

# ENGLISH ABSTRACTS

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## MULTILINGUAL SUBJECT ACCESS FOR JOURNAL ARTICLES

p. 33

An analysis of the different models of usage of thesauruses in web services to facilitate multilingual subject access to digital collections is presented. The case of the adaptation of the *Tesaurus de Biblioteconomía y Documentación* (generated by Cindoc) for use in a journal article portal and which also permits multilingual querying, is described below. The conclusions assess the thesaurus's efficacy in the retrieval of contents for digital collections in multilingual fashion.

### Keywords

*Temaria*, multilingual thematic access, multilingual thesauri, subject portals, automatic translation, linguistic equivalent, semantic interoperability, metadata, web, bibliographic databases, Bireme, *DeCS*, *Labordoc*, *MACS*, International Labour Organization

BARGALLÓ, Anna; CANTOS, Carme; CASALDÀLIGA, Anna; CENTELLES, Miquel

## USABILITY STUDY: THE CASE OF THE INTRANET OF THE LIBRARY OF THE UNIVERSITAT POMPEU FABRA

p. 51

The Universitat Pompeu Fabra (UPF) Library carried out a usability study of its own intranet at the end of 2004 in order to obtain some data on how this intranet runs and is used. These data, once analyzed, may make it possible to improve the tool. This tool, shared by all the service staff, contains all the library information to improve management and internal communication. Since its creation in 1996 the intranet has become the basic working tool of the service, its contents have grown and it has been restructured according to changing needs and new styles of work. In order to continue to implement improvements that help to facilitate the work of the Library staff, it is necessary to know how users interact with the intranet, to which end a usability study, the subject of this paper, was carried out. A working group was created to undertake this study, and prepared an evaluation survey for the library staff and a usability test for a representative selection of the intranet users. The test contained tasks on information searching, memory tests and opinion creation.

### Keywords

usability evaluation, usability, users information needs, intranets, Universitat Pompeu Fabra, surveys to users, academic libraries, knowledge organization in intranets

BASTOS, Flavia Maria; FUJITA, Mariângela Spotti Lopes

**CATEGORIZATION OF SUBJECT AREAS IN THESIS  
AND DISSERTATION DIGITAL LIBRARIES**

p. 78

Digital libraries represent a worldwide effort in storing, preserving, providing access and disseminating scientific production. Considering the growth of electronic files to be organized, we propose investigating the principles of adequate thematic structures for thesis and dissertation digital libraries. The aim is to provide assistance for making such structures in the field of Information Science, and also to identify aspects of theory and methodology applicable to the organization of thesis and dissertation digital libraries at higher learning institutions. In terms of the organization of knowledge, two theoretical trends were systematized: macro- and micro-structural. For the macrostructural theory, theoretical and methodological aspects are more appropriate for reaching goals by compiling theories which start at the disciplinary level, moving up to more general themes to explain concept structures. The micro structural theory, which holds that the theoretical corpus is the minimum knowledge unit, studies the relationship between concepts. The trends observed within the macrostructural theory are the conceptual map, thematic domain, semantic fields and terminological theories. The evaluation of these theories revealed the importance of the social and cultural context for conceptual relationships of knowledge organization to be used in digital environments through interaction, be they for individual use or for the numerous actors involved in digital libraries.

**Keywords**

classification of thesis, scientific production dissemination, digital libraries, Universidade Estadual Paulista, knowledge organization, conceptual maps

BONILLA, Karla Vanessa

**FROM THE VIRTUAL LIBRARY TO VIRTUAL INFORMATION AND KNOWLEDGE CENTRES:  
CASE STUDY OF THE BIBLIOTHEEK TECHNISCHE UNIVERSITEIT DELFT**

p. 91

For some 20 years now we have been talking of the virtual library as an ideal library model. The addition of this model has called for a constant improvement of technological platforms for the transfer of information and the generation of service provision processes. The growing demand for this new information format and digital publications was one of the driving forces behind the need for the virtual library to evolve, and nowadays it features a major online communication component, rendering the exchange and massive dissemination of knowledge possible, and this is how the virtual library model transforms towards a Virtual Knowledge Centre (VKC). To support the above assertion, this document furnishes an analysis of the Virtual Knowledge Centre (VKC) which has been implemented since 2002 by the Bibliotheek Technische Universiteit Delft.

**Keywords**

virtual libraries, digital libraries, users and electronic resources, Technische Universiteit Delft. Virtuele Kenniscentra, academic libraries

BORONAT I MONFORT, Llúcia

**«I FOUND NOTHING», OR USERS AND INFORMATION REQUIREMENTS:  
PROBABLE CAUSES FOR THE FAILURE TO RETRIEVE INFORMATION**

p. 681

A study to find out the probable causes for null information retrieval by academic library users is proposed. The study targets users who had gone to the information desk asking for help because they failed to find anything. It is divided into two different related parts. Firstly, the users' skills in expressing their information needs will be measured, considering the number of sentences used, the number of words per sentence, specificity in the level of terms, time required, query accuracy and search complexity, as well as the degree of knowledge of library resources with regard to their information needs. Secondly, the users' search capacity will be measured by identifying search types entered, problems found, capacity to run a new query, the use of help tools and system failure. Finally, the basis for the interpretation of the results will be given, an attempt will be made to relate both parts of the study, and proposals to enhance information retrieval will be given. To conclude, emphasis is placed on the importance of users' awareness of their need, and the lack of standardization in many aspects of information retrieval categorization is underlined.

**Keywords**

failure in the seeking process, search, information literacy, information retrieval

BOROS, Petra

**USING THE TOOLKIT OF COMMUNITIES OF PRACTICE  
IN MANAGING PROJECT TEAMS SET UP IN BUSINESS PROCESSES**

p. 105

Using the toolkit of Communities of Practice in managing project teams established by business processes is reasonable and effective concerning innovation and good business achievements. These project teams can be set up by different parties (e.g. consultants, project manager, clients, team responsible for delivery, subcontractors and partners, employees. etc.), where the project manager is the knowledge distributor. Therefore, it is necessary to emphasize the responsibility of project managers and the related project management methodology, focusing on the aspect of knowledge management. Leading a project team with a narrow scope and tight deadlines, while creating and sustaining the demands of motivated, professional, efficient and innovative atmosphere, is a great challenge, and many conflicts, and sometimes contradictions, need to be resolved. The paper focuses firstly on the features of traditional project team management, going on to detail the attributes of Communities of Practice. Finally, it addresses the combination elements of these two methodologies, with special consideration afforded to the key role of the project manager, the individual and team aspects of project team management, and the advantages of using them.

**Keywords**

communities of practice, project team management, knowledge management in companies

BUFREM, Leilah Santiago; SILVA, Helena de Fátima Nunes;  
BREDA, Sônia Maria

**RETHINKING THE THEORETICAL BASICS OF KNOWLEDGE ORGANIZATION:  
LINGUISTIC AND CULTURAL BASES AND STRUCTURES OF REPRESENTATION**

p. 121

This paper relates Bahtin's theory to the principles of the representation of knowledge, founded on the hypothesis that structures of representation cannot be reduced to any of the practices or disciplines which contribute to it in an integrated fashion. On the basis of Mihail Bahtin's thoughts on dialogism in *Marxism and the Philosophy of Language*, it analyses four aspects he identified and which make it possible to establish a relationship between the procedures for documentary representation. The first aspect refers to the interaction between interlocutors, which is essential to communication and is a founding principle of language. The second aspect concerns the dependence of text meaning and the meaning of words between subjects; i.e. sense and this meaning are constructed in the production and the interpretation of the texts by the subjects. The superiority of intersubjectivity over subjectivity is the third aspect addressed in this study, since text-producing subjects are constructed in this relationship between the interlocutors. Considering the fourth aspect, the double notion of sociability is explored through the analysis of the relation among subjects or interlocutors who interact with each other and with society.

