Ecosystem Approach on Medical Game Development: The Relevant Actors, Value Propositions and Innovation barriers

This paper explores the medical game ecosystem and reveals the reciprocal value propositions of the relevant actors of medical game ecosystems, as well as barriers that may be complicating or hindering realization of the value propositions. The case comprises an emerging medical game ecosystem in Finland in the traumatic brain injury (TBI) rehabilitation context. This study presents 12 actor groups, their value propositions, and the barriers between the actors. This paper gives a comprehensive view of the actual medical game ecosystem that is needed to utilize the full potential of gamification and serious games in the health care sector.

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Organisations: Industrial and Information Management, Research group: Center for Innovation and Technology Research, University of Vaasa
Authors: Litovuo, L., Makkonen, H., Aarikka-Stenroos, L., Luhtala, L., Mäkinen, S.
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Research output: Scientific - peer-review › Conference contribution

Problems of enterprise architecture adoption in the public sector: root causes and some solutions

Enterprise architecture (EA) is a comprehensive approach aimed at understanding and aligning an organization’s business strategy and processes, information resources, and information technologies. However, implementing this approach in an organization is not an easy task as organizations have their preexisting siloes and fragmented procedures and departments. Comprehensive, inter-organizational practices, such as EA, usually break old procedures and habits, shift decision-making power, and challenge old values. This makes EA endeavors extremely difficult. In this paper, we conduct a qualitative multiple-case study. We use institutional theory to identify problems and their root causes in EA adoption in three cases. We also discuss possible solutions—by identifying eight root causes and several examples, both successful and not-so-successful—to mitigate or overcome these problems. We also argue that institutional theory and its three pillars provide a usable lens to analyze EA adoption.

General information
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Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Industrial and Information Management, Research group: Business Data Research Group
Authors: Dang, D. D., Pekkola, S.
Pages: 177-198
Publication date: 18 Aug 2017

Host publication information
Title of host publication: Information technology governance in public organizations: theory and practice
Publisher: Springer International Publishing
Editors: Rusu, L., Viscusi, G.
ISBN (Print): 978-3-319-58977-0
ISBN (Electronic): 978-3-319-58978-7

Publication series
Name: Integrated Series in Information Systems
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DOIs: 10.1007/978-3-319-58978-7_8
Research output: Scientific - peer-review › Chapter

A bibliometric study on authorship trends and research themes in knowledge management literature

General information
State: Published
Explaining the challenges in ERP development networks with triggers, root causes, and consequences

General information
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Ministry of Education publication type: A1 Journal article-refereed
Organisations: Industrial and Information Management
Authors: Kähkönen, T., Alanne, A., Pekkola, S., Smolander, K.
Publication date: Apr 2017
Peer-reviewed: Yes

Publication information
Journal: Communications of the Association for Information Systems
Volume: 40
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ISSN (Print): 1529-3181
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Scopus rating (2015): SJR 0.474 SNIP 1.011 CiteScore 1.76
Scopus rating (2014): SJR 0.537 SNIP 0.895 CiteScore 1.76
Scopus rating (2013): SJR 0.511 SNIP 1.041 CiteScore 1.74
Scopus rating (2012): SJR 0.442 SNIP 0.712 CiteScore 1.2
Scopus rating (2011): SJR 0.486 SNIP 1.028 CiteScore 1.13
Scopus rating (2010): SJR 0.239 SNIP 0.401
Scopus rating (2009): SJR 0.122 SNIP 0
Scopus rating (2008): SJR 0.122 SNIP 0
Scopus rating (2007): SJR 0.122 SNIP 0
Original language: English
Links:
http://aisel.aisnet.org/cais/vol40/iss1/11/
Research output: Scientific - peer-review › Article

Visualizing the Geography of Platform Boundary Resources: The Case of the Global API Ecosystem

Platform boundary resources play an increasingly transformative role in the global digital ecosystem. In this study, we focus on one type of platform boundary resource, namely application programming interfaces (APIs). Guided by two competing assumptions—1) that geographic boundaries are blurred and potentially less important in a digitally connected world, and 2) that geographic proximity matters for co-innovation—we investigate the global footprint of APIs. Using a data-driven visual network analysis approach to examine more than 15,000 APIs and mashups, we first map the global locations of where APIs are being created. We then examine how API mashups connect these locations globally and regionally. Our results show that while APIs are globally distributed, they are mainly concentrated in major entrepreneurial regions. We also find that there is a skewed distribution, with the U.S. and Silicon Valley in particular leading the way. We conclude with both theoretical and managerial implications.
Application for pre-processing and visualization of electrodermal activity wearable data

Using sensors to gather physiological data about users can provide valuable insights that are not available merely using traditional measures. Electrodermal activity (EDA) can act as an indicator for both physiological and psychological arousal. Measuring arousal has several application areas. For instance, prolonged and often recurring high arousal levels can indicate that a person is suffering from chronic stress. At the other extreme, for example, in elderly care constant low arousal levels can signal that the senior citizens are not getting enough activity and attention from the care personnel. In the context of events, measurement of arousal can indicate when the persons get excited and when they are more calm.

