the infobox, the Character Relationship, the Relevant Characters and the Category Labels templates on the Baidu Encyclopedia webpages, we harvested entity triples (Entity1, Relation, Entity2). Then, we supplemented the characters relationship types through the Entity Relation template in Hudong Encyclopedia webpages. Through the natural language processing technology, the entity similarity algorithm, the association rules reasoning algorithm and other methods, we cleaned and supplemented the knowledge. After that, we stored the knowledge to the graph database according to the knowledge representation model. Finally, we got a better knowledge base in the field of journalism.

РОЗДІЛ 4. ДИДАКТИЧНИЙ ПОТЕНЦІАЛ Е-ЕНЦИКЛОПЕДІЙ

Effect of Mobile-Augmented Reality (MAR) in Digital Encyclopedia on The Complex Problem Solving and Attitudes of Undergraduate Student

The study aimed to determine the effect of mobile augmented reality in the digital encyclopedia on complex problem-solving ability and responsible decision-making attitude of first-year students. The research was a quasi-experiment (quantitative research) with pretest and posttest methods. The population was first-year students of 2019/2020 in the Geography Education program, Faculty of Social Sciences, State University of Malang. The experimental group was from the PGEO6006-L class, and the control group was from the PGEO6006-A class, totaled 73 participants. Data were collected using a qualitative method using interviews and a quantitative method using a questionnaire for 4 weeks. The data analysis used an independent t-test to determine the effect of mobile augmented reality on students' complex problem-solving ability and responsible decision-making attitude in Cosmography class. The results indicated that mobile augmented reality in the digital encyclopedia has a significant effect on students' complex problem-solving ability and responsible decision-making attitude.

Lunar Mission One: A New Funding Model for Exploration

Lunar Mission One directly addresses the key issue of how to fund the expensive endeavor that is space exploration. It brings together, internationally and inspirationally, the resources and aspirations of government, industry, and most importantly citizens. Its robotic mission will land at the lunar south pole and drill deep for geological science. It will also take measurements of the surface environment to assist decisions on a future manned base. As well as advancing precision landing and robotics, it will develop key technology that will enable remote deep drilling for the search for life on other planetary bodies. The mission's program will be commercially managed by industry, including its design, its build, and its operation. But it will be performed under government authority. This facilitates the legal issues and also helps to merge it into the global exploration program of international space agencies, giving them greater options for their planning. It is a new form of Public/Private Partnership for space, in which government contributes financial security and support for key public benefits and in return sees a substantial injection of nongovernment funding from outside the space sector. That funding derives from the mission depositing an epic record of life on Earth down the borehole where, thanks to the exceptional environmental conditions, it could survive a geological timescale, awaiting discovery far into the future. People will pay to include their personal information, especially their DNA stored by a single strand of hair, with a mix of imagination and reality and leading to the project's revenues. The archive will contain a digital encyclopedia based on Wikipedia, to which schools can contribute local information and so facilitate the teaching of history and culture, of wildlife and the environment. A global pilot program is underway to develop and test the ideas for how best to achieve this inclusively for all cultures, ages, and abilities. A number of universities have started student projects in a wide range of areas. Local Chapters of enthusiastic volunteers in all continents are supporting our public engagement, assisted by an online collaboration platform. Lunar Mission One's market research suggested that the project will make a significant financial surplus, all to go to a nonprofit trust as a future legacy for the future space exploration.

Wikipedia as a resource for media architectural literacy

Digital media has become the main source of information for many architecture students, who use blogs, social networks, search engines ... to get information. However, given the huge amount of resources available, they are not always able to identify the highest quality sources or properly manage the obtained data. Using Wikipedia, one of these digital sources which is frequently used by the students, as the main tool, a training project which aims to provide them with the necessary architectural media and informational skills, is proposed. Through the analysis of the information about certain architectural references in this digital encyclopedia, it is intended that the student not only acquires a critical attitude towards his digital architectural environment but may also contribute to its improvement.

Development of a teaching methodology for undergraduate human development in psychology

The development of a teaching methodology for the undergraduate Psychology course Human Development II in a private university in Lima, Peru is described. The theoretical framework consisted of an integration of Citizen Science and Service Learning, with the application of Information and Communications Technology (ICT),specifically Wikipedia and discussion boards, and fieldwork with Older Adults. Wikipedia, a free digital encyclopedia, allows students to create and edit articles about content within the course. The use of Wikipedia allows students to supplement classroom learning, distinguish between accurate and inaccurate information, and contribute to subject area content online for the public. The teaching methodology aimed to increase critical thinking skills and sense of social responsibility. Fifty-five students of a private university in Lima participated in the course; 26 in the control group during the 2014.1 semester and 29 in the experimental group during the 2014.2 semester. The planning and implementation phases of the methodology, as well as initial qualitative findings are discussed. Analysis of discussions in the student forum indicates that students appeared to utilize more critical thinking skills and demonstrated a sense of social responsibility related to the Older Adult.

Local wisdom-based e-encyclopedia as a science learning medium in elementary school

The number of online encyclopedias is still limited and generally, they are not too interesting to be read by students since they tend to load information about unfamiliar animals for students. This paper seeks to describe the use of local wisdom based electronic encyclopedia as a learning media in the Science subject in Elementary school. This research was conducted on elementary school students in the city of Malang with 82 people using data collection instruments. Such as questionnaires and observation sheets. The research was carried out through several stages, namely the analysis stage, production stages, product design and evaluation stage. The finding show that local wisdom-based animal based e- encyclopedia are good in terms of content, presentation, language and the use of online encyclopedia triggers students to be more motivated and enthusiastic to learn during the learning process. The familiar contents and concepts given made a more meaningful learning process for students.

How do Information Source Selection Strategies Influence Users' Learning Outcomes?

Learning-related type of tasks has attracted much research attention recently but it is still not clear what factors would influence users' learning outcomes and how. In this study, we conducted a user experiment to assess searchers' learning outcomes and examine how information source selection strategies would influence their learning outcomes. In this experiment, thirty-two college students conducted search for two types of learning tasks: receptive tasks and critical tasks. Participants were asked to write down what they knew about the task before and after the search. For data analysis, we proposed a comprehensive assessment method, which used both quantitative measures (i.e. knowledge points, knowledge facets, knowledge scope, etc.) and qualitative measures to assess users' learning outcomes. Our results demonstrated that searchers' information source preferences influence their learning outcomes; i.e., encyclopedia-preferred sessions had better relevance of written summaries in receptive tasks and Q&A preferred sessions led to better relevance in critical tasks. Furthermore, searchers had two types of information source selection strategies: task-adaptive strategy and non-task-adaptive strategy. The results showed that searchers with task-adaptive strategy could gain better learning outcomes, e.g. knowledge points, facets, scope, depth, relevance and analyticity. This study highlighted the importance of information source selection strategies in learning-related type of tasks, and knowing how to select suitable information sources for different types of tasks may benefit the learning outcome for searchers.

Magnetic Resonance Imaging and Ultrasound Experience from the EMIT and EMITEL e-Learning and e-Encyclopedia Projects

As part of two European Union funded projects we have developed Magnetic Resonance Imaging and Ultrasound materials for e-learning and an e-encyclopedia. The e-learning modules were developed for the EMIT project which aimed to produce training and e-learning materials to facilitate core training for medical physics in the fields of Magnetic Resonance Imaging and Ultrasound. The training modules were based on development of skills and competencies through practical performance of key tasks. Each module included a list of competencies, structured timetable, student workbook and an image database. The e-encyclopedia was developed for the EMITEL project. The encyclopedia is aimed at MSc level or above and aims to provide extensive coverage of Magnetic Resonance Imaging, Ultrasound and other areas of medical physics. Each e-Encyclopedia entry includes key text, figures (images or diagrams), links to other related entries and key references or external web links.

Impact and use of e-resources by social scientists in National Social Science Documentation Centre (NASSDOC), India

Purpose - The purpose of this paper is to present the fact that electronic resources are a significant part of library collections. A large amount is invested in the development and management of e-resources in the libraries. The study aims to identify the acceptance of e-resources in the National Social Science Documentation Centre (NASSDOC) library in New Delhi, India and determine their usage, performance, degree of user satisfaction, and barriers faced in the access of e-resources. It also attempts to find out the users' views about computer literacy among the social scientists.
Design/methodology/approach - The study focuses on the impact and use of e-resources by social scientists pursuing research in the NASSDOC library. The data were collected from the entire population of social scientists at NASSDOC

through a questionnaire accompanied by personal interview. This was further analysed using statistical techniques and percentages to arrive at qualitative and quantitative results.
Findings - The major findings of the study indicate that respondents are aware of the e-resources (such as e-books, e-journals, e-encyclopedias, e-theses, CD-ROM databases, e-mail, internet and the OPAC). Large numbers of research scholars and faculty members are using these e-resources for their research work. Many faculty members strongly agreed with the necessity for computer and internet literacy to access information. A majority of users were satisfied with the e-resources available at the NASSDOC library.
Originality/value - This is one of the first surveys conducted to identify the need and importance of e-resources in a specific Indian library (NASSDOC) as well as the requirement for information literacy to enhance the use of available resources in the social sciences. It should pave the way to showing the value of such e-resources for scholarly research in India.

Digital Health Literacy and Web-Based Information-Seeking Behaviors of University Students in Germany During the COVID-19 Pandemic: Cross-sectional Survey Study

Background: Digital communication technologies are playing an important role in the health communication strategies of governments and public health authorities during the COVID-19 pandemic. The internet and social media have become important sources of health-related information on COVID-19 and on protective behaviors. In addition, the COVID-19 infodemic is spreading faster than the coronavirus itself, which interferes with governmental health-related communication efforts. This jeopardizes national public health containment strategies. Therefore, digital health literacy is a key competence to navigate web-based COVID-19-related information and service environments.
Objective: This study aimed to investigate university students' digital health literacy and web-based information-seeking behaviors during the early stages of the COVID-19 pandemic in Germany.
Methods: A cross-sectional study among 14,916 university students aged >= 18 years from 130 universities across all 16 federal states of Germany was conducted using a web-based survey. Along with sociodemographic characteristics (sex, age, subjective social status), the measures included five subscales from the Digital Health Literacy Instrument (DHLI), which was adapted to the specific context of the COVID-19 pandemic. Web-based information-seeking behavior was investigated by examining the web-based sources used by university students and the topics that the students searched for in connection with COVID-19. Data were analyzed using univariate and bivariate analyses.
Results: Across digital health literacy dimensions, the greatest difficulties could be found for assessing the reliability of health-related information (5964/14,103, 42.3%) and the ability to determine whether the information was written with a commercial interest (5489/14,097, 38.9%). Moreover, the respondents indicated that they most frequently have problems finding the information they are looking for (4282/14,098, 30.4%). When stratified according to sociodemographic characteristics, significant differences were found, with female university students reporting a lower DHLI for the dimensions of "information searching" and "evaluating reliability." Search engines, news portals, and websites of public bodies were most often used by the respondents as sources to search for information on COVID-19 and related issues. Female students were found to use social media and health portals more frequently, while male students used Wikipedia and other web-based encyclopedias as well as YouTube more often. The use of social media was associated with a low ability to critically evaluate information, while the opposite was observed for the use of public websites.
Conclusions: Although digital health literacy is well developed in university students, a significant proportion of students still face difficulties with certain abilities to evaluate information. There is a need to strengthen the digital health literacy capacities of university students using tailored interventions. Improving the quality of health-related information on the internet is also key.

Continuing medical and student education in dermatology during the coronavirus pandemic - a major challenge

Continuing medical education (CME) is the essential basis for student teaching and for training and further development of physicians. Without it, modern and adequate patient care is unthinkable. Recently, the coronavirus pandemic, caused by the severe acute respiratory syndrome coronavirus 2 (SARSCoV2), forced the entire medical community to change its usual habits of advanced medical training, teaching and learning. As a result, digital training and teaching via social media, online medical encyclopedias, web-based learning platforms and educational podcasts moved to the fore. Here, we give an overview on current concepts for online medical education, with special consideration of dermatology.

Impact of Social Media on The Reading Culture of Nigerian Youths; Is the Social Media platform providing an Alternative Source of Education?

The Social Media is a group of online communication channels that allow individuals, groups, governments, organizations, and companies etc. to share information, ideas and express their selves via virtual networks sites like Facebook, Twitter, linked in, Instagram but to name a few. They have all succeeded in connecting Nigerian youths so that they have been able to share information and connect with each other without any boundaries. The purpose of this term paper is to analyze the impact of social media on the reading habits of Nigerian youths and also determine if it is providing an alternative source of education, this is due to the fact that issues have risen concerning the its effects on the reading culture of Nigerian youths due to the fact that recent statistics has shown that there has been a rapid decline in the reading culture of Nigerian students. Youths tend to spend their time online chatting, posting selfies, keeping up in

the latest entertainment news and exhibiting celebrity mania and all this tends to have a negative impact in their reading culture. However, the upside to all this is that it can be an alternative source of education with the introduction of web based technologies, e-learning facilities, online encyclopedias and blogs which have immensely helped in serving as an alternative to education amongst Nigerian youths though research also shows only a few actually use them for educational purposes. The authors concluded that even though the social media has a negative impact on the reading culture of our youths, it also provides an alternative source of education but most Nigerian youths are not making full use of these opportunities and this has to be rectified by creating an awareness on its benefits.

Open Educational Resources - A Veterinary Case Study

In the 1990s, six veterinary schools collaborated on the creation of computer aided learning materials through the Computer Learning in Veterinary Education (CLIVE). This innovative consortium shared digital learning objects as open resources (OER) prior to the advent of the internet, distributing them on CD-ROM. Over 100 of these programs were produced ranging from "ageing horses" to "a description of the urinary system".
The use of open content is now central to the way veterinary students study. The majority of students state that they access open content such as Wikipedia, WikiVet or YouTube on a regular basis and find it invaluable to their studies. Faculty now have to ensure that their digital literacy competencies keep abreast of their students' information needs if they are to best prepare them for their future careers. As part of this increasing engagement in digital content, staff will be encouraged to play a more active role in sharing their own teaching material.
One example of a new veterinary OER is the WikiVet project, a non-profit making collaborative resource which aims to support and enhance veterinary education worldwide using web based technologies. It provides an innovative and dynamic framework integrating an expanding veterinary encyclopaedia with related learning materials. WikiVet aims to become the most respected and largest online educational resource for the international veterinary community.
The original vision of the institutions and individuals that created veterinary OERs was that their free use would help to ensure global access to some of the best teaching resources. Clearly this has major potential for the less developed countries of the world which do not have the resources to create material and do not want to "reinvent the wheel". Now, only time will tell if these exciting opportunities to share our global education resources will come to fruition.

A day without a search engine: an experimental study of online and offline searches

With the evolution of the Web and development of web-based search engines, online searching has become a common method for obtaining information. Given this popularity, the question arises as to how much time people save by using search engines for their information needs compared to offline sources, as well as how online searching affects both search experiences and search outcomes. Using a random sample of queries from a major search engine and a sample of reference questions from the Internet Public Library (IPL), we conduct a real-effort experiment to compare online and offline search experiences and outcomes. We find that participants are significantly more likely to find an answer on the Web (100 %), compared to offline searching (between 87 % and 90 %). Restricting our analysis to the set of questions in which participants find answers in both treatments, a Web search takes on average 7 (9) minutes, whereas the corresponding offline search takes 22 (19) minutes for a search-engine (IPL) question. Furthermore, while raters judge library sources to be significantly more trustworthy and authoritative than the corresponding Web sources, they judge Web sources as significantly more relevant. Balancing all factors, we find that the overall source quality is not significantly different between the two treatments for the set of search-engine questions. However, for IPL questions, we find that non-Web sources are judged to have significantly higher overall quality than the corresponding Web sources. In comparison, for factual questions, Web search results are significantly more likely to be correct (66 % vs. 43 %). Lastly, post-search questionnaires reveal that participants find online searching more enjoyable than offline searching.

Using Wikipedia To Develop Students' Critical Analysis Skills in the Undergraduate Chemistry Curriculum

Wikipedia represents a revolution in the way knowledge is communicated and a potential threat to traditional encyclopedias. Wikipedia is widely used as a reference in academic assignments. Unfortunately, for the neophyte, it may be hard to assess the completeness and the accuracy of a contribution to Wikipedia. In this article, we describe an assignment to show students how to read a Wikipedia scientific article critically and how to correct it appropriately, if necessary. The assignment has proven to be beneficial to the students while demonstrating how to analyze, understand, and write a contribution to Wikipedia.

Open and Transparent Consensus: a Snapshot of Teachers' use of Wikipedia

The title of this paper (Open and Transparent Consensus) is derived from Wikipedia's own description of itself, and reflects its philosophy and approach to collaborative knowledge production and use. Wikipedia is a popular, multi-lingual, web-based, free-content encyclopaedia and is the most well-known of wikis, collaborative websites that can be directly edited by anyone with access to them. Many teachers and students have experience with Wikipedia, and in this survey teachers were asked how Wiki-based practices might contribute to teaching and learning. This study was conducted in England with 133 teachers from a wide range of schools, who have used Wikipedia in some way. The survey was anonymous to protect individuals' and schools' privacy; there was no way of identifying individual responses. The survey was conducted online and respondents were encouraged to be as open and honest as possible. Participation in this survey was entirely voluntary. Many of the questions were based upon descriptions by Wikipedia

about itself and these were intended to elicit responses from teachers that reflect how closely their usage relates to the original intention and philosophy of the encyclopaedia. Other questions were intended to probe different ways in which teachers use the website.

Epistemological Issues In The Internationalization And Globalization Of Mathematics Education

This chapter discusses some of the universalizing forces at work in the globalization and internationalization of mathematics education. Wikipedia is used a both a definitional source for the concepts of globalization and internationalization, as well as exemplifying the Anglophone and eurocentric domination of the knowledge economy worldwide. This web based encyclopedia also exemplifies mode 2 knowledge production outside of the academy, which is related to the place of ethnomathematics in society. The distinction between mode 1 and 2 knowledge production is used to critique the ideological discourse of mathematics which asserts that it is universal and sustains economic and social activity, and is an Anglophone academic production. It is argued that the role of mathematics is inseparable from the dominant background ideology of capitalism-consumerism, through which it helps to sustain the economic supremacy of the developed countries of the North. However, some possibilities for countering these effects via the development of critical mathematical literacy in learners and citizens are also indicated.

How students use Web-based tutorials and library assignments: Case studies from the Ohio State University Libraries

Use of the World Wide Web to teach information retrieval skills to college students is a rather new phenomenon. Understanding how students react to and interact with this new media is essential for building successful instructional programs. This paper presents and analyzes data from several studies of user behavior and perceptions of Web-based instruction at The Ohio State University Libraries.
The net.TUTOR program of self-paced Web tutorials on using the Internet for research was introduced in Fall 1997. Ten interactive lessons focus on basic skills (Web browsing, e-mail), tools (mailing lists, newsgroups, browser plug-ins and customization), searching (cross-resource skills as well as Web search tools), and research skills (evaluation of sources, research strategies, citing sources). Several large enrollment classes at The Ohio State University as well as a number of smaller classes have incorporated the net.TUTOR program into their syllabi. Numbers of independent net.TUTOR users not connected with courses continues to grow on campus, nationally and internationally. User log data collected by the course management software provides a unique and detailed picture of how students interact with lesson components. Additional data collected from user surveys offer insights into student perceptions of this new instructional. program.
Additionally, the existing library instruction program for new students at Ohio State, which enrolls approximately 10,000 students each year, has migrated to Web-based library assignments and now teaches skills that are essential to success using today's online information resources. Hands-on lessons focus on the evaluation of Web resources and on practicing search skills needed to efficiently use online encyclopedias such as Britannica Online, full text periodical indexes, or the Libraries' catalog. net.TUTOR lessons are offered as supporting resources for those students requiring additional instruction in searching and evaluation techniques. Data collected from surveys of students completing these new library assignments sheds light on comfort levels and perceptions of success as well as the impact on library personnel and resources.