**Keywords**

Mihail Bahtin, dialogism theory, interactivity in communication, negociació de significats, language, knowledge representation

CARRIÓ VIVES, Maria del Mar

**IDENTIFICATION OF RELEVANCE CRITERIA**

p. 638

The aim of this paper is to propose a methodology to identify relevance criteria. The study attempts to establish which factors can decide the usefulness of information. An attempt is made to help and understand the ultimate goal of information retrieval: to supply information that is useful to a user. The methodology is based on two theories: on the one hand, Schamber, Eisenberg and Nilan held that relevance depends on the judgement of the user at the time and on the other hand, the conclusion reached by Barry and Schamber on the existence of a finite range of relevance criteria that is shared across users and situations.

The study is a laboratory experiment that aims to monitor all the variables that can impact the process of the judgment of relevance. The experiment offers the same documents to a same group of users so that they can judge the relevance of the documents depending on two different information requirements. The aim is to identify the criteria that determined the usefulness of the documents examined. The methodology proposes the monitoring of five variables related to the process of the judgment of relevance: users, documents, representations, situations of need and conditions related to the process of the judgment of relevance. The objective pursued consists of isolating the factors related exclusively to the

situation or problem that caused the situation of need. Finally, the data analysis process, and the indicators that can be used, are addressed.

### **Keywords**

content relevance, content analysis, information retrieval

CASTLE, Elizabeth; McCULLOUGH, Gerry; OLIVER, Gillian

### **USER ACCESS TO KNOWLEDGE REPOSITORIES: A NEW ZEALAND CASE STUDY OF TAXONOMY DEVELOPMENT**

p. 128

Electronic documents are essential components of corporate memory in organisations. The strategies and tools used to organise electronic documents are key to successful access of the knowledge they contain. This paper explores this topic by presenting a case study of a public sector body in New Zealand and the implementation of a new knowledge repository. The case study describes user involvement in knowledge organisation and the development of a taxonomy to aid in the management of electronic content in a specialist environment.

### **Keywords**

knowledge management in government, repositories, taxonomies, term selection, electronic document management, central banking, Reserve Bank of New Zealand

CHAIBI, Ahmed

### **THE EXAMPLE WITHIN THE TECHNICAL DOCUMENT: WHICH UNIT FOR WHICH STATUTE?**

p. 136

In this paper we suggest taking the unit example in the Technical Document as a topic of study, whose objective is to determine surface indexes (linguistic, typographic, structural, lexical and punctuation), making it possible to identify and delimit the unit example within a Technical Document corpus in order to conceive an adequate and rational method that makes it possible to identify the example automatically. The result of the experimentation conducted among judges (experts, non-experts) confirmed the relevance of surface indexes defined according to our approach. We conclude with the unit example statute in a process of information research in a Technical Document. Indeed, we wonder if the unit example could be an answer to a request for a targeted and convenient information that technicians need.

### **Keywords**

examples in documents, technical documents, information retrieval

ERCEGOVAC, Zorana

## **TOWARDS USER-CENTERED DISPLAYS OF RESOURCES IN GLOBAL DIGITAL LIBRARIES**

p. 148

We report findings from experiments with IFLA's *Functional Requirements for Bibliographic Records* (FRBR) as applied to the domain of science fiction (Abbott's *Flatland*) in the OCLC's WorldCat. The objective is to gauge the characteristics of bibliographic entities under study, to examine the types of relationships these entities exhibit, and to collocate bibliographic entities according to the FRBR Group 1 hierarchy of entities. The study's findings may shed some light on a navigational capability in global digital libraries by assembling items into interrelated clusters and displaying them according to the FRBR model in order to make it easier for the user to find desired bibliographic entities.

### **Keywords**

user-centered displays, bibliographic relations, bibliographic entities, online catalogues, digital libraries, *Functional requirements of bibliographic records*, usability

FERNÁNDEZ SANDE, Manuel; FRAILE GARCÍA, Esther;  
GÓMEZ NAVARRO, Nuria; RUBIO CARRIÓN, Nuria

## **EVALUATION OF THE ACCESSIBILITY AND USABILITY OF BLIND USERS TO WEB-BASED INFORMATION RESOURCES**

p. 163

Most information resources on the web are inaccessible for blind users. This communication shows the results of an investigation that evaluated the accessibility of a huge sample of web-based information resources. These resources have been grouped into fifteen different categories. The methodology used combines the application of a semi-automated instrument (TAW) which reviews the WAI accessibility guidelines formulated by W3C, and a test of users who interacted on a selection of resources. The investigation findings point to important differences in access and usability. More than 80% of most of the categories are totally inaccessible for blind users because they present priority 1 level errors. Generally speaking, the greater the level of specialization of resources the poorer the levels of accessibility and usability. Accessibility barriers to information have a direct impact on the participation of people with disabilities in the knowledge society. The most accessible resources are normally public institution webs. However, the most inaccessible ones are those connected to Portals of general practitioners and job-seekers. The most frequently detected design errors that impact the level of accessibility are the absence of alternative texts for graphical elements, the inclusion of frames without titles, automatic page updates, absolute units in markers and style sheets, and the presence of *marquee* element.

### **Keywords**

accessibility, web use by visual impaired, WAI, usability

FERNÁNDEZ-MOLINA, J. Carlos; C. GUIMARÃES, J. Augusto;  
 VIDOTTI, Silvana A.B.G.; FLAMINO, Adriana N.; SOUZA, Alexandre S.;  
 CAMARGO, Liriane S. A.; SILVA, Marcel S.; MORENO, Patrícia S.;  
 RAMALHO, Rogério A.S.

**ETHICAL ASPECTS OF THE NEW INFORMATION AND COMMUNICATION  
 TECHNOLOGIES AND HOW THEY ARE MIRRORED IN THE ORGANIZATION  
 AND REPRESENTATION OF KNOWLEDGE**

p. 177

Over the last decade, the international scientific literature in the field of Information and Documentation has targeted the ethical problems related to the use of the new technologies. However, these studies have focused basically on problems related to the dissemination of information, overlooking issues related to its treatment as an intermediate activity between the production and the use of information. In an attempt to fill this gap, this work addresses the ethical problems related to the specific activities of the organization and representation of knowledge. To this end, we used a theoretical and bibliographic research approach based on the articles published in the *Ethics & Information Technology* journal since its creation in 1999 until March 2004, checking the titles, abstracts and keywords of the articles for mentions of any process of organisation and representation of knowledge. The conclusion is that there are still gaps between the literature on ethics in the new information technologies and the activities of organisation and representation of knowledge, and it is not clear whether the ethical responsibility of the information professional in this context surpasses the mere provision of information.