This study presents a pilot study of EDA measurements conducted during a trade fair. Providing timely and meaningful information for a group of people being measured, however, requires pre-processing the data and creating visualizations that enable both individual and collective level sense-making of the results. The aim of this study was to develop a process and an open source application that can automatically pre-process large amounts of data from wearable sources, and create visualizations, to be used in events for immediate sense-making.
Infrastructures, integration and architecting during and after digital transformation
In this paper we look at infrastructure and architecting challenges stemming from digital transformation of companies, which changes both their infrastructure and architectural work. Companies will use increasingly external digital infrastructures for their business operations and this will change both architecting and the role of architects. We outline challenges brought by using external digital infrastructures and finally propose research topics based on the identified changes in architectural practice.

Master data management and its organizational implementation: an ethnographical study within the public sector
Purpose: Master data management (MDM) aims to improve the value of an organization’s most important data, such as customer data, by bridging the silos between organizational units and information systems. However, incorporating data management practices into an organization is not a simple task. The purpose of this paper is to provide a new understanding of the challenges in establishing and developing the MDM function within an organization.
Design/methodology/approach: This papers report an ethnographic study within a municipality. The data were collected from two consecutive MDM development projects over the time period of 32 months by observing MDM-related activities and interviewing appropriate actors. Observations, interviews, and impressions were documented to a diary that was later qualitatively analyzed. Various project documentation were also used. Findings: In total 15 challenges were identified. Seven of these were not identified earlier in the literature. New challenges included legislation-driven challenges, mutual understanding of master data domains, and the level of granularity for those domains. Eight issues, such as data owner and data definitions, were MDM specific, others being more generic. All of the issues were identified as preconditions or as affecting factors for the others. Three of the issues were identified as pivotal. The issues emphasize strong alignment between the complex concept of MDM and the organization adopting it. Research limitations/implications: This research was based on a single qualitative case study, and caution should be exercised with regard to generalizations. The findings
increase understanding about the complex organizational phenomena. The study offers public sector and private sector practitioners insights of the organizational issues that establishing a MDM function can encounter. Originality/value: The issues discovered in the research shed light on the strong alignment between the complex concept of MDM and the organization. The results of this study assist researchers in their endeavor to understand the organizational aspects of MDM, and to build theoretical models, frameworks, practices, and explanations.

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Ministry of Education publication type: A1 Journal article-refereed
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Authors: Vilminko-Heikkinen, R., Pekkola, S.
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Scopus rating (2015): SJR 0.427 SNIP 1.044 CiteScore 1.93
Scopus rating (2014): SJR 0.417 SNIP 0.893 CiteScore 1.4
Scopus rating (2013): SJR 0.405 SNIP 1.163 CiteScore 1.68
Scopus rating (2012): SJR 0.472 SNIP 1.086 CiteScore 1.54
Scopus rating (2011): SJR 0.458 SNIP 1.108 CiteScore 1.53
Scopus rating (2010): SJR 0.457 SNIP 1.02
Scopus rating (2009): SJR 0.407 SNIP 0.808
Scopus rating (2008): SJR 0.533 SNIP 0.997
Scopus rating (2007): SJR 0.411 SNIP 0.613
Scopus rating (2006): SJR 0.216 SNIP 0.201
Scopus rating (2005): SJR 0.142 SNIP 0.128
Original language: English
DOIs: 10.1108/JEIM-07-2015-0070
Research output: Scientific - peer-review › Article

**MULTI-POS: Lessons Learnt from Fellows and Supervisors**
The path to a successful and cooperative network is not always smooth. Marie Curie networks are, by definition, networks of people with various technical and cultural backgrounds and with different personalities, individual work and life targets, and personal ways of solving the challenges that each has to cope with. The larger a network is, the more likely it is that some conflicts or personality mismatches appear, but this is not necessarily a bad thing, and it can be used as a learning and growth lesson. This chapter addresses the various challenges that were encountered during the MULTI-POS implementation and it summarizes the lessons learnt by both the fellows and the supervisors. The goal of this chapter is to offer some generic guidelines in forming and running large international networks, such as the Marie Curie training networks, and to enable the people interested in such collaborations to pro-actively identify and tackle some of the inherent challenges in such networks.

