ΔΙΟΙΚΗΤΙΚΟ – ΥΠΟΣΤΗΡΙΚΤΙΚΟ ΕΡΓΟ

2014 Υπέυθυνο μέλος Ε.Π. για το Oracle Academy membership του TEI of Piraeus, Dept of Electronics Engineering

2011-σήμερα Υπεύθυνο μέλος Ε.Π. (Counselor) στο IEEE Student Branch – TEI Piraeus

(2012-2015) Υπεύθυνο μέλος Ε.Π. (Proctor), επίβλεψης φοιτητικών ομάδων συμμετοχής στον διεθνή 24ωρο φοιτητικό διαγωνισμό IEEE xtreme.

(2011-2014) Υπεύθυνο μέλος Ε.Π (Mentor) για τη φοιτητικές ομάδες η οποία συμμετείχε στους διαγωνισμούς Microsoft Imaginecup (2011: Τρίτη θέση στους Ελληνικούς Τελικούς), (2012: Δεύτερη θέση στην κατηγορία Καινοτομία και Τρίτη θέση στην κατηγορία Κοινωνική Ευαισθησία στους Ελληνικούς Τελικούς).

2013 Υπεύθυνος σχεδίασης και υλοποίησης του νέου διαδικτυακού χώρου του τμήματος Ηλεκτρονικών Μηχανικών του ΑΕΙ Πειραιά Τ.Τ..

2013 Υπεύθυνος σχεδίασης και υλοποίησης της πλατφόρμας ηλεκτρονικών εγγραφών στα εργαστήρια του τμήματος Ηλεκτρονικών Μηχανικών του ΑΕΙ Πειραιά Τ.Τ..

2013 Υπεύθυνος σχεδίασης και ανάπτυξης υπολογιστικής συστοιχίας (computer cluster) πάνω από την πλατφόρμα Openstack για το τμήμα Ηλεκτρονικών Μηχανικών ΤΤ του ΑΕΙ Πειραιά Τ.Τ.

ΥΠΟΜΝΗΜΑ ΔΗΜΟΣΙΕΥΣΕΩΝ

Διατριβες - εργασιες

1993: Εθνικό Μετσόβιο Πολυτεχνείο, Τμήμα Ηλεκτρολόγων Μηχανικών και Μηχανικών Η/Υ, Τομέας Πληροφορικής. Διπλωματική εργασία : "Ανάπτυξη λογισμικού για την υλοποίηση πρωτοκόλλων επικοινωνίας δικτύων ευρείας ζώνης" με βαθμολογία Άριστα.

1998: Εθνικό Μετσόβιο Πολυτεχνείο, Τμήμα Ηλεκτρολόγων Μηχανικών και Μηχανικών Η/Υ, Τομέας Πληροφορικής. Διδακτορική διατριβή: "Περιγραφή, σχεδίαση και ανάπτυξη υπηρεσιών πολυμέσων σε ευφυή δίκτυα ευρείας ζώνης" με βαθμολογία Άριστα.

Επιμέλεια εκδόσεων πρακτικών συνεδρίων και ημερίδων

[Pub128] Sideridis, Alexander B., Patrikakis, Charalampos Z., "Next Generation Society. Technological and Legal Issues", Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, Vol 26, pp 4-5, Springer, September 2009

[Pub127] David Vallet, Naeem Ramzan, Martin Halvey, Charalampos Z. Patrikakis, International Workshop on Social, Adaptive and Personalized Multimedia Interaction and Access 2010 - (SAPMIA 2010), Proceedings of ACM Multimedia 2010 conference Florence, Italy, 25-29 Oct. 2010

[Pub126] Naeem Ramzan, Fei Wang, Charalampos Z. Patrikakis, Peng Cui, Nikos Doulamis, Shiqiang Yang, ACM Workshop on Social and Behavioural Networked Media Access (SBNMA'11), Proceedings of ACM Multimedia 2011 conference Nov 28 - Dec 1, Scottsdale, Arizona, USA

[Pub125] Chang, A.C.-C.; Li, M.; Rong, C.; Patrikakis, C.Z.; Slezak, D., «Communication and Networking, International Conference, FGCN 2010», Communications in Computer and Information Science, Vol. 119,1st Edition., 2010, XII, 250 p., ISBN: 978-3-6, 42-17586-2, SPRINGER, 2010

[Pub124] Kim, T.-h.; Adeli, H.; Fang, W.-c.; Vasilakos, T.; Stoica, A.; Patrikakis, C.Z.; Zhao, G.; Villalba, J.G.; Xiao, Y., «Communication and Networking, International Conference, FGCN 2011», Communications in Computer and Information Science, Vol. 265, 2011, XXVIII, 328 p., ISBN 978-3-642-27191-5, SPRINGER 2011

Επιμέλεια βιβλίων

- Co-Editor του «E-Agriculture and Rural Development: Global Innovations and Future Prospects», Blessing M. Maumbe (West Virginia University, USA), Charalampos Z. Patrikakis (TEI of Piraeus, Greece), IGI Publications, December 2012. Copyright © 2013, 347 pages.

Επιμέλεια εκδόσεων τευχών επιστημονικών περιοδικών

[Pub134] Guest editor of «Transactions on Emerging Telecommunications Technologies (ETT)», John Wiley & Sons , ISSN: 2161-3915, Editorial: Special Issue on “Information-Centric Networking for Multimedia, Social and Peer-to-Peer Communications”, vol 25, issue 4, April 2014.

> **Anadiotis, Angelos-Christos G., Patrikakis, Charalampos Z., Murat Tekalp, A., “Information-centric networking for multimedia, social and peer-to-peer communications”, Transactions on Emerging Telecommunications Technologies, John Wiley & Sons, Ltd., 2014**
>
> **Abstract:** Information-centric networking (ICN) is an emerging networking paradigm, which is considered as a possible solution for the next generation Internet. Several research projects have been funded by the state and the industry towards the specification and implementation of ICN solutions, whereas Internet Research Task Force has established a research group for this reason, the Information-Centric Networking Research Group. However, the use of ICN in action will be decided on the basis of its performance in several disciplines that, eventually, concern the users expectations from their applications over the future Internet. Currently, statistics suggest that, in the near future, the Internet bandwidth will be mainly consumed by multimedia and peer-to-peer applications. Furthermore, social networking applications become more and more popular both to end-users and businesses. This special issue includes papers illustrating how information-centric networks can effectively address practical issues rising in ICN deployments considering multimedia applications and social networking technologies.

[Pub133] Guest editor of «Wireless Personal Communications», Springer, ISSN: 0929-6212, Editorial: Special Issue on “Cooperative Decision Making in Heterogeneous Hybrid Systems”. (May 2014).

[Pub132] Guest editor of «Journal of Internet Technology (JIT)», ISSN: 1607-9264, Editorial: Special Issue on “"Efficient Content Management in Distributed Systems", Vol. 14, July, 2013, Executive Committee, Taiwan Academic Network, Ministry of Education, Taipei, Taiwan, ROC, 2013.

[Pub131] Young-Sik Jeong, Han-Chieh Chao, Mieso Denko, Charalampos Z. Patrikakis, Editorial: Special Issue on “Trustworthy and Intelligent Services for Ubiquitous Computing”, Wireless Personal Communications, DOI: 10.1007/s11277-009-9885-y pp.1-4, Springer, 2010

[Pub130] Guest editor of «International Journal of Wireless and Mobile Computing (IJWMC)» Special Issue “Media streaming over Wireless and Mobile networks”, Volume 2 No 2/3, Inderscience Publishers. 2007

[Pub129] Guest editor of «Journal of Internet Technology (JIT)»,, Special Issue on “Real Time Media Delivery over the Internet”, vol. 5, no 4, Taiwan Academic Network Executive Committee, 2004

Επιμέλεια εκδόσεων τευχών επιστημονικών περιοδικών

[Pub162] Guest editor of «Cutter IT Journal», Issue on "Next Generation Production Management", Cutter Consoritum, Vol 28, no 4, April 2015.

Άρθρα σε διεθνή επιστημονικά περιοδικά

2015

[Pub169] Despina T. Meridou, Andreas P. Kapsalis, Maria-Eleftheria Ch. Papadopoulou, Emmanouil G. Karamanis, Charalampos Z. Patrikakis, Iakovos S. Venieris and Dimitra-Theodora I. Kaklamani, “An Ontology-Based Smart Production Management System” IEEE IT Pro Magazine, November/December 2015, IEEE.
Abstract: Manufacturing technologies must be highly adaptable and responsive.Smart, agent-based systems empowered by semantic technologies can fulfill this need. The authors’ ontology-based smart production system is based on the use of agents.

[Pub166] Despina T. Meridou, Maria-Eleftheria Ch. Papadopoulou, Panagiotis Kasnesis, Charalampos Z. Patrikakis, Georgios Lamprinakos, Andreas P. Kapsalis, Iakovos S. Venieris and Dimitra-Theodora I. Kaklamani, “The Health Avatar Privacy-Aware Monitoring and Management” IEEE IT Pro Magazine, September/October 2015, IEEE.
Abstract: Health monitoring devices let users monitor their health and habitual parameters. A health avatar can act as the electronic equivalent of a human to provide a dynamic life profile corresponding to the owner’s physical status, living conditions, and habits.

2013

[Pub112] A. -C. G. Anadiotis, C. Z. Patrikakis and I.S. Venieris, "On the Performance Improvement of Gossip Protocols for Content-Based Publish-Subscribe through Caching", Computer Networks, Vol. 57. 2013, pp. 3759-3772., Elsevier North-Holland, Inc. New York, NY, USA.
Abstract: Gossip protocols are a common solution for content-based publish-subscribe. However, in spite of the advantages that these protocols present in comparison to other approaches, such as distributed hash tables, they also have inherent scalability issues. In this paper, CCPS (Caching Content-based Publish-Subscribe) is presented as a publish-subscribe protocol designed to address these scalability issues. Through caching, CCPS exploits search query repetition to address load balancing problems. It has been designed having in mind its use in combination with existing publish-subscribe solutions so as to improve their performance. In the paper, the protocol description together with the implementation details of its fundamental operations are provided, while CCPS performance is evaluated against standard gossip protocols.

2011

[Pub111] Ch. Z. Patrikakis, V. E. Protonotarios, M. Koukouli, Alexander B. Sideridis, G. Papadopoulos, Using online tools and repositories in University courses of Organic Agriculture and Agroecology, JITAg digital journal. section, Vol 4, No 1 (2011).
Abstract: In this paper, a survey on the use of ICT technologies for supporting university courses of Organic Agriculture and Agroecology is presented. The survey has been performed in the context of the European eContent Plus project Organic.Edunet. It has been focused in Europe and the questions used have been selected in order to

identify mainly the opinion of educators and researchers of European Universities as regards the use of ICT in existing or new courses related to Organic Agriculture and Agroecology issues. The results of the survey have been used for the provision of a comprehensive set of educational tools including a data repository and are presented in this paper. The corresponding analysis and conclusions, as regards the use of ICT, Internet and the design and provision of electronic tools and online repositories for Oa and AE courses, are also presented and discussed in this paper.

[Pub110] Charalampos Patrikakis, Aristodemos Pnevmatikakis, Paul Chippendale, Mario Nunes, Rui Cruz, Stefan Poslad, Zhenchen Wang, Nikolaos Papaoulakis, Panagiotis Papageorgiou, "Direct your personal coverage of large athletic events", IEEE Multimedia magazine, vol. 18 no. 4, Pages 18-29, October-December 2011.
Abstract: This paper presents a platform that gives end users the power to direct their own coverage of large athletic events, enabling users to set up their own personal 'virtual director' and orchestrate event viewing to their preferences. The platform features automatic video annotation, user preference matching to video content and dynamic adaptation to the end user environment (including terminal and network capabilities). A simplified architectural overview of the platform, together with a description of the constituent modules, supporting heterogeneous network infrastructures is also presented. The platform is the result of the EU funded project My-eDirector 2012, and endeavours to provide a unique technology showcase for the coverage of major athletic events with concurrent events and multitudes of cameras.

2010

[Pub109] Voulodimos, A.S., Patrikakis, C.Z., Sideridis, A.B., Ntafis, V.A., Xylouri, E.M., "A complete farm management system based on animal identification using RFID technology", Computers and Electronics in Agriculture, Elsevier, Vol. 70, Issue 2 ,[Pp 380-388], March 2010
Abstract: In this paper, a platform for livestock management based on RFID enabled mobile devices is described. The platform is the outcome of a research project named FARMA, and is based on the deployment of mobile computing, combined with RFID technology and wireless and mobile networking. The platform apart from using a data repository through which the RFID tag numbers are associated with animal data records, it introduces the use of re-writable tags, for the storage of information that can be used to identify the animal in case it gets lost, or even recognize some basic information about it (e.g. behavior against other animals) without the need of contacting the related database. An implementation in the context of the FARMA project is also given, together with the corresponding details, while the results of the evaluation that took place in the context of the project are discussed.

[Pub108] Ch. Z. Patrikakis, I. G. Nikolakopoulos, A. S. Voulodimos, "Mobile user profiles for Personal Networks: The MAGNET Beyond case.", Special Issue on Next Generation Networks (NGNs), INTERNATIONAL JOURNAL OF COMMUNICATION SYSTEMS, Wiley, Vol 23, Issue 9, Pages 1289-1309, DOI: 10.1002/dac.1130
Abstract: In this paper, a methodology for the definition and application of profiles for mobile devices is presented. The methodology, following the recommendations of ETSI, is used to present the definition of profiles capable of supporting Personal Networking capabilities. Furthermore, a case study for the development of a socializing service ("Icebreaker") is also presented. The service has just passed the early evaluation phase and proceeds to final implementation. To conclude with, this paper showcases several user interfaces already developed, as also some of their preliminary evaluation results obtained through the Wizard of Oz (WoZ) technique. The ideas described here constitute part of work performed in the context of the European IST FP6 project MAGNET Beyond.

2009

[Pub107] Pantelis N. Karamolegkos, Charalampos Z. Patrikakis, Nikolaos D. Doulamis, Panagiotis T. Vlacheas, Ioannis G. Nikolakopoulos, "An evaluation study of clustering algorithms in the scope of user communities assessment", Computers & Mathematics with Applications, Elsevier, Volume 58, Issue 8, October 2009, Pages 1498-1519, ISSN 0898-1221, DOI: 10.1016/j.camwa.2009.05.023

Abstract: In this paper we provide the results of ongoing work in Magnet Beyond project, regarding social networking services. We introduce an integrated social networking framework through the definition or the appropriate notions and metrics. This allows to run an evaluation study of three widely used clustering methods (k-means, hierarchical and spectral clustering) in the scope of social groups assessment and in regard to the cardinality of the profile used to assess users' preferences. Such an evaluation study is performed in the context of our service requirements, i.e. on the basis of equal-sized group formation and of maximization of interests' commonalities between users within each social group. The experimental results indicate that spectral clustering, due to the optimization it offers in terms of normalized cut minimization is applicable within the context of Magnet Beyond socialization services. Regarding profile's cardinality impact on the system performance, this is shown to be highly dependent on the underlying distribution that characterizes the frequency of user preferences appearance. Our work also incorporates the introduction of a heuristic algorithm that assigns new users that join the service into appropriate social groups, once the service has been initialized and the groups have been assessed using spectral clustering. The results clearly show that our approach is able to adhere to the service requirements as new users join the system, without the need of iterative spectral clustering application that is computationally demanding.

[Pub106] Athanasios S. Voulodimos and Charalampos Z. Patrikakis, "Quantifying Privacy in Terms of Entropy for Context Aware Services", special issue of the Identity in the Information Society journal, "Identity Management in Grid and SOA", Springer, vol. 2, no 2, December 2009

Abstract: In this paper, we address the issue of privacy protection in context aware services, through the use of entropy as a means of measuring the capability of locating a user's whereabouts and identifying personal selections. We present a framework for calculating levels of abstraction in location and personal preferences reporting in queries to a context aware services server. Finally, we propose a methodology for determining the levels of abstraction in location and preferences that should be applied in user data reporting during service provision, according to her personal privacy settings.

[Pub105] Ioannis G. Nikolakopoulos, Charalampos Z. Patrikakis, Antonio Cimmino, Martin Bauer and Henning Olesen, "On the Personalization of Personal Networks - Service Provision Based on User Profiles", special issue of the Journal of Universal Computer Science (JUCS), entitled "Intelligent Environments and Services", vol 15, no 12,[Pp 2353-2372], 2009

Abstract: In this paper, we present a user profile definition scheme featuring context awareness. Though the scheme has been designed to meet the needs of web applications deployed over heterogeneous devices, emphasis is given in the deployment of the profile scheme over Personal Networks (PNs), as the personalization of the deployed applications and services in PN environments is of great importance. The proposed scheme is presented as part of an integrated framework for user profile management that takes into account (and is therefore compliant to) the existing standardization attempts. The overall architecture and description of the profile management framework taking into account security issues inside Personal Networks is presented. The paper concludes by showcasing how user profiles have been incorporated in a selected pilot service of the EU IST research project MAGNET Beyond.

[Pub104] Ch. Z. Patrikakis, M. N. Masikos, and A. S. Voulodimos, "A Framework for Preserving User Privacy and Ensuring QoS in Location Based Services using Non-irreversible Algorithm", International Journal of Communication Networks and Information Security (IJCNIS), Vol. 1, No. 1,[Pp 26-33], April 2009

Abstract: In this paper, we address the issue of preserving user privacy in Location Based Services provisioning. This issue includes two controversial requirements, namely the protection of user's location privacy, and the Location Based Services QoS. In this context, we propose a framework that implements a non-irreversible algorithm, meaning that we cannot discover user's exact position based on provided services. The proposed algorithm has been implemented and integrated in a mobile services framework based on Microsoft's Virtual Earth platform.

[Pub103] A. S. Voulodimos, Ch. Z. Patrikakis, "Combining internet collected data to build personalised location based services", the International Journal of Autonomous and Adaptive Communications Systems, Inderscience Publishers, vol 2, no 2, pp. 164 – 174, 2009

Abstract: In this paper, a framework that allows users to build, deploy and distribute personalized mobile services is described. The framework allows the integration of static and dynamic content that stems from various web sources, system data and from the personal user preferences, and is combined to form mashups for supporting the provision of mobile services in a time dependent, location aware, context driven and finally personalized manner. The framework has been implemented based on Pocket PC user devices, and can be deployed over any IP supporting network architecture.