**Keywords**

ethics and information processing, ethics and technologies

FLORES CALVO, Bárbara; LEGERÉN ÁLVAREZ, Elisa

**THE WEBLOG PHENOMENON AS A NEW MEANS OF COMMUNICATION AND ITS IMPACT ON  
 THE FIELD OF LIBRARY AND INFORMATION SCIENCES**

p. 712

Weblogs are a sort of information resource which have become a powerful tool as an alternative means of communication. This relatively new phenomenon is becoming increasingly more popular among Internet users. The interactivity it provides gives us information in real time and also engages us in this information process. The analysis of the network which is formed by the weblogs written in Spanish and related to the area of Library and Information Sciences is the main purpose of this research. The study of the links among each of these weblogs will be decisive in designing such a network. A set of interconnected weblogs can thus be obtained, as well as a nucleus comprised of the most important weblogs on the network. Weblogs interact through affinity. This affinity can be either thematic or even be driven by friendship or other reasons, giving rise to groupings of weblogs which can eventually form genuine social networks.

**Keywords**

weblogs, Library and Information Sciences, social networks, communication

FOURIE, Ina; CLAASEN-VELDSMAN, Retha

**DISINTERMEDIATION: USING INTERMEDIARY SKILLS  
TO OFFER ONCOLOGY NURSES OPPORTUNITIES FOR THEIR OWN WORLD-WIDE  
WEB CURRENT AWARENESS SERVICES (CAS)**

p. 187

Library and Information Science (LIS) professionals can proactively facilitate successful disintermediation to specific user groups such as oncology nurses. By drawing on their skills as intermediaries they can empower oncology nurses to set up their own current awareness services (CAS) available via the World-wide web (WWW). Such services include table of content services, electronic newsletters, book alerting services, conference announcements, WWW discussion groups, web pages with newsworthy content and article alerting or Selective Dissemination of Information (SDI) services. A few examples of each are included. A cursory glance at the literature of oncology nursing can point out potential interest in CAS which can be used as bases to collect information on more specific information needs for specific groups (e.g. through focus group interviews). To be successful at facilitating disintermediation, LIS professionals should approach disintermediation as an exciting opportunity to open new niches for themselves. They should be prepared to move beyond information literacy courses and empower oncology nurses to use CAS in addition to their needs for retrospective searches and factual information. This paper takes a theoretical look at facilitating disintermediation. Drawing on their substantial experience of intermediation, LIS professionals should consider the following: linking potential information needs and perceived information needs to the benefits that can be expected from CAS, the need to verify information and computer skills, as well as prior knowledge and perceptions concerning the value of information and the information infrastructure for oncology nurses. They should also consider findings from web information-seeking studies (e.g. the impact of the task environment, motivation, experiences of anxiety, etc.) and possible frustrations oncology nurses might experience with WWW CAS.

**Keywords**

disintermediation, nurses as information users, information literacy, information behaviour, Current information needs, awareness services, oncology nurses, medical information, user training

GABRIELE MUÑIZ, Giovanna

**THE HUMAN DIMENSION OF KNOWLEDGE ORGANIZATION IN HEALTH  
AND MEDICAL WEBSITES THROUGH THE DECONSTRUCTION  
OF THE «MEDICAL» LANGUAGE OF THE PATIENT**

p. 201

This study aims to establish whether the organisation, structure and classification of knowledge in medical webs meet patient information needs with regard to the level and the degree of information required once the pathological process has set in. The study was carried out in Spain, although its results, in specific cases, are compared with or complemented by data from other studies in the United States. The analysis focused mainly on the contrast between the inherent elements in the cognitive process of the doctor-patient clinical interview and those



which are typical of patients' specialised discussions forums. Given the wide range of diseases, the study deals with the five diseases with the greatest mortality rate in Spain – Cancer, Diabetes, Cardiovascular Diseases, Mental Diseases and Rheumatic Diseases – according to mortality rates for the major causes of death available for 2002 by the INE (Instituto Nacional de Estadística).

The main purpose of this study is to configure the impact of the historical, social, cultural, linguistic, and psychological and mass-media background on the specific patient-pathology interaction, and especially on the representation, treatment and diffusion of the disease in accordance with the World Wide Web hypertextual model.

### **Keywords**

patients as information users, medical web services, health information, information behaviour, information needs, clinic

GARCÍA HERNÁNDEZ, Eva

### **APPLICATION OF ONTOLOGIES FOR THE REPRESENTATION OF KNOWLEDGE**

p. 224

In a technological environment, the perspective of the construction of ontologies allows us to approach the constraints of indexing, retrieval and spreading of the information stored on the Internet, facilitating a fast, effective, pertinent and constantly updated management of the needs to be covered. The use of terminological ontologies unifies the terms for each concept and the relationships among them; and information ontologies unify the storage structures so that they can be re-used by several computer applications that use the same source of information.

Documentary knowledge has traditionally been organized according to Dewey's hierarchical classification or the Universal Decimal Classification, and subject headings. At the moment, descriptors of a controlled language, more oriented towards retrieval, are used, with the support of a thesaurus. These storage and information retrieval systems have played a fundamental role in the widespread and standardized use of information systems, allowing librarians to share commonly-accepted models for information description and storage. Concepts are explicitly described by means of ontological agreements so that their meanings can be understood. In doing this, a user who wishes to re-use an ontology developed by others will be able to obtain information about all the concepts it supports, its taxonomy and axioms.

### **Keywords**

ontologies, information retrieval engines, metadata, indexing, semantic web

GARRIDO PICAZO, Piedad; TRAMULLAS SAZ, Jesús

### **POTNIA: A TOOL FOR THEME DIRECTORIES BASED ON DUBLIN CORE AND TOPIC MAPS** p. 238

The paper shows the evolution of the development of an information processing tool, called *Potnia*, located in the Analysis and Studies Project EA 2003-52, supported by the Spanish Ministerio de Educación, Cultura y Deporte, and based on the integration of the standard proposed by the DCMI (Dublin Core Metadata

Initiative) and the topic maps paradigm registered in the ISO 13250:2003 standard. The proposal is divided into six sections: an introduction where the project aims and principles are set out, a second section where a graphical hypothesis of the work is shown, a third section that briefly explains tool development methodology, a fourth section that describes the integration of both mark-up languages, laying the foundations for their common link, the RDF (Resource Description Framework) language, and a fifth section which details the improvements to a previous tool version focusing on aspects such as information retrieval and display and security improvements when it is handled by different user profiles. The paper concludes with some thoughts on the addition of these mark-up languages to information retrieval systems and their use in isolation or in combination.

### **Keywords**

*Potnia*, thematic directories, topic maps, metadata, RDF, XTM, Dublin Core Metadata Initiative, information retrieval, information display, semantic web

GRANADOS, Mariàngels; NICOLAU, Anna

### **INFORMATION RETRIEVAL IN ON-LINE CATALOGUES: THE USE OF THE UNIVERSAL DECIMAL CLASSIFICATION AND ITS IMPLICATIONS FOR INDEXING** p. 249

This study addresses the underuse of the Universal Decimal Classification (UDC). A lot of time has been and is being invested in it, but hitherto no profitability has been demonstrated. This communication aims to highlight the twofold nature of its advantages: as an information retrieval system and in its involvement in the indexing system. Based on two experiences in Catalan libraries, the proposal consists of leveraging the use of the UDC in by-topic searches. The use of chain indexing by means of the established subject system is expounded, and the proposal made consists of a new descriptor-based chain indexing system. It also addresses the implications of its implementation in a web scenario, with all the benefits provided by hypertext technology in on-line catalogues.