Multimedia technologies for teaching musical art under present-day conditions

The processes of society's informatization and digitalization necessitate the widespread use of new pedagogical technologies. Through these technologies, comprehensive disclosure of didactic functions of new methods of educational activity and the realization of the potential and creative potential. The use of information and computer multimedia technologies in teaching music art is especially relevant in the intensification of the development of interactive technologies, the transition to mixed forms of learning, and a period of socio-economic and socio-political upheavals. The study aims to substantiate the theoretical and applied principles of the analysis of multimedia technology learning musical art in modern conditions and assess the status and trends in their use in conducting educational activities. The study uses general scientific and unique methods of economic analysis, in particular, analysis and synthesis, analogy and comparison, generalization and systematization, and graphic ways.
Regarding the results of the study of multimedia technologies for teaching musical art in current conditions, it was found that they contribute to the development of the seeker's creative, creative, and cognitive activity, have a positive impact on learning material, and diversify the educational process. Multimedia technologies such as presentations, programs for watching a video, listening to audio, music and singing karaoke, electronic encyclopedias, and Internet resources are proven to be the most used in music education. They have several qualitative and quantitative advantages, manifested in the possibilities of audio-visual presentation of educational material and significantly higher information density. It is suggested to strengthen the use of such computer programs as Microsoft Word, Ahead Nero, Finale, Adobe Audition, Sound Forge, and Microsoft PowerPoint for musical art classes.

Developing General And Subject Competences Of Primary School Pupils In The Context Of Integrated Education: The Case Of One Lithuanian School

Aim. The aim of the research is to provide a scientific justification for the inte- grated development of general and subject-specific competences of primary school pupils. Methods. The exploratory qualitative case study was conducted

in a private school in Lithuania. The integrated activities covered the content of Lithuanian language and science education, as well as general competences such as communication and digital competences. The activity was implemented in grade 4 with 12 pupils (8 boys and 4 girls). A semi-structured interview with the class teacher was also conducted. Results and conclusion. The data from the empirical study were analysed according to the following thematic clusters: interest in the activity, group work, searching for information in the encyclopaedia and in electronic sources, working with a robot when integrating the digital skills and the content of science educa- tion, descriptions of animals as a summarising and consolidating activity. The study found that if the educational process is well thought out, if the pupils are interested, they can work independently and support each other in explaining the content, while the teacher becomes an observer, a facilitator, and can concentrate on the pupils' individual activities during this process. Well-designed tasks with the robot develop not only digital literacy skills, but also the reinforcement of subject content related to the use of concepts. Originality. The case study provides valuable insights into the implementation of an educational process that integrates general and subject-specific competences, and the detailed description of the activities shows which tasks support students' independent learning.

Use Of Information And Communication Technologies For Organizing Self-Education Of Personality In The Field Of Clothes Design

The article considers the following aspects of organization of self-education using the information and communication technologies (ICTs): what information resources can be the basis for self-education; how to organize the education; how to solidify the acquired knowledge and create necessary social connections. The information resources which can be used for self-education and their classification depending on the needs of the individual - for personal enrichment or for scientific search, - are determined; the most significant among them are electronic libraries and bibliographic and abstract databases. The ways of organization of self-education are analyzed, namely: massive online courses, educational applications for PCs and mobile phones, individual classes (webinars), consistent self-development of separate topics, etc. ICTs that promote the creation of social connections and communications with like-minded people and specialists with narrow focus (social networks, scientists' identification systems, forums and blogs) are considered. The examples of information recourses, aimed at obtaining professionally important information by fashion designers, are provided. Among them are blogs about art, fashion and design, virtual museum sites, resources for fashion industry leaders, sites of exhibitions, contests, popular and scientific journals, designers and brands. The possibilities of assessing the reliability of scientific information using the bibliographic and abstract databases, social networks and individual profiles of scientists in the systems of identification are determined. In order to identify the specifics of ICTs use, a questionnaire survey has been conducted that has outlined the main informational resources used in the search for the necessary information (encyclopedias and databases, social networks, YouTube channels and blogs in Twitter, LifeJournal, etc.), and peculiarities of perception of such information. It is found that ICTs are the main source for searching and receiving information.

An Online Collaborative Ecosystem for Educational Computer Graphics

We introduce a coding framework that supplements introductory computer graphics courses, with the goal of teaching graphics fundamentals more effectively and lowering the excessive barrier of entry to 3D graphics programming. In particular, our framework provides tiny-graphics.js, a new WebGL-based software library for implementing projects, including an improved organization system for graphics code that has greatly benefited our students. To mitigate the difficulty of creating 3D graphics-enabled websites and online games, we furthermore introduce the "Encyclopedia of Code"-a World Wide Web framework that encourages visitors to learn 3D computer graphics, build educational graphical demos and articles, host them online, and organize them by topic. Our own contributed examples include various interactive tutorials and educational games. Some of our modules expose students to new graphics techniques, while others explore new modes of online learning, collaboration, and computing. In comparison to earlier online graphics coding platforms and mainstream graphics educational materials, the resources that we have developed offer a significantly unique set of features for both inside and outside our classrooms.

Encyclopedia Of Notable Plane Curves An International Network Research Project Within The Frames Of Mite

Creation of conditions to motivate students, teachers and scientists from different countries by including them in a network is one of the goals of the International project "Methods and Information technologies in educations" (MITE). Crowd sourcing fora research project is an interesting form for the propose. The project began in 2018 and was directed to the elaboration of an open electronic encyclopedia of plane curves. A website "We write by ourselves" was created to support the project. Scientists were the moderators of the encyclopedia topics. They formulated problems in articles-matrices. The participants in the project tried to solve the problems and wrote articles too. They were grouped in teams consisted of students from three countries - Bulgaria, Kazakhstan and Russia. Their mentors were school teachers. The present article describes the technical and methodological work of those who helped students to obtain results.

Compensation of e-exclusion effects of blind students through applying the multimodal user interfaces into dedicated educational applications

Despite the dynamic grow of the market of electronic educational materials, The blind students have very limited access to such kind of content. It is caused mainly by visual characteristic of user interfaces generated for the sighted people as a combination of images, moving animations and interactivity that are inaccessible for the blind Although there are any

open-source projects that try to solve this problem by implementing a simple dedicated games, the market of blind consumers is too small to be worth commercial companies to produce an educational programs for them. So it seems that a good idea to reduce the exclusion of such persons is the creation of specialized solutions within the framework of scientific research and other non-profit initiatives. In such applications, replace the media that is available only to the sighted user, such as animations, videos, graphics on the screen or interaction mechanisms through a set of alternative interfaces is necessary. These alternative interfaces enabled for the blind are: speech synthesize, keyboard shortcut sets, auxiliary sounds, typhlographic, interactive sound-supports touch screen, using the Braille display, etc. In this article, an example of using the method of alternative interfaces in educational game entitled "The encyclopedia of Geography of Europe for the blind." Is described. The software has been implemented for commercial sale. It is located in offer one of the companies spraying equipment and software for the blind. This gave the opportunity for Collecting comments and suggestions from customers. The elements that users found as Beloved were: the application of the simultaneous illustration of geographical questions using textual information, music illustrations, braille graphics and auxiliary sounds. The negative comments were: not quite intuitive implementation for search of the content in all application and Outdating of main geographical data content that necessitates the frequent creation of new versions of the program.

Integration of Information and Communication Technology (ICT) Into Technical and Engineering Education in Nigeria: Potentialities, Problems and Strategies

This paper discussed the role of ICT in the world of work and development in science and technology. It considers the potentialities of using ICT in the teaching and learning technical and engineering education in Nigeria. Among the ways through which ICT can be integrated into TEE include: the use CD-ROMS, videodisks, electronic encyclopedia, and video libraries, computer assisted instruction, animation, web-based and computer aided design (CAD). Similarly, the paper highlighted some of the problems facing the efforts of integrating ICT into technical and engineering education and training. It concluded with suggestions on how to integrate the technology in technical and engineering education delivery process.

Children's relevance criteria and information seeking on electronic resources

This study explores the relevance criteria and search strategies elementary school children applied when searching for information related to a class assignment in a school library setting. Students were interviewed on two occasions at different stages of the research process; field observations involved students thinking aloud to explain their search processes and shadowing as students moved around the school library. Students performed searches on an on-line catalog, an electronic encyclopedia, an electronic magazine index, and the World Wide Web. Results are presented for children selecting the topic, conducting the search, examining the results, and extracting relevant results. A total of 254 mentions of relevance criteria were identified, including 197 references to textual relevance criteria that were coded into nine categories and 57 references to graphical relevance criteria that were coded into five categories. Students exhibited little concern for the authority of the textual and graphical information they found, based the majority of their relevance decisions for textual material on topicality, and identified information they found interesting. Students devoted a large portion of their research time to finding pictures. Understanding the ways that children use electronic resources and the relevance criteria they apply has implications for information literacy training and for systems design.

The Web as a classroom resource: Reactions from the users

This article presents and discusses interviews with 50 grade-6 primary school students about their experience of using the Web to find information for a class project. The children discuss the quantity and quality of textual and image information on the Web versus traditional print sources, and the reasons why they made very little use of any moving images and sound clips on the Web. They also discuss how they searched for information on the Web and the ways in which this differs from looking for information in printed sources. The children overall demonstrate a sophistication both in their appreciation of the Web's strengths and weaknesses as an information source, end in their information retrieval strategies. In their reaction to the Web compared with traditional print sources, they can be categorized as technophiles, traditionalists, or pragmatists. The results from this research study suggest that although the Web can make an important contribution to information retrieval by school students, for the time being, at any rate, a role also remains both for other electronic sources such as CD-ROMs and print materials that are targeted specifically st young users. The Web needs both a more straightforward interface and more information specifically aimed at the young before it can seriously threaten its rivals.

Information access and retrieval with hypermedia information systems

Students' success with interactive information systems (IIS) such as those found in many CD-ROM applications depends to large degree on their capacity accurately to choose and apply search strategies in response to information needs, ITS systems provide many ways to retrieve information, with some methods being more efficient and effective than others. The purpose of this study was to investigate the search strategies employed by novice users of an IIS system and to analyse the problems and issues that were impediments to successful use. A class of 12 year old students was instructed in the use of an electronic encyclopaedia, The students used the encyclopaedia as an information source for individual projects and on completion their information skills tested and analysed. The study Found that students tended to employ inefficient search strategies and experienced difficulty in creating search requests for information related problems.

A Comparison Of Information-Retrieval From Print And Cd-Rom Versions Of An Encyclopedia By Elementary-School Students

Describes an experiment using 48 sixth-grade students to compare retrieval techniques using the print and CD-ROM versions of Compton's Encyclopedia. Four queries of different complexity (measured by the number of terms present) were searched by the students after a short training session. The searches were timed and the retrieval steps and search terms were noted. The searches were no faster on the CD-ROM than the print version, but in both cases time was related directly to the number of terms involved. The students coped well with the CD-ROM interface and its several retrieval paths.

Electronic Terminological Thesaurus-Type Vocabularies In The Computerization Of Education In The Humanities

The structure of electronic terminological (encyclopedic) thesaurus-type vocabularies in the field of social sciences is discussed. They constitute very useful instruments for the organization of knowledge in the social sciences and the humanities.

Hypermedia Techniques For Diagnostic-Imaging Instruction - Videodisc Echocardiography Encyclopedia

Translating In The Teaching Of Foreign Languages: Wikipedia As A Didactic Tool?

This article relates to the field of the didactics of foreign language teaching, and presents the results of a preliminary study carried out in order to determine the extent to which Wikipedia can be used as a didactic aid and learning tool in the translation lectures of foreign language teaching in the Master's degree in Dutch at the John Paul II Catholic University of Lublin (Poland). In view of the free access to this online encyclopedia, on the one hand, and the richness of texts (in Polish and Dutch) with a cultural content on the other, we investigated to what extent Wikipedia translation can be successfully used as a tool in L2 translation classes. The increasing importance of technological tools (such as electronic dictionaries, terminological databases, and machine translation software) for translation and its use in language teaching, on the one hand, and, on the other, the fact that Polish graduates in Dutch philology often work as translators, were the starting point for this research, which was conducted as a preliminary phase (case study) of a more extensive study into the practical application of Wikipedia translation activities in language acquisition classes.

Translation technology adoption: evidence from a postgraduate programme for student translators in China

The ability to use translation technology is considered a key component of a translator's translation competence. However, few studies have investigated the extent of use of translation technology, especially among student translators. This paper reports on a survey of translation technology adoption among 441 students enrolled on a Master-level Programme in Translation and Interpreting. A questionnaire was used to measure student knowledge and frequency of use for six common types of translation technology tools and resources: electronic dictionaries, search engines, online encyclopaedias, corpora, machine translation and computer-aided translation tools. The results show that there is a strong, positive correlation between student knowledge and their use of translation technology. More specifically, the second-year students generally used translation technology more frequently than the first-year students. This paper provides a baseline for future comparisons of translation technology use, which has implications for teaching translation technology in China and similar contexts elsewhere.

An Approach to Teaching Blind Children of Geographic Topics Through Applying a Combined Multimodal User Interfaces

Nowadays all pupils have easy access to different kinds of educational games that use images, sound and video. Despite the rapid development of computer technology the blind children meet a great restrictions with access to this type of content. The main reason may be that the producers do not perform accessibility requirements by their games. Otherwise, it is not cost-effective to create specifically tailored multimedia learning materials for the blind.

Then there is a great need to better sharing of multimedia educational content for this group of users. In this paper, an approach consisting in the replacement of images and video in usual educational game through a combination of audio recordings, synthetic speech, sound signals, electronic Braille, and convex graphics is proposed. An example of such interfaces was implemented as an educational audio game European Encyclopedia of Geography for the Blind that was developed for commercial sale.

Student perceptions on future components of electronic textbook design

Electronic textbooks have been a subject of research for decades, yet student perceptions of interface components tend to be investigated in hindsight, and findings are not commonly taken into consideration for textbook design. This paper shifts the focus of electronic textbook design back toward students by identifying components that should be included in future electronic textbooks based on student perceptions in relation to the task of academic reading, as well as identifying associations with gender, experience level, academic level, and academic discipline. Findings from a university-wide online questionnaire that received more than 700 responses indicated that text, highlighting tools, bookmarks, multimedia, translation tools, dictionaries, and encyclopedias should all be incorporated in future electronic textbooks, as well as provided evidence to suggest that electronic textbooks should be tailored based on academic

discipline. Understanding what students require for academic reading can facilitate the development of more suitable educational tools, and through the identification of suitable components, can enable the design of more standardized electronic textbooks.

Practical Experience from a Pan-European Educational Project

The paper provides detailed description of experience from practical use of a newly developed "TechPedia" educational system tailored mainly for professional secondary schools specializing in ICT, electrical engineering and automation. The content for the system has been authored by experts from several European universities. Its purpose is to increase the attractiveness of secondary education and training, so that students' professional growth can seamlessly continue at technical universities. The project consortium has developed modern electronic learning environment and hundreds of learning objects, such as learning modules, worksheets, tests, multilingual dictionary and encyclopedia that gave the name to the whole project - TechPedia, which is currently in its pilot phase, i.e. practical testing with students and teachers at many schools across Europe. Students can also compare their knowledge thanks to an international "Technical Olympiad". The project results were also awarded the first prize at eLearning 2016 nationwide competition.

The perspectives of higher education faculty on Wikipedia

Purpose - This purpose of this paper is to investigate whether higher education instructors use information from Wikipedia for teaching and research.
Design/methodology/approach This is an explorative study to identify important factors regarding user acceptance and use of emerging information resources and technologies in the academic community. A total of 201 participants around the world answered an online questionnaire administered by a commercial provider. The questionnaire consisted of 16 Likert-scaled questions to assess participants' agreement with each question along with an optional open-ended explanation.
Findings The findings of this project confirm that internet access was related to faculty technology use. Online resources and references were ranked the first choice by the participants when searching for familiar and unfamiliar topics. The investigator found that participants' academic ranking status, frequency of e-mail use and academic discipline were related to their use of online databases, web-based information and directing students to information from the Web. Although the participants might often use online resources for research and teaching, Wikipedia's credibility was the participants' major concern.
Research limitations/implications This project is an exploratory study and more considerations are needed for this research area.
Originality/value The paper shows that participants who used online databases more often showed a negative attitude toward Wikipedia. Those participants who used Wikipedia for teaching and research also allowed students to use information from Wikipedia and were more likely to be contributors to Wikipedia.

Use of Wiki Tools for Raising the Communicative Aspect of Learning

E-learning is not only a tool for knowledge management and the efficient development of cognitive qualities but also promotes interactivity and community building. Wiki software in particular is useful in the process of education for building independent learning spaces to which students contribute, and it supports the social aspects of the teaching/learning process. The communicative features of wiki are the subject of the research regarding the added value of e-learning compared to traditional goals stated in educational theories. The article begins by briefly reviewing this Web 2.0 tool in terms of its educational potential. It presents a case study of HE e-learning courses where the technical properties of different environments in Web 2.0 are linked to the specific need for an interdisciplinary approach to education for sustainable development. The educational objectives of the course are closely linked to the specific character of sustainable development (which is considered to be a social process based on multi-stakeholder communication rather than the sum of diverse political activities) and critical social theory, particularly the theory of communicative action which has emancipatory consequences for those involved. In the educational sphere, these goals are supported by the selection of "group-oriented software" which promotes creativity in the context of academic writing on diverse themes. This supports action competence development and provides diverse communication opportunities which foster students' relationship building. The complex aim of the learning project presented in the article is the building of an extensive educational wiki electronic encyclopedia by students' contributions, through their collaboration on diverse environmental subjects. This learning space provides a knowledge base of easily accessible information for students' different assignments and practical work and is designed to support individual expression; by their contribution to this learning environment students feel part of the knowledge generation community. Contributions are evaluated according to their quality and pages are allocated varying statuses expressed by the level of copyright - some can be continuously upgraded by specialists or by new generations of students. The communicative aspect of learning is easy to trace in the wiki "discussion" option and can be mapped in the history of the page; thus qualitative evaluation is possible. Aspects such as flexibility in selecting the learning strategy and a creative approach present a real challenge for assessment, widely discussed in the literature. A peer review process conducted by students themselves and the quality of their discussion combined with the teacher's assessment is proposed as a contribution to this discussion. Students' interest in active work in the interactive electronic environment was investigated and positive results received. High quality results in terms of students' portfolios (essays and review discussions) provide evidence of usability of the presented pedagogical tool at university level. The article concludes with a review of our experiences

with MediaWiki, useful for those interested in utilizing it as an educational tool. The use of electronic media and its potential link to the theory of communicative action in the educational context is briefly reflected upon.

Awareness In Eeducation Given By Strategies And Indicators

This paper put in attention the changes in strategically view of eEducation forms at actually stage of development for software solutions, internet communications capabilities, new technologies used in learning, training processes through electronic means. eLearning process is transforming from classical lessons and exercises in electronic forms to new type of services, oriented to improving of digitals skills and livelong learning, not only to accumulate information, but to learn where we find it and how we correlate and use. Domain references in the strategic documents and measurement indicators put in evidence the status and the orientation in eLearning, orientation of the software solution used and society needs. Digital Economy and Society Index (DESI 2015) of European Commission conclude that Romania needs to address its digital skills gap. This process has a unique solution eEducation. The "Digital Dividends World Development" 2016 presented in the Conference "The Future is Here - The Digital Revolution for Governments and Managers", held at February 09, 2016 by the National University of Political Studies and Public Administration (SNSPA) and the World Bank, show trends and area of interest in actual developments of the technology and society. eLearning solution must be oriented to improve knowledge and access referring to data revolution, electronic Encyclopaedia, based on Digital Skills, Safer Internet and Cyber security. The main conclusion refers to today the strategic goal of moving to the digital literacy and competence of people in context of Single Digital Market and Multilingvism society. New paradigm of eLearning and software solution must be cognitive, technical and social knowledge and to be a supplemental educational resource in and outside of the classroom.