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Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Department of Electronics and Communications Engineering, Research group: Wireless Communications and Positioning, Research group: System-on-Chip for GNSS, Wireless Communications and Cyber-Physical Embedded Computing, Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Chalmers University of Technology
Authors: Lohan, E., Nurmi, J., Seco-Granados, G., Wymeersch, H., Nykänen, O.
Pages: 323-329
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Publisher: Springer
Strengthening social ties via ICT in the organization

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Industrial and Information Management
Authors: Torro, O., Pirkkalainen, H.
Number of pages: 10
Pages: 5511-5520
Publication date: 2017

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Keywords: social ties, ICT-mediated interaction, information and communications technology
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https://scholarspace.manoa.hawaii.edu/bitstream/10125/41828/1/paper0679.pdf
http://shidler.hawaii.edu/events/2017/01/04/hawaii-international-conference-on-system-sciences-50th-anniversary

Systematic literature review on enterprise architecture in the public sector

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Industrial and Information Management
Authors: Dang, D. D., Pekkola, S.
Publication date: 2017
Peer-reviewed: Yes

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Journal: ELECTRONIC JOURNAL OF E-GOVERNMENT
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ISSN (Print): 1479-439X
Original language: English
Research output: Scientific - peer-review › Article

Teollinen internet ja semanttinen mallinnus

General information
State: Published
Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Research group: Computer Science and Applied Logics
Authors: Nykänen, O.
Number of pages: 22
Pages: 102-123
Publication date: 2017

Host publication information
Title of host publication: Teollinen internet uudistaa palveluliiketoimintaa ja kunnossapitoa
Place of publication: Kerava
Publisher: Kunnossapitoyhdistys ProMaint
Editors: Martinsuo, M., Kärri, T.
ISBN (Print): 978-952-68887-0-7
Using enterprise architecture artefacts in an organisation

As a tool for management and planning, Enterprise Architecture (EA) can potentially align organisations’ business processes, information, information systems and technology towards a common goal, and supply the information required within this journey. However, an explicit view on why, how, when and by whom EA artefacts are used in order to realise its full potential is not defined. Utilising the features of information systems use studies and data from a case study with 14 EA stakeholder interviews, we identify and describe 15 EA artefact use situations that are then reflected in the related literature. Their analysis enriches understanding of what are EA artefacts, how and why they are used and when are they used, and results in a theoretical framework for understanding their use in general.
Processing Data for Visual Network Analysis

General information
State: Published
Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Industrial and Information Management, Research group: MAT Intelligent Information Systems Laboratory, Research group: Business Data Research Group
Authors: Huhtamäki, J., Russell, M. G., Still, K.
Number of pages: 16
Pages: 56-71
Publication date: 1 Dec 2016

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Title of host publication: Visual Analytics for Management: Translational Science and Applications in Practice
Publisher: Routledge
Editors: Bendoly, E., Clark, S.
Edition: 1
Article number: 5
ISBN (Print): 978-1138190719
Research output: Scientific - peer-review > Chapter

Rakennetun ympäristön sähköinen asiointipalvelu kuntien tiedolla johtamisen vauhdittajana

General information
State: Published
Ministry of Education publication type: D1 Article in a trade journal
Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), Solita Oy
Authors: Jussila, J., Sillanpää, V., Helander, N., Lehtonen, T., Krekola, L.
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Publication date: Dec 2016
Peer-reviewed: Unknown

Publication information
Journal: Tietoasiantuntija
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Issue number: 5
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Original language: Finnish
Research output: Professional > Article

The nexus between social media behaviour, negative consumer emotions and brand disloyalty

General information
State: Published
Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT)
Authors: Jalonen, H., Jussila, J.
Publication date: 11 Nov 2016
Peer-reviewed: Unknown
Keywords: social media, Electronic word of mouth, negative emotions, brand disloyalty
ASJC Scopus subject areas: Human-Computer Interaction
Links:
http://www.academic-conferences.org/conferences/ecmlg/ecmlg-future-and-past/
Research output: Scientific > Paper, poster or abstract
Perceived risks in social media use – a longitudinal study among university students.

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT)
Authors: Aramo-Immonen, H., Jussila, J. J., Ilvonen, I., Helander, N.
Number of pages: 4
Pages: 777-780
Publication date: 2 Nov 2016

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DOIs:
10.1145/3012430.3012606
Links:
https://2016.teemconference.eu/
Research output: Scientific - peer-review › Conference contribution

Can e-government solutions enhance the work in municipalities?: empirical evidence from case lupapiste
Digitalization and increasing demand of e-government services are not changing only the way the citizens can use public services, but also the nature of work of many municipality employees. At best this kind of digitalization can offer added value in the form of enhancing the work of the municipality personnel. In this paper, we study the effects of adopting an e-government service on work in municipalities. Based on an empirical investigation of five municipalities we propose flow efficiency as a key metric to grasp the added value of digitalization of a public service, as it reveals the most valuable activities as well as the potential bottlenecks. Flow efficiency measurement gives therefore a better indicator to be used in e-government process development than e.g. simple throughput time especially when evaluating the effects of digitalization on knowledge work productivity.