### **Keywords**

universal decimal classification, subject search, online catalogues, classification as retrieval tool, chain indexing, descriptor ponderation, failure in the seeking process, information retrieval, hypertext, content relevance

L. GREGORY, Vicki

### **ORGANIZATION OF INSTITUTIONAL KNOWLEDGE IN A VIRTUAL COMMUNITY OF STUDENTS AND FACULTY** p. 268

In organizations or communities of practice where members are not in close geographical proximity, a virtual community can be the answer to an otherwise «lonely» professional existence and facilitate information exchange within an organization or among professional with similar interests. With sufficient attention to user needs and organization of the information, a virtual community can pro-

vide needed sources and information with a built-in human perspective and relevance assessment. Proper organization of the information available through the community is key to its continuing importance to participants.

### **Keywords**

virtual communities, distance education, graduate education, information needs in universities, information categorization, University of South Florida

GUIMARÃES, José Augusto; BOCCATO, Vera R. C.; LIMA, Maria de Lourdes; PINHO, Fábio A.; BORBA, Eliane A.; C. DAMAZO, Alessandra; MONÇÃO, Jane L.

### **ETHICAL ASPECTS IN THE ORGANIZATION AND REPRESENTATION OF KNOWLEDGE: AN ANALYSIS OF THE SCIENTIFIC BIBLIOGRAPHY IN SEARCH OF A PRELIMINARY CATEGORISATION OF VALUES**

p. 278

The important changes currently impacting the area of information sciences (globalisation, new technologies, more demanding users, etc.), are leading the role of information professionals to be questioned, and more specifically with regard to the ethical aspects of their activity. This context gives rise to a professional dimension of ethics as an ensemble of values which a given social segment, characterised by the specificity of knowing and of doing (profession) established as being necessary and pivotal in the practice of the profession. Thus, and with a view to providing food for thought and a subsequent construction of theoretical references in the area, a comparative analysis is made of the international bibliography on ethics in information activities (particularly as of the nineties) in the search for intrinsic ethical aspects in the organisation and representation of knowledge. In the light of this analysis, it is concluded that ethical values are present but are not taken fully on board, since they are concealed beneath other more general values related to user service or to the concept of technical knowledge in information treatment. This prompts us to call for a major effort from trainers in our profession, in the sense that the activities of organisation and representation of knowledge be addressed not only based on the technical paradigm of the development of specific activities, but also on the figure of the professional who develops them, being aware of the whys and the wherefores.

### **Keywords**

ethics and information processing, role of the librarian, bibliographic reviews

HAJDU BARÁT, Ágnes

### **THE RELATIONSHIP BETWEEN HUMAN PERCEPTION AND KNOWLEDGE ORGANIZATION** p. 286

This paper aims to explore the theory and practice of knowledge organization and its necessary connection to human perception. The aim is to study the problem of concept-building and extension, as well as the determination of semantics in different aspects. The purpose is to find criteria for the choice of the solution that best brings users into the design cycles of knowledge organization systems. One question is whether it is necessary to separate concept-building from per-

ception. In other words, are there different systems for cognition / perception, for the determination of semantics and for concept-building?

It is generally agreed that cognition provides the basis for concept-building; however, a debate arises at the next stage of processing. Fundamentally, what is the connection between perception and the superior cognitive processes? The perceptual method does not separate these two, but rather considers them united, with perception permeating cognition. However, the linguistic method considers perception as an information-receiving system. Detached from perception, the cognitive subsystems perform information and data processing, and lead to both knowledge organization and representation. According to this model, it is assumed that high-level concepts emerge from the organization and representation of knowledge.

### **Keywords**

conceptual analysis, cognitive processes, content determination, concept building, human perception, visual perception, knowledge organization, topic maps, Neumann-ház, *WebKat.hu*, images

HOLMA, Baiba

### **REFERENCE SYSTEM OF RELATIONAL SEMANTICS IN KNOWLEDGE ORGANIZATION SYSTEMS**

p. 296

The paper describes the relational semantics of knowledge organization system (KOS) and their dependence on a reference system – epistemological position and conception of language and semantics. It starts with characterization of the role and functions of relational semantics in information retrieval systems, with description of types of relational semantics and their understanding in different knowledge fields. Relational semantics is analysed by approach to language: formal and functional, in connection with semantic theories and epistemological positions: empiricism, rationalism, historicism, pragmatism.

### **Keywords**

relational semantics, reference systems, knowledge organization systems, human perception, cognition, language, pragmatism, rationalism, empiricism, historicism, functions of the catalogue

HULL, Barbara; BROADY-PRESTON, Judith

### **SOCIAL CLASS AND GENDER AS PREDICTORS OF INFORMATION LITERACY SKILLS: REPORT OF RESEARCH IN PROGRESS**

p. 309

The concept of information literacy and the desirability of acquiring information literacy skills are considered. A report is given on the progress of the partnership project between the University of Teesside and the University of Wales, Aberystwyth. The aim of the project is to create and test a toolkit which assesses depth and durability of learning following a programme of information literacy skills, with special reference to gender and social class. The partnership is noteworthy as it

brings together samples from Teesside, a university with a special commitment to widening participation and Aberystwyth, one of the leading providers of Information Professional education in the United Kingdom. The practical outcomes of this collaboration should be transferable to other populations. Some initial findings on social class and gender from analysis of the quantitative data are discussed.

### **Keywords**

information literacy skills, digital literacy, social class and information literacy, gender and information literacy, Emerald Research Project

JOUDREY, Daniel N.

### **BUILDING PUZZLES AND GROWING PEARLS:**

#### **A QUALITATIVE EXPLORATION OF THE SUBJECT DETERMINATION PROCESS**

p. 326

Conceptual analysis, the essential first step in the subject analysis process, is an attempt by a cataloguer or indexer to determine the subject matter, or the «aboutness,» of a document. Despite centuries of organizing information in libraries, little is known about how documents are analyzed to determine their subject matter. This paper, an attempt to better understand the processes involved in determining aboutness, is based on the author's ongoing dissertation research. It examines how interested, yet untrained, participants perform the tasks of conceptual analysis when no process is suggested or imposed. The study used observation, think-aloud methods, and semi-structured interviews to examine the participants' subject determination processes. Transcripts of the analysis sessions and the interviews, as well as the participants' aboutness statements, were examined for underlying patterns. This paper focuses on one of the five activities identified in this research: how the understanding of a document's aboutness is formed. Five models for this process are presented, illustrated, and discussed.

### **Keywords**

conceptual analysis, aboutness, subject determination, cognitive processes, search process verbalization

JULIEN, Heidi; MCKECHNIE, Lynne (E.F.)