The Edu-Arctic Project: Interacting For Stem Across Countries And Curricula

EDU-ARCTIC is an open-schooling project, funded by the EU for the years 2016-2019 and managed by scientists, nature educators and computer-technologists. The main aim is to attract young people (1320 years old) to the natural sciences. Further, to raise awareness of how everything in nature is connected, and that STEM education therefore in part must be interdisciplinary across normal school curricula. To achieve these goals, EDU-ARCTIC uses innovative online and freely accessible tools, combined with nature expeditions.
Four main modules complement each other, but can also be used independently:
1 Webinars, during which scientists conduct online lessons about their own field of expertise. The lessons come as packages with worksheets and online games. The lessons bring youth close to scientists. They can ask questions about research and conditions of scientific works. It is also a valuable tool for teachers to brush up their STEM knowledge and get inspiration for their own teaching.
2 Polarpedia, which is an online encyclopedia of scientific terms used in the webinars. The science is kept easy-to-grasp, with the aim to stimulate the pupils' curiosity to look for more information.
3 Monitoring system, which uses citizen science and the project's own app to record observations of meteorology and phenology. Observations are open for everybody to use in their own teachings.
4 Arctic Competitions, which is the module that has engaged the pupils the most. They submit their idea for a science project in winter, work with the project over a few months and present it in spring as an essay, a poster or a video. Teachers come up with innovative ways to fit this work into the normal curricula. A few lucky winners get to join scientists on expeditions to polar research stations.
After 2.5 years, EDU-ARCTIC has engaged more than 1100 teachers and educators from 58 countries. There is a language barrier for some teachers, and it is difficult to fit webinars into the school timetable. However, the challenges are minor compared to the interdisciplinary success of having teachers meet across countries and curricula. Here we illustrate this in detail by presenting a way of interdisciplinary teaching ("the beauty of poetry and maths") developed by one of the teachers in the project, Mr. Francisco Jose Gomez Senent. Starting from a single poem published in Nature, it innovatively combines mathematics, literature, history and linguistic competences. The teacher originally used it to stimulate curiosity about the aesthetic criterion in science. Science is not only about facts! The approach can be generalized to cover a wide range of curricula, and different teachers can use it in a team effort across classes.
Conclusion: The EDU-ARCTIC project has demonstrated that letting teachers meet across countries and teaching fields facilitates inspiring and innovative cross-overs in the normal school curricula. When teachers are inspired we believe it creates a happy teacher - happy teaching effect.

Effectiveness of The Wikipedia Collaboration of Dental Schools' Training Programme: a new Paradigm for Teaching and Learning of Evidence-Based Dentistry

Background: The Wikipedia Collaboration of Dental Schools (WCODS) is a student-led initiative that aims to publish high quality scientific, evidence-based dental content on the Wikipedia online encyclopaedia by equipping its members to use research, critical appraisal and writing skills to create accurate content. In 2019, the Collaboration launched a standardised training programme developed by Wikimediatrained committee members, academic dental school staff and the Cochrane Oral Health global community. Objective: To evaluate the effectiveness of this training programme in ensuring WCODS editors follow the processes underpinning Evidence-Based Dentistry (EBD). Method: A cohort of dental students and staff (n=136) from six dental schools in the UK and Malaysia took part in a standardised and structured training programme at the annual WCODS training meeting. Participants' abilities and their perceived levels of confidence in carrying out critical analysis of the literature were measured using pre-and post-training surveys, and

competency assessments. Results: Participants' skills in conducting literature searches, critical appraisal of the findings and creating and editing a Wikipedia page improved after training. Conclusion: The training programme provided participants with the skill set and confidence to apply best practice to create and edit Wikipedia entries. This Collaboration intends to recruit more contributors to improve global oral health literacy using the free online Wikipedia encyclopaedia.

Wikipedagogy: Enhancing student motivation and collaboration in an economics class with Wikipedia

Wikipedia is not only a source of knowledge and a medium for communicating research but also opens new avenues for teaching in academia. In this article, the authors provide theoretical considerations and practical guidance for setting up a postgraduate economics course where students disseminate research on income inequality in Europe to a greater audience on Wikipedia. Publishing in the well-known and widely-used online encyclopedia has been shown to have a lasting impact on student motivation. Moreover, the authors assess the benefits of reciprocal feedback options and collaborative editing, and also the costs that accompany Wikipedia.

Translating In The Teaching Of Foreign Languages: Wikipedia As A Didactic Tool?

This article relates to the field of the didactics of foreign language teaching, and presents the results of a preliminary study carried out in order to determine the extent to which Wikipedia can be used as a didactic aid and learning tool in the translation lectures of foreign language teaching in the Master's degree in Dutch at the John Paul II Catholic University of Lublin (Poland). In view of the free access to this online encyclopedia, on the one hand, and the richness of texts (in Polish and Dutch) with a cultural content on the other, we investigated to what extent Wikipedia translation can be successfully used as a tool in L2 translation classes. The increasing importance of technological tools (such as electronic dictionaries, terminological databases, and machine translation software) for translation and its use in language teaching, on the one hand, and, on the other, the fact that Polish graduates in Dutch philology often work as translators, were the starting point for this research, which was conducted as a preliminary phase (case study) of a more extensive study into the practical application of Wikipedia translation activities in language acquisition classes.

Wikipedia in Health Professional Schools: from an Opponent to an Ally

As an online encyclopedia, Wikipedia is the world's largest reference Web site, with 1.7 billion visits per month. Given how easy it is to access and read, students use Wikipedia globally, despite most faculty members' admonitions. Since 2013, health professional schools worldwide have incorporated Wiki-editing into their formal curricula. These courses impact students by (1) strengthening their ability to evaluate evidence-based content and (2) multiplying their contributions to society through improvements to Wikipedia articles accessed by millions. We showcase several models of incorporating Wikipedia-editing assignments into health professions education worldwide. These successful initiatives can be replicated everywhere.

Tool-Use profiles in Undergraduate Mathematics

Research exploring undergraduates' tool preferences in tertiary mathematics is currently limited. In this paper, we explore the tools mathematics and engineering students use when studying mathematics and the ways undergraduates combine these tools. Results from our survey (N = 628) showed that students in our sample use mostly their notes, the university's virtual learning environment (VLE), other students and textbooks. Mathematics students were found using more online encyclopaedias, the university's VLE, instant messaging and other students, whereas engineering students reported using more textbooks. By performing a cluster analysis, undergraduates were assigned to five distinct tool-use profiles: the peer-learning group (above average use of other students, instant messaging apps and social media); the online-learning group (above average use of online videos, online encyclopaedias, Wolfram Alpha and the university's VLE); the blended-learning group (above average use of all the tools at their disposal); the no-users group (below average use of all tools except textbooks); and the selective-learning group (above average use of textbooks, online videos and lecturers). The majority of mathematics students were distributed across the peer-learning, online-learning and blended-learning groups, whereas most of the engineering students were found in the blended-learning, no-users and selective-learning groups.

Does a Wikipedia-based assignment increase self-efficacy among female students? A qualified maybe

Wikipedia has become one of the most used reference works, by students, educators, academics, and the general public, and there is a growing body of research exploring when and how students use the online encyclopedia. A smaller body of work examines the role of Wikipedia as a pedagogical tool for teaching information literacy and subject-matter expertise. Yet, despite the ubiquitous nature of the resource on campus, there remains a well-documented gender gap in contributions to the site. We build on previous scholarship to explore how the use of Wikipedia as a pedagogical tool can improve female self-efficacy and bridge the gender gap prevalent in contributions to open access resources. A survey of two undergraduate political science courses suggests an assignment in which students create original content for Wikipedia increases confidence in using the platform and information-seeking behavior among both female and male students, although the advantages continue to be greater for men. Furthermore, while female students are more confident in creating content after the Wikipedia assignment, once accounting for confidence there appears to be no significant difference between male and female contributions to Wikipedia. Because the assignment does lead to slight increases in confidence for women, however, it could be considered a promising first step in increasing female

contributions to the site and the confidence of female students in evaluating information, more generally. We also include assignment details and recommendations for implementation.

Can everyone be a communicator? Wikipedia and digital curation in Theory of History

This article discusses some practices of popular science and digital curation performed by the project Theory of History on Wikipedia. Since 2018, a group of college graduates and undergraduates has been editing entries on the Portuguese-speaking Wikipedia aiming to qualify Theory of History's articles on the online encyclopedia. In the first part, we systematize the practice of editing carried out by the group and its changes in face of the encountered difficulties. In the second part we analyze the entries in the category Theory of History, proposing to see Wikipedia as an outreach platform through the notion of digital curation. Finally, we point out some obstacles to be overcomed in order for the project to fulfill its mission of popularization of historical knowledge through Wikipedia.

University students' perception on the reliability of Wikipedia

INTRODUCTION. Wikipedia is the fifth most visited website in the world, but one of the most common criticisms it receives is its reliability. Many experts have pointed out the problems they have encountered in this online encyclopedia, edited by volunteer users from around the world. In this research we have asked university students studying Education about their perception of the reliability of one of the resources they use most to consult information on the Internet. METHOD. To obtain the results, three data collection instruments were applied. University students from all over Spain in Education studies completed 1,173 questionnaires. Once the answers were analyzed, a script was created to conduct a discussion group at the University of Barcelona, and the responses of this one served to create the script of the interviews that were conducted to the editors of Wikipedia. RESULTS. The data obtained allow us to affirm that students regularly consult Wikipedia, and consider it very useful and complete. Furthermore, they think it is reliable in many cases, although, in general, they doubt all the documentary bases they consult, corroborating this with other sources. They also indicated that it can be a valid educational resource, being able to be used in very varied contexts at different levels of education. DISCUSSION. Students should keep in mind that it is not possible to determine globally whether Wikipedia is reliable or not, it depends on many factors such as the relevance of the article, the editors, the revisions to which it has been submitted and the number of editions.

Integrating Wikipedia editing into health professions education: a curricular inventory and review of the literature

Introduction Wikipedia is an online encyclopedia read by millions seeking medical information. To provide health professions students with skills to critically assess, edit, and improve Wikipedia's medical content, a skillset aligned with evidence-based medicine (EBM), Wikipedia courses have been integrated into health professions schools' curriculum. This literature review and curricular inventory of Wikipedia educational initiatives provides an overview of current approaches and identifies directions for future initiatives and research. Methods Five databases were searched for articles describing educational interventions to train health professional students to edit Wikipedia. Course dashboards, maintained by Wiki Education (Wiki Edu), were searched for curricular materials. From these sources, key details were extracted and synthesized, including student and instructor type, course content, educational methods, and student outcomes. Results Six articles and 27 dashboards reported courses offered between 2015 and 2019. Courses were predominantly offered to medical and nursing students. Instructors delivered content via videos, live lectures, and online interactive modules. Course content included logistics of Wikipedia editing, EBM skills, and health literacy. All courses included assignments requiring students to edit Wikipedia independently or in groups. Limited details on assessment of student learning were available. Discussion A small but growing number of schools are training health professions education students to improve Wikipedia's medical content. Course details are available on Wiki Edu dashboards and, to a lesser extent, in peer-reviewed publications. While more needs to be done in conducting and sharing assessment of student learning, integrating Wikipedia into health professions education has potential to facilitate learning of EBM and communication skills, improve Wikipedia's online content, and engage students with an autonomous environment while learning. Future considerations should include a thorough assessment of student learning and practices, a final review of student edits to ensure they follow Wikipedia's guidelines and are written in clear language, and improved sharing of teaching resources by instructors.

Wikipedia at the spanish faculties of education. The vision of university students

Since the beginning of the 21st century, there has been a change in the way people connect to the Internet, interacting more with the creators of web sites and spending more time connecting to several tools that have been called Web 2.0, such as social networks, wikis and blogs. One of the best-knOwn wikis is Wikipedia, free online encyclopedia collaboratively edited by users around the world. In this research we have applied an online questionnaire designed ad hoc to see if Spanish university students use this tool, if they know it and if they attach importance to their studies. The results have been obtained after the completion of 1173 questionnaires by university students of Education throughout Spain. Students say they use social networks, online documents and Wikipedia. Only 5.4% of respondents indicated that they do not use this tool. They make sure they know how it works, and only 1.74% admitted to not knowing it completely. However, they do not give it much importance to their studies, as the other Web 2.0 tools. In addition, most of them know that they can edit it, but they cannot provide information, so the number of editors is very low.

Wikipedia and universities: collaborative work regarding Ibero-American universities

This paper presents the conclusions of a study conducted on the Wikipedia entries of the twenty-fie most relevant Ibero-American universities. Higher education institutions have been ranked using Shanghai, URAP and other indicators. In each of the entries of the universities studied in the online encyclopaedia, all existing language versions have been revised. The three most relevant language versions (75 articles in total) have been studied in depth. The 500 most active editors on these higher education texts have also been monitored.
The main purpose of this study is to ascertain whether there is an open community and activity that reflects on higher education centres in the Ibero-American context and whether this constitutes a full Open Authority discourse, as established by Lori Byrd Phillips (2013). That is, if a rigorous and impartial narrative on universities is being created.
Our results show extensive and wide activity. All Ibero-American universities have Wikipedia entries in more than a dozen languages. The most extensive articles exceed a thousand contributions. Observation of this activity reveals how the editors and gatekeepers have favoured the creation of a space of knowledge and exchange about universities in the Portuguese and Spanish language settings.
This paper concludes that there is an Open Authority on higher education spaces in Ibero-America in the online encyclopaedia. The entries on the twenty-five universities studied and the 500 editors monitored revealed that there is a rigorous and wide -although uneven- activity on universities in Wikipedia.

Online Educational Resources for Students and Digital Barrier

The purpose of the research is to highlight possibilities and prospects of student' use of Internet encyclopedias, massive open online courses and interactive platforms. The concept of the digital barrier is comprehensively revealed and the factors that influence it are considered. The article is addressed to teachers and specialists involved in the development of educational online platforms, as well as to all those interested in modern online education trends.

A Different Ball Game: Physical Education Students' Experiences in Librarian-led Wikipedia Assignments

Wikipedia editing assignments in the classroom provide unique transformative learning experiences to students and educators alike. Wikipedia is an online encyclopedia that anyone can edit. In lieu of a traditional essay or research paper, professors are increasingly asking their students to edit Wikipedia articles. This active and collaborative pedagogical approach encourages the development of a host of student skills: information literacy, critical thinking, media literacy, collaboration, online communication, writing, and critical digital literacy skills.
This study examines Kinesiology and Physical Education students' perceptions, attitudes, and experiences before and after completing a librarian-led Wikipedia assignment. Using modified pre- and post-surveys the authors surveyed 63 Kinesiology and Physical Education (KPE) students completing a librarian-led Wikipedia assignment in an Educational and Counselling Psychology course. While overall the experience was positive and met most student expectations, they are not committed to editing Wikipedia in the future, nor are they necessarily in favour of replacing the traditional research essay with Wikipedia editing assignments.

Why Don't University Students Edit on Wikipedia?

College students admit that one of the tools they use the most in their daily lives is Wikipedia, an online encyclopedia that gives anyone the freedom to edit its content. They consider that it is reliable and useful for their queries, but above all they believe that it contains current data. In spite of these positive aspects, it is considered that less than 1% of the students frequently edit it to improve its contents. In order to determine the reasons why they do not edit it, in this research we have implemented the sequential mixed method to obtain information from three data collection tools such as questionnaires, discussion groups and interviews. Once the 1,173 responses to the questionnaires had been analyzed, we carried out a discussion group with students from the University of Barcelona and interviews with expert editors on Wikipedia, and it was found that only 0.38% edited frequently or very often. Several reasons were given for not editing it, but mainly the students indicated that they did not feel capable of providing any type of information.

Enhancing Students' Collaboration and Creative Thinking Skills by Using Online Encyclopedias

Cooperative learning and creative thinking skills play an important role in the skills that 21st century students should have. This study explores how these skills can be improved by using the opportunities provided by online encyclopedias. The proposed method aims develop cooperative learning skills in the process of writing research homework; developing creative thinking by conducting research on a given topic and writing a composition; integration of technology with education and training process. Tests conducted on student groups showed that students who participated in the writing of wiki articles improved their cooperative and creative thinking skills.

A crowd-efficient learning approach for NER based on online encyclopedia

Named Entity Recognition (NER) is a core task of NLP. State-of-art supervised NER models rely heavily on a large amount of high-quality annotated data, which is quite expensive to obtain. Various existing ways have been proposed to reduce the heavy reliance on large training data, but only with limited effect. In this paper, we propose a crowd-efficient learning approach for supervised NER learning by making full use of the online encyclopedia pages. In our approach, we first define three criteria (representativeness, informativeness, diversity) to help select a much smaller set of samples for crowd labeling. We then propose a data augmentation method, which could generate a lot more training data with

the help of the structured knowledge of online encyclopedia to greatly augment the training effect. After conducting model training on the augmented sample set, we re-select some new samples for crowd labeling for model refinement. We perform the training and selection procedure iteratively until the model could not be further improved or the performance of the model meets our requirement. Our empirical study conducted on several real data collections shows that our approach could reduce 50% manual annotations with almost the same NER performance as the fully trained model.

Wikipedia: Why is the common knowledge resource still neglected by academics?

Wikipedia is by far the largest online encyclopedia, and the number of errors it contains is on par with the professional sources even in specialized topics such as biology or medicine. Yet, the academic world is still treating it with great skepticism because of the types of inaccuracies present there, the widespread plagiarism from Wikipedia, and historic biases, as well as jealousy regarding the loss of the knowledge dissemination monopoly. This article argues that it is high time not only to acknowledge Wikipedia's quality but also to start actively promoting its use and development in academia.

Finding Prerequisite Relations using the Wikipedia Clickstream

The increased availability of online learning resources in the form of courses, videos, and tutorials has created new opportunities for independent learners, but it has also increased the difficulty of planning a course of study. Where should the learner start? What should the learner know before tackling a new course? Manually identifying these prerequisite relations between learning resources or concepts is expensive in terms of time and expertise, and it is particularly difficult to do so for new or rapidly changing areas of knowledge. To address this challenge, we present a new method for identifying prerequisite relations based on naturally occurring data, namely the navigation patterns of users on the Wikipedia online encyclopedia. Our supervised learning approach shows that the navigation network structure can be used to identify dependencies among concepts in several domains.

University students in the educational field and Wikipedia vandalism

Wikipedia is an online, open and free encyclopaedia edited collaboratively. Today it is the fifth most visited website and the most used online encyclopaedia. Volunteer editors from around the world can edit its content, allowing users to intentionally provide incorrect information. This research aims to find the extent to which a particular group of university students vandalize Wikipedia, while also exploring their perceptions of vandalism. Data is obtained from a questionnaire sent to university students in educational psychology, early and primary childhood education, and related master's programs, as well as a focus group involving a sample of these students and interviews with editors in charge of maintaining Wikipedia. Results show that only a small percentage of students do in fact vandalize. In line with the implicit theories approach, it seems that students and editors have some preconceived ideas (boredom, amusement, or ideological motivations) about what pushes individuals to vandalize.

Production of Scientific Information on the Internet Using the Example of Wikipedia

On the internet, lay people cannot only passively receive scientific information, they can also actively produce it. How do lay people process uncertain and contradictory information? While research is available on how recipients deal with fragile and conflicting scientific information and theories, little is yet known about the factors that influence the production of natural science information by lay people on the Internet. In our article, we discuss a variety of influencing factors and derive predictions about how these factors affect the production behaviors and the resulting text products. Finally, we illustrate our considerations using the online encyclopaedia Wikipedia.