[Pub102] Patrikakis, C.Z., Kyriazanos, D.M., Voulodimos, A.S., Nikolakopoulos, I.G., "Trust and Security in Personal Network Environments", International Journal of Electronic Security and Digital Forensics, vol 2, issue 4, pp. 365-376, Inderscience Publishers, 2009

Abstract: The rapid growth of personal communications, empowered by the development of computing and communications technologies has increased the need for user interaction and communication in a peer to peer fashion. The inherent risk of this type of interaction has increased the need for protection against security threats and the corresponding need for trust establishment schemes. In this paper, the issue of security and trust in Personal Networks is addressed. The concept of Personal Network Federation is discussed, and the security and privacy threats that derive are presented, together with proposed solutions taken out of the academic bibliography and research project results. The paper concludes with a reference to the need for privacy protection as this appears as the counterforce for complete release of personal information in order to support true personalized service provision.

[Pub101] Vassilios Tzoumis, Nikos Manouselis, Charalampos Patrikakis, "A Survey and Assessment of e-Government Services for Rural Small and Medium sized Enterprises (SMEs) in Greece", International Journal of Electronic Democracy, Inderscience Publishers pp. 149-169, Vol. 1, No. 2, 2009

Abstract: The objective of this paper is the analysis and evaluation of E-Government Services for rural Small Medium Enterprises (SMEs). For this purpose, a survey for E-Government Services in Greece was carried out. The analysis and the classification of a sample of 56 E-Government services was based on E-Government Metadata Standard (e-GMS) for Small & Medium Enterprises (SMEs), through the representation of their characteristics according to specific criteria. Regarding SMEs, especially in rural areas, the importance and the essentiality of E-Government services for the business operation was examined, while all services were classified according to SMEs satisfaction needs criteria. Through the analytical results, specific conclusions are derived, while future improvements for the evolution of E-Government services in Greece are proposed.

[Pub100] Charalampos Z. Patrikakis, Dimitrios M. Kyriazanos, Neeli Prasad, "Establishing trust through anonymous and private information exchange over Personal Networks", Springer Wireless Personal Communications, Special Issue on "Information Security and data protection in Future Generation Communication and Networking", Volume 51, Issue 1 (2009), pp. 121-135, Oct 2009

Abstract: Security and privacy issues in Personal Networks constitute a major challenge for designers and implementers of Personal Network platforms. The deployment of novel services over a collaborative environment such as that of Personal Network Federations, where users share their resources and profile information creates even more demands. In this paper, we address the issue of privacy enabled, safe and secure personal information exchange among the participants of a Personal Network Federation, in order to establish trust. We propose a model based on the separation of user ID information from personal preferences and user status information. The model is able to ensure privacy through anonymity over personal data exchange, while it incorporates mechanisms for the detection and confronting of malicious behavior, and resilience against attacks. A proof of concept based on an actual implementation is also provided, while a discussion on the issues that need to be tackled in order to incorporate the proposed model in a standard Personal Network architecture is included.

[Pub99] Charalampos Z. Patrikakis, Maria Koukouli, George K. Papadopoulos, and Alexander B. Sideridis, Evaluating Behavioral Change in Multigroup Collaboration for Content Publishing Over the Web, Social Science Computer Review 2009 pp. 59-75, (doi:10.1177/0894439308319449)

Abstract: In this paper, an evaluation of the behavioral change of groups collaborating towards the production of multilingual digital content is provided, by using the data publication duration times as a proxy. In parallel, the assessment of feedback as a stimulant of social behavior in developing such systems is given. The evaluation is based on a system developed by a consortium of experts in the context of a European project towards the provision of an eServices platform on Organic Agriculture. Group behavior of the partners involved is studied and analysed using regression models for the extraction of trends and patterns, while the results of their collaboration are discussed and valuable conclusions regarding the improvement of collaborative work over the internet are presented.

2007

[Pub98] Patrikakis C, Voulodimos A, "Measuring privacy through entropy in context-aware mobile services", IEEE PERVASIVE COMPUTING vol. 6, issue 4 pp. 73-74 Oct-Dec 2007

Abstract: Offering high-quality, context-aware mobile services is closely related to reporting data that describes the user's environment, situation, preferences, and status. On one hand, access to accurate, detailed information about the user's status helps mobile (especially location and context-aware) service providers provide high-quality answers to user queries. On the other hand, it raises issues of information misuse, such as unwanted "personalized" advertising or surveillance of users' whereabouts. Researchers have attempted to depersonalize the user information, mostly by using central anonymizer servers that blend information from several users (that is, k-anonymity models). In our present work, we use entropy (H) as the measurement of diversity and, therefore, difficulty in identifying a user's personal preferences, parameters, and whereabouts. On the basis of Claude Shannon's theoretical mathematical framework, we quantify an information source's uncertainty. Our work focuses on providing different abstraction levels of the user's reported information when requesting context-aware mobile services, each of which corresponds to a different entropy level.

[Pub97] Patrikakis C, Karamolegkos P, Voulodimos, "Personalization according to privacy concerns and technological awareness", IEEE PERVASIVE COMPUTING vol. 6, issue 4 pp. 73-73 Oct-Dec 2007

Abstract: In a user's online profile, the information considered private varies according to the user's privacy concerns and the information's importance. On the other hand, a user's technological knowledge affects the level of information he or she directly manages and the level of abstraction that the system should offer. To address these issues, we're evaluating a methodology for designing services that meet user needs for privacy and technology awareness. The methodology uses as input a service description consisting of distinct features, for which the setup interface is determined by the user's particular privacy concerns and technology awareness level. This selection of the way that each service feature will be offered forms different service versions that correspond to different user profiles. On the basis of a set of predefined service profiles, we provide best matching between the differentiated user needs and the most relevant profile. To identify each user's preferences, we record the user's feedback for each specific service feature.

[Pub96] Sotiris Karetsos, Constantina Costopoulou, Alexander Sideridis, Charalampos Patrikakis and Maria Koukouli, "Bio@gro – an Online Multilingual Organic Agriculture e-Services Platform", Information Services & Use, IOS Press, vol.27, no.3,[Pp.123-132], 2007

Abstract: Although worldwide organic agriculture is constantly gaining ground compared to traditional agriculture, still a number of countries encounter problems mostly related to lack of validated information and knowledge, technical support by specialized agronomists, coordination and organization of the trading network and promoting mechanisms. The appropriate use of Web technologies and mobile computing and communications can help to the

solution of the aforementioned problems. In this context, this paper presents the bio@gro e-services platform, which provides accurate, certified and multilingual content (i.e. information and services) related to organic agriculture through Internet connected devices or mobile phones using the short message service. The proposed platform takes into consideration the organic agriculture stakeholders' needs from Greece, Germany, Romania and Cyprus. More specifically, it aims at providing to organic agriculture stakeholders electronic business, electronic learning and electronic government content in four languages, namely in Greek, German, Romanian and English in order to offer information on several aspects of the organic agriculture domain, to provide the ability to exchange views and experiences as well as to compare the means, methods, practices and cultivation techniques used in each country.

2006

[Pub95] Hyun-Cheol Kim, Charalampos Patrikakis, Nikos Minogiannis, Pantelis Karamolegos, Alexis Lambiris, and Kyuheon Kim, "An MPEG-4 Compliant Interactive Multimedia Streaming Platform Using Overlay Networks", ETRI Journal, vol.28, no.4,[Pp.411-424], Aug. 2006

Abstract: This paper presents a multimedia streaming platform for efficiently transmitting MPEG-4 content over IP networks. The platform includes an MPEG-4 compliant streaming server and client, supporting object-based representation of multimedia scenes, interactivity, and advanced encoding profiles defined by the ISO standard. For scalability purposes, we employ an application-layer multicast scheme for media transmission using overlay networks. The overlay network, governed by the central entity of the network distribution manager, is dynamically deployed according to a set of pre-defined criteria. The overlay network supports both broadcast delivery and video-on demand content. The multimedia streaming platform is standards-compliant and utilizes widespread multimedia protocols such as MPEG-4, real-time transport protocol, real-time transport control protocol, and real-time streaming protocol. The design of the overlay network was architected with the goal of transparency to both the streaming server and the client. As a result, many commercial implementations that use industry-standard protocols can be plugged into the architecture relatively painlessly and can enjoy the benefits of the platform.

[Pub94] Charalampos Patrikakis, Anastasios Pallas, "Are We Ready to Face Next-Generation Spam?", Cutter IT journal, Volume 19, No. 1,[Pp 30 - 35], January 2006 issue: "Securing Cyberspace: Is It Time to Rethink Our Strategy?"

Abstract: In this paper, the phenomenon of spam, and the future versions, as these are formed through the deployment of spam over mobile communications instant messaging and VoIP are addressed. The new ways spam will be introduced to our life are investigated. Furthermore, tools and countermeasures for shielding the user are also presented. Since the next generation of spam, by the mutation of the phenomenon through the use of mobile technology and IP services may cross the line of annoyance, getting dangerous (as for example in the case of the loss of setup on mobile devices, or the reconfiguration), this issue is also be tackled.

2005

[Pub120] Manouselis, N., Costopoulou, C.I., Patrikakis, C.Z. & Sideridis, A.B. (2005), "Using metadata to bring consumers closer to agricultural e-markets", 2005 EFITA/WCCA Joint Congress on IT in Agriculture, Villa Real, Portugal.

Abstract: The rapid adoption of e-commerce practices and technologies from agricultural firms is expected to lead to a large number of e-markets of different types and forms, which will in turn offer a variety of agricultural products to the online buyers. Due to the information overload, it may be difficult and time consuming for online buyers to search, locate, compare and select appropriate agricultural e-markets. In this context, this paper presents a metadata model able to store the main characteristics of agricultural e-markets from the online buyers' perspective. This model has been developed using the metadata standard Dublic Core (DC) as its basis, and is termed as DC e-markets (DC-

EM) model. The DC-EM model is generally aimed for e-markets description and classification. In this paper, its application in the case of agricultural e-markets is discussed. The structure and elements of DC-EM model are described, and indicative results from examining 45 agricultural e-markets are presented.

2004

[Pub93] Charalampos Patrikakis, Michalis Masikos, Olga Zouraraki, "Distributed Denial of Service Attacks", Internet Protocol Journal, Cisco Systems, vol. 7, no 4,[Pp 13 - 35], December 2004
Abstract: Attacks against individual computers on a network have become all too common. Usually these attacks take the form of a virus or worm which arrives via e-mail to the victim's machine. The industry has been relatively quick in responding to such attacks by means of antivirus software, as well as sophisticated filtering of content "on the way in." A more serious form of attack is the Distributed Denial-of-Service (DDoS) attack which may render an entire network unusable. Charalampos Patrikakis, Michalis Masikos, and Olga Zouraraki give an overview of the many variants of denial-of-service attacks and what can be done to prevent them.

[Pub92] Y. Despotopoulos, Ch. Patrikakis, P. Fafali, N. Minogiannis, A. Anagnostou , "An Overlay Scheme for Live Streaming Media Distribution Using Minimum Spanning Tree Properties", Journal of Internet Technology, Special Issue on Real Time Media Delivery over the Internet, ISSN 1607-9264 , vol. 5, no 4,[Pp 351 - 362], October 2004
Abstract: During the last decade we have witnessed an explosion in offering real-time multimedia services. Despite the research effort carried out in this area, there are many issues that have to be resolved including interoperability of media distribution schemes with underlying network infrastructures and system scalability. This paper targets at presenting an overlay network architecture suitable for delivering live media streaming to a large audience. The primary goal of the architecture proposed is the provision of a scheme that can seamlessly complement and improve existing overlay solutions without the requirement of large infrastructure changes. For the purpose of the intensive system evaluation, a simulation model was implemented. The fundamental idea behind the simulation is to demonstrate the performance of the suggested architecture and its scalability for large topologies and number of users. The results from the simulations carried out provide insights and useful feedback for the design and optimization of overlay networks. Finally, we conclude with the future plans for ameliorating the proposed platform.

[Pub91] Ch. Z. Patrikakis, N. Minogiannis, Y. Despotopoulos, P. Fafali, "Implementing a media relay scheme for real time streaming at the application layer", Acta Tehnica Napocensis-Electronics and Telecommunications, ISSN: 1221-6542, vol. 45,[Pp 11 - 17], 2004
Abstract: In this paper, the description of an open architecture for supporting real time media streaming is presented. The architecture is based on media relay nodes that can be deployed transparently to any existing media distribution scheme, which can support any type of media streamed using the RTP and RTSP protocols. The architecture is based on overlay networks and is deployed at the application level. In parallel, a prototype of the relay node that has been developed and deployed in desktop PC, laptop and PDA is presented, together with performance tests that have been conducted.

[Pub90] P. Fafali, Y. Despotopoulos, Ch. Patrikakis, N. Minogiannis, "Traffic Engineering towards the assurance of Quality in IP networks: Trends and Perspectives", RCC. The Colombian Journal of Computation, ISSN 1657 - 2831, vol. 4,[Pp 7 - 20], 2004
Abstract: The need for establishing bandwidth guaranteed paths in IP networks and the requirement for making optimal use of the available resources becomes more and more crucial due to the significant development of data-intensive multimedia applications. In this paper, we discuss the techniques and the mechanisms for exercising traffic engineering in contemporary IP networks under the prism of exploiting historical monitoring information collected from the operational environment. Current state of the art and leading directions in the area of traffic engineering are presented in relation to the architectures and protocols that lay the foundation for building the commercial Internet. Issues that can lend insight into the route determination process such as the type of data to be monitored,

are discussed along with the difficulties and limitations encountered in obtaining a traffic matrix. Our claims are substantiated through a set of simulation experiments conducted. In conclusion, we provide some directives on the deployment of a history aware traffic engineering mechanism, and report on issues that need to be taken into consideration.

[Pub89] K. Nikolopoulos, C. Z. Patrikakis, B. Lin, "Forecasting System for E-Government", Electronic Government, an International Journal, (ISSN: Print 1740-7494, Online 1740-7508), vol. 1 Issue 4,[Pp 374 - 383], 2004
Abstract: The term e-government refers to the use by government agencies of information technologies that have the ability to upgrade relations with citizens, businesses, and other arms of government. So far, most e-government activity has focused on publishing information via the internet rather than actively interacting with citizens (G2C) or business enterprises (G2B). Forecasting is undoubtedly one of the key processes in operations management and is based on sufficient historic data. Government is the key holder of the majority of crucial databases in the market and projections of those data are pretty important. Thus, forecasting systems are more than necessary for an effective government. Sectors such as healthcare management, real estate market, and financial markets are in great need of adequate forecasts. In the 21st century e-forecasting replaces traditional forecasting and evangelises an indispensable part of e-government in a rapidly changing cyber world. This study presents a survey on the available bibliography and applications of forecasting systems within the e-government framework and proposes the basic architectural elements of a forecasting system for e-government.

2003

[Pub88] Ch. Patrikakis, P. Fafali, N. Minogiannis, Y. Despotopoulos, "Report on the introduction of an application layer multicast scheme for streaming media delivery in e-Learning environments", Scientific Journal on Applied Information Technology, Volume 2 / issue 2, 2003. [electronic journal]
Abstract: The main contribution of this paper is to describe an eLearning framework suitable for offering live streaming functionality in the context of educational purposes. The proposed platform is a decentralized, end-to-end solution that can be deployed irrespectively of the underlying network infrastructure without posing any additional requirements. The aforementioned features derive from the deployment of overlay networks and the suggested scheme is inline with the current trends in the area of content delivery. A strong point of the architecture proposed is that it is accessible from a wide range of end-users in terms of their transmission facilities and that it can smoothly co-exist/co-operate with other streaming applications. The functionality of the platform is demonstrated through a set of experiments conducted. Finally, apart from the results illustrated and the outcomes derived, we conclude with the future features that the proposed platform will support.

1997

[Pub87] C. D. Anagnostakis, Ch. Z. Patrikakis, G. N. Prezerakos, I. S. Venieris, "An IN-based Approach to the design of Interactive Multimedia services over Broadband networks: The VoD example", JSNM (Special edition), vol. 5,[Pp 329 - 350], October 1997
Abstract: The evolving Interactive Multimedia (IMM) services require the development of flexible and easily adaptable design tools that can interoperate with the underlying broadband communication network. Iin this paper, we adopt a design philosophy based on the Intelligent Network (IN) concept. The main advantage of this approach is the transparency of the service specific features to the underlying signaling system. Hence, a fast introduction of demanding services becomes possible even if the signaling of the network is not sophisticated enough to cover the requirements of the IMM services. The standard International Telecommunication Union (ITU) Service Independent Block (SIB) based methodology is used as a basis and further extended, where necessary, to cover new requirements, not originally predicted for Narrowband-Integrated Services Digital Network (N-ISDN), but arising from IMM services. The paper further proceeds with the development of an Interactive Multimedia Object Class Library (IMOCL) which adopts a high-level object-oriented approach that supports an easy evolution of IN-based service design towards

implementation. The IMOCL is kept generic to the most possible extend aiming to provide a common framework for the design of a wide variety of IMM services using the INconcept. The IMOCL encompasses service management functionality, enabling the designer and provider of an IN service to manage the newly introduced service. Both ITU SIB-based and IMOCL methodologies, together with the standard Specification and Description Language (SDL) technique are demonstrated in the design of selected parts of a typical video on Demand (VoD) service.

Άρθρα σε διεθνή συνέδρια με κριτές

2015

[Pub171] Maria-Eleftheria Ch. Papadopoulou , Charalampos Z. Patrikakis, Iakovos S. Venieris, Dimitra-Theodora I. Kaklamani, "On the Use of a Secure and Privacy-Aware eGovernment Infrastructure: The SPAGOS Framework", Volume 570 of the series Communications in Computer and Information Science pp 223-227, E-Democracy – Citizen Rights in the World of the New Computing Paradigms, December 2015, Athens, Greece.
Abstract: SPAGOS project brings about a framework that, unlike current approaches, fosters a holistic solution for security and privacy-awareness in the provision of eGovernment services. In that respect, it proposes a distributed platform spanning across all the entities participating at the eGov service provision chain and managing the communication, storage and processing of information in a secure and privacy-aware manner. The core principles leveraged towards the creation of secure transactions are the use of advanced security and privacy mechanisms that have never been used within eGov and an advanced role of the eIDs, notably not only as passive identification tokens, but as essential functional components undertaking critical processing tasks.

[Pub170] Charalampos Patrikakis, Aristidis Konstantas, "TRILLION: Trusted, Citizen - LEA Collaboration Over Social Networks", Volume 570 of the series Communications in Computer and Information Science pp 228-232, E-Democracy – Citizen Rights in the World of the New Computing Paradigms, December 2015, Athens, Greece.
Abstract: TRILLION proposes an open, flexible, secure and resilient socio-technical platform to foster effective collaboration of citizens and law enforcement officers. Using the TRILLION platform, citizens will be able to report crimes, suspicious behaviour and incidents, identify hazards and assist law enforcement agents through active participation for achieving better urban security management. On the other hand, Law Enforcement Agencies (LEAs) will be able to detect incidents in a more efficient, content and context aware manner, locate on-site citizens, other LEA representatives and first responders communicate with them, request more information and assign them specific actions to address on-going incidents.