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), Solita Oy
Authors: Jussila, J., Helander, N., Lehtonen, T., Kallio, J., Sillanpää, V.
Number of pages: 6
Pages: 20-25
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ASJC Scopus subject areas: Public Administration, Information Systems, Human-Computer Interaction
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p20-jussila
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10.1145/2994310.2994357
Links:
http://urn.fi/URN:NBN:fi:tty-201611024678
Links:
http://www.mindtrek.org/2016/academic/
Research output: Scientific - peer-review › Conference contribution
Identifying weak ties from publicly available social media data in an event

The concept of weak ties was introduced by Granovetter through the seminal paper titled "Strength of weak ties". Since then the role of weak ties in general and their specific role as occupying the structural hole has been explored in many different fields. In this study, we identify actual or potential weak ties using publicly available social media data in the context of an event. Our case study environment is community managers' online discussions in social media in connection to the yearly-organized Community Manager Appreciation Day (CMAD 2016) event in Finland. We were able to identify potential weak ties using the conversation based structural holes, making use of social network analysis methods (like clustering) and content analysis in the context of events. We add to the understanding of and useful data sources for the Strength of weak ties theory originated from Granovetter, and developed further by other researchers. Our approach may be used in future to make more sophisticated conference recommendation systems, and significantly automate the data extraction for making useful contact recommendations from them for conference participants.

The 5C categorization of social media tools

Social media can offer potential business benefits in the company context. However, successful social media initiative calls for careful strategic planning and approaching social media tools as enablers for reaching a purpose. A categorization of social media tools is called for to help the strategic choices and evaluation between the tools. To date, no coherent classification exists, and those suggested approach social media tools from a substantival perspective of what a tool is. From strategical planning viewpoint it is more practical to take the functional perspective of what a tool does. In this paper, we present a framework for categorizing social media tools by the actions they enable. The 5C categorization is based on the actions enabled by the social media tools: communicating, collaborating, connecting, completing, and combining. In order to demonstrate how the 5C categorization can be used as a framework to assess social media tools we conducted an empirical study of social media based crowdsourcing platforms in business-to-business setting. The 5C categorization can be utilized in planning a social media strategy as it forwards the understanding of which tools are suitable for certain purpose and provides a scheme to evaluate and compare different social media tools and applications.
Developing a conceptual model for the relationship between social media behavior, negative consumer emotions and brand disloyalty

Companies have been facing the dark side of social media. Particularly, the odds of customer complaints and brand insults have increased tremendously. Social media has given a voice to disappointed consumers. They use the voice when they feel negative emotions, for example, due to product failures, service problems or unethical behavior. It seems reasonable to expect that the more ubiquitous social media becomes, the more it persuades people to share also their negative experiences. However, although social media raises new challenges for companies, it also gives them new opportunities. Social media enables companies to trace disappointed customers, evaluate their impressiveness and communicate with them. The conceptual paper aims to develop a model for the relationship between social media behavior, negative consumer emotions and brand disloyalty. The argument of this paper is that although social media gives consumers more power which is manifested in sharing negative emotions related to the company, the effect this has on brand disloyalty depends on the company's behavior.
Blogging as a virtual co-learning environment in the international course context

Co-learning, also known as collaborative learning, is a method of learning and teaching in which a team of learners together explore a significant question or create a meaningful project. A group of learners working together over the Internet on a shared assignment of creating a blog is an example of a virtual co-learning environment [1]. According to Järvenpää et al. [2], a virtual team member's trust in his/her team operates as a moderator, indirectly affecting the relationships between team communication and perceptual learning outcomes. Therefore, we first executed team-building exercises in virtual teams. Secondly, we instructed students to use blogging tools and create their own blog pages. Thirdly, we carried out a survey among students to assess the learning experiences in such a virtual co-learning environment. We have experimented with blogging as a co-learning environment among university students in the international course context. These experiments were conducted among a group of 39 students enrolled on an international knowledge management graduate course. We observed team building in virtual teams via team-building exercises [2]. We assessed the content of the blog pages and conducted a survey at the end of the course. In the paper, we discuss co-learning in virtual teams, introduce the results from the survey questionnaire and introduce live links to some sample blog pages.
Experienced risks in social media use – longitudinal study among university students