A dynamic intranet-based online-portal support for Computer Science teaching

This paper addresses the issue of effective content-delivery of Computer Science subjects taking advantage of a university intranet. The proposal described herein for teaching a subject like Combinatorics and Graph Theory (CGT) is to supplement lectures with a moderated online forum against an associated intranet portal, which is referred to as a CGT-portal. The contents of a CGT-portal in a university intranet is required to be assembled by moderators and students during the progress of the CGT course. When completed at the end of a CGT course, a CGT-portal may be seen as a restricted view of the Online Encyclopaedia of Integer Sequences (OEIS: see http://oeis.org-the restriction can be with respect to sequences in OEIS that are directly relevant to say CGT). In the context of OEIS, an integer-sequence enthusiast experiences this cycle: understand a page in OEIS-ponder over the contents-read afresh/refresh related content-suggest new additions to OEIS-wait for approval or rejection-repeat this cycle. This experience can be imparted to students of a CGT course with the help of a CGT-portal. For organizing a CGT course, a first task is to partially create a miniature OEIS-like instructor-moderated CGT-portal in a university intranet. During the course of lectures and tutorials in CGT, students are asked to explore/contribute to the CGT-portal and these may be critically augmented/approved by instructors suitably, to find a place in the portal. Moderation also includes feedbacks (in many sense, a form of guidance) to students using/contributing to, the portal. By this, many concepts can be conveyed to the students in an interesting way with the desired results. It is pointed out that the dynamic nature of a CGT-portal promotes active learning philosophy, the success of which depends on understanding the background and psychology of the student population. Some design guidelines associated with the building-up of a CGT-portal e.g., grouping of

prerequisites of a logical page, knowledge-representation related observations, useful interfaces to the portal are also presented.

Distance-Learning Students' Perception on the Usefulness of Open Educational Resources

Open educational resources or OER have been widely used for teaching and learning in higher education. This paper investigates the distance-learning students' perception on the usefulness of OER for learning purposes. Through a survey conducted to the distance-learning undergraduate students at the Open University of Hong Kong, it is revealed that OER are often used and generally considered useful as supplementary learning materials for acquiring relevant knowledge and doing assignments and projects. Among other types of OER, open access textbooks and reference books, and openly shared lecture notes and video clips are considered in particular useful. Massive open online courses and tutorials are considered to be more useful than small-scale mobile learning modules. For online learning tools, online dictionaries and encyclopedia are considered to be very useful. It is also revealed that the reliability, quality and comprehensiveness of OER are key concerns for distance-learning students to use OER for learning purposes.

Wikipedia Use in Research: Perceptions in Secondary Schools

Wikipedia, the free online encyclopedia that can be edited by users, is growing both in the number of content articles written as well as the number of registered users. Students rely on Wikipedia (Purcell et al., 2012) and Wikipedia, through tools, is enabling users to make better decisions regarding the information they find (Gray, 2013; Kyrios, 2013; Lamb & Johnson, 2013). However, are teachers and librarians in secondary schools learning to embrace the online encyclopedia? This exploratory study surveyed classroom teachers and librarians/library staff regarding their perceptions of the effects of Wikipedia use by students in research assignments, their perceptions of the need for school policy regarding the use of Wikipedia by students, and regarding their knowledge of the Page Assessment Guide designed to help users judge the reliability of the information on a page.

Predicting the Popularity of Trending Arabic Wikipedia Articles Based on External Stimulants Using Data/Text Mining Techniques

Wikipedia is considered to be one of the most famous online encyclopedias. We study the issues related to trending articles on Arabic Wikipedia and how it is influenced by certain external stimulants: for example, breaking news, celebrities' tweets, special events from the past, instant messages on any social media application or any other reasons that could affect the Arabic Wikipedia articles in terms of the number of visitors, which we named the popularity level. By using a data- and text- mining techniques, and the software platform Rapidminer, we developed two models that enabled us to predict the popularity level of Arabic articles on Wikipedia, depending on the features of their stimulants.

Wikipedia and undergraduate research trajectories

Purpose - The purpose of this paper was to analyze undergraduate students' use of Wikipedia bibliographies. The study has implications for Wikipedia as a "discovery tool" of library collections, library instructional practices and understanding the complex ecology of students' research processes.
Design/methodology/approach - Thirty undergraduate students were recruited from introductory English writing classes. A controlled survey was conducted in Qualtrics (R), including the following sections: pre and post test of students' understanding of authority/quality of sources; tasks analyzing participants' choices for further research after reading a Wikipedia article; and students' determination of the authority/quality of sources in Wikipedia reference pages, using an adapted version of the Turnitin (R) Source Educational Evaluation Rubric.
Findings - The investigator found that students were unlikely to follow references they found in bibliographies of Wikipedia pages, unless instructed to do so. This was expressed most clearly in their comments, which revealed that Wikipedia's reference sections are found to be too overwhelming and numerous. These entries are depicted by order of appearance in the text and are not ranked, or presented in an order students considered useful. Participants were not likely to use Wikipedia as a discovery tool of library content because they perceived Wikipedia as being markedly different, even in opposition to, library resources. Students disclosed being warned by their faculty and instructors not to use the online encyclopedia at all in their research process. However, paradoxically, after reading a Wikipedia article, students were most likely to go to Google, or revisit Wikipedia, for more information, as opposed to using the library. Study participants reported that "ease of access" is the most important consideration when choosing sources to include in research papers, followed by the actual authority/quality of these sources. Students also greatly benefited from having a structured rubric available at the point of their research process when they are asked to determine the authority/quality of sources, and especially within Wikipedia bibliographies.
Research limitations/implications - This is a small-scale study of students' use of Wikipedia in one university campus, but its results can spark a discussion of the larger question of undergraduates' research trajectories. The findings of the study suggest that these trajectories are extremely influenced by two conflicting issues: faculty influence and resource convenience. The researchers plan to extend the study to include faculty's perceptions of the value of Wikipedia to undergraduate students' research, including faculty's own involvement as Wikipedia editors and contributors. Future research of undergraduate's use of Wikipedia could benefit from a greater recruitment of participants across a diverse pool of academic institutions, as well as a mixed research method of observation, task analysis and interviews.
Practical implications - The findings of the study offer suggestions for both the design aspect of Wikipedia and the instructional methods of academic librarians. This study also informs library practices and emerging collaborations with

Wikipedia, specifically the "Wikipedian in Residence" program and the concept of using Wikipedia as one type of a discovery tool.
Originality/value - There is a lack of empirical evidence showing how or if students use Wikipedia bibliographies to continue their research. The possibility of the online encyclopedia as a discovery tool for library collections is relatively unknown and unexplored. The topic of collaboration between Wikipedia and libraries is new and emerging in the field.

Mining Type Information from Chinese Online Encyclopedias

Recently, there is an increasing interest in extracting or mining type information from Web sources. Type information stating that an instance is of a certain type is an important component of knowledge bases. Although there has been some work on obtaining type information, most of current techniques are either language-dependent or to generate one or more general types for a given instance because of type sparseness. In this paper, we present a novel approach for mining type information from Chinese online encyclopedias. More precisely, we mine type information from abstracts, infoboxes and categories of article pages in Chinese encyclopedia Web sites. In particular, most of the generated Chinese type information is inferred from categories of article pages through an attribute propagation algorithm and a graph-based random walk method. We conduct experiments over Chinese encyclopedia Web sites: Baidu Baike, Hudong Baike and Chinese Wikipedia. Experimental results show that our approach can generate large scale and high-quality Chinese type information with types of appropriate granularity.

Use web resources to construct ontology concept hierarchy

Domain terminology with high quality are the fundamental component in ontology construction and domain terminology automatic extraction is the basis of domain ontology construction. Proposed an approach of achieving domain concepts hierarchies from the Web data. Used the clue words to product queries containing hierarchical relation to get corpus rich in concepts hierarchical relation through the search engine from Web. Then we got target concepts explanation from the online encyclopedia of knowledge corpus such as Wikipedia. By combining the previous two corpus with the domain news documents and HowNet, we constructed the concepts graph model. After applying pruning algorithm on the graph, we proposed a modified hierarchical concepts tree building method. Experimental data on auto car proved the efficiency of the proposed method.

Digital educational resources supporting higher education students' learning

The aim of this work was to assess the importance given to the use of digital educational resources as well as the use frequency of such resources. Data was obtained through a questionnaire conducted within a sample of higher education students. We fleshed out the concept of digital educational resource and presented the results regarding the assessment of the importance of digital educational resources as a support to license degree students' learning. We analyzed aspects associated with learning strategies, motivation, and learning tasks. We concluded that most of the sample subjects gave great importance to all the aspects assessed. Significant differences were found between 1st and 2nd year students regarding the item study individually, as 2nd year students were found to give this item more importance. The use frequency of digital educational resources was analyzed with regard to various resources. The most used, many times or always, by more than half of the sample subjects were search engines, social networks, and video sites. Comparing the results by groups of students, significant differences were found between the groups of 1st year and 2nd year students in the variables online encyclopedias, blogs, scientific repositories, and e-learning platforms. Significant differences were also found between the groups of 2nd and 3rd year students in the social networks variable.

Coordination And Learning In Wikipedia: Revisiting The Dynamics Of Exploitation And Exploration

The evolution of Wikipedia betrays an increasing reliance on policies and guidelines, signalling certain stabilisation in the knowledge making processes underlying the encyclopaedia. We interpret such a state of affairs as reflecting the need to provide a few principles and guidelines of coordination, in a context that has otherwise been marked by vast diversity, high membership turnover and the lack of traditional exploitative structures. Rather than reflecting bureaucratisation and a shift away from its constitutive principles, the consolidation of these coordinative mechanisms further embeds the distinctive profile of knowledge making processes characteristic of the online encyclopaedia. They reinforce the diversity of the collective (rather than individual capabilities and skills) as the primary source of knowledge and render the mechanisms of harvesting that diversity and assembling it to a reasonable knowledge output key means of social learning.

Incorporating the Online Encyclopedia of Chemical Engineering Equipment Into Your Course Activities

Students in chemical engineering courses often bemoan the lack of information regarding actual chemical engineering equipment in our curricula. To address this critical need in our curricula our laboratory has devoted twenty years to the development of an online visual encyclopedia of chemical engineering equipment, aimed at chemical engineering undergraduate students. This encyclopedia provides students with a basic understanding of what chemical engineering equipment looks like and how it works. In our paper we describe the encyclopedia and present ways to incorporate the encyclopedia into core Chemical Engineering courses.
Many pedagogical tools to enrich chemical engineering courses are available, but faculty with limited time often don't fine the time to implement these tools into these courses. In this paper we provide suggestions to enrich existing assignments and course activities, which will lower the barrier to action. This will allow faculty to easily expose

students to real chemical engineering equipment through the use of the Encyclopedia, enriching their educational experience and better preparing them to become chemical engineers.

The educative model is changing: toward a student participative learning framework 3.0-editing Wikipedia in the higher education

Nowadays, different technological solutions are already embedded into higher education: Web platforms, collaborative cloud environments, massive online courses, the flipped classroom, intelligence collective, etc. Besides, the current implementation of the European Higher Education Area has opened the doors to these new and revolutionary techniques and proposes a strategic action plan for 2019 derived from digital transformation, through the promotion of a collaborative European hackathon. Among these solutions, wikis are proved to match perfectly the requirements of the future learning framework 3.0 in which the student is the protagonist of his/her own education. Thus, many different universities around the world are nowadays supporting activities and events about the edition of wikis. In this work, we are interested in a special and universal wiki, Wikipedia. This encyclopedia is often used for student learning in high schools and university classrooms. However, today, there are few educational university projects dedicated to the editing of articles, and even fewer to the editing of scientific articles. There is no literature, to the knowledge of the authors that gathers both. Therefore, this work has a double objective, on the one hand, to highlight the international educational projects in which this great encyclopedia is edited and improved, especially by indicating the theme of the chosen edition, edition dates and achievements. On the other hand, once the action framework has been introduced, we show the specific educational project, which has been working with students from the first courses of the Universidad Politecnica de Madrid (UPM) since 2009 and promoted by one of the authors. Finally, and to go into more detail, the authors analyze a particular educational experience about the Wikipedia edition carried out at the UPM in 2017. The results show that editing Wikipedia produces a relevant improvement in the five proposed objectives.

Using Wikipedia For Educational And Teaching Purposes: An Evaluation Questionnaire

Wikipedia is a free international online collaboratively written encyclopedia. It is the best known application of wiki software and has become the most popular as well as the fastest growing educational reference site. Wikis are websites that allow the users to add, to remove and to edit their content and are considered as one of the most commonly used Web 2.0. tools. Web 2.0 tools, applications and services have already become part of most students' everyday life, as they use them not only as a source of information but also as means of personal expression and communication with their peers.
In the present paper we are going to discuss some critical issues about Wikipedia's use, such as its credibility, and to explore to what extent and in which way it could be used for educational and teaching purposes.
Finally, we suggest an evaluation questionnaire of Wikipedia, which is addressed to teachers. The questionnaire is based on the principles of instructional evaluation of educational software, but we also considered the evaluation criteria of educational websites, because it is mentioned above, Wikipedia could be seen as a reference website that has an educational character. Thus, we formed the following groups of questions: a. teaching content, b. teaching and educational methodology, c. content design and structure, d. user interface, e. website - user interaction and flow of information, f. attractiveness and aesthetics, g. other features.
This proposal of instructional evaluation of Wikipedia could be used as an evaluation tool of its educational use by the teacher and the students. In particular, the teacher could use the questionnaire to evaluate to what extend s/he could use Wikipedia as a learning tool included in an e-learning scenario. Moreover, our questionnaire could also become a tool of further exploration of the possibility of Wikipedia's educational use.

Wiki Course Builder: a System for Retrieving and Sequencing Didactic Materials from Wikipedia

The designing and delivering of a new online course is a crucial task for teachers that have to face two main problems: building, or retrieving, and sequencing learning materials. Retrieving learning materials requires a great effort and a waste of time, while sequencing them requires an accurate didactic project. On the other hand, thanks to the Internet, teachers and instructional designers today can search and retrieve learning materials from Learning Objects Repositories freely available on the Web, such as MertZot or Ariadne. In this paper we investigate the possibility of using the Wikipedia free encyclopedia, that is the biggest repository of educational material which is visited daily by about sixty million people with its 49 millions of registered people. It is a matter of facts that teachers consult this encyclopedia to arrange, integrate or enrich their courses. So here we propose a system, now at its early stage of development, aiming at supporting teachers to build courses basing on Wikipedia only. The system retrieves learning materials form Wikipedia and sequences them on the basis of the links embedded in the Wikipedia HTML pages, following a course building process based on the Grasha teaching styles and on a social didactic approach. A first questionnaire has been submitted to a sample of teachers with encouraging results.

Use of Wiki Tools for Raising the Communicative Aspect of Learning

E-learning is not only a tool for knowledge management and the efficient development of cognitive qualities but also promotes interactivity and community building. Wiki software in particular is useful in the process of education for building independent learning spaces to which students contribute, and it supports the social aspects of the teaching/learning process. The communicative features of wiki are the subject of the research regarding the added value of e-learning compared to traditional goals stated in educational theories. The article begins by briefly reviewing this

Web 2.0 tool in terms of its educational potential. It presents a case study of HE e-learning courses where the technical properties of different environments in Web 2.0 are linked to the specific need for an interdisciplinary approach to education for sustainable development. The educational objectives of the course are closely linked to the specific character of sustainable development (which is considered to be a social process based on multi-stakeholder communication rather than the sum of diverse political activities) and critical social theory, particularly the theory of communicative action which has emancipatory consequences for those involved. In the educational sphere, these goals are supported by the selection of "group oriented software" which promotes creativity in the context of academic writing on diverse themes. This supports action competence development and provides diverse communication opportunities which foster students' relationship building. The complex aim of the learning project presented in the article is the building of an extensive educational wiki electronic encyclopedia by students' contributions, through their collaboration on diverse environmental subjects. This learning space provides a knowledge base of easily accessible information for students' different assignments and practical work and is designed to support individual expression; by their contribution to this learning environment students feel part of the knowledge generation community. Contributions are evaluated according to their quality and pages are allocated varying statuses expressed by the level of copyright - some can be continuously upgraded by specialists or by new generations of students. The communicative aspect of learning is easy to trace in the wiki "discussion" option and can be mapped in the history of the page; thus qualitative evaluation is possible. Aspects such as flexibility in selecting the learning strategy and a creative approach present a real challenge for assessment, widely discussed in the literature. A peer review process conducted by students themselves and the quality of their discussion combined with the teacher's assessment is proposed as a contribution to this discussion. Students' interest in active work in the interactive electronic environment was investigated and positive results received. High quality results in terms of students' portfolios (essays and review discussions) provide evidence of usability of the presented pedagogical tool at university level. The article concludes with a review of our experiences with MediaWiki, useful for those interested in utilizing it as an educational tool. The use of electronic media and its potential link to the theory of communicative action in the educational context is briefly reflected upon.

Web Based Multimedia Adaptive e-learning Systems for Teaching the Encycolpedia of the Miracles of the Holy Quran

This paper presents the design and implementation of an adaptive e-learning web-site based on multi-media, to support the teaching of scientific encyclopedias for miracles in the Holy Quran. It depends on the use of adaptive e-learning systems and multimedia technologies in order to build an interactive intelligent e-learning system, that assist students in improving their level of education. This included the use of adaptive navigation technology, and adaptive presentation technology, to assist the student in finding the best educational path suitable to his educational level, as well as to adapt content of the course according to his educational level of knowledge and his learning style. The advantage of the proposed web site boasts a multi-level system tests, innovative features for the possibility of measuring the extent to which the student get benefits from the site, which includes multiple-choice questions, and the possibility to know the correct answer. The student can move from one level of education to a higher level automatically, after achieving required passing score in the test. The proposed educational site includes Arabic and English, and has a database to record students; the library also contains many scenes video of the scientific miracles of the Qur'an, which included various aspects of science. The performance of the proposed system has been evaluated. Results confirmed that the use of computerized multimedia and Internet techniques in adaptive education systems leads to raise the level of achievement and skills of the students, compared to the systems of traditional education on other websites.

The Educational Concept and Global Impact of EMITEL E-Encyclopaedia of Medical Physics

The Effect Of A Cd-Rom Interface On Childrens Retrieval Performance

The Encyclopedia of Female Pioneers in Online Learning

РОЗДІЛ 5. ЛІНГВІСТИЧНІ АСПЕКТИ РОЗРОБЛЕННЯ Е-ЕНЦИКЛОПЕДІЙ

Information asymmetry in Wikipedia across different languages: A statistical analysis

Wikipedia is the largest web-based open encyclopedia covering more than 300 languages. Different language editions of Wikipedia differ significantly in terms of their information coverage. In this article, we compare the information coverage in English Wikipedia (most exhaustive) and Wikipedias in 8 other widely spoken languages, namely Arabic, German, Hindi, Korean, Portuguese, Russian, Spanish, and Turkish. We analyze variations in different language editions of Wikipedia in terms of the number of topics covered as well as the amount of information discussed about different topics. Further, as a step towards bridging the information gap, we present WikiCompare-a browser plugin that allows Wikipedia readers to have a comprehensive overview of topics by incorporating missing information from Wikipedia page in other language.

A Topic-Aligned Multilingual Corpus of Wikipedia Articles for Studying Information Asymmetry in Low Resource Languages

Wikipedia is the largest web-based open encyclopedia covering more than three hundred languages. However, different language editions of Wikipedia differ significantly in terms of their information coverage. We present a systematic comparison of information coverage in English Wikipedia (most exhaustive) and Wikipedias in eight other widely spoken languages (Arabic, German, Hindi, Korean, Portuguese, Russian, Spanish and Turkish). We analyze the content present in the respective Wikipedias in terms of the coverage of topics as well as the depth of coverage of topics included in these Wikipedias. Our analysis quantifies and provides useful insights about the information gap that exists between different language editions of Wikipedia and offers a roadmap for the Information Retrieval (IR) community to bridge this gap.