[Pub167] D. T. Meridou, A. Kapsalis, P. Kasnesis, C. Z. Patrikakis, I. S. Venieris and D. I. Kaklamani. "An Event-driven Health Service Bus". 5th EAI International Conference on Wireless Mobile Communication and Healthcare - "Transforming healthcare through innovations in mobile and wireless technologies" (MobiHealth 2015), October, 14-16, 2015, London, Great Britain.
Abstract: The enormous set of health and wellbeing data sources, as well as the diversity of the data, calls for an effective, time-aware integration paradigm that aids at the manipulation of the information by experts as a whole and not as individual pieces of knowledge. In this paper, we present the Health Service Bus, a service-based platform built on top of the Enterprise Service Bus architecture. Treating new information, either humangenerated (e.g., doctors, dieticians, etc.) or device-generated (i.e., smart wristbands or connected scales) as events allows for in-time action and treatment. Platform interoperability is ensured both on service level, since any service irrespective of its specification can be plugged into the Health Service Bus seamlessly, and on data level, since health standards, such as HL7 FHIR and LOINC, are leveraged.

[Pub164] Despina T. Meridou, Udo Inden, Claus-Peter Rückemann, Charalampos Z. Patrikakis, Dimitra-Theodora I. Kaklamani, Iakovos S. Venieris, "Ontology-based, Multi-agent Support of Production Management", Symposium

on Advanced Computation and Information in Natural and Applied Sciences (ICNAAM 2015); September, 23-29, 2015, Rhodes, Greece.
Abstract: Over the recent years, the reported incidents on failed aircraft ramp-ups or the delayed production in small-lots have increased substantially. In this paper, we present a production management platform that combines agent-based techniques with the Service Oriented Architecture paradigm. This platform takes advantage of the functionality offered by the semantic web language OWL, which allows the users and services of the platform to speak a common language and, at the same time, facilitates risk management and decision making.

[Pub161] Panagiotis Kasnesis, Charalampos Patrikakis, Iakovos Venieris, "Collective domotic intelligence through dynamic injection of semantic rules", IEEE ICC 2015 conference, SAC04-IoT-I01: CrowdSensing and Mobile IoT solutions, [pp 2201-2206], June 9, 2015, London, UK.
Abstract: Recent advances in IoT and pervasive computing have led to the introduction of a plethora of devices, featuring enhanced intelligence in sensing, understanding context and reacting to situations. In the case of smart home environment, the result is the introduction of smart, connected domotic devices, featuring enhanced intelligence. In combination with enhanced capabilities for sensing, controlling and automatic, the power of these devices can be further exploited by the use of a semantic connection layer that can facilitate a goal-oriented collaboration between devices and a meaningful interaction with humans. This paper proposes an integrated platform, enabling dynamic injection of automation rules based on semantic web technologies, in a collective intelligence environment. The role of the human – end user in this environment is supported through a user friendly IDE enabling the easy discovery, access and operation, through the introduction of automation rules.

2013

[Pub86] Mikołaj Leszczuk, Dawid Juszka, Lucjan Janowski, Michał Grega, Rui Cruz, Mário Nunes, Charalampos Patrikakis, Stavros Papapanagiotou, "Quality Aware, Adaptive, 3D Media Distribution over P2P architectures", Globecom 2013 Workshop - Quality of Experience for Multimedia Communications (QoEMC), 9-13 December, 2013, Atlanta, GA USA.
Abstract: Recent advances in video distribution over the Internet have inevitably led to the need for accompanying the video related value-added services with the means for maintaining integrity and quality of distributed media to optimize Quality of Experience (QoE). Current systems cover the aspects of maintaining the quality of 2D (only) media by conducting user requirements surveys and 2D QoE assessments. This paper presents the work performed in the EU FP7 SARACEN research project on personalized 3D media streaming over P2P architectures, together with evaluation tests and results as regards scalable and adaptive coding for 3D video streams.

[Pub85] Choleva Vasiliki, LoukasKoutsikos, SymeonZourelidis, and VlassiosFilis, Dimitrios Metafas, Charalampos Patrikakis, "Safer Internet; Enhancing Good Practices on the Internet through Game Based Learning for Greek Elementary School Students", Proceedings of the 7th European Conference on Games Based Learning ECGBL 2013, 3-4 October, Porto, Portugal.
Abstract: The Internet today has become an integral part of children's and young people's lives. They are the biggest user groups of online and mobile technologies all over the world. Children of Elementary School are often, because of their age, unprotected against traps on the Internet, such as cyber bullying, cyber stalking or sharing their personal information online. Today's Education and especially the Elementary School system should be considered as an ally as far as safer Internet issues are concerned. This paper, presents the implementation, by elementary school students, of a game about the ways of the Internet. The specific game was developed by the students themselves through Kodu, which is a visual programming tool especially designed for introducing children to programming principles. The aforementioned were held as part of their participation in an official innovating Educational Program entitled: "Safer Internet: Connect with Respect". Seventeen students (eleven boys and six girls), guided by their

teacher, produced a game scenario about the dangers of the Internet and ways to avoid them. This educational framework introduces children to the safety of the Internet through the excitement of creating technology.

2012

[Pub84] Nicola BLEFARI MELAZZI, Stefano SALSANO, Andrea DETTI, Giuseppe TROPEA, Leonardo CHIARIGLIONE, Angelo DIFINO, Angelos-Christos G. ANADIOTIS, Aziz S. MOUSAS, Iakovos S. VENIERIS, Charalampos Z. PATRIKAKIS, Publish/Subscribe over Information Centric Networks: a Standardized Approach in CONVERGENCE, Future Network & Mobile Summit 2012, 4 – 6 July 2012, Berlin, Germany.
Abstract: Originally conceived as a "network of hosts", the Internet is evolving into an Internet of services, an Internet of media, an Internet of people and an Internet of "things". This implies a strategic shift from "host-centric" to "content-centric" and "data-centric" networking. CONVERGENCE proposes to enhance the Internet with a novel, information-centric, publish-subscribe service model, based on the Versatile Digital Item (VDI): a common container for all kinds of digital content, derived from the MPEG-21 standard. Results in terms of standardization activities and software implementation are presented.

[Pub83] Loukas Koutsikos, Vasiliki Holeva, Simeon Zourelidis, Maria Dova and Charalampos Patrikakis, Information and Communication Technology in Greek Primary Schools: A Pilot Application, 6th European Conference on Games Based Learning, Oct 4-5, 2012, Cork, Ireland.
Abstract: The rapid development of Information and Communication Technologies has introduced new opportunities in the learning process, as they allow the use of the new digital tools for the representation of knowledge and the active participation of the learner. The need for the implementation of educational programming environments that could enhance the self-acting, the collaboration and the active participation between the students, as well as their creativity and imagination, exists within the educational community. The presented research project, was held on the notion that KODU software could be used in order to help pupils to familiarize with basic principles of programming. The specific programming environment is a teaching tool addressed to pupils that come in touch with a language of visual aspect oriented programming for the first time. Its significance in the learning procedure is evaluated in real class conditions as a group of 25, from the sixth grade, pupils were introduced to the KODU software and asked to create a digital game as part of their participation in an official innovating Environmental Educational Program entitled: "Environmental Routes". The main objective of the pilot research project is to introduce the students to the basic principles of object-oriented programming, and to assess the satisfaction and interest generated through the creation of a specific technological product.

[Pub82] G. V. Lioudakis, A.-C. G. Anadiotis, A. S. Mousas, C. Z. Patrikakis, D. I. Kaklamani, I. S. Venieris, Routing in Content-Centric Networks: From Names to Concepts, in 5th IFIP International Conference on New Technologies, Mobility and Security, May 7-10, 2012, Istanbul, Turkey
Abstract: This paper presents a novel routing scheme for content-centric networks, which does not just depend on the names of the packets to retrieve the routing paths, but goes one step beyond and incorporates semantics as a fundamental criterion to decide where to keep and, hence, request information. Going from a naming scheme to the actual protocol architecture, this paper is an endeavor to enhance semantics in the network layer and, through that, to illustrate the new possibilities offered by content-centric networks to introduce an entirely new idea in communications.

2011

[Pub81] Nikolaos Papaoulakis, Charalampos Z. Patrikakis, Christina Androulaki, Lemonia Argyriou, Irene Schmidt, Distributing real time user generated video over P2P networks, Third International Conference on Computational Aspects of Social Networks (CASoN 2011), Salamanca Spain, October 19-21, 2011

Abstract: In this paper, the support for real time video capturing and distribution over a P2P network in real time and over different end user devices and networks is presented. The general framework designed in the context of the SARACEN FP7 project, as well as the particular application support for the uploading of the video with emphasis on mobile devices are presented, together with two corresponding use case scenarios.

[Pub80] Lemonia Argyriou, Charalampos Z Patrikakis, Stuart CM Porter, Nikolaos Papaoulakis, Christina Androulaki , Using media related user profiles to personalize multimedia access over social networks, ACM WORKSHOP ON SOCIAL AND BEHAVIOURAL NETWORKED MEDIA ACCESS (SBNMA'11), ACM Multimedia 2011(MM'11), Nov 28 - Dec 1, Scottsdale, Arizona, USA (invited paper).
Abstract: In this paper, the issue of personalized media access over the internet is addressed. The use of media related, "living" user profiles that are created and updated through user behavior as regards access to multimedia resources, tagging and commenting is presented, together with the corresponding mechanisms for implementing and deploying such a profile. The work presented is the result of the corresponding work in the EU research project SARACEN.

[Pub79] Charalampos Z. Patrikakis, Angelos-Christos Anadiotis, Paolo Santi, Nicola Blefari-Melazzi, Designing and experimenting a hybrid social network made up of people, agents and sensors, IEEE Globecom 2011, Houston, Texas, USA, 5-9 Dec. 2011
Abstract: The contribution of this position paper is twofold: the first one extends the use of social networking in the direction of allowing not only communications among persons but also human-machine interaction and machine to machine collaboration; the second contribution is the presentation of an experimental platform for large-scale testing of innovative mobile social networking applications, including the one described in the first part of the paper.

[Pub78] Panagiotis K. GKONIS, Charalampos Z. PATRIKAKIS, Angelos-Christos G. ANADIOTIS, Dimitra I. KAKLAMANI, Maria Teresa ANDRADE, Andrea DETTI, Giuseppe TROPEA, Nicola BLEFARI MELAZZI, "A Content-Centric, Publish-Subscribe Architecture delivering Mobile Context-Aware Health Services", Future Network & Mobile Summit 2011, 15 - 17 June 2011, Warsaw, Poland
Abstract: The goal of this paper is to report on the design of a novel content-centric future Internet platform that can support added value services incorporating mobility, context awareness and enhanced security and privacy. We present the proposed platform together with a use case study, dealing with the provision of added-value health services, consisting in the safe and accurate management of medicine prescriptions. Both the design of the platform and the use case are the results of work performed in the context of the European Research project Convergence.

[Pub77] Athanasios S. Voulodimos, Anastasios D. Doulamis, Charalampos Z. Patrikakis, Emmanuel S. Sardis, Pantelis N. Karamolegkos, Employing Clustering Algorithms to Create User Groups for Personalized Context Aware Services Provision, ACM WORKSHOP ON SOCIAL AND BEHAVIOURAL NETWORKED MEDIA ACCESS (SBNMA'11), ACM Multimedia 2011(MM'11), Nov 28 - Dec 1, Scottsdale, Arizona, USA (invited paper).
Abstract: The successful provision of context aware services entails the attainment of equilibrium between the extent of personalization desired and the user's need for privacy. Two are the major elements that play a significant role: the user's location and the user's preferences. In this paper we focus on the latter, and propose to employ a social groups' creation methodology, so as to hierarchically organize the user preferences concerning any domain in different levels of detail. We describe some notions and metrics which play a key role in social networking frameworks, and we perform an evaluation study of three widely used clustering methods (k-means, hierarchical and spectral clustering) in the scope of social groups assessment and in regard to the cardinality of the profile used to assess users' preferences. The results of the work can be used in many applications, including personalized media delivery, offering a framework on which next generation multimedia access can be provided.

[Pub76] Charalampos Patrikakis, Athanasios Voulodimos, Emmanuel Sardis, Nikolaos Papaoulakis, Dora Christofi, Georgios Dimosthenous, "Emergency operations support through social networking and P2P multimedia services", 18th IEEE International Conference on Telecommunications (ICT 2011), May 2011, Ayia Napa, Cyprus.
Abstract: In this paper we investigate the requirements and propose the design of a platform that will serve emergency operations such as in cases of wildfires or road accidents. This platform will provide assistance to the rescue and the disaster relief operations through the use of social networking and P2P based multimedia streaming. The general idea is to create a platform that will facilitate the provision of an efficient communication network between the stakeholders who will be involved in such life threatening situations and of the means for having a rich, multimedia based communication for first aid and guidance. Based on the use of the proposed platform the distribution of multimedia streams can be supported through innovative techniques such as media encoding and media distribution. The matching and notification of the most appropriate volunteers can be made through the use of personal profiles and the deployment of social networking tools. The access to multimedia content can be adapted to the obstacles which are introduced through the impairment of infrastructures of services capabilities.

[Pub75] C. Patrikakis, N. Papaoulakis, C. Stefanoudaki, A. Voulodimos, E. Sardis, "Handling multiple channel video data for personalized multimedia services: a case study on soccer games viewing", 7th IEEE International Workshop on PervasivE Learning, Life, and Leisure in conjunction with IEEE PerCom 2011, March 2011, Seattle, WA, USA.
Abstract: Personalization is undoubtedly present in today's pervasive and ubiquitous environments and tends to be an increasingly popular requirement in every technological aspect of the everyday life. When it comes to live multimedia services, however, there is still a lot to be done to satisfy the demanding user who wishes to view the most important parts of events that take place in parallel. In this paper, a service that allows users to personalize the provision of multimedia streaming services offered through broadcasting networks is described. The service is aimed at offering full personalization capabilities over traditionally broadcast oriented terminals such as TV sets and Set Top Boxes. Complete personalization can be achieved through analog TV or DVB broadcasts with the use of personal devices such as mobile phones by using IP connection for the return channel (RC) (DVBRC). A use case scenario featuring one example related to personalized viewing of two parallel athletic events (such as Champions League soccer matches) is described and used for the evaluation of a prototype implementation of the service.

[Pub74] Nikolaos Papaoulakis, Charalampos Patrikakis, Chrysanthi Stefanoudaki, Platon Sipsas and Athanasios Voulodimos, "Load balancing through terminal based dynamic AP reselection for QoS in IEEE 802.11 networks", Seventh IEEE PerCom Workshop on Pervasive Wireless Networking (PWN 2011) held in conjunction with IEEE PerCom 2011, March 2011, Seattle, WA, USA.
Abstract: In this paper, a mechanism for supporting Quality of Service in wireless networks through the dynamic reselection of Access Points (APs) according to a terminal based load balancing scheme is presented. The mechanism is analyzed, and a corresponding implementation on laptops is presented, while evaluation through both simulation and actual field trials are included. Implementation refers to both Linux and Microsoft OS systems. For the evaluation of the mechanism in the field trials, a very demanding streaming video scenario is selected, and the results are assessed with respect to the improvements that can be introduced in the end user Quality of Experience, even over state of the art streaming adaptation solutions.

2010

[Pub73] Charalampos Z. Patrikakis, Nikolaos Polychronis and Athanasios Voulodimos, Combining Immersive Virtual Worlds and Virtual Learning Environments Into An Integrated System For Hosting And Supporting Virtual Conferences", proceedings of the 3rd International Conference on e-Democracy: Next Generation Society: Technological and Legal Issues, 23 - 25 September 2009, Athens, Greece, Springer, ISBN : 978-963-9799-54-7, pp. 397, 407, 2010

Abstract: In this paper, a proposal for hosting and supporting virtual conferences based on the use of state of the art web technologies and computer mediated education software is presented. The proposed system consists of a virtual conference venue hosted in Second Life platform, targeted at hosting synchronous conference sessions, and of a web space created with the use of the e-learning platform Moodle, targeted at serving the needs of asynchronous communication, as well as user and content management. The use of Sloodle (the next generation of Moodle software incorporating virtual world supporting capabilities), which up to now has been used only in traditional education, enables the combination of the virtual conference venue and the conference supporting site into an integrated system that allows for the conduction of successful and cost-effective virtual conferences.

[Pub72] Ch. Patrikakis, N. Papaoulakis, P. Sipsas, Irene Schmidt, Using Peer to Peer and Social Networking to support new models for IP based streaming services, 2nd International ICST Conference on User Centric Media – UCMEDIA 2010, 1-3 September 2010, Palma de Mallorca, Spain.
Abstract: In this paper, the use of a platform for distribution of streaming multimedia over IP through and the use of Peer to Peer technologies in combination with Social Networking are presented. A particular use case scenario is given, which can offer alternative ways for Service Providers to support IP based streaming services to end users, featuring the involvement of the latter in the media distribution architecture in return for reduced pricing. To support the above and also meet the requirements for Quality of Service, state of the art encoding techniques are be utilized, which are based on scalable and multiple description coding. The platform is under implementation in the context of the FP7 project SARACEN.

[Pub71] Naeem Ramzan, Qianni Zhang, Charalampos Patrikakis, Ebroul Izquierdo, "Analysing Multimedia Content In Social Networking Environments", SAPMIA'10 - Proceedings of the 2010 ACM Workshop on Social, Adaptive and Personalized Multimedia Interaction and Access, Co-located with ACM Multimedia 2010,Florence, Italy, Oct 2010 ,pp. 73-76.
Abstract: Social and Peer-to-Peer (P2P) networks have received considerable interest in recent decades due to its focus on analysis and relationships among entities and on the patterns and implications of these relationships. In the meantime, with the rapid increase in production and distribution of multimedia content, effectively integrating context and content for multimedia mining, management, indexing and retrieval on the Internet has become an evident and difficult problem. As this problem in multimedia content analysis becomes widely recognised, the search for solutions to these problems becomes an increasingly active area for research and development. The interest in this area is verified by a significantly increasing number of publications each year. In this paper, we give an overview of the key theoretical and empirical advances in the current decade related to multimedia content analysis. We also discuss the significant challenges involved in the adaptation of existing multimedia content analysis techniques for interactive content sharing in social and P2P networks.