### **WHAT WE HAVE LEARNED ABOUT THE ROLE OF AFFECT**

#### **IN INFORMATION BEHAVIOUR/INFORMATION RETRIEVAL**

p. 342

This paper summarizes and analyzes recent research related to «affective» issues in information behaviour and information retrieval, with a view to outlining practical implications for the design of usable information systems. The analysis is based on a systematic review of the recent research literature, both inside and outside of library and information science, which reports research findings related to issues of affect (emotion) in human information behaviour. The key conclusion is that information retrieval research and the design of systems for information retrieval must rest on an understanding of the users of

those systems as complex human beings whose emotions affect their information retrieval as much (or perhaps more so) as their cognitive skills. These new understandings must focus on users' personal perspectives of their information needs and the contexts of those needs, and thus on their affective motivations, in addition to their cognition. If information systems are to be usable and useful to users, the emotions of those users must be accounted for. Affective variables which must be incorporated into an understanding of how users will approach information systems include users' total affective load, their anxiety, confidence, self-efficacy, need to trust information sources, and need for simplicity. Systems need to be fun, attractive and pleasurable to use. System designers must also recognize that the information their information retrieval systems provide access to is constructed by users into personal, fluid, and inter-subjective knowledge, therefore requiring that information systems be flexible.

### **Keywords**

affect in information retrieval, information behaviour, cognitive processes, interfaces design, emotive aspects

KERÄNEN, Susanna

### **MULTICULTURAL THESAURUS CONSTRUCTION: HOMEMAKERS IN FINNISH AND BRITISH DISCOURSES**

p. 357

This paper reports a part of an ongoing PhD study on problems related to multilingual social science thesaurus construction in the general framework of information science. The language and culture pair studied is Finnish – British English. The emphasis is on human effort and on Finnish language and practices. Several discourses and different kinds of material are studied: thesauri, database indexing, dictionaries, surveys and social scientists. The main analysis methods used are discourse analysis and co-word analysis. In the theoretical framework, the emphasis is on communicative equivalence theories. The thematic case studied is «family roles» and in the paper an example «homemaker» is reported. The results show how co-word analysis can be used to study contextual equivalence and how important it is to aim at predictability in the information-seeking situation when constructing multilingual thesauri. Multilingual thesauri should be also multicultural and conform to the practices of users. Within social sciences, the connotative level of words can cause major obstacles in information seeking.

### **Keywords**

thesaurus construction, multilingual thesauri, discourse analysis, linguistic equivalence, translation, co-word analysis, *ARTO*, *CSA*, *COPAC*

LINCOLN, Yvonna S.; COOK, Colleen; KYRILLIDOU, Martha

**USER PERSPECTIVES INTO DESIGNS FOR BOTH PHYSICAL AND DIGITAL LIBRARIES:  
NEW INSIGHTS ON COMMONALITIES/SIMILARITIES AND DIFFERENCES  
FROM THE NDSL DIGITAL LIBRARIES AND LIBQUAL+™ DATA BASES**

p. 380

Utilizing data from the LibQUAL+™ and National Science Digital Libraries data bases – both quantitative and qualitative – users were compared on several different dimensions. The findings yielded several interesting results. Users of physical libraries (major research institutions) were extremely sensitive to physical aspects of libraries, including space, lighting, and reading and study rooms. Users of these libraries were sensitive only to digitized and electronic resources if they were uncomfortable or inexperienced at navigating them, although all users were extremely pleased with the ability to work from spaces other than their offices digitally and electronically. Physical library users were far less interested, however, in the concepts of community and culture. Digital science library users, developers, teachers and scientists, however, were extremely interested in the concepts of culture and community being created by the groups of individuals working with the science digital libraries. Developers in this latter domain were deeply involved in issues of metadata, referring materials, and ensuring support for the digital libraries; physical library users expressed virtually no interest in these issues. The «symbols» associated with libraries were parallel, but different, for physical versus digital library users.

**Keywords**

use of digital libraries, academic libraries, digital resources, use of databases

MACLENNAN, Alan

**CYBERSPACE WORLDS FOR INFORMATION RETRIEVAL**

p. 405

This paper presents ongoing research into user requirements for 3-dimensional «virtual worlds» to be used as a means of information retrieval. There is a brief review of the literature in the fields in which design of 3-dimensional virtual spaces has been carried out, and the conclusion is reached that this design has usually been done without regard to user preferences. This study has used grounded theory to establish user preferences, initially amongst a group of about fifty postgraduate information management students. Initial results of open coding of these interviews are described, and the next steps in the study are laid out. The Virtual Reality Modelling Language (VRML) will be used as a world design tool.

**Keywords**

virtual environments, 3-dimensional spaces, cyberspace, interfaces design, information retrieval, information visualization, usability, virtual Reality Modelling Language

MARCOS MORA, Mari Carmen; ROVIRA FONTANALS, Cristòfol

**EVALUATION OF USABILITY IN WEB-BASED MUNICIPAL INFORMATION SYSTEMS:  
METHODOLOGY OF ANALYSIS AND DEVELOPMENT**

p. 415

The main techniques for the assessment of the usability of web sites are presented, with special emphasis on those of greatest relevance for the public administration, and more specifically for town and city councils. In the case of the expert assessment, the usability criteria that can be measured automatically are indicated. Special mention is made of the question of accessibility.

**Keywords**

usability, city council websites, expert evaluation, evaluation with users, accessibility, usability evaluation

MARZAL GARCÍA-QUISMONDO, Miguel Ángel;  
COLMENERO RUIZ, María Jesús; CUEVAS CERVERÓ, Aurora

**USEFUL TOOLS IN CONTENT ANALYSIS FOR THE ORGANISATION  
OF DIGITAL EDUCATIONAL DOCUMENTS**

p. 433

The European Union's Information Society policies are promoting an educational model based on the acquisition of skills and support for lifelong learning. The effectiveness of learning in this educational model lies in digital education, where digital resources structure, organize and represent their contents according to their educational potential. Information Science can play a role here by updating tools and instruments from content analysis conceptual design. Thesauri, concept maps, and ontologies are analyzed, because they are different knowledge representation systems which come from different disciplines. A comparison of these instruments is conducted in terms of their effectiveness in organising education-based contents in cyberspace.

**Keywords**

information literacy, electronic resources in education, e-learning, content analysis, conceptual mapping, ontologies, thesauri

MAZZOCCHI, Fulvio; PLINI, Paolo

**DEVELOPMENT OF THE ENVIRONMENTAL APPLICATION  
REFERENCE THESAURUS (EARTH)**

p. 448

The paper addresses with the development of an environmental thesaurus in order to obtain an advanced tool for semantic control and knowledge organization to be applied to environmental information management. EARTH (*Environmental Application Reference Thesaurus*) was designed according to an approach to meaning representation that regards lexical meaning as a *unitas multiplex*, a unity that aggregates multiple traits organized according to a hierarchy. The thesaurus clas-



sification system comprises a vertical structure based on a limited set of categories, and is organized according to a tree semantic model. The tree structure analyses the meaning of the terms from a logical point of view. By placing each term in the classificatory-hierarchical structure, it aims to orientate the users toward the most essential characteristics of their semantics. The semantic analysis of terms is not limited to a static and univocal view. Each term is considered as a complex entity, where different layers of meaning are to be explored. The model envisages, in fact, the possibility of developing local arrangements of terminology, ensuring the openness and flexibility of the model, and allowing the representation of meaning according to different second-order perspectives. The implementation of an extended set of semantic relationships is also under way. The traditional thesaurus relationships will be arranged in a series of sub-relationships, whose semantic content is specified. In particular, the transversal relational structure that is based on associative relations will be strengthened, reinforcing the role of the thesaurus as semantic connector.