Translating Scientific Articles to the Non-scientific Public Using the Wikipedia Encyclopedia

The multilingual, web-based Wikipedia free Encyclopedia is used worldwide by people from different audience. It is openly editable, allowing quick updates. We used these properties as an educational tool in University classrooms, where students' assignment was to rephrase scientific articles for the public. We share here our teaching experience with an Earth Sciences class, based on class assessments and students evaluations. During the 2017 Fall semester, a 1 ECTS MSc level reading seminar on the broad topic of Heat and Mass Transfers in Magmatology was taught for 6 weeks at ETH Zurich. Three first semester and six third semester M.Sc. students have attended the course. All students had a B.Sc. degree in Earth Sciences, among which seven had their main specialisation in Mineralogy and Geochemistry and two had their major in Geophysics. By groups of two, students have read a scientific article, presented it orally to classmates and answered questions from their peers. During the last two classes, students have edited and created Wikipedia Encyclopedia pages in relation to their article's topic. Students really enjoyed creating a Wikipedia page, even if they didn't use it before or didn't trust the Wikipedia content. They had little experience with communication to a non-scientific audience and considered this exercise was challenging. Evaluations show that writing about a scientific paper in a Wikipedia page is a less efficient learning technique than reading a scientific article, presenting it orally or listening to such a presentation. However, it certainly contributes to better memorise important information, it is an efficient way to practice writing and public and scientific communication skills and it encourages students to work collaboratively on real-time projects. The teachers can use those combined effects as a multi-channel learning technique. It is also highly motivating for the students and the teacher to have a class exercise using modern media techniques with the potential to reach a wide international community. With this article, we wish to encourage colleagues to teach students how to communicate science, to scientific peers and to the non-scientific public. This promotes high-quality education and helps reducing inequality, two sustainable development global goals.

Wikipedia as a translation zone A heterotopic analysis of the online encyclopedia and its collaborative volunteer translator community

Recent research has highlighted the emergence and proliferation of online communities of volunteer translators whose intensely collaborative activities are largely facilitated by the participatory and interactive nature of new networked communication technologies. Much of the discussion regarding these forms of web-based translation has tended to focus on what brings individuals together to give up their time, skills and effort when co-operating within such prosumer-led projects. By contrast, this paper presents a case study focused on the construction of the English Wikipedia article about Tokyo in order to argue that it is important for translation scholars to additionally take into account the difficult processes of fierce conflict and debate which often characterise interactions within such communities. It does so by means of the spatial mode of analysis encouraged by Foucault's writings on 'heterotopia', demonstrating how this conceptual method can be applied to explain and explore the multifaceted negotiations that occur in this environment.

Mining the Multilingual Terminology from the Web

Multilingual linguistic resources are usually constructed from parallel corpora, but since these corpora are available only for selected text domains and language pairs, the potential of other resources is being explored as well. This article seeks to explore and exploit the idea of using multilingual Web-based encyclopaedias such as Wikipedia as comparable corpora for multilingual terminology extraction. We propose an approach to extract terms and their translations from different types of Wikipedia link information and texts. The next step will be using the linguistics information to re-rank and filter the extracted term candidates in the target language. Preliminary evaluations using the combined statistics-based and linguistic-based approaches were applied on Japanese-French-English languages. These evaluations showed a real open improvement and good quality of the extracted term candidates for building or enriching multilingual ontologies, dictionaries or feeding a cross-language information retrieval system with the related expansion terms of the source query.

Exploiting a Multilingual Web-based Encyclopedia for Bilingual Terminology Extraction

Multilingual linguistic resources are usually constructed from parallel corpora, but since these corpora are available only for selected text domains and language pairs, the potential of other resources is being explored as well. This article seeks to explore and to exploit the idea of using multilingual web-based encyclopedias such as Wikipedia as

comparable corpora for bilingual terminology extraction. We propose an approach to extract terms and their translations from different types of Wikipedia link information and data. The next step will be using a linguistic-based infouflation to re-rank and filter the extracted term candidates in the target language. Preliminary evaluations using the combined statistics-based and linguistic-based approaches were applied on different pairs of languages including Japanese, French and English. These evaluations showed a real open improvement and a good quality of the extracted term candidates for building or enriching multilingual ontology, dictionaries or feeding a cross-language information retrieval system with the related expansion terms of the source query.

Design of a terminological learner's dictionary in the customs sphere: A corpus approach

The article discusses the principles of designing of a multilingual educational terminological dictionary in the customs sphere for the Russian-Belarusian-Kazakh-Kirghiz-Armenian language pairs. The dictionary is planned in electronic format and is intended for the University of Tyumen's students majoring in Customs. A review of the existing dictionaries of the customs subject area is made. The prerequisites for compiling such a dictionary are analyzed: both in the professional customs domain and from a linguistic point of view. The thematic criteria for determining the boundaries of the discourse of the named subject area are described, the principles of modeling the elements of discourse are listed. The corpus-based study (AntConc, SketchEngine) describes the qualitative and quantitative principles of determining the coverage of discourse, algorithms for the formation of the general population and the sample size, the selection of relevant terminological units for the dictionary. Lexicographic work involves the consideration of different types of sources: (a) official documents (standards, program documents of the EAEU, regulatory legal acts, agreements on international treaties, protocols of meetings of the Eurasian Intergovernmental Council); (b) official websites of the customs services of Russia, Belarus, Armenia, Kazakhstan, Kyrgyzstan; (c) scientific/educational texts (summary monographs, articles in relevant specialized journals, new research in the field of customs studies); (d) dictionaries and encyclopedias. Each term has been selected on the basis of importance and usage within an area of the customs sphere. This dictionary will include various types of information: multilingual equivalents of terms, references to synonyms, antonyms, hypo-hyperonyms, and abbreviations. An ideographic dictionary - built using the corpus approach - will allow (a) analysing and structuring key concepts and trends in a simplified form using equivalents, pointers and links that reflect the subject area of the customs sphere; (b) collecting the minimum number of terminological units of real usage that are most effective in professional communication. (c) solving the problems posed by the different lexicalization of the same concepts in different languages. Quantitative and systemic criteria were used for this purpose. The learner's dictionary can help students to understand and translate terminological texts, perform more effectively in a multilingual workplace, and advance knowledge in professional communication. The results can be applied not only to terminology representation, but also to terminography, documentation and translation.

The role of the Afrikaans Wikipedia in the growth of Afrikaans

In 2015, Afrikaans celebrated its 90th birthday as an official language of South Africa. In the course of these 90 years, Afrikaans progressed in the physical space from a so-called kitchen and domestic language to a mature, fully developed language, suitable and extensively used in all walks of life, including the church, school, university, science, sports, culture, law and economics. From being considered as "language of the oppressor", Afrikaans grew into a model for the other South African languages; into a language of hope (Langner 2015). Influential writers refer to the electricity, the wonder, the triumph, but also the tragedy of Afrikaans (Steyn 2014; McLachlan 2010) due to the recently increasing pressure towards terminating the use of Afrikaans in secondary and higher education, and the workplace. By 2015 it was clear that the efforts towards advancing Afrikaans were by no means a matter of the past.

Now, in its 91st year, Afrikaans is confronted with the #AfrikaansMustFall movement, which has manifested itself in both the physical and digital space (often also referred to as cyberspace). Here we consider digital space as the non-physical space within which we communicate by means of telecommunication and computer networks, more spegfically the Internet, and the World Wide Web. In terms of the role that digital space and specifically the social media are playing in this movement, it resembles what has become known as the "Arab spring", a movement that has radically changed the world. Similarly, the position of Afrikaans has been changed irrevocably by #AfrikaansMustFall. This raises the question of how to address this issue, also in the context of language planning.

The past 15 years have been characterised by an increasing migration of Afrikaans speakers into the digital space a space that offers exciting new opportunities for Afrikaans. In order to make a constructive contribution to the growth of Afrikaans, this article posits the following:

- that the focus until recently has been on the use and growth of Afrikaansin the physical space, but
- that the space in which (Afrikaans) speakers live has been radically changed by the advent of modern (personal) computers, mobile technology and ever-increasing and
- faster electronic networks, which has resulted in a shift towards life in the digital space;
- that every aspect of the Afrikaans speaker's existence, also his/her communication and language, has been affected by this shift;
- that this trend is of key importance for future language diversity, and therefore also for Afrikaans;
- that the vitality of Afrikaans will be determined increasingly by its use in the digital space; and that the Afrikaans Wikipedia is a prerequisite for Afrikaans to ascend andflourish in the digital space.

It is shown that language resources and language technology are central to this endeavour In particular it is explicated how the Afrikaans Wikipedia plays a pivotal role in the digital vitality of Afrikaans and that a high-quality, growing

Wikipedia is a prerequisite for Afrikaans and also any other language to ascend in the digital realm. We also discuss various possibilities forAfrikaans speakers to contribute to the Afrikaans Wikipedia.
The structure of the article is as follows: Following the introduction, Section 2 discusses the notion of language growth in the physical space. We consider various frameworks for studying language vitality, focussing on the conceptual similarities between these frameworks. In Section 3 we explore the concepts of the digital space, the Internet and the World Wide Web, paying specific attention to the essential components of successful web search. In Section 4 we explore the extent to which South Africans live in the digital space. By means of an example, we illustrate the difference between the English and Afrikaans web search experience and the related signcance of the'size of the respective Wikipedias. We then briefly emphasise the ground-breaking work ofAndras Kornai (2013), which shows that the existence of a large, high-quality, growing Wikipedia is a necessary condition for the digital ascent of a language. Section 5 is devoted to a brief summary of those language resources and language technologies that are necessary for the digital ascent and vitality of a language. The situation of Afrikaans is described in this regard. Section 6 discusses Wikipedia, the largest, multilingual, open and free online-encyclopaedia on the Web, with its more than 36 million articles, 292 languages and almost 500 million unique visitors per month. We briefly explain what Wikipedia is and how it plays a key role in the so-called Semantic Web, the intelligent machineprocessable web. Section 7 focuses on the Afrikaans Wikipedia, provides short guidelines on how to contribute to a "digital language movement", and concludes that the Afrikaans Wikipedia should play a vital role in the growth of Afrikaans in the digital space.

Basic Research 1 for Compilation of Korean Language Educational Science Encyclopedia - Centered on its Microstructure

This research is a pioneering work about assignment that is carried out as Korean studies project. The result of this study will combine the personality of Korean studies and social science into a special form. According to the recent tendency of Korean language study the technical terms needed for teachers and investigator making clear scientific study.Based on the personality of this science and established sphere of lemma in poly science, researchers called this Korean Studies.Researchers marked both morphological and methodological sides of the dictionary and descriptive mode of lemma before considering categories at the theoretical level and practical stratigraphy in the microstructure of this encyclopedia. It also include minor domains such as authentic information and usage. Specifically, when writers describe standard language, they have to arrange relevant entry words according to political necessity and as an authentic teaching method.In the case of foreigners learning Korean language as an educational object, it is considered in public language section. Korean language educational science has system which is included the wide scope from educational policy, course of instruction, teaching material, teaching method, assessment to the relevant basis studies. Just use educational basis and refer it as the inner circle and the outer circle as educational policy and so on. Inner depth is detected as proceeding to seeking the center. Investigators find core section(lexeme) if they enter deeply in each domain. This encyclopedia is constructed through these process. Researchers referred to foreign language education dictionaries and analyzed those structure. Entry word category is deeply examined in the basis study when researchers think about how to describe a lemma. Because this encyclopedia is suited for environment of users,the final will be developed to electronic dictionary as well as paper dictionary. In conclusion, researchers found that microstructure of this encyclopedia make clear scientific results or point at issue. Hereafter,there is remained of dividing off description methods at layers of lemma and finding description typology in entry word category. (Seoul National University)

"300 Alati": A Multimedia Latin-Russian Dictionary of Popular Latin Quotations

The article aims to outline the project of creating a multimedia Latin-Russian dictionary of popular Latin quotations. This term includes various idiomatic units of the Latin language, ranging from separate words to complete sentences. The dictionary began as a project in the course of General and Computational Lexicography and its creation was assisted by the students in the program of General and Applied Linguistics at Tomsk State University. As such, one of its defining features is that the dictionary functions both as the product and the means of educating linguistics students. One of its principal objectives is to aid first-year students in learning the so-called "phraseological minimum" in Latin. One of the tasks in creating the "300 alati" dictionary was the implementation of such functions as providing information in various formats (using multiple media formats) and creating a non-linear system of transition between blocks of information (hypertext linking). The authors chose ABBYY Lingvo as the optimal shell that provided the required functional capacity. The article provides a brief comparative review of the existing print and electronic analogs to the present dictionary: dictionaries of popular Latin words and expressions, collected aphorisms and websites. The principles for selecting particular quotations take into account the target audience of the dictionary and how often the phrase is referenced, which reflects its significance for the contemporary society and culture. In the development of the macro- and microstructure of the dictionary, the authors took into account the resources offered by the ABBYY Lingvo shell and the types of mark-up it normally used, and the needs of the end user- the student of Latin (which explains the appearance of the grammar field with a complete explanation of the grammar of the phrase). The microstructure of the dictionary entry of the "300 alati" dictionary includes seven fields: 1. Entry identity. 2. Audio recording of the phrase in Latin. 3. Translation to Russian. 4. Author's name. 5. Grammatical commentary. 6. Historical and cultural commentary. 7. Examples of usage. The innovative character of the "300 alati" dictionary manifests itself in a number of features. The dictionary makes use of the functions offered by the electronic format, such as hyperlinking the entries and integrating multimedia files. These functions were taken into consideration at the stage of planning the dictionary, which is not the case when print dictionaries are converted into electronic versions. The architecture of the dictionary is

oriented towards the end user-a student of Latin: the entry fields include updated content and usage information, expressive pronunciation of the Latin phrase and a memorable characteristic of the phrase's author. The dictionary combines linguistic (semantic and grammatical) information, as is customary in all modem dictionaries. The entries also include a vast amount of encyclopedic information, namely, historical and cultural commentary and encyclopedic entries about the authors. The entry also includes a contemporary usage field with examples from literary and non-literary domains, including various semiotic systems, in order to provide a fuller reflection of how popular Latin quotations are understood and used today. The authors hope that innovations provided in the dictionary "300 alati" will help to make it a lexicographic product relevant to many customers with a secure place among the state-of-the-art electronic dictionaries.

ConDef: Automated Context-Aware Lexicography Using Large Online Encyclopedias

Current automated lexicography (term definition) techniques cannot include contextual or new term information as a part of their synthesis. Our work proposes a novel data-harvesting scheme that leverages lead paragraphs in Wikipedia to create a dataset used to train automated, context-aware lexicographical models. Furthermore, in order to validate the harvested dataset, we present ConDef, a fine-tuned BART model trained on the harvested data which defines vocabulary terms from a short context. ConDef is shown to be highly accurate in context-dependent lexicography as validated on ROUGE-1 and ROUGE-L measures in an 1000-item withheld test set, achieving scores of 46.40% and 43.26% respectively. Furthermore, we demonstrate that ConDef's synthesis serves as a good proxy for term definitions by achieving a ROUGE-1 measure of 27.79% directly against gold-standard WordNet definitions.

Wikipedia Culture Gap: Quantifying Content Imbalances Across 40 Language Editions

The online encyclopedia Wikipedia is the largest general information repository created through collaborative efforts from all over the globe. Despite the project's goal being to achieve the sum of human knowledge, there are strong content imbalances across the language editions. In order to quantify and investigate these imbalances, we study the impact of cultural context in 40 language editions. To this purpose, we developed a computational method to identify articles that can be related to the editors' cultural context associated to each Wikipedia language edition. We employed a combination of strategies taking into account geolocated articles, specific keywords and categories, as well as links between articles. We verified the method's quality with manual assessment and found an average precision of 0.92 and an average recall of 0.95. The results show that about a quarter of each Wikipedia language edition is dedicated to represent the corresponding cultural context. Although a considerable part of this content was created during the first years of the project, its creation is sustained over time. An analysis of cross-language coverage of this content shows that most of it is unique in its original language, and reveals special links between cultural contexts; at the same time, it highlights gaps where the encyclopedia could extend its content. The approach and findings presented in this study can help to foster participation and inter-cultural enrichment of Wikipedias. The datasets produced are made available for further research.

Academia versus social media: A psycho-linguistic analysis

Publication pressure has influenced the way scientists report their experimental results. Recently it has been found that scientific outcomes have been exaggerated or distorted (spin) to hopefully be published. Apart from investigating the content to look for spins, language styles has been proven to be the good traces. For example, the use of words in emotion lexicons has been used to interpret exaggeration and overstatement in academia. This work adapts a data-driven approach to explore a comprehensive set of psycho-linguistic features for a large corpus of PubMed papers published for the last four decades. The language features for other media - online encyclopedia (Wikipedia), online diaries (web-logs), online forums (Reddit), and micro-blogs (Twitter) - are also extracted. Several binary classifications are employed to discover linguistic predictors of scientific abstracts versus other media as well as strong predictors of scientific articles in different cohorts of impact factors and author affiliations. Trends of language styles expressed in scientific articles over the course of 40 years has also been discovered, providing the evolution of academic writing for the period of time. The study demonstrates advances in lightning-fast cluster computing on dealing with large scale data, consisting of 5.8 terabytes of data containing 3.6 billion records from all the media. The good performance of the advanced cluster computing framework suggests the potential of pattern recognition in data at scale.

Learning Word Vectors for 157 Languages

Distributed word representations, or word vectors, have recently been applied to many tasks in natural language processing, leading to state-of-the-art performance. A key ingredient to the successful application of these representations is to train them on very large corpora, and use these pre-trained models in downstream tasks. In this paper, we describe how we trained such high quality word representations for 157 languages. We used two sources of data to train these models: the free online encyclopedia Wikipedia and data from the common crawl project. We also introduce three new word analogy datasets to evaluate these word vectors, for French, Hindi and Polish. Finally, we evaluate our pre-trained word vectors on 10 languages for which evaluation datasets exists, showing very strong performance compared to previous models.

Relative Quality Assessment of Wikipedia Articles in Different Languages Using Synthetic Measure

Online encyclopedia Wikipedia is one of the most popular sources of knowledge. It is often criticized for poor information quality. Articles can be created and edited even by anonymous users independently in almost 300 languages. Therefore, a difference in the information quality in various language versions on the same topic is observed. The Wikipedia community has created a system for assessing the quality of articles, which can be helpful in deciding which language version is more complete and correct. There are several issues: each Wikipedia language can use own grading scheme and there is usually a large number of unevaluated articles. In this paper, we propose to use a synthetic measure for automatic quality evaluation of the articles in different languages based on important features.

Writing for Wikipedia: co-constructing knowledge and writing for a public audience

This assignment allows students to research topics in depth and become skilled at communicating academic knowledge for a public audience. The assignment draws attention to the collaborative construction of knowledge and the forces that shape what counts as knowledge and what gets disseminated. It also encourages students to consider how to organize information to be useful and illuminating to others, and how to consider connections between topics and concepts. The assignment engages students in critique, as they are more willing to critique and revise their writing when that writing will be accessible to the public. The assignment also exposes students to a social media information-sharing medium, Wikipedia, and encourages their critical consideration of the strengths and limitations of this online encyclopedic resource.

Misfortunes of husserle encyclopaedia Britannica article phenomenology

РОЗДІЛ 6. КОМУНІКАЦІЯ В ХОДІ ПІДТРИМКИ Е-ЕНЦИКЛОПЕДІЙ

Negotiating Authorities, Building Knowledge: Digital and Collaborative Historiography in the Project Theory of History on Wikipedia

Among collaborative projects of free access to big data organization, Wikipedia stands out as a platform with great results in search engines which organizes and compiles information dispersed on the Web, in addition to uploading a large number of entries dedicated to history. Based on the experience of the extension project Theory of History on Wikipedia, this article highlights the phenomenon of writing history on this platform. We start from the point of view that writing history in a digital and collaborative encyclopedia constantly implies the negotiation of authority. Because it is a history produced with the public, it transforms academic orientation into social editing/curation, causing strangeness with respect to current academic practices. Finally, this article defends that it is possible to foster the dialogue between the rules of the disciplinary canon of writing history and the pillars of digital encyclopedism, as expressed by Wikipedia.

Spanish/Castilian on Wikipedia: Voices and Discussion Forum

In this research we carried out a study with quantitative and qualitative methodology of two encyclopedia entries and their respective talk pages in the Spanish version of Wikipedia. The two articles that were monitored and analyse are "Spanish language" and "Controversy over the name of the Spanish language", whose analysis has allowed us to demonstrate the collaborative working mode of the online encyclopedia as well as to study the discussion forums that are generated in the construction of these entries. In this way, we analyse some of the aspects of typical user behaviour on virtual forums and the (im)politeness strategies used most frequently in the discussions that the encyclopedia itself promotes for its own development. Our results show how Spanish Wikipedia is a working environment that strives to keep progressing in its aim to produce rigorous and effective results, by providing an endogenous structure that acts as a filter/manager of content and ways of expression. We will also verify how discussions about the construction of these entries show elements of impoliteness occurring in interactions between users and editors, which denotes an attitude that is at variance with the rules of behaviour specified by the digital encyclopedia (the so-called "five pillars" of Wikipedia).