[Pub70] Rui Santos Cruz, Mario S. Nunes, Charalampos Z. Patrikakis, Nikolaos C. Papaoulakis, "SARACEN: A platform for adaptive, socially aware multimedia distribution over P2P networks", presented at the IEEE Globecom 2010 conference, Workshop on Enabling the Future Service-Oriented Internet: Towards Socially-Aware Networks in the context, Miami, pp [1356-136], USA, 6-10 Dec. 2010
Abstract: This paper presents the design of a platform for distribution of multimedia content streams supported through innovative techniques, both in terms of media encoding and media distribution. The platform architecture accommodates the use of scalable media coding techniques, including both standard and state of the art research methods (wavelets, multiple description coding), combined with new transport and realtime streaming protocols deployed over peer-to-peer networks. Furthermore, discovery of media resources and selection of peer nodes takes into account social networking related information, as this is available in user communities over the Internet. The design of the platform is taking place in the context of the European FP7 project SARACEN.

[Pub69] François Daoust, Philipp Hoschka, Charalampos Z. Patrikakis, Rui S. Cruz, Mário S. Nunes, David Salama Osborne, "Towards Video on the Web with HTML5", Presented at the 2010 NEM Summit "Towards Future Media Internet", Barcelona Spain, 13-15 Oct. 2010

Abstract: Motivated by the revolution in the media industry brought by recent developments in video access and sharing, this paper investigates the future of internet video. We present new web standards such as HTML5, promising unified, simple and platform independent access to video files and streams, as well as novel techniques for adaptive video coding. We also analyze how these techniques can be used both over traditional client server and novel P2P based media distribution models. This analysis is followed by a description of the remaining challenges for making video a true citizen of the Web.

[Pub68] Nikolaos Papaoulakis, Charalampos Z. Patrikakis, Mario S. Nunes and Rui S. Cruz, "Robust multimedia transmission over wireless and mobile networks", Proceedings of the International Conference on Wireless Information Networks and Systems WINSYS 2010,[Pp 142-147], ISBN: 978-989-8425-24-9

Abstract: In this paper, an analysis of the different techniques for supporting robust multimedia transmission over wireless media is given. The analysis includes Radio Resource Management techniques on the Physical layer, transmission techniques on the Network (IP) layer, optimisation techniques on the Transport layer and techniques focusing on the Application layer. Also there is a report on the selection of the most efficient solutions and the way these can be combined in an integrated and cross layer optimisation solution. The paper has been prepared following the results of the research performed in the context of the ICT project my-eDirector 2012 in order to support the robust transmission of live streaming services for the coverage of athletic events for large numbers of heterogeneous networked users.

[Pub67] Ch. Z. Patrikakis, V.E. Protonotarios, M. Koukouli, A.B. Sideridis, "A survey on the use of ICT technologies for supporting the teaching of Organic Agriculture and Agroecology topics in Universities" presented at the 3rd International Congress on Information and Communication Technologies in Agriculture, Food, Forestry and Environment (ITAFFE'10), June 14-18 2010, Samsun, Turkey

Abstract: Education is currently in a transitional phase, moving from the conventional to the digital era. This transition requires the corresponding training of the stakeholders, in regards of creating, searching and facilitating digital forms of knowledge. Therefore, it is really crucial to emphasize the advantages of this transition, so as to attract the attention of the interested parties and initiate the process. Organic Agriculture (OA) and AgroEcology (AE) are probably the most rapidly developing areas of the agricultural sector, since they attract a great amount of attention, due to their environmentally-friendly approach. In order to overcome the difficulty to retrieve and access related information that is scattered in libraries, and relevant places, the implementation of an educational platform for a single point of access in several sources of information is requisite. However, in order for this platform to be a valuable educational tool, the particular requirements of the educators and the provision of specialized tools and functionalities should be carefully designed.In order to identify the requirements of this platform, an online survey was conducted, based on questionnaires related to the knowledge and familiarization with ICT technologies for the teaching of OA and AE topics. The questionnaire was available in English, Estonian, German, Greek, Hungarian and Romanian. The survey has been performed in the context of the European eContent Plus project Organic.Edunet. The results show a clear need for more information and learning materials for all levels of higher education. The relevance of digital resources is regarded as high. Moreover, the easiness of implementing digital resources, as well as the importance of this action, is high. There was in general high interest in more information about OA & AE practices and scientific material on OA. The participants also emphasized the importance of updated and relevant material for educational purposes.

2009

[Pub66] Zhenchen Wang, Stefan Poslad Charalampos Patrikakis, Alan Pearmain, "Personalised Live Sports Event Viewing on Mobile Devices.", 3rd Int. Conf. on Mobile Ubiquitous Computing, Systems, Services and Technologies, UBICOMM 2009, Volume 59-64, Malta 2009

Abstract: A personalised mobile sports event viewing system that enables users to efficiently and naturally direct movies of their own live sports events on mobile devices is described. Personalisation here focuses on the selection of live events with respect to multiple sports disciplines. An implicit user model driven approach is used to enable the system to adaptively predict users' preferred events during live sports shows. The design of this personalisation model, developed as part of the Mye- Director 2012 project, is described and an associated mobile prototype system is presented.

[Pub65] Charalampos Patrikakis, Nikos Papaoulakis, Chryssanthi Stefanoudaki, Mário Nunes, "Streaming content wars: Download and play strikes back" presented at the Personalization in Media Delivery Platforms Workshop, [218 – 226], UCMedia 2009, Venice, Italy, 2009

Abstract: In this paper, the latest developments in the provision of streaming multimedia over the internet are discussed. We emphasize on the newly appearing HTTP based adaptive streaming approach that threatens the reign of RTSP, as regards the support of real time media streaming, and we examine the possible uses of each of the two protocols with respect to the different transmission needs, as these are seen from the transport protocol view point.

[Pub64] Michail N. Masikos, Athanasios S. Voulodimos, Charalampos Z. Patrikakis, "On the Use of Game Theory to Ensure Privacy in Personalized Location Based Services" presented at the First International Workshop on Wireless & Mobile Networks (WiMoN-2009) co-located with the 9th International Symposium on Autonomous Decentralized Systems (ISADS 2009), Athens, Greece, 2009

Abstract: This paper attempts to develop a privacy ensuring mechanism in Location Based Services (LBS) provisioning. Firstly, the authors propose the integration of both location and motivation privacy. Then, in order to scale them and standardize users' subjective perception of privacy they further propose the usage of abstraction levels. The privacy ensured in these abstraction levels is quantified with the help of entropy. The optimal combination of location and motivation abstraction level that maximizes the offered privacy protection is the solution of a cooperative game.

[Pub63] Ch. Z. Patrikakis, D. M. Kyriazanos, A. S. Voulodimos, I. G. Nikolakopoulos, "Privacy and resource protection in Personal Network Federations" presented at the 2nd International Conference on PErvasive Technologies Related to Assistive Environments (PETRA 2009), Corfu, Greece, 2009

Abstract: The emerging need for peer to peer communication in multi-user environments as well as the breakthrough of ubiquitous computing have contributed to the evolution of Personal Networking towards multiple network collaboration, namely the Personal Networks Federations. Nevertheless, in these environments new threat issues arise, calling for appropriate countermeasures. In this paper, the authors propose a framework for privacy protection in personal networking, based on the idea of creating a trust management mechanism that will meet the need for protecting privacy and safeguarding sensitive and personal information, while satisfying the need for validating and authorizing users that have access to personal resources.

[Pub62] Stefan Poslad, Aristodemos Pnevmatikakis, Mario Nunes, Elena Garrido Ostermann, Paul Chippendale, Peter Brightwell, Charalampos Patrikakis, "Directing Your Own Live and Interactive Sports Channel" presented at the 2009 International Workshop on Image Analysis for Multimedia Interactive Services (WIAMIS 2009), Special session 4: Event, Behaviour Video Analysis for Interactive Multimedia Services, London U.K., May 2009

Abstract: The ability to mark-up live sports event content, from multiple viewpoints, i.e., camera angles, such that athletes and other objects of interest can be tracked, has all the hallmarks to deliver exciting new personalised and interactive viewing experience for spectators, enabling spectators to act as directors of their own customised live

sports video. In this paper, such an approach is described as part of the My-e-Director 2012 FP7 EU project. The design of this platform is described and an analysis of the design issues and discussion of a prototype system is given.

[Pub61] Charalampos Z. Patrikakis, Athanasios S. Voulodimos, and George Giannoulis, "Personalized Location Based Services with respect to privacy: A user oriented approach", presented at the 2nd International Conference on PErvasive Technologies Related to Assistive Environments (PETRA 2009), Corfu, Greece, 2009
Abstract: In this paper, a platform for the creation and deployment of personalized Location Based Services with respect to user's privacy is presented. The platform is based on the creation of mobile services built from service components that are located on a central server. The process of service creation and personalization (including privacy level) is performed by the mobile users, through the selection of the necessary components (tables, attributes, rules).

2008

[Pub60] Mario Serafim Nunes, Charalampos Z. Patrikakis and Nikolaos Papaoulakis, "A network oriented perspective on the personalization of media streaming", presented at the 2nd IEEE Workshop on Enabling the Future Service-Oriented Internet of IEEE Globecom 2008 conference, New Orleans, USA, November-December 2008
Abstract: In this paper, the issue of real time personalized media streaming distribution over different networks is presented. Alternative scenarios are presented, together with details on implementation and discussion on the pros and cons, in terms of implementation complexity, traffic overhead and provided functionality. The solutions have been developed and are currently under evaluation in the context of My-e-Director 2012, an FP7 European funded project in the area of Networked Media. This project aims at providing an interactive, personalized broadcasting platform, which enables end-users to have access on innovative services and focusing on large scale athletic events.

[Pub59] Nikolaos Papaoulakis and Charalampos Z. Patrikakis, "A proactive, terminal based best Access Point selection mechanism for Wireless LANs", presented at the 2008 WMSN '08 workshop of IEEE Globecom 2008 conference, New Orleans, USA, November-December 2008
Abstract: In IEEE 802.11 WLAN networks, Radio Resource Management (RRM) is necessary for the efficient use of scarce radio resources and to balance the telecommunication traffic load, among all the Access Points (APs) of the infrastructure network. In these networks, the mobile station MS has the functionality to select an AP, based on specific criteria. A key challenge is how to achieve overall load balancing in the network, during the AP reselection procedure in a way that will achieve the optimum utilization of network resources. The conventional approaches typically use the strongest received signal from the side of MS (RX Level) as the criterion, without considering the traffic load of each AP. In this work, we present two easy to implement WLAN resource management mechanisms that are fully compatible with the existing standards and mechanisms already supported by IEEE 802.11 networks.

[Pub58] Mario Serafim Nunes, Charalampos Z. Patrikakis, Nelson Escravana, Nikolaos Papaoulakis, John Paul Moore Olmstead, "Personalised Media Streaming for Large Athletic Events", presented at the 2008 Network & Electronics Media Summit, "Towards future Media Internet" (NEM 2008), Saint-Malo, France, October 2008
Abstract: In this paper, the authors discuss different scenarios for supporting the delivery of personalized media streaming information. The scenarios have been developed in the context of My eDirector 2012, an FP7 Call-1 European funded project that aims at providing an interactive, personalised broadcasting platform, which enables end-users to have access to innovative services, focusing on large scale athletic events. The scenarios elaborate on the different approaches that may be followed for the distribution of personalized media streams and discuss the pros and cons of a centralised and decentralised approached for media distribution.

[Pub57] Nikolaos Papaoulakis, Nikolaos Doulamis, Charalampos Patrikakis, John Soldatos, Aristodemos Pnevmatikakis and Emmanuel Protonotarios, "Real-Time Video Analysis and Personalized Media Streaming Environments for Large Scale Athletic Events", presented at the ACM Multimedia 2008 WS-Analysis and Retrieval of Events/Actions and Workflows in Video Streams, Vancouver, Canada, October 2008

Abstract: This paper presents the architecture of the My-e-Director 2012, an FP7 call-1 European funded project in the objective area of Networked Media. My-e-Director 2012 is a unique interactive broadcasting platform, which enables end-users to have access on innovative services, like selection of focal actors/scenes and points of interest within real-time broadcasted streams. Emphasis is placed on the ambient camera selection module, which is the heart of the My-e-Director project. The ambient camera selection is responsible for detecting athletes in large-scale Olympic events. Then, this information is fed back to the system in order to allow for personalized video steaming and delivery services. Since detection of human in athletic event is a very demanding task, our method is based on a retrainable neural network architecture, which non-linearly models the color and texture properties of the object of interest. The retraining algorithm adapts the neural network model to fit the current environmental conditions, while simultaneously trusts as much as possible the previous information. The neural network classifier is combined with a conventional motion-based tracking scheme, which provides accurate contour detection. Aspects of multiple camera configurations are discussed.

[Pub56] Athanasios S. Voulodimos, Charalampos Z. Patrikakis, Alexander B. Sideridis, Vasileios A. Ntafis and Eftychia Xylouri, "FARMA: A framework for livestock management based on RFID enabled mobile devices", presented at the 4th International Conference on Information and Communication Technologies in Bio and Earth Sciences (HAICTA 2008), [337 – 345], Athens, Greece, 18-20 Sept. 2008

Abstract: In this paper, a platform for livestock management based on RFID enabled mobile devices is described. The platform is the outcome of a research project named FARMA, and is based on the deployment of mobile computing, combined with RFID technology and wireless and mobile networking. The platform apart from using a data repository through which the RFID tag numbers are associated with animal data records, it introduces the use of re-writable tags, for the storage of information that can be used to identify the animal in case it gets lost, or even recognize some basic information about it (e.g. behavior against other animals) without the need of contacting the related database. An implementation in the context of the FARMA project is also given, together with the corresponding details, while the results of the evaluation that took place in the context of the project are discussed.

[Pub55] A. S. Voulodimos, Ch. Z. Patrikakis, "Using Personalized Mashups for Mobile Location Based Services", IWCMC 2008, IEEE International Wireless Communications and Mobile Computing Conference Crete, Greece 2008

Abstract: In this paper, a framework that allows users to build, deploy and distribute personalized mobile services is described. The framework allows the integration of static and dynamic content that stems from various web sources, system data and from the personal user preferences, and is combined to form mashups for supporting the provision of mobile services in a time dependent, location aware, context driven and finally personalized manner. The framework has been implemented based on Pocket PC user devices, and can be deployed over any IP supporting network architecture.

[Pub54] D. M. Kyriazanos, N. R. Prasad, Ch. Z. Patrikakis, "A Security, Privacy and Trust Architecture for Wireless Sensor Networks" presented at the 50th International Symposium ELMAR-2008, Zadar, Croatia,[Pp 523-529], September 2008

Abstract: In this paper the authors propose a cross-layer Security Management Plane, with a main actor Security, Privacy and Trust Manager, which addresses: a) the defined requirements taking into account the diverse application spaces and their scenarios, b) the diverse node capabilities which is a characteristic for Wireless Sensor Networks architecture and c) the change of the context and preferences of the user in the scenarios where end user is heavily involved. Being context aware the framework assures secure interactions, providing adaptability and flexibility. The solution is presented along with a medical care scenario example, to better explain the functionality of the blocks

forming the simplified architecture and their interactions, which are also depicted through several communication diagrams.

[Pub53] Charalampos. Z. Patrikakis, Athanasios. S. Voulodimos, Ioannis G. Nikolakopoulos, "PLASMA: Personalized, Location Aware Services over Mobile Architectures", presented at the 1st International Conference on PErvasive Technologies Related to Assistive Environments PETRA 2008, Athens, July 2008
Abstract: In this paper, we describe a platform that aims to provide a service framework that can be deployed over mobile devices (smart phones, PDAs, Pocket PCs) offering personalized, context aware (with emphasis on location awareness) services. The services, instead of being offered in the traditional way, are based on an open architecture, which allows the user to design, test, deploy and share service modules. The framework allows for personalized deployment of services that can be customized as regards the level of privacy of personal information and accuracy of offered data.

[Pub52] Charalampos Z. Patrikakis, Ioannis G. Nikolakopoulos, Andreas Skoufis, Sotiris Stamokostas, "Safe access to computing resources in personal networking environments", ICT-Mobile Summit, Stockholm Sweden, June 2008
Abstract: In this paper, a system for managing resource and data access in peer to peer environments is described. The system is based on the creation of temporary computing resource access rights to peer (previously unknown users) managed directly by the owners of the resources. The system allows for the transparent access to the resources, independent of operating system, and focusing on mobile and portable devices. The design allows for the secure granting of access privileges, managed by the end users, without the need of interfacing complicated security management mechanisms, making use of an abstraction layer that hides resource related information, revealing to the resource users only the necessary functionality related information. The architecture is on the use of virtual resources linked to the actual ones, over which the owners can assign temporary access rights. A proxy that is used to capture any resource related actions from the resource users is deployed as the mediator between the virtual and the actual resources. Keywords: access rights peer to peer security mobile computing.

[Pub51] Nikolaos Papaoulakis, Nikolaos Doulamis, Charalampos Patrikakis, Emmanuel Protonotarios and Jonh Soldatos, "Real-Time Context-Aware and Personalized Media Streaming Environments for Large Scale Broadcasting Applications My-e-Director 2012", 12th Annual IEEE International Symposium on Consumer Electronics (ISCE 2008),[Pp 34-37], Algarve, Portugal, April 14-16, 2008
Abstract: This paper presents the architecture of the My-e-Director 2012, an FP7 call-1 European funded project in the objective area of Networked Media. My-e-Director 2012, is a unique interactive broadcasting platform, which enables end-users to have access on innovative services, like selection of focal actors/scenes and points of interest within real-time broadcasted streams.

2007

[Pub50] Pantelis N. Karamolegkos, Charalampos Z. Patrikakis, Nikolaos D. Doulamis, "ADAPTIVE USER COMMUNITIES ASSESSMENT IN PERSONAL NETWORKING APPLICATIONS", Mobile Terminal Assisted Enhanced Services Provisioning in a B3G environment Workshop, in collaboration with the 18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'07),[Pp 1-6], Athens, Greece, September 3-7, 2007
Abstract: In this paper, we provide the theoretical evaluation of Icebreaker, a social networking service designed in the scope of IST project Magnet Beyond. We built on previous results of our work that indicate spectral clustering's applicability in regard to the service requirements imposed by the specific application; we extend our approach by provisioning for an online adaptive algorithm that places users into social groups that have previously been assessed through the application of spectral clustering. Experimental results indicate that our approach is able to adhere to

the service requirements as new users join the system, without the need of iterative spectral clustering application that is computationally demanding.