### **Keywords**

thesaurus construction, subject analysis, categories, semantic relationships, environmental information, *EARTH*

MEDINA GARGALLO, Gemma

### **ASSESSMENT PROJECT ON THE REASONS FOR ABANDONING INFORMATION SEARCH PROCESSES**

p. 726

With the underpinning aim of improving information retrieval systems, the study proposes a classification of the reasons for abandoning the search process in three pre-established categories, and on the basis of this classification, offer a possible method of detecting the reasons for each class defined in a Catalan university library setting. To study the system- and user-related reasons for giving up the search process, an experimental study is proposed; as far as the actual context-related reasons for giving up the search are concerned, an observation exercise in a natural setting is suggested. Finally, in both cases an interview with the users is suggested once the search process has been completed on the information retrieval system. The study concludes by asserting that knowing the origin of the reasons for giving up the search process can help us to control them and minimise their effect, and it is suggested that the best way of discovering the reasons for giving up the search process is to ask the users directly, since this is when it will be possible to ascertain the reasons which tend to be missed, even by the user. The study concludes by stating that empathy is called for, and that the professional should try to place him or herself in the user's shoes.

### **Keywords**

failure in the seeking process, information behaviour, bibliographic search, surveys to users

MOREIRO GONZÁLEZ, José Antonio; GARCÍA MARTUL, David;  
PRADERA TROBAJO, Miguel Ángel; RODRÍGUEZ BARQUÍN, Beatriz Ainhize

**USE OF THE SFX HYPertext TOOL TO GENERATE VISUAL KNOWLEDGE MAPS  
AS AN AID TO USABILITY IN AN OPAC**

p. 462

A proposal is made to improve the user interface of the OPAC of the Library of the Universidad Carlos III. Using the data collected in a survey on users and the use they make of the OPAC, it is clear that they underuse the different retrieval tools available, particularly the recent SFX hypertext tool for simultaneous retrieval of information in the different electronic journals the library subscribes to. The use of conceptual maps and ontologies is proposed to improve the usability of the different retrieval tools contained in the OPAC. The results show that the application of these instruments would not take up much time, and moreover would increase the use and interpretation of the information resources that can be accessed from the catalogue. The ultimate objective is to present an outline of the application potential of the more recent lines of research in documentary management systems for virtual libraries.

**Keywords**

usability in online catalogues, conceptual mapping, ontologies, information retrieval, SFX, *BrainEKP*, *MetaMap*, *Visual thesaurus*, Universidad Carlos III de Madrid. Biblioteca

OVALLE PERANDONES, M<sup>a</sup> Antonia; OLMEDA GÓMEZ, Carlos

**INSTRUMENTS FOR MEASURING THE QUALITY AND ACCESSIBILITY  
OF INTERNET-BASED HEALTH INFORMATION APPLIED TO CONTENTS  
ON THE EVALUATION OF HEALTH TECHNOLOGIES**

p. 478

The proliferation of health-related information on the Internet has led different institutions to roll out various initiatives whose main goal is to evaluate the quality and accessibility of the health contents published on the Internet. Of these, the most cited initiatives in the literature revised were chosen, namely the initiative of the Commission of the European Communities, the e-Health code of ethics, HONcode, DISCERN, NetScoring, QUICK, HiQuality, HITI, MedCIRCLE, URAC, the TNO QMIC Project and the PwMC Project. These initiatives will be useful to ascertain whether the health information published and which specialises in one discipline, the evaluation of health technologies, is quality information. The review will be conducted via the websites of the institutions in charge of developing this activity and which are called health technology assessment agencies. This health information will be quality data for most of the European health assessment agencies which are members of the EuroScan network according to the most suitable initiative for these contents, the HONcode. Regarding the websites of the assessment agencies evaluated, the Spanish ones provide greatest quality of specialised health contents, although certain aspects that need to be improved, as occurs with most of the web sites revised.

**Keywords**

quality in health information, information evaluation, medical information, European Union Commission, DISCERN, e-Health, Hi Quality, HONcode, IQ Tool, MedCIRCLE, NetScoring, PwMC, QUICK, TNO QMIC, URAC

PAPY, Fabrice; CHAUVIN, Sophie

**USERS AND LIBRARIANS: TWO COMMUNITIES DISSOCIATED BY PRACTICE BUT BOUND BY COMMON INTERESTS: THE EXPERIENCE WITH *VISUAL... CATALOG***

p. 494

The survey started by our multidisciplinary research team in 2003 in the Bibliothèque de l'Université Paris 8 addressed the integration of information and communication technologies (ICT) in social settings from a different perspective, beyond approaches focused on technophilia or technophobia. Focusing on the Web interface of the library's OPAC, it seems that if people use ICT properly, with regard to social positions, then this technology can contribute to increasing a constructive synergy between librarians and users. In this context, and with the pretext of a technological solution, the experience with *Visual... Catalog* raises questions as to allocation and transmission of knowledge in a global and almost philosophical framework of acquisition, processing and accessibility of knowledge in the Information Society.

**Keywords**

*Visual... Catalog*, online catalogues, information use, information literacy, hyper-text, information society, Université Paris 8

PARRA LÓPEZ, Eva de la; PARRA BRONCHALO, Ricardo

**SPANISH VIRTUAL LIBRARIES: COMPARATIVE EVALUATION OF THE INTERFACES OF THEIR INFORMATION RETRIEVAL SYSTEMS**

p. 744

The aim of this work is to present a terminological and conceptual specification of a virtual library, and then select Spanish virtual libraries complying with this specification in order to carry out a comparative evaluation of their Information Retrieval System interfaces. The libraries evaluated are the Miguel de Cervantes Virtual Library, the Joan Lluís Vives Virtual Library, the Galician Virtual Library, the Virtual Library of Andalusia and the Valencian Digital Library. An existing evaluation model was used for university library OPACs, adapted to the specific characteristics and nature of the libraries analyzed. The evaluation criteria were divided into two groups, search options and interface features. In the former, input page, specific search options, the results page layout and content management were studied. In the latter, visibility, design, ergonomics and user-friendliness were analysed. The data make it possible to ascertain how these libraries respond to users' new information demands and their ability to provide new solutions for information access problems. Moreover, the results serve as a decision-making tool for improving their Information Retrieval Systems.

**Keywords**

virtual libraries, usability in online catalogues, interface evaluation, Biblioteca Virtual Miguel de Cervantes, Biblioteca Virtual Joan Lluís Vives, Biblioteca Virtual Galega, Biblioteca Virtual de Andalucía, Biblioteca Valenciana Digital

PIPONNIER, Anne

**CONTENT MANAGEMENT AND USABILITY OF EUROPEAN RESEARCH WEBSITES:  
WHAT CONTRIBUTION TO THE EUROPE OF KNOWLEDGE?**

p. 507

This study in the field of Information and Communication Sciences deals with the new mediation devices developed by European research projects in order to disseminate the output of their research activity. This paper presents the results of a qualitative study. It describes the publishing process established by research networks in the design and development of their websites. After defining the informational and editorial characteristics of these sites, and providing a brief typology, the author analyses the content management in these devices which, in most cases choose the portal solution to develop their sites. It also addresses how this solution aims at meeting the editorial requirements of value-added sites. It provides an analysis based upon a case study of two European research projects on the usability of such communication devices. This study proposes a cartography of the usability managed in the editorial process, based upon three impact factors: use markers, cognitive markers, metacognitive markers. These observations lead to a discussion of the impact and the relevance of the concept to increase the experimental study of scientific mediation devices in the research and professional communities.