An analysis of homophobia on vandalism at Wikipedia

Wikipedia is currently one of largest source of digital information. With billion page views per month worldwide, the free digital encyclopedia is based on collaborative editing, in which any user, even anonymously, can edit and include content. Although such content is always evaluated by several users daily and also by more experienced ones, vandalism is still common, especially on pages with sensitive information. In this paper we evaluated the vandalism found on pages of LGBT computer scientists, comparing them with scientists who are not part of this minority and analyzing the types of vandalism found. Thus, this paper analyzes how being part of a minority can influence relationships in the digital society.

Classic Conversational Norms in Modern Computer-Mediated Collaboration

This paper examines whether conversational norms that have been observed for face-to-face communication also hold in the context of a specific type of computer-mediated communication: collaboration (such as in Wikipedia).

Specifically, we tested adherence to Grice's (1975) maxim of relation-the implicit demand to contribute information that is relevant (only) for the purpose of the communication. In two experiments about a historical event, we manipulated the relevance of information provided as well as the context of the collaboration (i.e., encyclopedia article vs. contemporary witness compendium). In line with Grice's maxim, participants indeed reliably preferred information that was relevant for the specific context (e.g., information of general relevance to a broader audience in the encyclopedia context).

Determinants of collective intelligence quality: comparison between Wiki and Q&A services in English and Korean users

Although web-enabled collective intelligence (CI) plays a critical role in organizational innovation and collaboration, the dubious quality of CI is still a substantial problem faced by many CI services. Thus, it is important to identify determinants of CI quality and to analyze the relationship between CI quality and its usefulness. One of the most successful services of web-enabled CI is Wikipedia accessible all over the world. Another type of CI service is Naver KnowledgeiN, a typical and popular CI site offering question and answer (Q&A) services in Korea. Wikipedia is a multilingual and web-based encyclopedia. Thus, it is necessary to study the influence relationships among CI quality, its determinants, and CI usefulness according to different CI type and languages. In this paper, we propose a new research model reflecting multi-dimensional factors related to CI quality from user's perspective. To test a total of 15 hypotheses drawn from the research model, a total of 691 responses were collected from Wikipedia and KnowledgeiN users in South Korea and US. Expertise of contributors, community size, and diversity of contributors were identified as determinants of perceived CI quality. Perceived CI quality has significantly influenced on perceived CI usefulness from user's perspective. CI type and different language partially play a role of moderators. The expertise of contributors plays a more important role in CI quality in the case of Q&A services such as KnowledgeiN compared to Wiki services such as Wikipedia. This implies that Q&A service requires more expertise and experiences in particular areas rather than the case of Wiki service to improve service quality. The relationship between community size and perceived CI quality was different according to CI type. The community size has a greater effect on CI quality in case of Wiki service than that of Q&A service. The number of contributors in Wikipedia is important because Wiki is an encyclopedia service which is edited and revised repeatedly from many contributors while the answer given in Naver KnowledgeiN cannot be edited by others. Finally, CI quality has a greater effect on its usefulness in case of Wiki service rather than Q&A service. In this paper, we suggested implications for practitioners and theorists.

Mining interests for user profiling in electronic conversations

The increasing amount of Web-based tasks is currently requiring personalization strategies to improve the user experience. However, building user profiles is a hard task, since users do not usually give explicit information about their interests. Therefore, interests must be mined implicitly from electronic sources, such as chat and discussion forums. In this work, we present a novel method for topic detection from online informal conversations. Our approach combines: (i) Wikipedia, an extensive source of knowledge, (ii) a concept association strategy, and (iii) a variety of text-mining techniques, such as POS tagging and named entities recognition. We performed a comparative evaluation procedure for searching the optimal combination of techniques, achieving encouraging results.

Wikipedia: A Key Tool for Global Public Health Promotion

The Internet has become an important health information resource for patients and the general public. Wikipedia, a collaboratively written Web-based encyclopedia, has become the dominant online reference work. It is usually among the top results of search engine queries, including when medical information is sought. Since April 2004, editors have formed a group called WikiProject Medicine to coordinate and discuss the English-language Wikipedia's medical content. This paper, written by members of the WikiProject Medicine, discusses the intricacies, strengths, and weaknesses of Wikipedia as a source of health information and compares it with other medical wikis. Medical professionals, their societies, patient groups, and institutions can help improve Wikipedia's health-related entries. Several examples of partnerships already show that there is enthusiasm to strengthen Wikipedia's biomedical content. Given its unique global reach, we believe its possibilities for use as a tool for worldwide health promotion are underestimated. We invite the medical community to join in editing Wikipedia, with the goal of providing people with free access to reliable, understandable, and up-to-date health information.

Voluntary Engagement in an Open Web-Based Encyclopedia: Wikipedians and Why They Do It

The online encyclopedia Wikipedia is a highly successful open content project, written and maintained completely by volunteers. Little is known, however, about the motivation of these volunteers. Results from an online survey among 106 contributors to the German Wikipedia project are presented. Both motives derived from social sciences (perceived benefits, identification with Wikipedia, etc.) as well as perceived task characteristics (autonomy, skill variety, etc.) were assessed as potential predictors of contributors' satisfaction and self-reported engagement. Satisfaction ratings were particularly determined by perceived benefits, identification with the Wikipedia community, and task characteristics. Engagement was particularly determined by high tolerance for opportunity costs and by task characteristics, the latter effect being partially mediated by intrinsic motivation. Relevant task characteristics for contributors' engagement and satisfaction were perceived autonomy, task significance, skill variety, and feedback. Models from social sciences and

work psychology complemented each other by suggesting that favorable task experiences might counter perceived opportunity costs in Wikipedia contributors. Moreover, additional data reported by Wikipedia authors indicate the importance of generativity motives.

Visual analysis of controversy in user-generated encyclopedias

Wikipedia is a large and rapidly growing Web-based collaborative authoring environment, where anyone on the Internet can create, modify, and delete pages about encyclopedic topics. A remarkable property of some Wikipedia pages is that they are written by up to thousands of authors who may have contradicting opinions. In this paper, we show that a visual analysis of the 'who revises whom'-network gives deep insight into controversies. We propose a set of analysis and visualization techniques that reveal the dominant authors of a page, the roles they play, and the alters they confront. Thereby we provide tools to understand how Wikipedia authors collaborate in the presence of controversy.

He Says, She Says: Conflict and Coordination in Wikipedia

Wikipedia, a wiki-based encyclopedia, has become one of the most successful experiments in collaborative knowledge building on the Internet. As Wikipedia continues to grow, the potential for conflict and the need for coordination increase as well. This article examines the growth of such non-direct work and describes the development of tools to characterize conflict and coordination costs in Wikipedia. The results may inform the design of new collaborative knowledge systems.

Psychological characteristics of the organizational behavior of Wikipedia online volunteers: a theoretical review

The analysis of the most important academic sources revealing the specifics of the distant production of the Internet encyclopedia "Wikipedia" by the virtual practical community of online volunteers (Wikipedians). The details of the organizational structure, distributed interaction and regulatory ethical principles that characterize the Wikipedia community are considered. A high degree of openness of cooperation is noted during the preparation and constant updating of the database of articles, which currently exceeds all previous encyclopedic publications in its volume. Current trends in the development of Wikipedia, such as the electronic archiving of the World Cultural Heritage and the development of an accessible information basis for educating all the people in their national languages, i.e. on a global scale, are highlighted and disclosed in detail. It is concluded that the study of the group characteristics and personality traits of Wikipedia authors, as well as the mechanisms and procedures they developed to coordinate and handle the structural components of classical and modern knowledge, is helpful in understanding the particular resources and the ways of functioning of the network prosocial activity of individuals. This line of research is not sufficiently developed in the works of Russian scholars, and yet it should be recognized as promising in terms of expanding the scope of humanitarian disciplines. At the applied level, the presented detailed data referring to the altruistic aspects of creative self -realization of the Wikipedia volunteers can contribute to the intensification of the processes of stimulation and consolidation of the activists of the information society to achieve maximum results in the growth and structuring of knowledge as the highest value of humanity. The scientific novelty of the presented theoretical review is its orientation toward the generalization and systematization of disparate factual material regarding the psychological specificity of the coordination behavior of Wikipedists, in contrast to the available literature reviews that state mainly quantitative indicators of Wikipedia exploitation.

Web 2.0 versus SOA: Converging concepts enabling seamless cross-organizational collaboration

A new type of Web-based applications such as interactive encyclopedias, Blogs and Mash-ups has been gaining momentum during the last years and is frequently referred to as Web 2.0. A topic that has experienced a lot of interest recently is the relationship between Web 2.0 and Service-Oriented Architectures (SOAs). The notion of complexity-hiding and reuse, but also the concept of loosely coupling different services has inspired the scientific community to elaborate on similarities between the two concepts Web 2.0 and SOA. In this work, we thoroughly examine and contrast them from a technical and economic perspective to reveal discrepancies and similarities and conclude with the vision of an Internet of Services that leverages technologies and design principles from both concepts. Based on case-studies we draw a picture of this upcoming generation of the Internet and conclude with a first analysis of its significant implications on cross organizational collaboration.

Wikipedia = Heterotopia

This paper analyses the online encyclopaedia Wikipedia using Michel Foucault's (1926-1984) concept of heterotopia. In Foucault's writings, heterotopias are both similar to and distinct from the conditions that give rise to them. The paper undertakes a case study of one entry on Wikipedia (the entry for the "Episteme") focusing primarily on the main entry and the talk page. The methodology is content analysis with a directed approach: data were gathered in November-December 2020. The paper argues Wikipedia can usefully be analysed as a heterotopia because it exposes the contentious conditions of knowledge production, which is not standard practice for an encyclopaedia. The article adds to our understanding by applying the Foucauldian concept of heterotopia to a specific Wikipedia entry, highlighting how knowledge is produced out of dispute and subjective discourses.

Assessing the impact of translation guidelines in Wikipedia A praxeological approach to the study of documented standards across four language communities

Wikipedia is a multilingual, user-driven online encyclopaedia available in 325 languages and language varieties. Such linguistic diversity has drawn the attention of translation scholars over the past decade. Previous research has addressed, among other issues, the quality of translated Wikipedia entries, the motivations driving editors-translators, and the taxing negotiations behind editorial changes. Nevertheless, the processes underpinning translation practices in the encyclopaedia have often been overlooked. Consequently, this paper adopts a praxeological approach to translation by analysing documented standards across four Wikipedia language communities and the extent to which 16 experienced translators have assimilated them. The findings suggest that Wikipedia guidelines on translation have slight but tangible differences across the communities under investigation. Moreover, the interview data showed a tendency among participants to attach more importance to cross-wiki editing policies than to any local translation guidelines. This preference ultimately reinforces previous claims that translation and editing in Wikipedia form a continuum.

Wikipedia as a Space for Collective and Individualistic Knowledge Sharing

Wikipedia, an online encyclopaedia, is described as a phenomenon of global collaboration. Previous research has focused on its largest language versions. The individual versions differ in terms of the volume of content and the size of the communities which create them. The structure and commitment among the speakers of a given language also differ. The specificity of a given culture may affect the degree of involvement of members of the virtual communities of practice in team undertakings, whereas individually created content may be subject to social control to a lesser extent. On the other hand, excessively strong collectivism leads to the submission to group norms and consequently, to the lack of a critical evaluation of the created content. The aim of the research presented in this paper was to identify the differentiation of language versions in the cultural dimension of individualism and collectivism. The research was both quantitative and qualitative. The authors selected Wikipedia language versions which were edited mainly by communities from homogeneous national cultures and with a minimum of 200 active users per month. The method used was the content analysis and the analysis of registers of user activity. The authors answer the question of whether these differences are reflected in the functioning of the Wikipedia environment. To answer the raised research question, three hypotheses were formulated. The relationship between the individualism index (IDV) of national cultures from which Wikipedians are recruited and the indicators of activity, while also the degree of regulation of activities in the project were examined. Research has shown that IDV is positively correlated with 1) the number of editions made per page which may be indicative of the greater courage to edit somebody else's text and 2) the ratio of the number of active users to the number of principles and recommendations, which means that actions on Wikipedia are relatively less frequently regulated in individualistic cultures. Less assertiveness and a greater degree of regulation of actions may mean that sharing knowledge in spontaneously formed organizational structures is more problematic in collectivist cultures. Research findings may be useful in organizing online work when establishing local policies to engage volunteers in sharing knowledge.

A system dynamics investigation of knowledge collaboration in online encyclopedias based on activity theory

Purpose Although researchers have demonstrated a keen interest in knowledge collaboration in online encyclopedias, previous studies have seldom explored the dynamic interrelations in online encyclopedias over time that involve the iteratively melding of individual cognitive system and knowledge collaboration system. Therefore, this paper aims to reveal the structure and dynamics of knowledge collaboration in online encyclopedias from a perspective of system dynamics (SD). Design/methodology/approach This paper proposes a general activity system of knowledge collaboration in online encyclopedias based on Engestrom's activity theory. According to the SD methodology proposed by Forrester, this study develops a holistic SD model by identifying interactions of knowledge collaboration factors based on behavioral theories; validating the SD model by structural tests and behavior tests involving historical data of English Wikipedia; and conducting simulation to capture the interactive dynamics of the salient factors of knowledge collaboration. Findings According to the SD methodology, this study develops and validates an SD model to explore interesting dynamic interrelations among core factors (contributors, conflicts, discussions, entries quantity and entries quality) that are neglected by previous research. The results show that there is a significant negative feedback relationship between inactive contributors and entries quality, between contributors and conflicts and between edit conflicts and entries quality. There is a complicated nonlinear feedback relationship between active contributors and entries quality, and between edit conflicts and discussions. Originality/value Different from prior empirical studies that normally investigate the unidirectional linear relationships among prominent factors of knowledge collaboration in online encyclopedias from a static perspective, this study captures a dynamic picture of their interrelations by unfolding their behavior patterns over time. The main contribution of this study is to develop a holistic SD model and to reveal and elaborate on the complex dynamics involved online encyclopedias based on activity theory.

Modeling the Wikipedia to Understand the Dynamics of Long Disputes and Biased Articles

The Internet has provided us with a number of online collaborative environments, including platforms for open software developments and online encyclopedias such as Wikipedia. Conflicts may arise in the course of such collaboration, but despite differences of opinion consensus can be reached. By investigating the consensus-building processes, we can shed light on the dynamics of social behavior. In Wikipedia, it is not always easy for editors to agree about article content, especially considering people's different tolerance levels towards others and for whatever may be written. In this paper, we focus on how the editors' attitudes, namely being broad-minded or stubborn, affect the consensus-building process in a model of Wikipedia. We further investigate how banning editors affects the speed with which

conflicts or debates can be resolved. For the analysis, we use an agent-based opinion model developed to simulate different aspects of Wikipedia. We show that, in most cases, banning agents from editing an article slows down the consensus building process, and increases the system's relaxation time. We show further, and counterintuitively, that with large groups of "extremists" who hold other than the central opinion, consensus can be reached faster and the article will be less biased.

Editorial Surveillance and the Management of Visibility in Peer Production

This article investigates the scopic regimes of computer-mediated peer production and the possibilities for seeing, knowing, and governing that are entailed in its accomplishment. Examining the case of the online encyclopedia Wikipedia, the analysis takes a closer look at the everyday routines of mutual observation and the tools that authors have crafted to watch over each other through an archive of wiki-based activities. Based on a three-year ethnographic study among English-and German-language contributors, the article interrogates the technologically enabled gaze they direct to collaborative activities as a form of mutual editorial surveillance. Regarding the status of the knowledge circulated in such environments, it characterizes the management of visibility as an exploitation of both operational cognizance and nescience. In conclusion, the reciprocal information gathering by users about their peers invites to redraft, once again, concepts of panopticism commonly employed to describe modern societies of control and discipline.

Wikipedia and e-Collaboration Research: Opportunities and Challenges

Wikipedia's precursor started in the year 2000 as a traditional online encyclopedia with content controlled by a small group of experts. In 2013 Wikipedia's current user-controlled incarnation was such a successful enterprise that an asteroid was named after it. The authors briefly discuss key opportunities and challenges in e-collaboration research on Wikipedia. The opportunities refer to studies on the impact of Wikipedia on individuals and organizations, as well as on the spontaneous formation of online communities. The main challenges discussed refer to the consensus-building nature of content creation in Wikipedia, making practical applications of findings somewhat limited, as well as data compilation difficulties.

Wikipedias: Collaborative web-based encyclopedias as complex networks

Wikipedia is a popular web-based encyclopedia edited freely and collaboratively by its users. In this paper we present an analysis of Wikipedias in several languages as complex networks. The hyperlinks pointing from one Wikipedia article to another are treated as directed links while the articles represent the nodes of the network. We show that many network characteristics are common to different language versions of Wikipedia, such as their degree distributions, growth, topology, reciprocity, clustering, assortativity, path lengths, and triad significance profiles. These regularities, found in the ensemble of Wikipedias in different languages and of different sizes, point to the existence of a unique growth process. We also compare Wikipedias to other previously studied networks.

Voluntary engagement in an open web-based encyclopedia: From reading to contributing

РОЗДІЛ 7. РІЗНІ АСПЕКТИ ФУНКЦІОНУВАННЯ Е-ЕНЦИКЛОПЕДІЙ

Knowledge translation: Cochrane, Wikipedia and students' initiatives

Cochrane is an international collaboration whose mission is to promote evidence-based decision-making on health. This is done by conducting high-quality, relevant and accessible systematic reviews, as well as through other forms of summarized scientific evidence. Knowledge translation promotes the real use of scientific knowledge and Cochrane has been developing various projects within this theme. One of those projects indudes a collaboration with Wikipedia to improve the quality of information provided in the medical articles published in this digital encyclopedia. This article summarizes the main characteristics of these initiatives.

Representation Of Scientific Content Of Encyclopedic Topics In Scientometric And Abstract Databases

The article highlights the problem of openness, accessibility, ease of use the quality scientific sources reference information, the content of which is authoritative, relevant and, at the same time, presented in small volumes. This should be the content of modern encyclopedic resources, which we consider from the standpoint of e-infrastructures that can contribute to the development of any scientific field and discipline. To achieve this goal, the authors conducted an advanced search of scientific content on encyclopedic topics in the most authoritative scientometric and abstract databases that select high-quality scientific content, namely: Web of Science, Scopus, Google Scholar, Open Ukrainian Citation Index, Russian Index of Scientific Citation, ScienceDirect, Directory of Open Access Journals, ERIH PLUS.
The search results are analyzed, systematized according to various criteria (year of publication, type of the document, country and region, language of the original text, field of science, publisher) and summarized. Conclusions on the availability of science literature on encyclopedics in international databases and the extent of coverage of this area of scientific research are presented. The article contains a brief description of the 12 most authoritative scientometric and

abstract databases, the authors focus on the analytical and search functionality of the particular platforms. A carefully described method of creating search queries and features of quantitative data analysis are presented in the article. The results are systematized, presented in tables and graphically visualized. The information on electronic encyclopedias has been specified.
Prospect for further research is to be the content analysis of publications on specific topics in scientometric and abstract databases. The narrowing of the scope of query search to three databases (WoS, Scopus, OUCI) and Derwent Innovations Index that give the greatest coverage of sources and have a convenient functionality for ranking by citation is proved. Restrictions for the content analysis of the following search queries for "online encyclopedia" in scientific periodicals and patent databases are also justified.