[Pub49] Pantelis N. Karamolegkos, Charalampos Z. Patrikakis, Nikolaos D. Doulamis, Elias Tragos, "USER – PROFILE BASED COMMUNITIES ASSESSMENT USING CLUSTERING METHODS", The 18th Annual IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC'07), Athens, Greece, September 2007
Abstract: In this paper, we introduce and evaluate a framework for a user profile-based socializing application. We model the user profile as a vector in the n dimensional space composed of keywords that represent users' preferences. We evaluate the effectiveness of two clustering algorithms, k-means and spectral clustering in the scope of social groups' assessment. Through experimental results we substantiate the applicability of spectral clustering in the examined service and we evaluate the impact of profile size in terms of the quality of partitions yielded by spectral clustering. The above are performed using cases studies and scenarios developed in the context of IST project's MAGNET Beyond pilot services definition.

2006

[Pub48] I. Hadjigeorgiou, E. Xylouri, I. Poulopoulou, I. Frangiadaki, A. Paparadi, C. Patrikakis and A.B. Sideridis, "Portal Technology to Support European Organic Animal Production", in Proc. of the Joint Organic Congress, Odense, Denmark, May 2006
Abstract: Organic Agriculture (OA) is a reply to Global Society's interest in food safety and environmental conservation. Many European countries have significantly developed the OA sector, where Organic Animal Farming (OAF) systems hold a major part. Since, OA principles, methods and products are constantly evolving, an increasing number of agricultural agencies are using Web sites or portals to provide OA information to stakeholders. However, finding trustworthy information on OA is still time consuming, fragmented and associated with linguistic obstacles. This paper reports a new on-line service that provides (a) access to multilingual, specialized, updated and certified on-line information covering all OA plant and animal production aspects, (b) access to electronic commerce and mobile services to all participants of the OA chain and (c) user-friendly access via various communication channels. The on-line services are implemented via a central portal at the European level, aiming to provide a single point access to various OA agents. The portal presented is the result of a research programme in the context of the European Union e-content project 11293 "BIO@GRO". The http://bioagro.aua.gr portal is ambitious to cover all the information needs of the OA stakeholders.

[Pub47] Anastasios A. Pallas, Charalampos Z. Patrikakis, "The Spam Phenomenon in Greece, Countermeasures and Future Trends", Proceedings of the 2nd National Conference on "Electronic Democracy: Challenges of the digital era",[Pp 435-443], Athens, Greece, March 2006
Abstract: Spam has not an official definition, yet most e-mail users know it when actually get annoyed. We might consider spam as advertisements, bulk e-mail messages or in general all the unwanted e-mails in our mailbox. Recently the spam phenomenon has shifted from annoying to threatening Internet users, which in effect constitute a major Internet security and electronic fraud problem. In this paper, apart from introducing spam problem and its current countermeasures, we present and analyze the costs that are related to spam derived from our recent survey for the spam phenomenon in Greece. Last but not least, we bring to surface the new cousins of spam that will invade our life through their appearance over mobile communications (mobile spam), instant messaging (SPIM) and VoIP (SPIT).

[Pub46] Ch. Z. Patrikakis, A. B. Sideridis, A. Konstantas, G. Stalidis, "BIO@GRO: A Multilingual E-Services Platform for the Organic Agriculture Market", WCCA 2006 – World Congress on Computers in Agriculture,[Pp 151-156],Orlando-Florida, USA, July 2006

Abstract: An eServices System for the market of Organic Agriculture is implemented and validated in pilot form. The proposed services are a turnkey eServices solution on the Web for the stakeholders of the European agricultural and organic sector which can be proved to be a valuable tool to European citizens by facilitating advanced searching for specific information about Organic Agriculture and performing of business electronically. This paper presents the rationale and design of a comprehensive eServices System named Bio@gro, supported by Internet tools and technologies, for providing a wide range of information to the organic agricultural sector.

[Pub45] Henning Olesen, Nette Schultz, Knud Erik Skouby, Lene Sørensen, Sandford Bessler, Dimitris M. Kyriazanos, and Charalampos Z. Patrikakis, "Scenario Construction and Personalization of PN Services based on User Profiles and Context Information", proceedings of the 15th IST Mobile & Wireless Communication Summit, Greece, 2006

Abstract: This paper discusses scenario construction and personalization of PN services based on work related to this area in MAGNET and ongoing work in MAGNET Beyond. The pilot services in MAGNET Beyond are based on the two main cases named MAGNET.Care and Nomadic@work, covering health care and professional work situations. The vision is to enable intelligent and personalized services for users of personal networks (PNs) by taking full advantage of user profiles and context information. Initial work is focused on developing a conceptual structure of user profiles, which is flexible and dynamic, support trust management and conditional access control, and can be smoothly integrated with available context information.

[Pub44] Dimitris M. Kyriazanos, Wassef Louati, Marc Girod Genet, Djamal Zeghlache, Michael Argyropoulos, Charalampos Z. Patrikakis, "An Architecture for Secure Wide-Area Service Discovery in Personal Peer-to-Peer Networks", proceedings of the 15th IST Mobile & Wireless Communication Summit, Greece, 2006

Abstract: Service discovery inside distributed and collaborative environments such as Personal Networks requires solutions which are scalable and able to work in a Peer-to-Peer (P2P) fashion. Moreover, service discovery architecture in such an environment must be strictly secured, as the resources interconnected contain a significant amount of personal information. In this paper, we propose a secure wide-area INS/Twine based service discovery architecture designed and developed for Personal P2P Networks.

[Pub43] Hyun-Cheol Kim, Kyuheon Kim Charalampos Patrikakis, Nikos Minogiannis, Mihaela van der Schaar, "Object-based Interactive Multimedia Streaming Platform Using Overlay Networks", Proceedings of the IEEE International Conference on Computer Electronics 2006 (ICCE 2006) conference, Las Vegas, USA January 9-11, 2006

Abstract: This paper presents the design of MPEG-4 contents streaming system that provides object-based interactivity over IP networks, and shows the results of the proposed streaming system. The proposed streaming system deploys overlay network to support application-level multicast.

2005

[Pub42] D.M. Kyriazanos, J.W. Floroiu, M. Argyropoulos, C.Z. Patrikakis, M. Imine, and N.R. Prasad, "MAGNET personal network security model: Trust establishment, Policy Management and AAA Infrastructure", Proc. WWRF15, December 2005

Abstract: Personal Networks (PN) security is a challenging area of research. Distributed and collaborative architectures, especially P2P (Peer-to-Peer) -being the most favourable solution for such networks- demand security solutions which promote scalability, flexibility and above all a guarantee for a reasonable level of security and defence against threats to the user's privacy. In this paper, we describe the MAGNET PN security model: Establishment of Trust Relationships, Policy Management and AAA Infrastructure.

[Pub41] JihunCha, Hyun-Cheol Kim, Seyoon Jeong, Kyuheon Kim, Charalampos Patrikakis, Mihaela van der Schaar, "ISMuS: interactive, scalable, multimedia streaming platform",ProceedingsofSPIE, Vol. 5909,[Pp 94-102], Applications of Digital Image Processing XXVIII, August 2005

Abstract: Technical evolutions in the field of information technology have changed many aspects of the industries and the life of human beings. Internet and broadcasting technologies act as core ingredients for this revolution. Various new services that were never possible are now available to general public by utilizing these technologies. Multimedia service via IP networks becomes one of easily accessible service in these days. Technical advances in Internet services, the provision of constantly increasing network bandwidth capacity, and the evolution of multimedia technologies have made the demands for multimedia streaming services increased explosively. With this increasing demand Internet becomes deluged with multimedia traffics. Although multimedia streaming services became indispensable, the quality of a multimedia service over Internet can not be technically guaranteed. Recently users demand multimedia service whose quality is competitive to the traditional TV broadcasting service with additional functionalities. Such additional functionalities include interactivity, scalability, and adaptability. A multimedia that comprises these ancillary functionalities is often called richmedia. In order to satisfy aforementioned requirements, Interactive Scalable Multimedia Streaming (ISMuS) platform is designed and developed. In this paper, the architecture, implementation, and additional functionalities of ISMuS platform are presented. The presented platform is capable of providing user interactions based on MPEG-4 Systems technology and supporting an efficient multimedia distribution through an overlay network technology. Loaded with feature-rich technologies, the platform can serve both on-demand and broadcast-like richmedia services.

[Pub40] Charalampos Z. Patrikakis, Pantelis Karamolegkos, Ignatios Mihailaris, Alexis Lampiris, Hyun-Cheol Kim, "Network support mechanisms for scalable media streaming", Proceedings of SPIE, Vol. 5909,[Pp 150 -163], Applications of Digital Image Processing XXVIII, August 2005

Abstract: In this paper, the problem of integrating scalable media encoding mechanisms with emerging solutions/protocols for media streaming is addressed. In this, we consider the cases of scalable media encoding technologies, trying to combine them with emerging protocols and mechanisms for transmission rate adaptation. An architecture comprising of a scalable media encoder supported by DCCP transport protocol is proposed. The proposal introduces a buffer management mechanism that takes advantage of the rate adaptation features of the scalable media encoding for complementing DCCPs' inherent congestion control.

[Pub39] Ch. Patrikakis, M. Nonda, S. Kaloudis, A. B. Sideridis, "Supporting Volunteers Firefighters through Mobile Communities", Proceedings of the International Congress on Information Technology in Agriculture, Food and Environment, (ITAFE'05),[Pp 401-411], Turkey, October 2005

Abstract: In this paper, a platform is presented based on the use of virtual communities to support the task of volunteer wildfire fighters. The architecture and operation of the platform is described through the exchanged messages between the volunteer firefighters and the central station. Furthermore, evaluation testing and evaluation of a pilot implementation, provided through the study of user requirements of firefighting volunteers, is also presented.

[Pub38] A.B. Sideridis, Ch. Patrikakis, N. Manouselis, "Information Architecture Requirements for Agricultural Web Portals", Proceedings of the International Congress on Information Technology in Agriculture, Food and Environment, (ITAFE'05),[Pp 379-385], Turkey, October 2005

Abstract: Web portals are gateways to information and services from multiple sources. An important aspect of web portals is the organization, navigation, labelling and indexing of their content in order to facilitate searching of information and services. This aspect is related with the principles of Information Architecture and is of particular importance when portals target users with particularities. For example, agricultural web portals address users such as farmers with a diverse educational background, limited time, and from rural areas. This paper aims to review

Information Architecture principles, in order to encode them into a set of design requirements that can be useful when developing agricultural web portals.

[Pub37] Ch. Z. Patrikakis, Y. Despotopoulos, J. Angelopoulos, C. Karaiskos, N. Minogiannis, "SIMULATING SERVER PERFORMANCE FOR MEDIA STREAMING", Proc. of the 1st International Conference on Experiments/Process/System Modelling/Simulation/Optimization, Greece, July 2005

Abstract: In this paper, we present a simulation model for a media streaming platform that can be used in order to evaluate the behavior and scalability of a media streaming solution. The model is based on requirements and specifications for platform provision that are set with respect to standards conformance and open design, as well as an implementation of a relay node on which the simulation tests were performed. The presented model is capable of supporting the simulation needs of an end to end solution for media streaming based on the MPEG2 and MPEG-4 standard, while it assumes the use of RTP/RTCP and RTSP protocols. For the media distribution part, it assumes that a network of relay nodes is used, forming a media distribution chain that can be independent from the underlying network.

[Pub36] Manouselis N., Costopoulou C.I., Patrikakis C.Z., Sideridis A.B., "Using metadata to bring consumers closer to agricultural e-markets", Proc. of the 2005 EFITA/WCCA Joint Congress on "IT in Agriculture",[Pp 607-614], Portugal, July 2005

Abstract: The rapid adoption of e-commerce practices and technologies from agricultural firms is expected to lead to a large number of e-markets of different types and forms, which will in turn offer a variety of agricultural products to the online buyers. Due to the information overload, it may be difficult and time-consuming for online buyers to search, locate, compare and select appropriate agricultural e-markets. In this context, this paper presents a metadata model able to store the main characteristics of agricultural e-markets from the online buyers' perspective. This model has been developed using the metadata standard Dublic Core (DC) as its basis, and is termed as DC e-markets (DC-EM) model. The DC-EM model is generally aimed for e-markets description and classification. In this paper, its application in the case of agricultural e-markets is discussed. The structure and elements of DC-EM model are described, and indicative results from examining 45 agricultural e-markets are presented.

[Pub35] A.S. Sideridis, C.I. Costopoulou, Ch.Z. Patrikakis, N. Manouselis, G. Stalides, "An eServices System to support information exchange among the agricultural community", Proc. of the 2005 EFITA/WCCA Joint Congress on "IT in Agriculture",[Pp 376-381], Portugal, July 2005

Abstract: In this paper, we present the architecture and main components of an eServices System that aims to support the actors of the Organic Agriculture (OA) sector. More specifically, the proposed system aims to provide all key actors involved in the OA chain with access to accurate and multilingual OA content and services. Such online content resources and services include, but are not restricted to, e-business, e-learning, e-government as well as mobile ones. The described platform is designed and implemented in the context of the European e-content project 11293 "BIO@GRO".

[Pub34] Hyun-Cheol Kim, Jihun Cha, Seyoon Jeong, Kyuheon Kim, Charalampos Patrikakis, Alexis Lambiris, Pantelis Karamolegos, Mihaela van der Schaar, "ISMuS: an Interactive Scalable Multimedia Streaming System", ICACT 2005, THE 7th INTERNATIONAL CONFERENCE on ADVANCED COMMUNICATION TECHNOLOGY,[Pp 109- 114], Volume 1, Phoenix Park, Korea, 21-23 February 2005

Abstract: Advances in internet technology and provision of constantly increasing bandwidth capabilities to end-users, have made increased the need for streaming media services that can match the quality of traditional TV broadcast and offer enhanced user interactivity. In this paper, the target services, as well as specific implementation details of a scalable interactive multimedia streaming platform named ISMuS is presented. The platform is capable of providing high quality streaming service based on MPEG-4 encoded streams, through the use of scalable video coding technology and a media distribution architecture based on overlay network technology.

2004

[Pub33] Ch. Z. Patrikakis, Y. Despotopoulos, P. Fafali, Jihun Cha, Kyuheon Kim, "Using overlay network architectures for scalable video distribution", Proceedings of SPIE , Vol. 5558,[Pp 371 - 381], Applications of Digital Image Processing XXVII, November 2004

Abstract: Within the last years, the enormous growth of Internet based communication as well as the rapid increase of available processing power has lead to the widespread use of multimedia streaming as a means to convey information. This work aims at providing an open architecture designed to support scalable streaming to a large number of clients using application layer multicast. The architecture is based on media relay nodes that can be deployed transparently to any existing media distribution scheme, which can support media streamed using the RTP and RTSP protocols. The architecture is based on overlay networks at application level, featuring rate adaptation mechanisms for responding to network congestion.

[Pub32] C. Patrikakis, Y. Despotpoulos, J. Angelopoulos, C. Karaiskos , P. Fafali, "Combining centralized and decentralized media distribution architectures", 1st International Scientific Conference on Information Technology and Quality, Athens, Greece, June 2004

Abstract: The major bottleneck for streaming media content over the Internet was the access technologies used by residential users. As more users access the network with broadband technologies the deployment of end-to-end real time services based on multimedia content is becoming a reality. The sensitivity of such services in terms of time delay and the large amount of network's band-width consumed must be taken into consideration when designing an architecture capable of delivering streaming media under QoS restrictions. Further-more, the scalability of the distribution scheme for multimedia streaming must be carefully studied and should clearly define all the networking parameters responsible for content delivery. In this work we present an architecture for streaming real time content over the Internet combining centralized and decentralized architectures. The centralized approach is followed in the core of the network, permitting an efficient configuration and interconnection of the sys-tem components. The decentralized approach is followed at the client side in order to quickly select the closest media relaying point for the desired stream.

[Pub31] C. Patrikakis, Y. Despotopoulos, J. Angelopoulos, C. Karaiskos , A. Lampiris, "A mechanism for rate adaptation of media streams based on network conditions", 1st International Scientific Conference on Information Technology and Quality, Athens, Greece, June 2004

Abstract: Media streaming technologies deployed over the Internet consume a considerable amount of bandwidth. Most of these technologies, either private or standards based, do not take into consideration the network conditions during the media transmission, leading to network congestion and decrease of stream reception quality due to packet loss. In this work we present an adaptation mechanism based on RTP/UDP protocols that may be used by hosts serving media streams to a large number of unicast users. Servers utilize a session manager in order to switch users between a number of pre-selected stream profiles, taking into account the long-term history of user receiver reports. The results of this mechanism show decrement of packet loss and more efficient utilization network resources.

2003

[Pub30] Paraskevi Fafali, Charalampos Patrikakis, Angelos Michalas , Vassilios Loumos, "Internet Traffic Engineering: History monitoring information featuring routing algorithms", Automatics and Informatics'03 conference, Sofia Bulgaria, October 2003

Abstract: As Internet evolves into a standard communications network, new techniques for the management of the available assets must be introduced. This paper discusses the mechanisms of exercising traffic engineering in IP networks. It provides a thorough analysis of the existent traffic engineering approaches and focuses on presenting the most recent proposals made in the specified area. The interesting point of the research efforts reviewed is that

they all follow the growing trend of incorporating history monitoring information in route determination procedure. We finally conclude with the formulation of a history aware traffic engineering model.

[Pub29] Charalampos Patrikakis, Mario Nunes, Yannis Despotopoulos, Janio Monteiro, Nikos Minogiannis, "Real Time Data Streaming over Heterogeneous Networks: The OLYMPIC Project Media Distribution Approach", Work in Progress Session of the EUROMICRO /DSD conference event, Antalya, Turkey, 2, September 2003
Abstract: In this paper, ongoing work towards the implementation of an end-to-end distribution scheme for supporting real-time data streaming over heterogeneous networks is presented. The presented architecture is been implemented in the context of the EU IST OLYMPIC project targeting at supporting personalised multimedia distribution for covering major athletic events.

[Pub28] Ch. Z. Patrikakis, Y. Despotopoulos, A. M. Rompotis, N. Minogiannis, A. L. Lambiris, A. D. Salis, "An implementation of an overlay network architecture scheme for streaming media distribution", Multimedia Telecommunications Track of EuroMicro 2003, Antalya, Turkey,[Pp 207 - 214], September 2003
Abstract: In this paper we introduce the implementation of a streaming video distribution scheme based on client relay modules. The purpose is the formation and maintenance of an overlay network architecture responsible for the dispensation of streaming traffic to end-clients. This architecture has been based on the use of modular system components that can accommodate the integration of existing commercial solutions for media reproduction such as video players (used in the implementation as black box components). The result is a system design capable to manage and sustain a media distribution scheme based on an overlay network infrastructure. The presented implementation has been developed in the context of the EU IST OLYMPIC project and is part of a large network architecture for supporting personalised multimedia distribution for covering major athletic events.