Several recent studies indicate that there is a need for increased use of ICT and social media in the Finnish education [1], [2]. This research was conducted in order to explore the attitude towards social media use among university students. The motivation for seeking answer to the research question: "What risks students experience in social media use?" derived from the need to discover learning barriers in social media based learning environments. In particular, there is a need for novel interaction means in order to co-create and learn informally [3] also beyond the traditional classroom. The assumptions, beliefs and attitudes towards social media are studied from the perspective of perceived risks of the students. The study was conducted among graduate students attending "Communities and Social Media in Knowledge Management" course between the years 2012-2016. A web-based survey was executed annually, with a total of 113 respondents. Based on the results we were able to categorize the perceived risks and derive implications on how to lower learning barriers of students in social media based learning environments.

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Organisations: Department of Information Management and Logistics, Research group: Novi, Pori Department, Research group: Business Ecosystems, Networks and Innovations, Managing digital industrial transformation (mDIT)
Authors: Jussila, J., Aramo-Immonen, H.
Number of pages: 6
Pages: 1255-1260
Publication date: 4 Jul 2016

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Editors: Gómez Chova, L., López Martínez, A., Candel Torres, I.
ISBN (Electronic): 978-84-608-8860-4

Publication series
Name: EDULEARN Proceedings
Publisher: IATED Academy
ISSN (Electronic): 2340-1117
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10.21125/edulearn.2016.1257
Links:
https://iated.org/edulearn/
Research output: Scientific - peer-review → Conference contribution

Vastuullisuusmallin kokeiluprojekti henkilöliikenneyrityksissä

The Finnish Transport Safety Agency Trafi is developing a management and procedure model for road transport companies with the purpose of reinforcing the safety culture of commercial traffic and promoting environmentally sustainable practices.

The two previous trial studies concerning the responsibility model focused on goods traffic. This third stage moved the focus on passenger traffic.

The trial was participated in by nine public transport and taxi companies of different sizes from around the country. Nine parties, both public and private, that order transports were interviewed to get an understanding of the views held by those who order such transports.

The study was commissioned by Trafi and implemented by the Verne Traffic Research Centre of the Tampere University of Technology. The project manager in charge was researcher Lasse Nykänen. In addition to Mr Nykänen, the research group consisted of his assistant Arttu Lauhkonen.

The steering group for the study met twice in the course of the project. The steering group was led by Sanna Ström. The other members were Juhani Intosalmi, Marke Lahtinen and Mikko Västilä from Trafi, and Lasse Nykänen and Arttu Lauhkonen from Traffic Research Centre Verne.

General information
State: Published
Ministry of Education publication type: D4 Published development or research report or study
Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne, Department of Information Management and Logistics
Visualizing informal learning behavior from conference participants’ Twitter data with the Ostinato Model

Network analysis is a valuable method for investigating and mapping the phenomena driving the social structure and sharing the findings with others. This article contributes to an emerging field of ‘smart data’ research on Twitter by presenting a case study of how community managers in Finland used this social media platform to construct an informal learning environment around an annually organized conference. In this empirical study we explore informal learning behavior in the project context, especially by analyzing and visualizing informal learning behavior from Twitter data using the Ostinato Model introduced in this paper. Ostinato is an iterative, user-centric, process-automated model for data-driven visual network analytics.

General information

State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Pori Department, Research group: Business Ecosystems, Networks and Innovations, Department of Information Management and Logistics, Research group: Novi, Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Managing digital industrial transformation (mDIT), Bath University
Authors: Aramo-Immonen, H., Kärkkäinen, H., Jussila, J., Joel-Edgar, S., Huhtamäki, J.
Number of pages: 12
Pages: 584-595
Publication date: Feb 2016
Peer-reviewed: Yes

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Journal: Computers in Human Behavior
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Scopus rating (2016): CiteScore 4.54 SJR 1.595 SNIP 2.137
Scopus rating (2015): SJR 1.556 SNIP 2.123 CiteScore 4.22
Scopus rating (2014): SJR 1.519 SNIP 2.327 CiteScore 4.16
Scopus rating (2013): SJR 1.727 SNIP 2.531 CiteScore 4.16
Scopus rating (2012): SJR 1.528 SNIP 2.099 CiteScore 3.47
Scopus rating (2011): SJR 1.492 SNIP 2.083 CiteScore 3.67
Scopus rating (2010): SJR 1.2 SNIP 1.695
Scopus rating (2009): SJR 0.881 SNIP 1.533
Scopus rating (2008): SJR 1.016 SNIP 1.837
Scopus rating (2007): SJR 1.016 SNIP 2.321
Scopus rating (2006): SJR 0.715 SNIP 1.604
Scopus rating (2005): SJR 0.731 SNIP 1.574
Scopus rating (2004): SJR 0.56 SNIP 1.371
# JeSuisCharlie: Towards a Multi-Method Study of Hybrid Media Events