Agglomerations newly defined with crowdsourced data: visualizing North Eastern Switzerland based on Wikipedia content

Commuters have had an important role in shaping the spatial organization of Switzerland, as commuter flows have been one of the most significant criteria to delineate urban agglomeration zones. Even though urban areas and respective agglomerations have continuously gained in importance in Switzerland to this day, the Swiss national population census will no longer include commuter data at high spatial resolution. Hence, the definition of the rapidly evolving urban agglomeration concept will have to be modified for future urban research and planning purposes.
We propose a crowdsourcing approach to overcome this data gap, and employ the open and web-based Wikipedia encyclopedia as a new resource to delineate agglomeration areas. Using the North Eastern parts of Switzerland in this case study, we systematically evaluate whether user-generated content can serve as an option to fill the commuter data gap in future Swiss national population censuses to define agglomeration areas. In a second step, we evaluate the influence of potential edge effects on our chosen approach.
We employ the number of hyperlinks in the Wikipedia database to quantify the strength of functional relationships between municipalities appearing in the Wikipedia encyclopedia. Next, we visualize the extracted municipality network structure for the chosen study area. Finally, we cluster the connected municipalities to agglomeration zones, and compare the computed municipality clusters with the agglomeration areas currently defined by the Swiss census.
Our results suggest that the aggregation structure of our crowdsourcing approach is congruent with the officially developed agglomeration areas proposed by the Swiss census. Crowdsourced data thus might be an additional future data resource to complement more traditional census statistics for space districting purposes or socio-economic research in urban geography and planning. However, our results also suggest that geographic space indeed influences even non-spatially organized, crowdsourced encyclopedic entries, and this must be systematically studied further in future studies.

Fixing the floating gap: The online encyclopaedia Wikipedia as a global memory place

The article proposes to interpret the web-based encyclopaedia Wikipedia as a global memory place. After presenting the core elements and basic characteristics of wikis and Wikipedia respectively, the article discusses four related issues of social memory studies: collective memory, communicative and cultural memory, 'memory places' and the 'floating gap'. In a third step, these theoretical premises are connected to the understanding of discourse as social cognition. Fourth, comparison is made between the potential of the World Wide Web as cyberspace for collective remembrance and the obstacles that stand in its way. On this basis, the article argues that Wikipedia presents a global memory place where memorable elements are negotiated. Its complex processes of discussion and article creation are a model of the discursive fabrication of memory. Thus, they can be viewed and analysed as the transition, the 'floating gap' between communicative and collective frames of memory.

Are Wikipedia Citations Important Evidence of the Impact of Scholarly Articles and Books?

Individual academics and research evaluators often need to assess the value of published research. Although citation counts are a recognized indicator of scholarly impact, alternative data is needed to provide evidence of other types of impact, including within education and wider society. Wikipedia is a logical choice for both of these because the role of a general encyclopaedia is to be an understandable repository of facts about a diverse array of topics and hence it may cite research to support its claims. To test whether Wikipedia could provide new evidence about the impact of scholarly research, this article counted citations to 302,328 articles and 18,735 monographs in English indexed by Scopus in the period 2005 to 2012. The results show that citations from Wikipedia to articles are too rare for most research evaluation purposes, with only 5% of articles being cited in all fields. In contrast, a third of monographs have at least one citation from Wikipedia, with the most in the arts and humanities. Hence, Wikipedia citations can provide extra impact evidence for academic monographs. Nevertheless, the results may be relatively easily manipulated and so Wikipedia is not recommended for evaluations affecting stakeholder interests.

Powerful tool as a complement to the traditional resources on a course: video podcast

When talking about electronic books is no longer science fiction and, indeed, different models of these devices begin to proliferate in the market; when speaking of encyclopaedia is not synonymous with large amount of paper-bound; when Internet is our first resort for finding information; when, finally, we reached the twenty-first century, thinking that the acquisition of technical knowledge by the students (students of any level) can continue done exclusively as has been done for centuries, is a foolishness.

The information in electronic form (as well as the access to this information) has very specific characteristics and the aim of all of us who make use of this information is getting the most out. Simply to prepare a text and place in cyberspace is wasting much of the potential we have at our disposal.
To insert static images helps to improve the information. Accompanying text with audio enriches considerably the text. And to produce a combined video image and sound is the most comprehensive offering that can be done to anyone seeking information. That is when the idea arises to create a vodcast.
In this paper, the development of a vodcast for university learning is presented. We are making it in the University of the Basque Country, specifically at the Engineering School.

Discovering prerequisite relations from educational documents through word embeddings

Inferring prerequisite relations among educational documents, in terms of prior knowledge required to understand and complete assignments about certain topics, is a crucial task for instructional designers and teachers. Massive open online courses, electronic textbooks, public encyclopedias and repositories of learning objects and other forms of informative content create a huge availability of educational material, which can be exploited in online platforms for distance education, both for recommending specific resources and personalized learning paths. But public taxonomies of prerequisites, or learning object metadata useful to trace down prerequisites are not generally available.
A description of a new approach for prerequisite discovering in educational documents is given. It is based on word embeddings, that is, statistical language models for the representation of text-based learning objects in low-dimensional latent spaces. It takes advantage of the latent representations to identify prerequisites in a binary classification setting. The accuracy of the approach is validated by means of an experimental benchmark covering multiple datasets of educational material.

The Future of Electronic Textbooks from a User Perspective

Electronic textbooks have been a popular research topic for decades. Yet, research on student perspectives in this area has been conducted in hindsight and focused on the existing technology. Still, future features are decided by publishers, universities, and academics with limited input from the actual students who would use them. This article identifies the components that university students feel facilitate their studies without linking them to a specific form of hardware and presents a general overview of the perception of textbook components. An online survey was designed to collect students' opinion on each component outside of the constraints of technology. The survey found that university students believe that future electronic textbooks should include text, highlighting tools, bookmarks, supplemental multimedia content, language translation capabilities, dictionaries, and encyclopedias. By including the input of students in the design of the textbooks, a better educational tool could be designed.

Unified System of Scientific Information as a Stimulus for Integration and Development of Science

The subject of research is information systems that allow you to integrate scientific knowledge, including in the field of law enforcement. The purpose of the article is to confirm or disprove hypothesis about the possibility of creating a unified system of scientific information as well as to determine the elements of such a system. The methodology of the study is a formal legal analysis of the normative legal acts and practice of functioning of scientific information systems.
The main results and scope of their application. Science has accumulated a huge amount of information that needs to be systematized. The research infrastructure does not allow you to quickly find the necessary information. The consequence of this is the problem of multiple independent scientific discoveries, plagiarism. There is also no standard for scientific research, which is why works written using the scholastic method are often found mainly in the humanitarian sphere. There are various search platforms that combine databases of publications in scientific journals and patents. These platforms simplify the search for information, but very poorly systematize it. These systems are also aimed at ranking publications, journals, and researchers. There are electronic encyclopedias that systematize knowledge. However, these projects also have serious drawbacks, mainly related to their focus on the non-scientists: 1. Insufficient expert level in the presentation and evaluation of the material. 2. There is no status of a scientific publication, which makes it impossible to publish scientific works using this platform. 3. There is no task to integrate scientific knowledge. Conclusions. It is proposed to create a unified system of scientific information that will facilitate the search for the necessary data, make it possible to quickly get acquainted with advanced scientific developments, and increase the level of research, including through the introduction of the appropriate standard. This system can integrate the functions of an electronic scientific journal, an electronic library, an electronic textbook, as well as a search platform that provides the implementation of scientometric functions. The proposed system will be regularly and promptly updated as new scientific papers become available. Information in the system will be evaluated by experts for its ranking and use, including for related research. The system is primarily a source of publishing scientific information. The system will allow an objective approach to the selection of applications for financial support for research, including grants, ensuring transparency of this procedure.

Towards a Certified Version of the Encyclopedia of Triangle Centers

Triangle centers such as the center of gravity, the circumcenter, the orthocenter are well studied by geometers. Recently, under the guidance of Clark Kimberling, an electronic encyclopedia of triangle centers (ETC) has been developed, it contains more than 7000 centers and many properties of these points. In this paper, we describe how we created a

certified version of ETC such that some of the properties described come along with a computer checked proof of its validity.

Checking Knowledge in Online Encyclopaedias: Towards a Behavioural Approach to Data Accessibility

This article outlines a new approach to data access in electronic encyclopaedias. Contrary to most of the existing research, which treats access as a lexicographer-dominated, structural concept, access is viewed here as a process which is essentially user-driven. The role of the lexicographer is to facilitate this process, so that it can become rapid and unimpeded, but their control of it should be reduced to a minimum. This can only be achieved if access to data is adjusted to the specific type of need for information. Accordingly, the article examines three forms of data access applicable in situations in which the user experiences the need for a finite, specific amount of information. The results of the examination confirm that access to data is indeed a process whose success depends on the interaction between the user, the data, and the type of need for information which the given reference work aims to satisfy.

The Wisdom of the Crowd is not a Forgone Conclusion. Effects of Self-Selection on (Collaborative) Knowledge Construction

Web 2.0 has elevated the possibilities of collaboration to unprecedented levels. Therein lies great potential, as the aptly coined phenomenon "Wisdom of the Crowd" implies. When it comes to controversial topics, however, there is no safety in numbers alone. On the contrary, collaboration among only like-minded people may even exacerbate biases (e.g., Echo Chambers). Yet, it is human nature to seek out like-minded others. Consequently, the process of self-selection is crucial if the heterogeneity of opinions serves as a safeguard against undesirable effects of group processes (e.g., attitude polarization). Accordingly, online environments that invite more heterogeneous (vs. homogeneous) users should produce less biased content. We tested this hypothesis in a field study, comparing articles on the same 20 controversial topics from the online encyclopedias Conservapedia and RationalWiki with Wikipedia (and Britannica serving as a gold standard) and exploring the opinions of discussants in the three online encyclopedias. As expected, articles from Conservapedia and RationalWiki were significantly less balanced than articles from Wikipedia and Britannica. We replicated this finding in a lab study with 257 participants who self-selected to one of three online wikis (Vegan Love, Nutrition, Meat & Fish) and individually as well as collaboratively wrote an encyclopedia-like article about "Diets." As expected, Wikis with a specific focus (Vegan Love, Meat & Fish) predominantly attracted authors with a positive attitude toward this focus and, as a consequence, resulted in more biased content than in the Nutrition Wiki. Overall, our results suggest that crowds alone do not guarantee wisdom-self-selection is a crucial process that needs to be taken into account.

Two decades of Wikipedia research: a PubMed bibliometric network analysis

Purpose - This paper aims to examine the structure and dynamics of scholarly publications dealing with Wikipedia. The research also aims to investigate how such research evolved since its launch in 2001.
Design/methodology/approach - Wikipedia has grown to be the biggest online encyclopedia in terms of comprehensiveness, reach and coverage. Based on 1,040 PubMed Wikipedia documents written by 5,280 authors over two decades (2001-2021), this paper conducts a bibliometric review of the intellectual structure of scholarly publications dealing withWikipedia.
Findings - Results show that annual scholarly publications on Wikipedia growth rate is 13.26. Major outlets publishing Wikipedia's research are PloS One, the Journal of Medical Internet Research, Nucleic Acids Research, Studies in Health Technology and Informatics, Bioinformatics and the International Journal of Medical Informatics. Results also show that the author collaboration network is very sparse, signifying rather negligible collaboration among the authors. Furthermore, results reveal that the Wikipedia research institutions' collaboration network reflects what is sometimes termed Wikipedia's "North-South divide," indicating limited collaboration between rich and poor nations' institutions. Finally, the multiple correspondence analysis applied to obtain the Wikipedia research conceptual map and its intellectual structure reveals the intellectual thrust and the diversity of the scholarly publications dealing withWikipedia.
Originality/value - To the best of the author's knowledge, this research represents the first application of bibliometric methods to investigate two decades of scholarly publications dealing with Wikipedia based on the PubMed database.

Health Information on Wikipedia: Can You Trust It?

Wikipedia, a crowd-sourced online encyclopedia begun in 2001, is potentially the most used source for medical information in the world with billions of visits each year. Its goal is to ensure that every person has access to all medical knowledge in their own language. The upside of this free open encyclopedia is everyone can enter an article. The downside of this free encyclopedia is that everyone can change words in an article. Vast amounts of health information has been added to Wikipedia, by medical professionals and some has even been edited by health science librarians and various health science student groups; but is it trustworthy? In this day and age of informed health consumers, is this an information tool on which to rely? This column traces the history of Wikipedia, comments on its health information contents and some editing efforts. This column ends with guiding questions whether or not it should be trusted.

Platform Governance: Past, Present and Future

Platform - benign as it seems, defining the term succinctly is easier said than done [6]. It may range from an offline shopping mall to a tech-driven e-commerce platform (e.g., Amazon, Walmart, Alibaba); from a forum of public speech

to an online social network (e.g., Facebook, Instagram, Twitter); from a classroom to an online encyclopedia (e.g., Wikipedia). The definition of platform varies across contexts and over time. For the purpose of this article, platforms may be understood as the online sites and services that host, organize and circulate contents and goods by facilitating social interactions among its stakeholders [5]. These interactions can range from as simple as chats, sharing and liking contents to as complicated as business transactions between stakeholders.

Exploring open access coverage of Wikipedia-cited research across the White Rose Universities

The popular online encyclopaedia Wikipedia is an important and influential platform that assists with the communication of science to a global audience. Using data obtained from Altmetric.com and Unpaywall, we looked at research from the White Rose Universities (Sheffield, Leeds and York) that is cited on Wikipedia. Of that research, we explored what percentage of citations were available open access (OA) and the location of those citations to ascertain whether they were hosted by publishers or within OA repositories. This article explores the importance of access to OA research within such an important and leading platform as Wikipedia and how well it supports effective scientific communication across society.

JADE: Corpus for Japanese Definition Modelling

This study investigated and released the JADE, a corpus for Japanese definition modelling, which is a technique that automatically generates definitions of a given target word and phrase. It is a crucial technique for practical applications that assist language learning and education, as well as for those supporting reading documents in unfamiliar domains. Although corpora for development of definition modelling techniques have been actively created, their languages are mostly limited to English. In this study, a corpus for Japanese, named JADE, was created following the previous study that mines an online encyclopedia. The JADE provides about 630k sets of targets, their definitions, and usage examples as contexts for about 41k unique targets, which is sufficiently large to train neural models. The targets are both words and phrases, and the coverage of domains and topics is diverse. The performance of a pre-trained sequence-to-sequence model and the state-of-the-art definition modelling method was also benchmarked on JADE for future development of the technique in Japanese. The JADE corpus has been released and available online.

The role of Wikipedia in the dissemination of new knowledge: Analysis of the entry desinformacion as a changeable concept

The main goal of Wikipedia's founders, Jimmy Wales and Larry Sanger, was to create a collaborative encyclopaedia driven by the users of the internet who, on a nonprofit basis, would compile and share all human wisdom and knowledge. In times of crisis, such as the coronavirus pandemic, Wikipedia has emerged as a reference point for users around the world. In this vein, Wikipedia once again highlighted its cultural role in the production of available knowledge in the face of new knowledge.
Therefore, the main objective of this study is to analyse the specific entry of desinformacion -disinformation in English- in the Spanish version of Wikipedia, given the importance that this concept has acquired during the coronavirus crisis and given the need to disseminate a homogeneous definition of this term. For that purpose, we have applied the content analysis method to a textual case, that is, to the disinformation entry in Wikipedia. The main results show that the basic characteristics of the Spanish entry of desinformacion on Wikipedia are not the suitable ones to inform users or readers of the real meaning of this concept. Furthermore, the content of the Wikipedia disinformation entry is incomplete, disjointed and of dubious reliability. Therefore, this research advocates the creation of a homogeneous definition that permeates the common imaginary and that is the result of a combination of experts' opinions and the definitions proposed by institutions, governments, media and organizations.

Wikipedia: a self-organizing bureaucracy

Many authors have argued that digital technologies enable collaboration without central oversight or authority, obviating the need for the hierarchical bureaucracies that characterize industrial capitalism. In this context, Wikipedia is often mentioned as a paradigmatic example. We draw on the classical accounts of Robert Michels and Max Weber to study mechanisms pushing towards or away from power concentration and bureaucratization. Our historical analysis of bureaucratization and power concentration in Wikipedia is based on 118 conversations and interviews as well as extensive archival research. While most studies on Wikipedia only consider the online encyclopedia itself, we also scrutinize the Wikimedia Foundation. Our analysis uncovers alternating processes of power concentration and power diffusion. While we observe power concentration for reasons anticipated by Michels, we also find strong counter-tendencies. Consequently, power concentration does not follow an 'iron law' but is the contingent outcome of struggles among stakeholders. In line with Weber, we identify a process of progressive bureaucratization. This does not only result from the pursuit of organizational manageability, but from a quest for democratic equality and minimization of domination as well. We introduce the concept of self-organizing bureaucratization to highlight how bureaucratization is the unintended and emergent outcome of efforts to increase democratic accountability.

Mundane work for utopian ends: Freeing digital materials in peer production

This article studies the online encyclopedia Wikipedia as a core example of the storage and sharing of commons-based digital materials. It focuses on the voluntary, day-to-day activities of its editors as they gather and transform digital information goods that are made available free of charge. Using the notion of articulation work, I stress the effort that

goes into accommodating the engagement with the encyclopedia within the contributors' media-suffused daily routines. Then, the article discusses the typical practices of transcribing, republishing, and relicensing through which the transition from non-free ownership to freely shared property is brought about. Finally, the freedom that is inherent in the modification of the legal status of ideas and artifacts and their public circulation requires us to interrogate the ethical implications of the digital commons collected and spread by Wikipedians.

Using Wikipedia to measure public interest in biodiversity and conservation

The recent growth of online big data offers opportunities for rapid and inexpensive measurement of public interest. Conservation culturomics is an emerging research area that uses online data to study human-nature relationships for conservation. Methods for conservation culturomics, though promising, are still being developed and refined. We considered the potential of Wikipedia, the online encyclopedia, as a resource for conservation culturomics and outlined methods for using Wikipedia data in conservation. Wikipedia's large size, widespread use, underlying data structure, and open access to both its content and usage analytics make it well suited to conservation culturomics research. Limitations of Wikipedia data include the lack of location information associated with some metadata and limited information on the motivations of many users. Seven methodological steps to consider when using Wikipedia data in conservation include metadata selection, temporality, taxonomy, language representation, Wikipedia geography, physical and biological geography, and comparative metrics. Each of these methodological decisions can affect measures of online interest. As a case study, we explored these themes by analyzing 757 million Wikipedia page views associated with the Wikipedia pages for 10,099 species of birds across 251 Wikipedia language editions. We found that Wikipedia data have the potential to generate insight for conservation and are particularly useful for quantifying patterns of public interest at large scales.

Equal opportunities in the access to quality online health information? A multi-lingual study on Wikipedia

Wikipedia is a free, multilingual, and collaborative online encyclopedia. Nowadays, it is one of the largest sources of online knowledge, often appearing at the top of the results of the major search engines, being one of the most sought-after resources by the public searching for health information. The collaborative nature of Wikipedia raises security concerns since this information is used for decision-making, especially in the health area. Despite being available in hundreds of idioms, there are asymmetries between idioms, namely regarding their quality. In this work, we compare the quality of health information on Wikipedia between idioms with 100 million native speakers or more, and also in Greek, Italian, Korean, Turkish, Persian, Catalan and Hebrew, for historical tradition. Quality metrics are applied to health and medical articles in English, maintained by WikiProject Medicine, and their versions in the above idioms. With this, we contribute to a clarification of the role of Wikipedia in the access to health information. We demonstrate differences in both the quantity and quality of information available between idioms. English is the idiom with the highest quality in general. Urdu, Greek, Indonesian, and Hindi achieved lower values of quality.