[Pub27] S. Vrontis, Ch. Z. Patrikakis, G. Mitseas, "ISDN dialup Internet access based on dynamic user profiles depending on available resources", 7th WSEAS CSCC Conference, Corfu Greece, July 2003
Abstract: This paper presents an idea for offering Internet access through dialup by using dynamic user profiles that depend on the available resources of an ISP. This service allows an ISP to offer scalable access services according to network utilization and availability of user connection ports. This idea may be offered over PSTN and ISDN, but with ISDN as the most suitable candidate, due to the inherent ability of using 2 channels over the same wire. It is based on the use of existing technology and protocols, as well as the commonly adopted infrastructure for AAA (Authentication Authorization and Accounting), based on a RADIUS (Remote Access Dial In Users) server. Therefore, it introduces a new type of user subscription that may be easily implemented and which can make use of the available ISP resources at the best and most efficient way without compromising the ISP network accessibility and without any major cost for an ISP.

[Pub26] Ch. Z. Patrikakis, Y. Despotopoulos, A. M. Robotis, A. L. Lambiris, "PERIPHLEX : Multicast delivery using core unicast distribution with peripheral multicast reflectors", Poster presentation, WWW2003 : Twelfth International World Wide Web Conference, Budapest, Hungary, May 2003
Abstract: In this poster, a model for providing an adaptable platform for building an overlay network solution architecture is presented, featuring data distribution based on application level multicast. The model aims at using the availability of local distributing mechanisms without posing any requirements in the network backbone infrastructure.

1997

[Pub25] Ch.Z. Patrikakis, I.S. Venieris, E.N. Protonotarios, "Flexible Design and Implementation of Broadband Intelligent Peripherals for supporting Multimedia Interactive Services", COMCON 97, Corfu, GREECE,[Pp 613 - 624], June 1997

Abstract: The Intelligent Network (IN) concept stands as a prominent candidate for the provision of advanced complex multimedia services. In an IN infrastructure, quick introduction of multimedia applications demanding advanced multimedia capabilities and increased intelligence from the terminals is possible by deploying the inherent intelligence of the IN infrastructure. However, introduction of new services requires modifications in IN network elements frequently performed off-line. In this paper, the idea of an Intelligent Peripheral (B-IP) which is capable of supporting the dynamic introduction of new services and service related resources is presented. In parallel to this feature, testing capabilities are supplied in order to efficiently provide the B-IP platform on which an IN service may be dynamically introduced. Finally, examples and real - life implementation guidelines are presented in order to help the reader understand the ideas presented by the authors.

[Pub24] Ch. Z. Patrikakis, I.S. Venieris, E. N. Protonotarios, "A modular architecture for Broadband Multimedia Services Intelligent Peripherals", IS&N 97 Como, ITALY, 3, May 1997

Abstract: In this presentation the concept of a Broadband Intelligent Peripheral (B-IP) for supporting multimedia services based on the concept of execution of scripts is presented. THis architecture is built following a modular structure that allows the quick and easy introduction of new services, even while the B-IP is operational featuring testing capabilities inside the B-IP. Another advantage of this architecture is that it is based on a reduced SCF-SRF communication model following ITU Capability Set two (CS2) recommendations which simplifies the interaction between the SCP and the B-IP and in the same time moves a lot of the service logic that is service specific on the B-IP part without violating the principles of IN.

1994

[Pub23] G. T. Karetsos, Ch. Z. Patrikakis, J. D. Angelopoulos, "The Metropolitan Area Networks (MANs) an Access Networks for the ATM Based B-ISDN", VITEL '94, International Telecommunications Symposium,[Pp 129 - 134], October 1994

Abstract: The access part of B-ISDN is of a prime importance for the widespread use and the marketing success of the broadband services since it involves the higher investment cost in relation to revenue, than the switching of the transmission plant. In addition B-ISDN needs a lower access cost. One promising way to achieve this is through medium sharing and concentration . Metropolitan Area Networks in addition to their original role as LAN interconnection solutions can provide low cost access to all kinds of services if they are enriched with provisions to support CO services as well. To become attractive as B-ISDN access subnetwork it is essential to offer easy and robust interworking with ATM and therefore the compatible definition of the required extensions is of paramount importance. The already existing compatibility in PDUs must be exploited. The interworking of CL traffic can be accomplished on the fly following the same approach as in the CL server functions (CLSF). The interworking of CO traffic can be even more easy and robust once virtual channels have been established accross both networks.

1993

[Pub22] Gr. A. Doumenis, G. E. Kostantoulakis, Ch. Z. Patrikakis, D. I. Reisis, V. Tzerpos, "PROTOCOL MEASUREMENTS USING TERMINAL ADAPTER FOR THE ATM B-ISDN", 4th Conference on Advances in Communication and Control, COMCON4, Rhodes, GREECE,[Pp 778 - 786], June 1993

Abstract: In this paper we evaluate the efficiency of a Terminal Adapter, hosted by a personal computer as well as measurements evaluating the implementation of the ATM protocol in hardware and software modules. We present various implementations with respect to system and transfer parameters which have a significant impact on the effective throughput. We show results deriving from the measurements to be used in setting up and optimizing a Terminal Adapter for ATM networks.

Άρθρα-κεφάλαια σε συλλογικούς τόμους και βιβλία

2014

[Pub149] Charalampos Z. Patrikakis, Stefanos A. Kalantzis, Lazaros Toumanidis, Fotis Zisimos, "Supporting Lab Courses Using OpenStack", E-Democracy, Security, Privacy and Trust in a Digital World, Communications in Computer and Information Science Volume 441, [pp 93-102], DOI: 10.1007/978-3-319-11710-2_9, Springer, Oct 2014.

Abstract: In this paper, an implementation of a versatile laboratory, implemented using virtual machines deployed in a cloud infrastructure is proposed. The idea behind the proposal is to be able to take full advantage of the cloud infrastructure, in order to support multiple laboratory courses on computing and networking, through a single physical infrastructure, consisting of thin clients connecting through a high speed network to the virtualization platform in a computer cluster. The architecture of a prototype implementation over OpenStack at TEI of Piraeus is presented, together with plans for future expansion.

[Pub144] Angelos-Christos G. Anadiotis, Aziz S. Mousas, Angelo Difino, Charalampos Z. Patrikakis "The Content Level (CoMid)" In Enhancing the Internet with the CONVERGENCE System. An Information-centric Network Coupled with a Standard Middleware, ed. Almeida, F.; Andrade, M.T.; Blefari Melazzi, N.; Walker, R.; Hussmann, H.; Venieris, I.S., 73-102 (2014), Series: Signals and Communication Technology, SPRINGER, ISBN: 978-1-4471-5372-6 (Print) 978-1-4471-5373-3 (Online)

Abstract: This chapter provides the description of the overall architecture of the content level of convergence: the CONVERGENCE Middleware (CoMid). The chapter starts with the presentation of the MPEG-M standard, which provides the foundations for CoMid, then proceeding with a complete description of this architectural level. The key components of the Content level comprise a diversified set of middleware engines to manipulate Versatile Digital Items (VDIs), a Community Dictionary Service (CDS) and a Semantic Overlay. The set of middleware engines were partially borrowed and/or adapted from MPEG-M and partially designed and developed from scratch within CONVERGENCE, adopting the same design principles. The CDS and the Semantic Overlay, newly designed and developed by CONVERGENCE, when used together with the middleware engines, enable the semantic, content-based, publish-subscribe functionality of the platform.

2013

[Pub21] Monteiro, Jânio M., Rui S. Cruz, Charalampos Z. Patrikakis, Nikolaos C. Papaoulakis, Carlos Tavares Calafate and Mário S. Nunes. "Peer-to-Peer Video Streaming." In Multimedia Networking and Coding, ed. Reuben A. Farrugia and Carl J. Debono, 254-313 (2013), accessed March 20, 2013. doi:10.4018/978-1-4666-2660-7.ch010

Abstract: The Internet as a video distribution medium has seen a tremendous growth in recent years. Currently, the transmission of major live events and TV channels over the Internet can easily reach hundreds or millions of users trying to receive the same content using very distinct receiver terminals, placing both scalability and heterogeneity challenges to content and network providers. In private and well-managed Internet Protocol (IP) networks these types of distributions are supported by specially designed architectures, complemented with IP Multicast protocols and Quality of Service (QoS) solutions. However, the Best-Effort and Unicast nature of the Internet requires the introduction of a new set of protocols and related architectures to support the distribution of these contents. In the field of file and non-real time content distributions this has led to the creation and development of several Peer-to-Peer protocols that have experienced great success in recent years. This chapter presents the current research and developments in Peer-to-Peer video streaming over the Internet. A special focus is made on peer protocols, associated architectures and video coding techniques. The authors also review and describe current Peer-to-Peer streaming solutions.

2012

[Pub20] Charalampos Z. Patrikakis, Lemonia Argyriou, Agis Papantoniou, Online Collaboration, Encyclopedia of Cyber Behavior vol 3, IGI Global publication, pp 403-411, 2012.

Abstract: In this chapter we present the general framework for assessing collaborative work group behaviour over the Internet and their social or asocial behaviour based on previous studies. Following this approach, we first give reference to a related study on social and asocial learning and how they can be distinguished through the analysis of data diffusion curves and other mathematical models. As a next step, a used method on group collaboration over a digital content publication platform is presented. Finally, we state a new direction on collaborative work groups, and the idea of Collaborative Innovation Networks is presented. The paper ends with directions for future research on social networking and human-machine collaboration.

2009

[Pub19] K. Demestichas, E. Adamopoulou, M. Masikos, C. Patrikakis, "Location-Based Services and Techniques" chapter of the "Handbook on Mobile Ad Hoc and Pervasive Communications", American Scientific Publishers, Expected publication date: 2009

Abstract: In this chapter of the handbook, addresses Location Based Services. In detail, typical examples of LBS and applications that have already been deployed or could potentially be deployed in the near future are being presented, while charging and business models for LBS issues are also addressed, together with privacy and security concerns as regard the deployment of Location Based Services. Finally, a typical network architecture for the provision of LBS is given.

2008

[Pub18] Charalampos Z. Patrikakis, Ioannis G. Nikolakopoulos and Athanasios S. Voulodimos, " Privacy Implications and Protection in the New Ubiquitous Web Environment", chapter of the "Handbook of Research on Web 2.0, 3.0 and X.0: Technologies, Business, and Social Applications", by IGI Global publications, pp. 863-878, 2008

Abstract: In this chapter, we are addressing the issue of privacy in our modern world of Internet, Web 2.0, personalization, Location Based Services, and ubiquitous computing. The issue is initially viewed from the perspective of user profiles, starting from existing approaches used in social networking and mobile computing applications. Emphasis is given on the separation of personal and public information and the way it can be used in web and mobile applications. Furthermore, identifying the importance and the actual meaning of privacy in an online world is a crucial and difficult task, which has to be carried out before trying to propose ways to protect the users' privacy.

[Pub17] Charalampos Patrikakis, Maria Koukouli, Constantina Costopoulou and Alexander Sideridis, "Content requirements identification towards the design of an educational portal", Springer Communications in Computer and Information Science (CCIS), "Open Knowledge Society" volume 19, pp. 253–260, 2008

Abstract: This paper presents the requirements for the provision of a multilingual educational platform, as these emerge out of the usage and exploitation of digital educational content related to Organic Agriculture (OA) and Agroecology (AE). The results come as an intermediate output of an actual platform implemented in the context of the EU eContentplus program Organic.Edunet, which aims at deploying a multilingual online environment (the Organic.Edunet Web portal), populated with quality content from various content producers. In order to produce the corresponding requirements, the profile of the available content that will be used in order to populate a learning resource repository on OA and AE issues is presented. The results of the content identification process followed and the related findings are included, together with general recommendations that can be applied in a variety of educational topics and in a broad range of ICT supported educational frameworks.

[Pub16] V. Ntafis, Ch. Z. Patrikakis, Ef. Xilouri and I.Frangiadaki, "RFID application in animal monitoring" chapter of the book "The Internet of Things: From RFID to the Next-Generation Pervasive Networked Systems", Auerbach Publications, (Taylor & Francis Group), ISBN 1-4200-5281-0,[Pp 165-184], 2008

Abstract: In this, chapter, the use of RFID technology for supporting all animal related activities (identification, tracking, monitoring e.a.) is described. Following, this approach, the chapter provides a comprehensive coverage of the use of RFID in relation to domestic, farm and wild animals, the particularities that this use has in each case, while on the other hand provides example-prototype uses for each case. Legislation issues, as these are addressed globally, are also tackled, giving an overview of the existing legislative framework for the use of RFID as regards animals.

2007

[Pub15] Pantelis N. Karamolegkos, Charalampos Patrikakis, Emmanuel Protonotarios, "Autonomic Networking", ENCYCLOPEDIA OF INTERNET TECHNOLOGIES AND APPLICATIONS, Information Science Reference, ISBN 978-1-59140-993-9,[Pp 72-78], 2007

Abstract: Autonomic networking is an umbrella term used to describe a variety of recently emerged techniques that provide the algorithmic substructure for the implementation of traditional networking functionalities, such as routing, multicasting, resource and service discovery etc. This chapter of the handbook provides an overview of the autonomic networking principles. In details, first an introduction to the autonomic networking concept is given, highlighting the differences from traditional networking approaches as well as the need for adoption of peer to peer principles for the support of autonomic networks The chapter proceeds in presenting three techniques and protocols on which autonomic networking can be based (Epidemic/Gossip Protocols, Distributed Hash Tables and Swarm intelligence based approach. The chapter closes with the presentation of applications and services that can be deployed over autonomic networks, presenting a case study on Personal Networks (PNs).

[Pub14] Ch. Z. Patrikakis, P. Fafali, P. Karamolegkos, Y. Despotopoulos, N. Minogiannis, "Rate Adaptation Mechanisms for Multimedia Streaming", ENCYCLOPEDIA OF INTERNET TECHNOLOGIES AND APPLICATIONS, Information Science Reference, ISBN 978-1-59140-993-9,[Pp 456-462], 2007

Abstract: During the last decade, Internet due to its ability to convey information and allow users to share experience plays a leading role in media streaming. Adaptive video has become a necessity for meeting stringent QoS requirements in non-guaranteed IP networks. Since user is the final point in the multimedia distribution chain, transmission rate must be adjusted to match the requirements set, the end-to-end effective bandwidth and the capabilities of the terminals used to access the services offered. The ultimate goal is the optimization of the subjective audio-visual quality. This article aims at providing a taxonomy of rate adaptation techniques for Internet media streaming with respect to the communication type they employ and their potentiality to function either as standalone or as complementary mechanisms to the media distribution.

[Pub13] Vasileios S. Kaldanis, Charalampos Z. Patrikakis, and Vasileios E. Protonotarios, "Academic activities based on Personal Network deployment ", ENCYCLOPEDIA OF MOBILE COMPUTING AND COMMERCE, Information Science Reference, ISBN: 978-1-59904-002-8, 2007

Abstract: In this article, a personal-to-nomadic networking case is presented. Academic PN (AcPN) is a generic case that aims to describe several situations of daily communication activities within a university campus or an extended academic environment through the support of the necessary technological background in terms of communication technologies. The concept is straightforward: a number of mobile users with different characteristics and communication requirements ranging from typical students to instructors and lecturers, researchers and professors as well as third party ones (e.g. visitors, campus staff), are met, work, interact, communicate, educate (and are being educated) within such an environment. This implies the presence of a ubiquitous wireless personal networking environment having nomadic characteristics. Several interesting scenarios and use cases are analyzed along with a number of proposed candidate mobile technology solutions per usage case.

[Pub12] Dimitris M. Kyriazanos, Michael Argyropoulos, Luis Sanchez, Jorge Lanza, Mikko Alutoin, Jeroen Hoebeke and Charalampos Z. Patrikakis, "Overview of a Personal Network Prototype", Annual Review of Telecommunications, Vol. 59, ISBN: 978193169553,[Pp 521 - 534], 2007

Abstract: Ubiquitous connectivity and access to services is a challenging task, as nowadays users move through heterogeneous networks and technologies, while using a wide selection of devices. Personal Networks aim to provide a unified overlay network, in a transparent and seamless to the user way. In this paper, an overall view of a Personal Network Prototype is provided.

[Pub11] Ch. Patrikakis, A. Konstantas, M.Koukouli, N.Manouselis, A.B. Sideridis, "Analyzing Competition for a Web Portal", the Encyclopaedia of Portal Technology and Applications, Information Science Reference, ISBN: 978-1-59140-989-2,[Pp 47 - 57], IDEA Group Inc, 2007

Abstract: In the competitive environment of the World Wide Web, positioning a new web portal requires a careful analysis of the characteristics of competition. This article presents the results and conclusions of a survey conducted before the deployment of a new Organic Agriculture (OA) web portal, in order to facilitate its positioning in relation to competitive sources of OA information. The knowledge acquired during this survey has been useful for positioning a new OA web portal, the European Bio@gro portal, in the online competition.

[Pub10] Ch. Z. Patrikakis, P. Fafali N. Minogiannis, N. Kourbelis, "Ubiquitous access to information through portable, mobile and handheld devices: a challenge for Portals", the Encyclopaedia of Portal Technology and Applications, Information Science Reference, ISBN: 978-1-59140-989-2,[Pp 1033 - 1039], 2007

Abstract: In this article, we address the issue of providing portal services to users with portable devices such as Personal Digital Assistants (PDAs) or Smartphones. We propose a reference architecture for providing mobile portal services, based on the distribution of information between the portal servers and the user devices.

2005

[Pub9] Charalampos Z. Patrikakis, Pantelis Karamolegos, George Koukouvakis, "The Olympic Games: The Way toward the Internet", Annual review of communications, IECISBN:1-931695-28-8, Vol. 58,[Pp 335 - 340], November 2005

Abstract: Recent advances in streaming media technology brought the idea of live coverage of events over the Internet to a high level of maturity. Such coverage, though still lacking in terms of image quality compared to traditional television, is superior in terms of functionality and cost. The scope of this report is to investigate the solutions deployed for the coverage of the 2004 Olympic Games in Athens over the Internet. In this report, we give special focus to streaming live or pre-recorded content related to the Olympic Games and provide an analysis of the techniques that were employed, as well as the unique challenges that this venture presented. Additionally, we provide a brief presentation of the broadcast rights for the Olympic Games and the complex legal issues that must be resolved in order for the Olympic Games to be broadcast. Finally, we take a retrospective look at the particular solutions that were deployed in different countries during the 2004 Olympic Games in Athens and introduce the innovations that are expected to be realized at the 2008 Summer Olympic Games in Beijing.