This article suggests a new methodological model for the study of hybrid media events with global appeal. This model, developed in the project on the 2015 Charlie Hebdo attacks in Paris, was created specifically for researching digital media—and in particular, Twitter. The article is structured as follows. Firstly, the methodological scope is discussed against the theoretical context, e.g. the theory of media events. In the theoretical discussion, special emphasis is given to i) disruptive, upsetting, or disintegrative media events and hybrid media events and ii) the conditions of today’s heterogeneous and globalised media communication landscape. Secondly, the article introduces a multi-method approach developed for the analysis of hybrid media events. In this model, computational social science—namely, automated content analysis (ACA) and social network analytics (SNA)—are combined with a qualitative approach—specifically, digital ethnography. The article outlines three key phases for research in which the interplay between quantitative and qualitative approaches is played out. In the first phase, preliminary digital ethnography is applied to provide the outline of the event. In the second phase, quantitative social network analytics are applied to construct the digital field for research. In this phase, it is necessary to map a) what is circulating on the websites and b) where this circulation takes place. The third and final phase applies a qualitative approach and digital ethnography to provide a more nuanced, in-depth interpretation of what (substance/content) is circulating and how this material connects with the ‘where’ in the digital landscape, hence constituting links and connections in the hybrid media landscape. In conclusion, the article reflects on how this multi-method approach contributes to understanding the workings of today’s hybrid media events: how they create and maintain symbolic battles over certain imagined constructs of social imaginaries of solidarity, belonging, contestation, and exclusion, a topic of core value for the theory of media events.

**General information**

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Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, University of Tampere

Authors: Sumiala, J., Tikka, M., Huhtamäki, J., Valaskivi, K.

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Scopus rating (2014): SJR 2.158 SNIP 1.262

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Electronic versions:

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Links:


**Bibliographical note**

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ORG=tl0,0.33

ORG=mat,0.33

Research output: Scientific › peer-review › Article
Social media-based value creation and business models
Purpose - The purpose of this paper is to create an organized picture of the current understanding of social media-based value creation and business models. Design/methodology/approach - Following the process model presented by Fink (2005), a systematic literature review of academic journal articles published between 2005 and 2014 was conducted. The research was grounded on the theoretical foundations of service-dominant logic. Findings - This study offers detailed descriptions and analyses of the major social media mechanisms affecting how value is created in social media-based value networks and the kinds of impact social media can have on present and future business models. Research limitations/implications - The study is limited to academic research literature on business organizations, excluding all studies related to public and non-profit organizations. Practical implications - Attention is given to developing an in-depth understanding of the functions and concrete value creation mechanisms of social media-based co-creation within the different organizational processes (e.g. in product and service development and customer services) and to updating the related practices and knowledge. Originality/value - This study provides new insight into the challenges related to research models and frameworks commonly used for observing value creation, thus highlighting the need for further studies and updates.

The purpose of this paper is to introduce a model to manage knowledge security risks in organizations. Knowledge security risk management is a sensemaking process that should be carried out by managers, and the proposed model works as a tool for the sensemaking process. The model is illustrated with an analytical case example. The process model helps to identify knowledge security risks and provides a comprehensive approach to evaluating and balancing the costs and benefits of knowledge sharing and knowledge risk management. The paper addresses calls for research on the emerging topic of knowledge security and the important topic of new knowledge sharing tools from the combined perspectives of business benefits and risk management. The results presented in this paper are preliminary and conceptual, and further research on the topic is suggested. The process model proposed in this paper can be a valuable tool for practitioners aiming to develop knowledge sharing practices in companies, and at the same time need to consider the security of knowledge.

General information
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Authors: Ilvonen, A., Jussila, J. J., Kärkkäinen, H.
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Scopus rating (2015): SJR 0.586 SNIP 0.75 CiteScore 1.2
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Scopus rating (2013): SJR 0.293 SNIP 0.415 CiteScore 0.45
Scopus rating (2012): SJR 0.272 SNIP 0.718 CiteScore 0.61
Scopus rating (2011): SJR 0.316 SNIP 0.768 CiteScore 0.7
Scopus rating (2010): SJR 0.167 SNIP 0.156
Scopus rating (2009): SJR 0.148 SNIP 0.139
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Research output: Scientific - peer-review Article

Uusilla työvälineillä somen suomenkieliset tunnesääliöt analyysiin ja hyötykäyttöön