**Keywords**

usability indicators, information about research, thematic portals, scientific production dissemination, research projects, European Union, research websites

RODRÍGUEZ GAIRÍN, Josep Manuel; SOMOZA FERNÁNDEZ, Marta

**SOFTWARE AGENTS FROM THE PERSPECTIVE OF LIBRARIANSHIP:  
TASK DELEGATION IN INTERLIBRARY LOANS**

p. 521

The initial objective is to address the concept of software agents. The types of intelligent agents and their different functions, such as comparing prices, organizing personal agendas, filtering news or selecting the retrieval of information from the Internet, are all described. Expanding further on the description of the software agent, the article also reviews the contributions and experiences published in the area of Librarianship and Information Science, based on works included in bibliographic databases such as Datathéke, Library Literature and LISA. A second aim is to apply these concepts to the creation of three software agents for delegating tasks related to interlibrary loans. One agent performs tasks of autonomous verification of e-mail accounts in order to maintain the integrity of service agendas. The second agent performs verification tasks on Web links to catalogues and journals. The third agent uses a Z39.50-based technology to preempt the results of possible locations of the documents requested by users through interlibrary loan.

**Keywords**

intelligent agents, interlibrary loan, link verification, e-mail verification, Z39.50

ROMÁ-FERRI, M. Teresa; PALOMAR, Manuel

**SEMANTIC INTEROPERABILITY OF ONTOLOGIES BASED  
ON NATURAL LANGUAGE PROCESSING TECHNIQUES**

p. 534

In this work, a proposal of semantic mapping among health-domain-ontologies based on Natural Language Processing (NLP) techniques is presented. The main objective of this work is the development of an algorithm of mapping between terms of two overlapped and heterogeneous ontologies. One of them is the «source» (*International Classification of Diseases, 9th revision, Clinical Modification: ICD-9-CM*) and the other is the «target» (hierarchical schema of the subject «Maternal-Infant Nursing»: EMI). This proposal makes it possible to match ontologies semantically, based on the reuse of another ontology resource (Spanish WordNet), without destroying or modifying the semantics of identity of each one of the ontologies involved. Thus, this proposal allows the user to access the information of different hierarchical classifications, because it would use the target ontology it is familiar with for its application to information retrieval.

**Keywords**

semantic interoperability, natural language processing, ontologies, semantic mapping algorithm, semantic interconnectivity, conceptual analysis, health information, nurses as information users

ROSATI, Luca; GNOLI, Claudio; LAI, Maria Elisabetta

**FACETED CLASSIFICATION FOR COMMUNITY SERVICES USING  
CLASSIFICATION RESEARCH GROUP STANDARD CATEGORIES**

p. 550

Faceted classification is increasingly considered as a tool in non-traditional knowledge organization contexts, such as knowledge management and information architecture. These new applications, however, are rarely based on the full theory of facet analysis as developed by Ranganathan and the CRG (Classification Research Group). In this paper we report the creation of a faceted scheme to organize Web resources concerning regional community services, including remote management of cases (e-government). Community services are an important domain of application for knowledge organization systems and for usability models, as their target users may come from any social category and have any degree of computer skills. Determination of the facets in the scheme was based on a corpus of subjects, according to the methods and the standard categories recommended by the CRG. The Italian enumerative scheme of «life events» for e-government was incorporated as the Kinds category. Verbal headings were integrated with a thesaurus. An expressive notation was created, suitable for use in a digital database. The scheme was stored into an open-source content management system (Drupal), and an interface was designed for browsing and searching it in the Web environment. Usability issues are discussed, such as which part of the scheme to show in the main form, whether and how to show the whole underlying structure, notation, etc. Faceted classification meets the requirements of usability in that it does not force people to learn and navigate a single hierarchical tree; on the other hand it is necessary to get used to the classification structure, as the hierarchical model still dominates most computer interfaces.

**Keywords**

faceted classification, search interfaces, community services, usability, e-government, Classification Research Group

SCHALLIER, Wouter

**SUBJECT RETRIEVAL IN OPACs: A STUDY OF THREE INTERFACES**

p. 558

In this paper we study three OPAC interfaces of Universiteitsbibliotheek de la Katholieke Universiteit Leuven. All three interfaces have been on-line between 2002 and 2005. The characteristics of these OPACs (search fields, labeling of the fields, search facilities, searching vs. browsing, basic vs. advanced search) are systematically examined. Special attention is given to subject search and display, and more specifically to *Universal Decimal Classification* (UDC) and *Medical Subject Headings* (MeSH). This comparison is particularly interesting because the indexing and classification tools (UDC, *Library of Congress Subject Headings*, MeSH) remain the same in all three OPACs. However, the way these tools are presented for subject retrieval in the respective OPACs undergoes an interesting evolution. It is demonstrated that subject search and display in library catalogs can be largely improved by investing in optimal use of existing tools. We also stress the importance of user-oriented OPAC design.

**Keywords**

subject searching in catalogues, online catalogues, information retrieval, Universal Decimal Classification, Katholieke Universiteit Leuven, *Medical subject headings*, search interfaces

SILVA, Fábio Mascarenhas; SANTOS, Raimundo Nonato Macedo dos

**A STUDY ON THE CONTRIBUTIONS OF HYPERTEXT TO THE FLUX OF INFORMATION IN AN ELECTRONIC MEDIUM**

p. 568

This work establishes a historical, conceptual and technical correlation between hypertext and the electronic flux of information. It begins with a discussion on the historical retrospect of hypertext from a perspective that considers it a part in the evolving processes of registration and dissemination of knowledge, a position in disagreement with the authors who defend the visionary character attributed to Vannevar Bush; thus, the first conceptual discourses that came close to what would later be materialized as hypertext are attributed to other important names, such as Paul Otlet. The article addresses the importance of hypertext, as a resource that allows greater correlation between users and bodies of knowledge, presenting some of its most important characteristics, such as interactivity. It proceeds with a brief presentation of a bibliometric analysis of scientific production on hypertext in the area of Information Science, published in Brazilian periodicals and international databases during the years 1990-2002. The results were published in a specialized periodical. This article also discusses the correlation between the utilization of hypertext resources and the processes of information (construction, communication and utilization), presenting a review of the literature that includes, besides the conceptual debates, reports on the experiences in the utilization of hypertext. And it concludes with the systematization of its contents.