Power Distance and Hierarchization in Organizing Virtual Knowledge Sharing in Wikipedia

Wikipedia, as a flagship free and open-source software (FOSS) project, is characterized by the lack of formal structures and the resulting rigid division of labour. There is no formal authority over the performance of tasks connected with the creation of the Wikipedia content, and the users freely exchange knowledge, information and software codes. Wikipedia, as an online encyclopaedia, is an example of a project based on the ideological foundations of FOSS. So far, research has indicated that over time Wikipedia's informal structure has begun to crystallize and technical administrative rights are becoming increasingly important in the exercise of power. The purpose of this paper is to show to what extent the existence of powers leads to the creation of a power distance in the communities of selected Wikipedia language versions. The authors posed the question whether and to what extent the differences in the cultural dimension of the power distance are reflected in the functioning of the Wikipedia community. How the hierarchization of the organizational structure may influence the organization of knowledge sharing processes is also studied. The authors selected for the research the Wikipedia language versions which were mostly edited by the communities from homogeneous national cultures. The method used was quantitative analysis of the activity of Wikipedia users intended for establishing the general rules of cooperation, as well as an analysis of the distribution of user rights in the context of the social structure of individual versions. Research has shown that with the rise of the power distance, the power structure is becoming more hierarchical. However, the users with administrative rights and users without administrative rights are equally committed to joint rule-making. At the same time, it was found that in some cultures with a low power distance, the users do not show much attachment to the acquired rights. The opposite dependency was observed in countries with Orthodox and Islamic civilizations. The research results may be of interest to the communities organizing virtual forms of cooperation, especially those sharing knowledge and of a global nature.

Characterizing Opinion Dynamics and Group Decision Making in Wikipedia Content Discussions

Wikipedia, the online encyclopedia, is a trusted source of knowledge for millions of individuals worldwide. As everyone can start a new article, it is often necessary to decide whether certain entries meet the standards for inclusion set forth by the community. These decisions (which are known as "Article for Deletion", or AfD) are taken by groups of editors in a deliberative fashion, and are known for displaying a number of common biases associated to group decision making. Here, we present an analysis of 1,967,768 AfD discussions between 2005 and 2018. We perform a signed network analysis to capture the dynamics of agreement and disagreement among editors. We measure the preference of

each editor for voting toward either inclusion or deletion. We further describe the evolution of individual editors and their voting preferences over time, finding four major opinion groups. Finally, we develop a predictive model of discussion outcomes based on latent factors. Our results shed light on an important, yet overlooked, aspect of curation dynamics in peer production communities, and could inform the design of improved processes of collective deliberation on the web.

Encyclopedia of Modern Ukraine as multiple-aspect book source: content analysis of citations

The goal of the research. This study aims to explore the encyclopedia citations in academic literature, by the case of the Encyclopedia of Modern Ukraine. This suggests performing a content analysis of scholarly publications (papers, monographs, dissertations) in which their contributors refer to the encyclopedia articles. Methodology. Scholarly publications have been selected in Google Academy for the query "Encyclopedia of Modern Ukraine" in Ukrainian (n=100). Citations from such publications were thematically categorized into: 1) definitions, 2) descriptions (arguments), 3) contributions of researchers (research results), 4) historical data (dates, events, and facts), 5) biographical information, 6) statistical data, 7) knowledge in encyclopedic, 8) undefined category. Research novelty. Most citations of the encyclopedia articles were identified as definitions of terms and concepts (30%) as well as descriptions of ideas, phenomena, processes, objects, etc. (22%). Less citations were categorized as biographical (12%), historical (10%), encyclopedic (7%), statistical (3%) information. In part of publications, encyclopedia articles have been cited as if these are original research (15%). In scholarly literature, examples of incorrect citations of the Encyclopedia of Modern Ukraine have been also identified. Conclusions. Compilers of encyclopedias should take note of the categories of encyclopedic information of the highest citation in the academic literature (this involves monitoring the clarity of wording, scrupulous verification of the data, improving the form of presentation of such information, etc.).The results of our study apply not only to the compilers of encyclopedias, but also to any researchers who refer to paper or online encyclopedias in their works, because in the scientific literature we notice cases of improper their citation.

Wiki-Reliability: A Large Scale Dataset for Content Reliability on Wikipedia

Wikipedia is the largest online encyclopedia, used by algorithms and web users as a central hub of reliable information on the web. The quality and reliability of Wikipedia content is maintained by a community of volunteer editors. Machine learning and information retrieval algorithms could help scale up editors' manual efforts around Wikipedia content reliability. However, there is a lack of large-scale data to support the development of such research. To fill this gap, in this paper, we propose Wiki-Reliability, the first dataset of English Wikipedia articles annotated with a wide set of content reliability issues.
To build this dataset, we rely on Wikipedia "templates". Templates are tags used by expert Wikipedia editors to indicate content issues, such as the presence of "non-neutral point of view" or "contradictory articles", and serve as a strong signal for detecting reliability issues in a revision. We select the 10 most popular reliability-related templates on Wikipedia, and propose an effective method to label almost 1M samples of Wikipedia article revisions as positive or negative with respect to each template. Each positive/negative example in the dataset comes with the full article text and 20 features from the revision's metadata. We provide an overview of the possible downstream tasks enabled by such data, and show that Wiki-Reliability can be used to train large-scale models for content reliability prediction. We release all data and code for public use.

Open-world knowledge graph completion with multiple interaction attention

Knowledge Graph Completion (KGC) aims at complementing missing relationships between entities in a Knowledge Graph (KG). While closed-world KGC approaches utilizing the knowledge within KG could only complement very limited number of missing relations, more and more approaches tend to get knowledge from open-world resources such as online encyclopedias and newswire corpus. For instance, a recent proposed open-world KGC model called ConMask learns embeddings of the entity's name and parts of its text-description to connect unseen entities to the KGs. However, this model does not make full use of the rich feature information in the text descriptions, besides, the proposed relationship-dependent content masking method may easily miss to find the target-words. In this paper, we propose to use a Multiple Interaction Attention (MIA) mechanism to model the interactions between the head entity description, head entity name, the relationship name, and the candidate tail entity descriptions, to form the enriched representations. In addition, we try to use the additional textual features of head entity descriptions to enhance the head entity representation and apply the attention mechanism between candidate tail entities to enhance the representation of them. Besides, we try different scoring functions to increase the convergence of the model. Our empirical study conducted on three real-world data collections shows that our approach achieves significant improvements comparing to state-of-the-art KGC methods.

Image-based information: paintings in Wikipedia

Purpose This study aimed at understanding the use of paintings outside of an art-related context, in the English version of Wikipedia. Design/methodology/approach For this investigation, the authors identified 8,104 paintings used in 10,008 articles of the English Wikipedia edition. The authors manually coded the topic of the article in question, documented the number of monthly average views and identified the originating museum. They analysed the use of images based on frequency of use, frequency of view, associated topics and location. Early in the analysis three distinct perspectives emerged: the readers of the online encyclopaedia, the editors of the articles and the museum organisations

providing the painting images (directly or indirectly). Findings Wikipedia is a widely used online information resource where images of paintings serve as visual reference to illustrate articles, notably also beyond an art-related topic and where no alternative image is available - as in the case of historic portraits. Editors used paintings as illustration of the work itself or art-related movement, but also as illustration of past events, as alternative to photographs, as well as to represent a concept or technique. Images have been used to illustrate up to 76 articles, evidencing the polysemic nature of paintings. The authors conclude that images of paintings are highly valuable information sources, also beyond an art-related context. They also find that Wikipedia is an important dissemination channel for museum collections. While art-related articles contain greater number of paintings, these receive less views than non-art-related articles containing fewer paintings. Readers of all topics, predominantly history, science and geographic articles, viewed art pieces outside of an art context. Painting images in Wikipedia receive a much larger online audience than the physical painting does when compared to the number of museum onsite visitors. The authors' results confirm the presence of a strong long-tail pattern in the frequency of image use (only 3% of painting images are used in a Wikipedia article), image view and museums represented, characteristic of network dynamics of the Internet. Research limitations/implications While this is the first analysis of the complete collection of paintings in the English Wikipedia, the authors' results are conservative as many paintings are not identified as such in Wikidata, used for automatic harvesting. Tools to analyse image view specifically are not yet available and user privacy is highly protected, limiting the disaggregation of user data. This study serves to document a lack of diversity in image availability for global online consumption, favouring well-known Western objects. At the same time, the study evidences the need to diversify the use of images to reflect a more global perspective, particularly where paintings are used to represent concepts of techniques. Practical implications Museums wanting to increase visibility can target the reuse of their collections in non-art-related articles, which received 88% of all views in the authors' sample. Given the few museums collaborating with the Wikimedia Foundation and the apparent inefficiency resulting from leaving the use of paintings as illustration to the crowd, as only 3% of painting images are used, suggests further collaborative efforts to reposition museum content may be beneficial.
Social implications This paper highlights the reach of Wikipedia as information source, where museum content can be positioned to reach a greater user group beyond the usual museum visitor, in turn increasing visual and digital literacy. Originality/value This is the first study that documents the frequency of use and views, the topical use and the originating institution of "all the paintings" in the English Wikipedia edition.

Wikipedia, The Free Online Medical Encyclopedia Anyone Can Plagiarize: Time to Address Wiki-Plagiarism

Plagiarism and self-plagiarism are widespread in biomedical publications, although journals are increasingly implementing plagiarism detection software as part of their editorial processes. Wikipedia, a free online encyclopedia written by its users, has global public health importance as a source of online health information. However, plagiarism of Wikipedia in peer-reviewed publications has received little attention. Here, I present five cases of PubMed-indexed articles containing Wiki-plagiarism, i.e. copying of Wikipedia content into medical publications without proper citation of the source. The true incidence of this phenomenon remains unknown and requires systematic study. The potential scope and implications of Wiki-plagiarism are discussed.

The impact of event type and geographical proximity on threat appraisal and emotional reactions to Wikipedia articles

The online encyclopedia Wikipedia strives for objectivity and neutrality. However, Wikipedia also provides articles about negative events (e.g., earthquakes, terrorist attacks) that likely elicit strong, negative emotions. These emotions might slip into Wikipedia articles. Previous research has demonstrated that Wikipedia articles on terrorist attacks contained more anger-related content than Wikipedia articles on earthquakes. This previous research focused on the expression of emotional reactions in existing Wikipedia articles and used an automatic linguistic analysis tool that counted the number of emotion-related words. In order to extend this approach, the first aim of the present research was to replicate these findings by focusing on the emotional reactions during and after reading the articles. Second, previous research did not look at the geographical location of the negative events, which may be a relevant, influential factor. Emotional reactions may be stronger for geographically closer events (i.e., Europe for Europeans) than for geographically more distant events (i.e., Asia). Two studies, one with few raters rating their emotional reactions to many Wikipedia articles (S1 Study) and another with many raters rating their emotional reactions to few Wikipedia articles (S1 Study), demonstrated that Wikipedia articles on terrorist attacks elicited more threat, anger, sadness, and anxiety than Wikipedia articles on earthquakes. These effects occurred for negative events in Europe but were absent for events in Asia, with one exception. The anger effect was the same across Europe and Asia. Thus, event type and geographical proximity are relevant factors for explaining threat and emotional reactions to Wikipedia articles.

Wikipedia: Why is the common knowledge resource still neglected by academics?

Wikipedia is by far the largest online encyclopedia, and the number of errors it contains is on par with the professional sources even in specialized topics such as biology or medicine. Yet, the academic world is still treating it with great skepticism because of the types of inaccuracies present there, the widespread plagiarism from Wikipedia, and historic biases, as well as jealousy regarding the loss of the knowledge dissemination monopoly. This article argues that it is high time not only to acknowledge Wikipedia's quality but also to start actively promoting its use and development in academia.

Detecting Undisclosed Paid Editing in Wikipedia

Wikipedia, the free and open-collaboration based online encyclopedia, has millions of pages that are maintained by thousands of volunteer editors. As per Wikipedia's fundamental principles, pages on Wikipedia are written with a neutral point of view and maintained by volunteer editors for free with well-defined guidelines in order to avoid or disclose any conflict of interest. However, there have been several known incidents where editors intentionally violate such guidelines in order to get paid (or even extort money) for maintaining promotional spam articles without disclosing such. In this paper, we address for the first time the problem of identifying undisclosed paid articles in Wikipedia. We propose a machine learning-based framework using a set of features based on both the content of the articles as well as the patterns of edit history of users who create them. To test our approach, we collected and curated a new dataset from English Wikipedia with ground truth on undisclosed paid articles. Our experimental evaluation shows that we can identify undisclosed paid articles with an AUROC of 0.98 and an average precision of 0.91. Moreover, our approach outperforms ORES, a scoring system tool currently used by Wikipedia to automatically detect damaging content, in identifying undisclosed paid articles. Finally, we show that our user-based features can also detect undisclosed paid editors with an AUROC of 0.94 and an average precision of 0.92, outperforming existing approaches.

Understanding co-editing mechanism of wiki-based digital humanities projects

Purpose The purpose of this paper is to reveal the co-editing mechanism aiming at content creation, and an entry of online encyclopedia is taken as a case, for the purpose of promoting and enhancing the development of wiki-based digital humanities projects (WDHPs), specifically, the projects that focus on gathering contextual information in the culture heritage domain. Design/methodology/approach An exploratory study was conducted by three steps. A representative entry's editorial records were reorganized to obtain a data set of discussion statements (n=608), based on which linked-structures were built, and PageRank algorithm was used to analyze the co-editing process. Skewness statistic was applied to measure the consensus of co-editing, and consensus evolution over time was explored. Linear or curve fitting was performed to analyze the correlation between consensus evolution and its influential factors. Findings In WDHPs, co-editing activity of content creation can be considered as a large-scale group discussion, consensus can evaluate the efficiency of co-editing, which evolves with time and is influenced by the number of statements, breadth and depth of argumentation structure. Taking "Mogao Grottoes" as an example, group discussions around 15 key issues dominate the content creating process, consensus is on a rise with time, finally reaches a relatively high level, and consensus evolution is more influenced by breadth than by depth of argumentation structure, which indicates that co-editing efficiency of "Mogao Grottoes" is fine and more argumentation in a depth manner should be guided. Originality/value This research is novel in comprehensively understanding co-editing mechanism of content creation in WDHPs, resulting in a three-step analytic procedure of presenting co-editing process, evaluating and improving co-editing efficiency.

Quality of Wikipedia Articles: Analyzing Features and Building a Ground Truth for Supervised Classification

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Wikipedia's striving for credibility: And how libraries can help

Today Wikipedia is the most important encyclopaedia, both regarding extent and usage. As an easily accessible entry point for literature research Wikipedia even figures prominently in academics. In this context research repeatedly focuses on the credibility of the online encyclopaedia, because its content is not reviewed by experts but can be edited by anybody. However, a striving for credibility can be observed within the Wikipedia community. By analysing selected editing principles and interpreting a case study on the creation of credibility in the German language Wikipedia, implications for information professionals can be gathered. Especially librarians can help to improve Wikipedia's credibility with their access to relevant literature and their research skills.

Scientometric Research of Knowledge Communication on Social Media -A Case Study of Biomedical Science on Baidu Baike

Social media stand as perfect examples of Web 2.0 applications. Baidu Baike, a wiki-like online encyclopedia, is analyzed as a typical collaborative project contributed by experts and users. How do the contributors communicate during the edition of entries? In order to seek answers to the question, scientific entries are chosen for citation analysis to reveal relationships among entries, which could indicate communication of entries' contributors. The relationship between online entries and traditional literatures is discussed on the basis of reference analysis, which indicates communication between entries' contributors and literatures' authors. Cooperation analysis among experts or users is also conducted. Analysis on coupling entries helps to indicate the common interests of contributors. The crossing and integration of disciplines was confirmed in this paper. It is found that people's online communication was affected by traditional knowledge carriers. The majority of experts cooperated with someone in the common affiliation while cross-unit cooperation also existed. There are clusters of common interests of experts, which indicate that the specialist only masters his own field. Moreover, users, who are typical general public, have wide range of interests and full of enthusiasm for entry contribution. Their participation is of great importance to development of science and technology.

Wikipedia in the Eyes of Its Beholders: A Systematic Review of Scholarly Research on Wikipedia Readers and Readership

Hundreds of scholarly studies have investigated various aspects of Wikipedia. Although a number of literature reviews have provided overviews of this vast body of research, none has specifically focused on the readers of Wikipedia and issues concerning its readership. In this systematic literature review, we review 99 studies to synthesize current knowledge regarding the readership of Wikipedia and provide an analysis of research methods employed. The scholarly research has found that Wikipedia is popular not only for lighter topics such as entertainment but also for more serious topics such as health and legal information. Scholars, librarians, and students are common users, and Wikipedia provides a unique opportunity for educating students in digital literacy. We conclude with a summary of key findings, implications for researchers, and implications for the Wikipedia community.

Wikipedia's Success and the Rise of the Amateur-Expert

The Free Online Encyclopedia, as Wikipedia calls itself, is a radical departure from traditional encyclopedias and traditional methods of knowledge creation. This chapter is an examination of how a community of amateurs on Wikipedia has challenged notions of expertise in the 21st century. It does so by first looking at the roots of Wikipedia in a phenomenon known as the "wisdom of the crowds" and in the open source software movement. The reliability of Wikipedia is examined as are the claims made by major critics of the project. Throughout, epistemological questions raised by Wikipedia are addressed.

The distorted mirror of Wikipedia: a quantitative analysis of Wikipedia coverage of academics

Activity of modern scholarship creates online footprints galore. Along with traditional metrics of research quality, such as citation counts, online images of researchers and institutions increasingly matter in evaluating academic impact, decisions about grant allocation, and promotion. We examined 400 biographical Wikipedia articles on academics from four scientific fields to test if being featured in the world's largest online encyclopedia is correlated with higher academic notability (assessed through citation counts). We found no statistically significant correlation between Wikipedia articles metrics (length, number of edits, number of incoming links from other articles, etc.) and academic notability of the mentioned researchers. We also did not find any evidence that the scientists with better WP representation are necessarily more prominent in their fields. In addition, we inspected the Wikipedia coverage of notable scientists sampled from Thomson Reuters list of `highly cited researchers'. In each of the examined fields, Wikipedia failed in covering notable scholars properly. Both findings imply that Wikipedia might be producing an inaccurate image of academics on the front end of science. By shedding light on how public perception of academic progress is formed, this study alerts that a subjective element might have been introduced into the hitherto structured system of academic evaluation.

A recommender mechanism for social knowledge navigation in an online encyclopedia

In today's world, knowledge is important for constructing core competitive advantages for individuals and organizations. Recently, Web 2.0 applications and social media have provided a convenient medium for people to share knowledge over the Internet. However, the huge amount of created knowledge can also leads to the problem of information overload. This research proposes a social knowledge navigation mechanism that utilizes the techniques of relevant knowledge network construction, knowledge importance analysis, and knowledge concept ontology construction to generate a visualized recommendation of a knowledge map of sub-concept and knowledge of an article reading sequence for supporting learning activities related to a free online encyclopedia. The results of experiments conducted on Wikipedia show that the proposed mechanism can effectively recommend useful articles and improve a knowledge seeker's learning effectiveness.

Intellectual interchanges in the history of the massive online open-editing encyclopedia, Wikipedia

Wikipedia is a free Internet encyclopedia with an enormous amount of content. This encyclopedia is written by volunteers with various backgrounds in a collective fashion; anyone can access and edit most of the articles. This open-editing nature may give us prejudice that Wikipedia is an unstable and unreliable source; yet many studies suggest that Wikipedia is even more accurate and self-consistent than traditional encyclopedias. Scholars have attempted to understand such extraordinary credibility, but usually used the number of edits as the unit of time, without consideration of real time. In this work, we probe the formation of such collective intelligence through a systematic analysis using the entire history of 34 534 110 English Wikipedia articles, between 2001 and 2014. From this massive data set, we observe the universality of both timewise and lengthwise editing scales, which suggests that it is essential to consider the real-time dynamics. By considering real time, we find the existence of distinct growth patterns that are unobserved by utilizing the number of edits as the unit of time. To account for these results, we present a mechanistic model that adopts the article editing dynamics based on both editor-editor and editor-article interactions. The model successfully generates the key properties of real Wikipedia articles such as distinct types of articles for the editing patterns characterized by the interrelationship between the numbers of edits and editors, and the article size. In addition, the model indicates that infrequently referred articles tend to grow faster than frequently referred ones, and articles attracting a high motivation to edit counterintuitively reduce the number of participants. We suggest that this decay of participants eventually brings inequality among the editors, which will become more severe with time.