General information
State: Published
Visualizing co-authorship networks for actionable insights: action design research experiment

Increasing interest has been expressed in lowering the barrier for research access. Several approaches exist, including more active communication on research, the use of social computing-oriented networking tools for researchers, parallel publishing of research publications, and the use of research management systems for collecting, managing, and publishing bibliographical data. In this paper, we target the first step of research access, namely the use of publication metadata available in current research information systems. More specifically, we will take an action design research approach to experiment how visual network analytics could be used to create additional value for bibliographical data. We will tap into the current research information system of a selected university to develop a prototype of a self-service co-authorship network visualization and engage with four researchers to identify the key requirements for taking such an approach and to explore the potential value that could be created with visual analytics of bibliographical data. We contribute a set of design guidelines to support the development of computational visual network analytics tools for research collaboration analyses using bibliographical data.

General information

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Authors: Huhtamäki, J.
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Technology Trees and Tools: Constructing Development Graphs for Digital Games

In the recent years, digital games have solidified their role as important parts of life for a considerable portion of the population. Game development has become an extremely important industrial branch with a great deal of competition between developers and publishers. There is only a limited amount of resources to put in the development of a game, but the modern customers expect high quality.

Taking these constraints into account, this dissertation focuses on developing implementations of a structure that is used widely in different games: technology trees (TTs). This term covers here also so-called skill trees, talent trees, perk trees, and other such structures used to limit and guide in-game development and define development possibilities. The aim is to propose methods and usage of tools helping to achieve high TT quality, simultaneously facilitating the actual development process and reducing human workload.

The main contributions of this dissertation consist of ideas, models, methods, and software tool prototypes constructed during the research work. The significance of the thesis is amplified by the fact that there are only very few previous academic studies focusing on TTs.

The thesis proposes a generic approach to implement TTs. The design and implementation work are facilitated by tool support and automated code generation. The central prototype tool, Tech Tree Tool (TTT) is introduced, first in its core form and then as improved by TT measuring (and limited automatic adjusting) capabilities. The challenge of modifying TTs during runtime is addressed, also taking advantage of related improvements on TTT. Because TTs are often operated by artificially intelligent entities, discussion on a generic artificial intelligence approach and related tools is included. Moreover, contemporary real-life TTs are analyzed and generic TTs characterized.

SimpleTree: An Efficient Open Source Tool to Build Tree Models from TLS Clouds

An open source tool named SimpleTree, capable of modelling highly accurate cylindrical tree models from terrestrial laser scan point clouds, is presented and evaluated. All important functionalities, accessible in the software via buttons and dialogues, are described including the explanation of all necessary input parameters. The method is validated utilizing 101 point clouds of six different tree species, in the main evergreen and coniferous trees. All scanned trees have been destructively harvested to get accurate estimates of above ground biomass with which we assess the accuracy of the SimpleTree-reconstructed cylinder models. The trees were grouped into four data sets and for each one a Concordance Correlation Coefficient of at least 0.92 (0.92, 0.97, 0.92, 0.94) and an total relative error at most ~8 % (2.42%, 3.59%, −4.59%, 8.27%) was achieved in the comparison of the model results to the ground truth data. A global statistical improvement of derived cylinder radii is presented as well as an efficient optimization approach to automatically improve user given input parameters. An additional check of the SimpleTree results is presented via comparison to the results of trees reconstructed using an alternative, published method.
MYSTERY SHOPPERS RECOGNISING KNOWLEDGE SHARING BARRIERS IN HIGHER EDUCATION

This study focuses on the knowledge sharing barriers in the space between learning and teaching in higher education as reported by mystery shoppers. There is surprisingly little context-specific research on learning and teaching in a knowledge intensive community like a university from the perspective of knowledge management (KM). Discussing learning and teaching within KM is based on considering students controversially as customers or stakeholders. Thus including them more meaningfully in assessing and developing teaching practices, or knowledge flow, seems justified. The specific aim of this paper is to first recognise possible knowledge sharing barriers and then categorize such barriers emerging from the material into three larger domains, namely, individual barriers, technological barriers and organisational barriers.

There were 45 students from all faculties participating in a mystery shopper project in a Finnish university of technology. They observed their learning experience for six weeks in order to supplement data from other sources, to add a student voice on the process of developing learning and teaching in higher education.

The research approach represents qualitative content analysis in which knowledge-sharing barriers were recognised from the qualitative mystery shopper data. The results identify teaching practises that contribute to creating knowledge sharing barriers. More detailed and almost real-time contextual activity sampling is suggested as a method for further study and also an avenue for instant feedback for teaching staff. The results will provide data on current knowledge practices and learning processes in a technical university in Finland.