2004

[Pub8] Ch. Z. Patrikakis, G. Koukouvakis, A. Lambiris, N Minogiannis, "A report on media streaming for large numbers of users", Annual review of communications, IEC ISBN:1-931695-28-8, Vol. 57,[Pp 928 - 936], November 2004

Abstract: The scope of this paper is to investigate the solutions for supporting media streaming for large audiences over IP networks. In order to do that, we provide a report on the features and mechanisms used in Content Delivery Networks and in widely adopted Streaming Servers. In our report we give special focus in the case of existing

streaming media solutions. For this, we make reference to the mechanisms adopted by each solution for each case. Taking into account this presentation, we continue with defining the framework for a platform that could be used in order to cover an event of great interest to a large audience such as Olympic Games or World Cup Soccer. The framework described in this paper has been used for the specification and implementation of an actual system that will be used on a pilot trial during the Athens 2004 Olympic Games.

2003

[Pub7] N. Minogiannis, Ch. Patrikakis, A. Rompotis, F. Ninos, "An e-tutoring service architecture based on overlay networks", Lecture Notes in Computer Science, Springer-Verlag Heidelberg, ISSN: 0302-9743, Volume 2869 / 2003,[Pp 59 - 66], October 2003

Abstract: In this paper, a comprehensive e-tutoring service framework is presented. It consists of a set of individual applications implemented based on the use of existing open source tools. The significant point here is the flexibility of the implementation proposed, that allows it to use a combination of unicast and multicast without posing any requirements for the supporting network infrastructure. This is achieved through the use of an overlay network architecture that allows for dynamic configuration of the media transmission and relay points.

[Pub6] Charalampos Patrikakis, Thomas Kalamaris , Vaios Kakavas, "Performing Integrated System Tests Using Malicious Component Insertion", Electronic notes in theoretical computer science, Elsevier, vol 82 ,[Pp 17 - 28], September 2003

Abstract: In this paper, a testing method suitable for strengthening fault tolerance in the event of unexpected situations within a software system is presented. It is based on the idea of testing an integrated system, by substituting system components with other, similar in design and functionality that operate in an erroneous and even malicious manner. The approach adopted, is similar to the concept of inserting a virus within an organization so that the defence mechanisms of the latter can be tested and the necessary lines of defence are formed, so that the virus cannot affect any of the organization critical parts. The focal point is to ensure that in case of a module malfunction, the integrated system will continue to operate, isolating the malfunctioning software at the greatest possible extend, preventing the erroneous behavior from affecting other (and sometimes critical) modules. The testing method proposed is based first on isolated components testing adopting and enhancing the Component Off The Self method, and second on integrated system testing using malicious components that emulate erroneous operation.

[Pub5] P. Fafali, C. Z. Patrikakis, E. Protonotarios, "HIDRA: HIstory Directed Routing Algorithm for IP networks", High Speed Networks and Multimedia Communications, Lecture Notes on Computer Science, Springer-Verlag,[Pp 333 - 342], July 2003

Abstract: The need for making optimal use of the available resources in IP networks is of crucial importance as multimedia communications become part of our everyday activities. Inspired by this problem, we are presenting HIDRA, a routing algorithm which targets at two longstanding optimization objectives. The first one is pertaining to routing incoming traffic while preserving as much as possible resources for future demands. The second goal is to maximize the amount of traffic served. The main idea upon which our traffic engineering framework is built is to allocate resource assets online, directed by history monitoring information and Service Level Agreements (SLAs) so as to steer traffic through network in the most effective way. The simulation experiments conducted show that our routing scheme surmounts traditional routing algorithms such as shortest path and widest-shortest path in terms of blocking effects and total bandwidth passed.

[Pub4] Ch. Patrikakis, K. Karapetsas, N. Minogiannis, S. Vrontis, N. Igoumenidis, G. Diakonikolaou, "A QoS aware e-learning service framework: The MOICANE case", Cross-Media Service Delivery, ISBN 1-4020-7480-8, Kluwer international series in engineering and computer science,[Pp 109 - 120] , 2003

Abstract: In this paper, a comprehensive e-learning service framework is presented. The individual applications that comprise the framework are described through the process of network requirements identification and application implementation description. The framework described has been implemented during the MOICANE IST project, and the evaluation of the application provided is the result of the tests and demonstrations performed in the project over an infrastructure covering heterogeneous access networks. The scope of the paper is to provide the definition of a concrete set of applications that can support a robust QoS aware e-learning platform, and to report on the conclusions drawn from the tests performed over both QoS and non QoS aware networks.

[Pub3] Ch. Patrikakis, Y. Despotopoulos, A. Rompotis, A. Lambiris, C. Boukouvalas, G. Pediaditis, "OLYMPIC: Using the Internet for real time coverage of major athletic events", Cross-Media Service Delivery, ISBN 1-4020-7480-8, Kluwer international series in engineering and computer science, SECS 740,[Pp 169 - 180], 2003
Abstract: This paper presents a network architecture for supporting real time distribution of multimedia content for covering major athletic events such as Soccer World Cups and Olympic Games. It has been based on ongoing work carried out in the context of the OLYMPIC IST project. The scope of the paper is dual: First, to identify the problems, and set requirements according to user's heterogeneity and streamed traffic properties. Second, to define specifications for a multimedia distribution architecture from the end user's point of view as well as the network management perspective. Our approach focuses on the combination of existing core network technologies such as MPLS and DiffServ and their simultaneous unification with diverse access networks (x- DSL, broadband fixed–wireless access). The goal is to support an infrastructure capable of providing real time streaming services in compliance with the specific needs of live coverage of major athletic events.

1998

[Pub2] H. Brandt, Ch Z. Patrikakis, "Interfacing the User to the IN system: The Broadband Intelligent Peripheral B-IP", INTELLIGENT BROADBAND NETWORKS, John, Wiley & Sons Ltd., ISBN 0-471-98094-3,[Pp 193 - 203], June 1998
Abstract: In this chapter of the book "Intelligent Broadband Networks", the role and operation of the Broadband Intelligent Peripheral (B-IP) to support advanced and complex multimedia services is described. This is done through the presentation of models and architectures for the provision of a B-IP. The philosophy of these models is guided by the need for modularity and expandability of the peripherals in order to meet the needs of newly introduced services. In parallel, examples of an interactive multimedia retrieval and broadband video conference services are presented.

[Pub1] Ch. Z. Patrikakis, I. S. Venieris, S. Polykalas, "Service logic mobility over Intelligent Broadband Networks", High Performance Networking, Kluwer Academic Publishers, Part Eleven: QoS Routing and Scheduling, ISBN: 0-412-84660-8,[Pp 685 - 698], 1998
Abstract: The concept of Intelligent Networks (IN) provides a convenient and future safe way for the rapid introduction of broadband multimedia services. The highly sophisticated design of multimedia services and the increasing demand of system resources creates the need for introducing intelligence on the end-systems. In the IN infrastructure this demand is balanced by the intelligence offered by the network itself. However, the task of deployment of new services or even porting of existing services between IN sub-networks is a tedious task that rarely makes use of the network's intelligence capabilities. The reason is the different implementations of the Service Logic (SL) in IN islands which makes it hard, if not impossible to re-use ports of the software over different IN platforms. This paper proposes ways that enable the remote use of IN capabilities by subscribers which are attached to another IN segment. In this attempt, interconnection issues are resolved using as tools the standard IN modules that is the Broadband Service Control Points (B-SCPs) and the Broadband Intelligent Peripherals (B-IPs). Deployment of these modules is based on the use of their service logic execution capabilities and in some cases on an enhancement of their traditional role. To provide the necessary platform and description tools for supporting service logic mobility, service design has been partially based on the concept of movable service logic scripts. Service distribution and

service numbering schemes compliant to the network architectures are also provided. Finally, parallel to the description of the proposed models and architectures, practical examples are given.

Άρθρα, τεχνικές αναφορές και ανακοινώσεις

2015

[Pub160] "IMG-S Report on Futures of First Responders Systems", IMG-S, Editors: Marco Manso, ,Harri Saarnisaari, March 2015.

[Pub168] Despina T. Meridou, Charalampos Z. Patrikakis, Maria-Eleftheris Ch. Papadopoulou, Panagiotis Kasnesis, Iakovos S. Venieris, "Serving the Needs of Goal Oriented Scenarios through the Deployment of an Intelligent Enterprise Service Bus: A Welfare Use Case", Smart Manufacturing & Industry 4.0, Manchester Business School (East), Manchester, UK, Sept 7, 2015.

[Pub165] Charalampos Patrikakis, Andreas Kapsalis, Dimitra I. Kaklamani, "ARUM Living Lab: A Walk Through the Future of Production Management", XVII International Conference Complex Systems: Control and Modeling Problems, Samara, Russia, June 22-25, 2015.

[Pub163] Charalampos Patrikakis, "Protection in eGovernment Services through the use of Semantic Web", European, Mediterranean & Middle Eastern Conference on Information Systems (EMCIS2015), Athens Greece, 01-02 June, 2015.

[Pub159] Χ. Πατρικάκης, «Συνδυάζοντας τον φυσικό με τον ηλεκτρονικό κόσμο: το κυνήγι του θησαυρού», Εκδήλωση με θέμα «Εκπαίδευση στα μέσα μαζικής επικοινωνίας», Κεντρικό Κτήριο Πανεπιστημίου Αθηνών, Αθήνα, 10/3/2015.

2014

[Pub150] E. N. Gkika, C. Patrikakis "Using Information Centric Networking to support the Internet of Things", Data Communication Session, International Scientific Conference eRA – 9 The SynEnergy Forum, TEI of Piraeus, Greece, 22- 24 September 2014.
[Pub148] Emmanuel Protonotarios, Charalampos Patrikakis, "The Future of multimedia in social and quality aware networks", 6th international symposium on communications, control and signal processing, Athens, Greece, May 21-23 2014.

2013

[Pub147] Charalampos Patrikakis, Athanasios Delikaris, Stefanos Kalantzis, "SCAINET", IF21: Internet of Humans and Machines, Globecom 2013, Atlanta Georgia, USA, December 12, 2013.

[Pub122] Σπαή Αγγελική, Κούτσικος Λουκάς, Ντόβα Μαρία, Μαρκοπούλου Φωτεινή, Πατρικάκης Χαράλαμπος, Ραγκούση Μαρία, "Προσέγγιση Εννοιών Φυσικών Επιστημών στην Προσχολική Εκπαίδευση με την αξιοποίηση Σύγχρονων Προγραμματιστικών Περιβαλλόντων και διαδικτυακών εφαρμογών," 7ο ΠΑΝΕΛΛΗΝΙΟ ΣΥΝΕΔΡΙΟ ΤΩΝ ΕΚΠΑΙΔΕΥΤΙΚΩΝ ΓΙΑ ΤΙΣ Τ.Π.Ε., Υπουργείο Παιδείας, Σύρος, 21-23 Μαϊου 2013.
Abstract: Στην εκπαιδευτική πρακτική του Νηπιαγωγείου, η χρήση Τεχνολογιών Πληροφορίας και Επικοινωνίας, για τη διαπραγμάτευση των επιμέρους γνωστικών αντικειμένων, εμφανίζει αυξημένο ενδιαφέρον τα τελευταία χρόνια, γεγονός το οποίο θεσμοθετείται και από το Νέο Πρόγραμμα Σπουδών του Ψηφιακού Σχολείου. Η προσέγγιση εννοιών φυσικών επιστημών καθώς και των αντίστοιχων φαινομένων δεν θα μπορούσε να αποτελέσει εξαίρεση. Οι εκπαιδευτικοί προσπαθούν να προσελκύσουν τους μαθητές τους στην προσέγγιση των παραπάνω χρησιμοποιώντας μέσα που έχουν κατασκευαστεί για αυτό το σκοπό (π.χ κατάλληλα εκπαιδευτικά λογισμικά και βίντεο). Στην κατεύθυνση αυτή είναι δυνατό να αξιοποιηθεί λογισμικό και ιστοσελίδες τα οποία αν και δημιουργήθηκαν με άλλους σκοπούς, γίνονται χρήσιμα εργαλεία για την ικανοποίηση συγκεκριμένων αναγκών του

εκπαιδευτικού έργου. Έτσι λοιπόν και λαμβάνοντας υπόψη ότι είναι ελάχιστες οι ψηφιακές εφαρμογές για τις φυσικές επιστήμες στο Νηπιαγωγείο, επιδιώξαμε με την παρούσα μελέτη να προτείνουμε τη χρήση του σύγχρονου προγραμματιστικού περιβάλλοντος Alice, από τον ίδιο τον εκπαιδευτικό της βαθμίδας αυτής που επιδιώκει την προσέγγιση φυσικών εννοιών και φαινομένων, όπως ο κύκλος του νερού και τα καιρικά φαινόμενα.

[Pub121] Βασιλική Χολέβα, Χαράλαμπος Πατρικάκης, «Διαθεματικές προσεγγίσεις για την εισαγωγή στις βασικές προγραμματιστικές έννοιες στην πρωτοβάθμια εκπαίδευση», ΗΜΕΡΙΔΑ: Τέχνη και Τεχνολογία στη Διαθεματική Εκπαίδευση, Λευκάδα, 15 Μαρτίου 2013.

[Pub120] Χαράλαμπος Πατρικάκης, «Από τις παρουσιάσεις και τα videos στο παιχνίδι: Δημιουργία εκπαιδευτικών παιχνιδιών, από παραδοσιακό πολυμεσικό υλικό μέσω της χρήσης καινοτόμων διαπροσωπειών», ΗΜΕΡΙΔΑ: Τέχνη και Τεχνολογία στη Διαθεματική Εκπαίδευση, Λευκάδα, 15 Μαρτίου 2013.

2012

[Pub119] Charalampos Z. Patrikakis, Angelos- Christos Anadiotis, Penetrating with DDoS Attacks, (available online at http://pentestmag.com), PenText Magazine, vol2 no 5, Aug 2012, pp [16-22].

2011

[Pub118] Charalampos Z. Patrikakis & Lemonia Argyriou . "My Own, Personal Video Broadcast", IEEE COMSOC MMTC E-Letter, Vol.6, No.7, July 2011,[Pp 52-55]

[Pub143] François Daoust, Philipp Hoschka, Charalampos Z. Patrikakis, Rui S. Cruz e Mário S. Nunes, David Salama Osborne, "HTML5: video na Internet", RTI - REDES, TELECOM E INSTALAÇÕES, Dec 2011 Issue, pp [38-45], Aranda Editora Técnica e Cultural Ltda, São Paulo, Brasil

2010

[Pub142] Patrikakis, Charalampos Z., and Stuart Porter. "Examining the Future of Multimedia Networking: Potential Impact on Internet and Provision of Services." Cutter Consortium Business Technology Trends & Impacts Executive Update, Vol. 11, No. 10, 2010.

2008

[Pub137] George V. Taskasaplidis, Charalampos Z. Patrikakis, "Web 2.0 and Enterprise 2.0: How They Are the Same, How They Are Different, and How They Will Impact the Enterprise", Cutter IT journal 2008, special issue on "Enterprise 2.0: Is It Time for Your Organization to Make the Transition? by Michel Bauwens, Charles E. Bess, Mark S. Choate, David Coleman, Brijesh Deb, Ruchali Dodderi, Vince Kellen, Charalampos Z. Patrikakis, and George V. Taskasaplidis (reprint of 2007 article publication on the same journal, after selection of the editors of articles for inclusion in the special issue), 2008.

Abstract: In this paper, an investigation to the following three topics is attempted: The first refers to the impact of Web 2.0 and Enterprise 2.0, expressed through the following questions. a) How Web 2.0 and Enterprise 2.0 may impact one another? Is this impact mutual or there is only a one way influence? b) Can Web 2.0 promote Enterprise 2.0 and the opposite? c) What are the differences between them? The second refers to how these technologies can collaborate expressed through the following questions: a) In which areas can they coexist and collaborate? b) In which areas Enterprise 2.0 can extend Web 2.0? The third focuses on how these Web 2.0 technologies can be implemented for enterprises and what are the benefits, difficulties and drawbacks expressed by the following

questions: a) How easy is to implement Web 2.0 technologies for enterprises? How beneficial web 2.0 technologies can be to enterprises? All these questions, considerations and argumentations are being analyzed and discussed.

[Pub117] Ch. Z. Patrikakis, A. S. Voulodimos, and G. V. Taskasaplidis, "E = mc2 (or Enterprise = Mashups' Created Content)", Cutter Benchmark Review, Vol. 8, No. 3, Mar. 2008
Abstract: This article investigates the issue of Enterprise Mashups, and the level in which the corresponding techniques are used by enterprises. The results of a related survey are presented, and the findings are analysed.

[Pub116] Ντάφης Β., Πατρικάκης Χ., Ξυλούρη-Φραγκιαδάκη Ε., Σιδερίδης Α., "Χρήση RFID συστημάτων για τον έλεγχο υγείας και βιοασφάλειας τροφίμων, πρακτικά του 24ου Ετήσιου Επιστημονικού Συνεδρίου, Ελληνικής Ζωοτεχνικής Εταιρίας, Άρτα 2008 (επιθεώρηση Ζωοτεχνικής επιστήμης, ειδική έκδοση 34 , Δεκέμβριος 2008).
Abstract: Στη συγκεκριμένη μελέτη σχεδιάστηκε ένα πρότυπο καταγραφής πληροφοριών βασισμένο στα ισχύοντα πρότυπα σήμανσης και παρακολούθησης καθώς και την υπάρχουσα νομοθεσία. Με βάση αυτό, παράμετροι ταυτότητας, διακίνησης, παραγωγικά και αναπαραγωγικά στοιχεία, στοιχεία διατροφής και ηθολογίας, καθώς και παράμετροι υγείας των ζώων είναι δυνατό να καταγράφονται με τη χρήση RFID συστημάτων.

[Pub115] Charalampos Z. Patrikakis and Emmanuel N. Protonotarios, "Context aware services: Getting good help without revealing too much", MAGNET Beyond Workshop: Personalization in future ubiquitous communication, ICT-MobileSummit 2008, Folkets Hus, Stockholm, Sweden, June 9, 2008
Abstract: In this presentation, the issue of privacy versus accuracy in context aware mobile services is addressed. The presentation focuses on the privacy concerns of mobile users and the use of personal information for the provision of added value, personalized services. Techniques for privacy protection and solutions for determining the level of abstraction that should be applied on personal information reporting when asking for context aware and location based services are discussed.