**Keywords**

hypertext, web, electronic information flow, interactivity

SIMEÃO, Elmira Luzia Melo Soares; MIRANDA, Antonio Lisboa Carvalho de

**THE FORMAT OF THE ONLINE SCIENTIFIC JOURNAL  
IN THE EXTENSIVE COMMUNICATION MODEL**

p. 584

The scientific journal has been greatly affected by the advent of its online digital accessibility. It is the priority publication medium for scientific communication, one of the document categories where changes in the electronic format discovers new and greater possibilities other than the traditional ones. Extensive communication – also known as the emblematic model of network interactions – comes equally in new forms of document production and in the organization of the technical landscape in which scientific information adapts to flexible and unstable forms. Gradual changes (in support, format, content, and publication type) were observed in 400 online electronic journals, all by main international publishers, as made available at the CAPES portal (<http://www.periodicos.capes.gov.br>). A data collection was assembled through a checklist for 70 variables, and the results were inserted into a spreadsheet for an initial statistical analysis. This investigation has shown that the new format is outstanding due to the insertion of tools and services, consolidating extensive communication by means of interactivity, hypertextuality, and hypermediation, also known as the main distinctive features of the electronic format. After technological resources bring the online format to maturity, they establish a new perception of the contents of journals. The results demonstrate the dependence of the electronic format on the printed format. By combining all the variables to measure the levels of interactivity, hypertextuality, and hypermediation, journals were grouped by platform and the results have proven that there is no direct relationship between the three characteristic features of the online electronic format. In other words, the most interactive groups are not necessarily the most hypertextual or hypermedia ones. The performance of the journals was also evaluated comparatively across platforms.

**Keywords**

scientific journals, electronic journals, communication models, hypertext, scientific information publishing, electronic publishing, thematic portals, bibliometrics, interactivity, CAPES

URBANO, Cristóbal; SEGUÍ, Rosa; BORREGO, Ángel

**CLASSIFYING KNOWLEDGE TO ASSESS KNOWLEDGE GENERATION: CLASSIFICATIONS  
AND ASSESSMENT TO RESEARCH INTO HUMANITIES AND SOCIAL SCIENCES**

p. 597

The problem of grouping researchers and publications into disciplinary sets for the purpose of research evaluation is analysed. Several classification and subject heading schemes used by organisations in charge of the assessment of research activities in Spain are considered. It is concluded that varying, and even contra-

dictory practices, coexist. Finally, the utilization of two hierarchical levels in the MIAR database of humanities and social science journals is recommended. The first level corresponds to the areas defined by the System of Assessment of Research into Humanities and Social Sciences (SARHCS) of the Generalitat de Catalunya, and the second level corresponds to the academic disciplines used to group titles indexed in the ISI's citation indexes.

### **Keywords**

classification of the research actions, research evaluation, academic disciplines, bibliographic databases, Institute for Science Information, MIAR Project, scientific production dissemination, social sciences classification, humanities classification

VALADEZ OLGUÍN, Rosa Guadalupe; PÁEZ ARANCIBIA, Jessica;  
ZAPATA GUERRERO, Margarita

### **MANAGEMENT IN THE USE OF DIGITAL INFORMATION RESOURCES: CASE STUDY AT THE LIBRARY OF THE BIBLIOTECA DE LA FACULTAD DE ESTUDIOS SUPERIORES CUAUTITLÁN-UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO**

p. 613

The level of knowledge and application of digital information resources by students and academic groups in the library of the Library of the Facultad de Estudios Superiores Cuautitlán-UNAM is evaluated, applying the fundamental principles of statistical inference, measuring the distribution of frequency and contingency coefficients. Moreover, the programs applied for the continuous improvement in the use and handling of the digital resources of the UNAM are presented.

Digital information resources are a very important piece in the development of education and investigation in the Universidad Nacional Autónoma de México. Fifty percent of Mexico's investigation is conducted in this institution, which is a bulwark as public university in this nation. In this regard, the UNAM has spared no effort to provide its academic community with abundant printed and digital information resources so that the most important bibliographic sources in all knowledge areas can be consulted nationally and abroad. The enormous effort required to keep these sources updated and in digital format should be accompanied by local efforts in each library of the UNAM library system. This will ensure that the use, diversity, systematisation and application of these resources will be appropriate and will further the academic development of our institution.

### **Keywords**

academic libraries, Universidad Nacional Autónoma de México, information literacy, digital resources in education, users training, information use



VIANELLO OSTI, Marina

**PROPOSAL FOR THE SYSTEMATISATION OF CRITERIA  
FOR EVALUATING WEBSITE USABILITY**

p. 625

This work analyses some issues concerning usability on websites and proposes a systematisation of evaluation criteria. The point of departure is to assume that the web is a technique which serves cognitive activity, and that its design bears a relation to concepts and methodologies of several disciplines, although its usability depends on its capacity to respect our physical and mental processes. After a first part which offers an overview of the aspects related to cognitive theory that may affect the usability of websites (such as perception, attention, memory), the literature on usability is addressed. The criteria applying to the usability of software and its adaptation to websites are analysed. Finally, a set of 14 criteria is extrapolated, compiled with regard to the cognitive mechanism affecting them.

**Keywords**

usability, usability evaluation, visual perception, cognitive psychology

WILLIAMS, Sean D.

**USING COLOR AS A NAVIGATION DEVICE IN ONLINE INFORMATION SPACES**

p. 643

Over the course of the last ten years, information production has increased dramatically as a result of the easy publishing enabled by the World Wide Web. As a result, information architects need to find ways to help users find the right answers to their questions as easily as possible and to retain relevant information as well as possible. One technique that has gone unexplored in prior literature is the use of color as a tool to help users in online information spaces orient themselves. Because color helps humans distinguish and categorize information, this study investigated the relationship of color and online navigation. Based on literature in color theory, cognitive psychology, and visual communication that predict color would have an effect on how a website is used, this study proposed the hypothesis that «users who view a website that uses color as part of a navigation system will perform faster on tasks, will recall more information that they see, and will subjectively rate a color website as more successful and pleasing than a black and white website with identical construction.» The results were not conclusive but they do suggest that using color as part of a website's navigation might improve the user's performance and subjective satisfaction of an online space. Participants of the experimentally constructed color website consistently performed better than participants who used an identical black and white experimental website. Based on these preliminary data, this study gives website designers some empirical support for using color as part of a navigation scheme since it appears that using such a scheme might aid in performance, recall, and in subjective ratings of a website's quality. The inconclusive, but promising, findings also suggest that more studies of this type need to be completed to confirm or refute the tentative success of this study.

**Keywords**

colour in interfaces, visual communication, visual perception, colour in information retrieval, usability, web

ZAZO RODRÍGUEZ, Ángel F.; ALONSO BERROCAL, José Luis;  
FIGUEROLA, Carlos G.

**USER ACTION IN A MULTILINGUAL INTERACTIVE QUESTION-ANSWERING SYSTEM** p. 662

This paper describes an experimental investigation carried out to evaluate user interaction with a cross-language question-answering system. Question-answering is an advanced information retrieval task that attempts to find exact answers to specific information needs. A minimal fragment of text answering the question is sought, for which purpose a large documentary collection is used. The problem is greater when documents are in a language in which the user is rather unskilled. In this situation, interaction with the user improves system accuracy. The main objective is to develop enhanced systems to help users to solve their information needs. Two forms of interaction were explored. Firstly, having the system suggest terms to add to the question in the language of the documents. Secondly, allowing the user to view not just passages of text, but complete documents as well. The results show that term suggestion is hardly appreciated by the user, although the possibility of obtaining and viewing the full documents rather than just passages improves hits and reduces the time required to find a correct answer.

**Keywords**

search of answers, multilingual translation in searching, web interactivity, multilingual information, information use