2007

[Pub151] Xylrouri-Fragkiadaki, E. ; Hadjigeorgiou, I. ; Poulopoulou, I. ; Paparadi, A. ; Patrikakis, C.Z. ; Sideridis, A.B. , "Bioagro: A portal that aims to the promotion and improvement of organic agriculture in European Union, PROCEEDINGS OF THE INTERNATIONAL CONGRESS ON ANIMAL HYGIENE ; 13TH VOLS 1 & 2 2007, pp 651-658, ISAH-2007, Tartu Estonia, 2007
Abstract: Global community has recently shown a significant interest in environmental conservation in order to assure food safety and quality. Organic Agriculture (OA) as an alternative approach to the conventional intensive farming responds to these demands and has significantly been developed in many European countries and elsewhere. Organic Animal Farming (OAF) systems and the related grassland farming have also gained a significant importance for these systems. However, ten years after the application of organic agriculture, a combination of problems (lack of technical knowledge and information, reliable system for promotion of organic products) are present. In order for the organic agriculture to continue its growth, solutions to these problems have to be found. Through this frame, the use of Internet can give solutions to the problems listed above. The aim of this study is the presentation of a reliable service platform, that can operate as the major information source for people related to organic agriculture (veterinarians, agronomists, farmers, food enterprises, consumers etc) in European Union, and in parallel provide e-servicesregarding OA. The platform is designed and implemented according to the European Union programme e-Content 11293 "Bio@gro". 2The countries participating in this programme are Greece, Germany, Romania and Cyprus. The content of the portal is given in English and in the four languages of the participant countries, thus the portal can be accessible by a vast number of users. The information provided through the platform is taken from all possible sources (e.g. Ministries, Research Institutes and Organisations) that deal with OA in general. In particular the aim of Bio@gro as regards access to information is the presentation of reliable information (legislation, practice guides etc) and services for the promotion and support of organic agriculture. However, Bio@gro

is more than that. It is a comprehensive e-services platform, covering: a) E-commerce b) E-learning c) Digital Library d) Calendar of events related to organic agriculture e) The option of exchanging opinions.

[Pub114] George V. Taskasaplidis, Charalampos Z. Patrikakis, "Web 2.0 and Enterprise 2.0: How They Are the Same, How They Are Different, and How They Will Impact the Enterprise", Cutter IT journal, December 2007 issue: "Enterprise 2.0: Will Corporations Embrace the Social Media Revolution?", pp. 16-20, Dec 2007
Abstract: In this paper, an investigation to the following three topics is attempted: The first refers to the impact of Web 2.0 and Enterprise 2.0, expressed through the following questions. a) How Web 2.0 and Enterprise 2.0 may impact one another? Is this impact mutual or there is only a one way influence? b) Can Web 2.0 promote Enterprise 2.0 and the opposite? c) What are the differences between them? The second refers to how these technologies can collaborate expressed through the following questions: a) In which areas can they coexist and collaborate? b) In which areas Enterprise 2.0 can extend Web 2.0? The third focuses on how these Web 2.0 technologies can be implemented for enterprises and what are the benefits, difficulties and drawbacks expressed by the following questions: a) How easy is to implement Web 2.0 technologies for enterprises? How beneficial web 2.0 technologies can be to enterprises? All these questions, considerations and argumentations are being analyzed and discussed.

2006

[Pub139] Ch. Patrikakis , J. Angelopoulos, Y. Despotopoulos, H. Leligou, T. Orphanoudakis, Ch. Karaiskos, "An overlay architecture and implementation for flexible streaming of multimedia content", 1st International Scientific Conference eRA, Supported by TEI of Piraeus (GR) & University of Paisley (UK), Tripolis 16-17 September 2006.
Abstract: To sidestep the problem of low penetration of multicast and QoS enabling mechanisms in IP networks, overlay network techniques are used that avoid undue duplication of streaming flows while transcoding or scalable encoding can be used for graceful adaptation of the stream to the capabilities of access systems. The idea described in this paper is based on a flexible network independent platform which can be easily deployed through the use of personal computers. It employs overlay network solutions for setting up the media distribution scheme, independently from the underlying network. It incorporates mechanisms for dynamic setup and discovery of nodes, adaptability to network conditions and self- configuration, without the involvement of the users. The design and implementation of the Relay Modules, an essential element in such an architecture, is outlined. It can be deployed at low powered end systems, simple PCs or even in PDAs and successful tests have been carried out demonstrating that this implementation can be easily and transparently deployed on top of any underlying network.

[Pub138] Anastasios A. Pallas1, Charalampos Z. Patrikakis, "An Overview of Spam Phenomenon; and the Key Findings of a Survey for Spam in Greece ", 1st International Scientific Conference eRA, Supported by TEI of Piraeus (GR) & University of Paisley (UK), Tripolis 16-17 September 2006.
Abstract: Spam has been involved in the every day life of e-mail users. They actually recognized it when they get annoyed with advertisements, bulk e-mail messages or in general all the unwanted e-mails in their mailbox. Recently, spam phenomenon has been also found to "speak" the Greek language; and some international flavors to shifting from annoying to threatening Internet users, which in effect constitute a major security and fraud issue over Internet. In the current paper, apart from introducing spam problem and providing an overview of its current countermeasures (anti-spamming), we present the most significant key finding from our survey for the spam phenomenon in Greece. Our areas of interest cover some of the major spam issues such as: awareness, impact, costs, legislation and anti-spamming.

[Pub121] Ioannis Hadjigeorgiou, Eftichia Xylouri, Ioanna Poulopoulou, Irene Frangiadaki, A Paparadi, Charalampos Patrikakis, Alexandros Sideridis, "A Portal Technology to support European Organic Animal Production", Poster at: Joint Organic Congress, Odense, Denmark, May 30-31, 2006.

Abstract: Organic Agriculture (OA) is a reply to Global Society's interest in food safety and environmental conservation. Many European countries have significantly developed the OA sector, where Organic Animal Farming (OAF) systems hold a major part. Since, OA principles, methods and products are constantly evolving, an increasing number of agricultural agencies are using Web sites or portals to provide OA information to stakeholders. However, finding trustworthy information on OA is still time consuming, fragmented and associated with linguistic obstacles. This paper reports a new on-line service that provides (a) access to multilingual, specialized, updated and certified on-line information covering all OA plant and animal production aspects, (b) access to electronic commerce and mobile services to all participants of the OA chain and (c) user-friendly access via various communication channels. The on-line services are implemented via a central portal at the European level, aiming to provide a single point access to various OA agents. The portal presented is the result of a research programme in the context of the European Union e-content project 11293 "BIO@GRO". The http://bioagro.aua.gr portal is ambitious to cover all the information needs of the OA stakeholders.

[Pub141] Ι. Αγγελόπουλος, Γ. Σύρκος, Χ. Καραΐσκος, Π. Μπούσλης, Ε. Λελίγκου, Χ. Πατρικάκης, Θ. Ορφανουδάκης "Σχεδίαση και Υλοποίηση Αρχιτεκτονικής Υπερκείμενου Δικτύου για Αποδοτική Μεταφορά Ροής Περιεχομένου Πολυμέσων Πραγματικού Χρόνου μέσω του Διαδικτύου", Αποτελέσματα Ερευνητικού Προγράμματος ΑΡΧΙΜΗΔΗΣ – Ενίσχυση Ερευντικών Ομάδων στο ΤΕΙ Πειραιά (κατηγορία πράξης 2.2.3.στ) ΕΠΕΑΚ ΙΙ, Αθήνα 2006.

[Pub135] Aruna Balakrishnan, Larry Clinton, Greg Garcia, Bill Hancock, Jay Horwitz, Lee Imrey, Debra van Opstal, Anastasios A. Pallas, Charalampos Z. Patrikakis, Shari Lawrence Pfleeger, Jeffrey B. Ritter, Rachel Rue, Steve Ruwe, Ty R. Sagalow, Robert B. Stephan, M. Vidyasagar, Tom Welsh, and Carol Woody, "Cyber Security: Strengthening Corporate Resilience, Chapter 5: Are We Ready to Face Next-Generation Spam?", 156 pages, CUTTER CONSORTIUM, Arlington, MA 02474, USA, December 2006.

Abstract: In this report on cyber security, we ask, "Is it time to change our strategy?" Apparently, the answer is a resounding "yes." Nearly every chapter calls for fairly fundamental shifts in strategy to address a problem that most evidence suggests is growing like a malignant tumor and which we may understand far less how to treat. Chapters included stem from senior US government officials, major universities, think tanks, and corporations spanning Europe, Asia, and North America. The chapters deal with a wide array of issues, ranging from the macro concerns regarding how terrorists might use cyber warfare to inflict severe physical pain on large populations, down to more micro issues such as newly emerging forms of spam over wireless and VoIP technology. However, despite the breadth of contributors and topics covered, virtually every author essentially echoes the view offered in our lead chapter by Bob Stephan, US Department of Homeland Security's (DHS) Assistant Secretary for InfrastructureProtection: "In today's world, the traditional security paradigm is shifting to encompass the unique challenges presented by the digital landscape."

2005

[Pub140] Θανόπουλος Χ., Πετρόπουλος Σ., Πάσσαμ Χ., Ακουμιανάκης Κ., Μπιλάλης Δ., Πατρικάκης Χ. και Α. Σιδερίδης (2005): Δημιουργία ηλεκτρονικής πύλης για την παροχή πληροφοριών σχετικά με την βιολογική γεωργία. 22ο Συνεδριο Ελληνικης Εταιρειας Επιστημης Οπωροκηπευτικων. Πάτρα, Οκτωβρίου 2005. Πρακτ. Σελ 537-540.

Abstract: Στην παρούσα μελέτη παρουσιάζεται η δημιουργία μιας ηλεκτρονικής πύλης για τη Βιολογική Γεωργία, μέρος της οποίας αναφέρεται στην καλλιέργεια των κηπευτικών, στα πλαίσια του Ευρωπαϊκού προγράμματος BIO@GRO. Η μελέτη βασίζεται στα αποτελέσματα έρευνας που έγινε σε άτομα που δραστηριοποιούνται στην παραγωγή, διάθεση και κατανάλωση των βιολογικών προϊόντων και σε επιστήμονες που δουλεύουν στο χώρο αυτό. Μέσω της δημιουργούμενης ηλεκτρονικής βάσης (portal) παρέχονται σε όλους τους ενδιαφερόμενους (παραγωγούς, εμπόρους, μεταποιητές, καταναλωτές, γεωπόνους και ερευνητές) υπηρεσίες με διαρκή και έγκυρη πληροφόρηση πάνω σε θέματα Βιολογικής Γεωργίας (ηλεκτρονική βιβλιοθήκη, σχετικά άρθρα, γεγονότα,

εκπαιδευτικό υλικό κ.α.), υπηρεσίες ηλεκτρονικού εμπορίου (έρευνα αγοράς και τάσεις της αγοράς, τιμές προϊόντων και διαφήμιση εταιρειών και προϊόντων) και τέλος παροχή αντίστοιχων υπηρεσιών μέσω κινητής τηλεφωνίας.

[Pub136] Michael Argyropoulos, Charalambos Patrikakis, George Tranoudis, Costantinos Boukouvalas, Mario Serafim Nunes, «IST OLYMPIC project (Project reference: IST-2000-30046): Design, deployment and evaluation of a large scale platform for streaming live and prerecorded content over the Internet», Newsletter of the Federation of Telecommunications Engineers of the European Union, December 2005.
Abstract: In this report the results of the European IST OLYMPIC that has designed, and implemented novel end-to-end large scale network solutions and multimedia coding techniques, towards the realization of a decentralized system able to efficiently capture, encode and distribute hundreds of personalized audio and video streams from live sources across the Web to multiple recipients are presented.

2004

[Pub113] Charalampos Patrikakis, "OLYmpics Multimedia Personalized for the Internet Community", 2nd EU-China Workshop on Digital Olympics , April 2004
Abstract: In this presentation the designed architecture for real time media distribution to large numbers of clients over the internet is explained. In parallel, implementation of the actual platform that was used in the pilot trials of the Athens 2004 Olympic Games is also be presented. The main purpose of the trials was to demonstrate the functionality and performance of the platform in covering live, major events such as the Olympic Games. Live and pre-recorded video will be distributed to numerous end-users, covering various types of user access technologies. In order to understand the deployment of the Olympic platform, a brief overview of the architecture is given together with the requirements imposed by the efficient content distribution process.

Εκπαιδευτικό υλικό

[Pub152] Σύμβουλος σχεδίασης και παραγωγής εκπαιδευτικού υλικού σε μορφή CD-ROM, web based presentation, powerpoint presentation με θέμα "Συστήματα Ασύρματου τοπικού Βρόχου (Wireless Local Loop)", Εργαστήριο Τηλεπικοινωνιακών Συστημάτων του Εθνικού Μετσόβιου Πολυτεχνείου, για λογαριασμό της Διεύθυνσης Εκπαίδευσης του ΟΤΕ (2002).

[Pub153] Σύμβουλος παραγωγής και επιμέλεια εκπαιδευτικού υλικού σε μορφή CD-ROM, web based presentation, powerpoint presentation με θέμα "Ηλεκτρονικό Εμπόριο (e-commerce)", Εργαστήριο Τηλεπικοινωνιακών Συστημάτων του Εθνικού Μετσόβιου Πολυτεχνείου, για λογαριασμό της Διεύθυνσης Εκπαίδευσης του ΟΤΕ (2002).

[Pub154] Υπεύθυνος σχεδίασης και παραγωγής, επιμέλεια υλικού και σχεδίαση ιστοσελίδων εκπαιδευτικού υλικού σε μορφή CD-ROM, web based presentation, powerpoint presentation με θέμα "MPLS (Multi Protocol Label Switching)", Εργαστήριο Τηλεπικοινωνιακών Συστημάτων του Εθνικού Μετσόβιου Πολυτεχνείου, για λογαριασμό της Διεύθυνσης Εκπαίδευσης του ΟΤΕ (2002).

[Pub155] Ανάλυση, σχεδίαση και επίβλεψη ανάπτυξης του CD ROM με τίτλο : "Telematic Applications for the continuous training of mariners" στα πλαίσια του Ευρωπαϊκού έργου «Leonardo da Vinci», Πανεπιστήμιο Αιγαίου – Τεχνογνωστική Τεκμηρίωση. (2001).

[Pub156] Σχεδίαση παραγωγής του CD ROM με τίτλο : "Σεξουαλική αγωγή διαφυλικές σχέσεις για μαθητές γυμνασίου" στα πλαίσια του ΕΠΕΑΕΚ «Ενέργεια 1.1 στ.2 «Αγωγή Υγείας στα σχολεία», Έργο 1: Διαμόρφωση εκπαιδευτικών προγραμμάτων και δημιουργία διδακτικού και εκπαιδευτικού υλικού», υπουργείο Εθνικής Παιδείας και Θρησκευμάτων – Εθνική Σχολή Δημόσιας Υγείας, C.M.T Προοπτική Ε.Π.Ε. (2000).

[Pub157] Προγραμματισμός στα πλαίσια ανάπτυξης του CD ROM με τίτλο: "Δίκτυο Δολίχη. Οι νέοι του Αιγαίου προβάλλουν τον τόπο τους" στα πλαίσια του «ειδικού προγράμματος υποστήριξης πρωτοβουλιών νέων της Γενικής Γραμματείας Νέας Γενιάς», Αναπτυξιακό Κέντρο Οινουσσών Αιγαίου (2000).

[Pub158] Ανάπτυξη σημειώσεων για το Αντικείμενο: Μ4. «Επιχειρηματικότητα – Ηλεκτρονικό Επιχειρείν» στα πλαίσια του προγράμματος Προγράμματος Δια Βίου Μάθησης ΑΕΙ για την Επικαιροποίηση Γνώσεων Αποφοίτων ΑΕΙ (ΠΕΓΑ) «Ψηφιακά και ενσωματωμένα συστήματα – Βιομηχανικές εφαρμογές αιχμής», (Ομάδα ανάπτυξης υλικού: Νικόλαος Ζάχαρης, Χαράλαμπος Πατρικάκης, Ηλίας Σταύρακας, Παναγιώτης Φωτόπουλος) (2014).

Συμβολή σε πρότυπα – νομοθεσία

[Pub145] Φύλλο Εφημερίδας Κυβερνήσεως, αρ 88, 26/1/2005: «Κανονισμός για τη Διασφάλιση του Απορρήτου στις Διαδικτυακές Επικοινωνίες για τις συναφείς Υπηρεσίες και Εφαρμογές», «Κανονισμός για τη διασφάλιση του Απορρήτου Διαδικτυακών Υποδομών», «Κανονισμός για τη Διασφάλιση του Απορρήτου Εφαρμογών και Χρήστη Διαδικτύου».

[Pub146] Contributions to Public consultation on thematic priorities in the Networked Audio-Visual Systems research area, Information Society Technologies, European Commission[Pp 60-62], 2006.

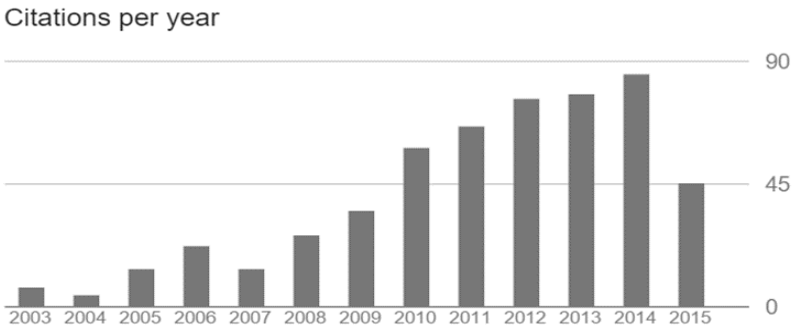
ΑΞΙΟΠΟΙΗΣΗ ΕΠΙΣΤΗΜΟΝΙΚΟΥ ΕΡΓΟΥ ΑΠΟ ΑΛΛΟΥΣ ΕΡΕΥΝΗΤΕΣ (CITATIONS) ΠΗΓΗ: GOOGLE SCHOLAR

Τα στοιχεία που ακολουθούν έχουν ενημερωθεί στις 4/12/2014. Για την τελευταία ενημέρωση μπορείτε να επισκεφθείτε την ιστοσελίδα ***http://scholar.google.com.tr/citations?user=n-0EH0EAAAAJ&hl=en***

Δείκτες παραθέσεων

	Σύνολο	Από το 2010
Αναφορές	547	410
h-index	10	9
i10-index	10	8

Ετεροαναφορές ανά έτος



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