Bibliographical note
Electromagnetic 3D subsurface imaging with source sparsity for a synthetic object

This paper concerns electromagnetic 3D subsurface imaging in connection with sparsity of signal sources. We explored an imaging approach that can be implemented in situations that allow one to obtain a large amount of data over a surface or a set of orbits but at the same time require sparsity of the signal sources. Characteristic to such a tomography scenario is that it necessitates the inversion technique to be genuinely three-dimensional: for example, slicing is not possible due to the low number of sources. Here, we primarily focused on astrophysical subsurface exploration purposes. As an example target of our numerical experiments we used a synthetic small planetary object containing three inclusions, e.g. voids, of the size of the wavelength. A tetrahedral arrangement of source positions was used, it being the simplest symmetric point configuration in 3D. Our results suggest that somewhat reliable inversion results can be produced within the present a priori assumptions, if the data can be recorded at a specific resolution. This is valuable early-stage knowledge especially for the design of future planetary missions in which the payload needs to be minimized, and potentially also for the development of other lightweight subsurface inspection systems.
A managerial view of the knowledge flows of a health-care system

A health system has various knowledge structures enabling its knowledge resources to be efficiently applied. The literature has covered the management of clinical health information fairly extensively, but less is known about managerial knowledge flows. To address this knowledge gap, a regional health system in Finland is studied and managerial knowledge flows categorized in order to provide a better understanding of the inter-organizational knowledge networks of a health system. The paper contributes by illustrating and concretizing the knowledge dynamics of a health system. The empirical examination reveals the complexity of managerial knowledge flows and identifies three main categories of these: (1) national information steering, (2) regional information steering, and (3) internal control information. These categories are further elaborated with the data gathered through observation, interviews, and process modelling. A better understanding and management of knowledge flows is expected to have a positive effect on the performance of the health system.

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Scopus rating (2014): SJR 0.368 SNIP 0.848 CiteScore 0.83
Scopus rating (2013): SJR 0.463 SNIP 0.882 CiteScore 0.95
Scopus rating (2012): SJR 0.568 SNIP 0.76 CiteScore 1.05
Scopus rating (2011): SJR 0.483 SNIP 1.063 CiteScore 0.88
Scopus rating (2010): SJR 0.567 SNIP 0.808
Scopus rating (2009): SJR 0.594 SNIP 0.871
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Scopus rating (2007): SJR 0.273 SNIP 0.155
Original language: English
A General Definition of the O-notation for Algorithm Analysis

We provide an extensive list of desirable properties for an O-notation — as used in algorithm analysis — and reduce them to 8 primitive properties. We prove that the primitive properties are equivalent to the definition of the O-notation as linear dominance.

Exploring co-learning behavior of conference participants with visual network analysis of Twitter data

Knowledge management has acknowledged organizational learning as a key factor for creating competitive advantage for companies already from early 1990. However, the studies of co-learning in this connection are in their infancy. This article contributes to an emerging field of ‘smart data’ research on Twitter by presenting a case study of how community managers in Finland used this social media platform to construct a co-learning environment around an annually organized conference. In this empirical study we explore the co-learning behavior in project contexts especially by analyzing and visualizing co-learning behavior from conference participants Twitter data.
We use the recently released Atacama Large Millimeter Array (ALMA) and VLT/SPHERE science verification data, together with earlier adaptive-optics images, stellar occultation, and lightcurve data to model the 3D shape and spin of the large asteroid (3) Juno with the all-data asteroid modelling (ADAM) procedure. These data set limits on the plausible range of shape models, yielding reconstructions suggesting that, despite its large size, Juno has sizable unrounded features moulded by non-gravitational processes such as impacts.

General information
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Organisations: Department of Mathematics, Research group: MAT Inverse Problems, Mathematical modelling with wide societal impact (Mathimpact), Astronomical Institute, Faculty of Mathematics and Physics, Charles University in Prague, University of Latvia, Faculty of Physics and Mathematics, Charles University in Prague, ACME, IMCCE, Université de Lille 1, Laboratoire Lagrange, UMR 7293 CNRS, Observatoire de la Côte d’Azur, European Southern Observatory (ESO), Aix-Marseille University, CNRS, LAM (Laboratoire d’Astrophysique de Marseille) UMR 7326, ONERA - Optics Department, Southwest Research Institute, Unidad Mixta Internacional FCA (UMI 3386), CNRS/INSU, Universidad de Chile, LESIA (UMR 8109), Observatoire de Paris, Univ. Paris-Diderot
Authors: Viikinkoski, M., Kaasalainen, M., Durech, J., Carry, B., Marsset, M., Fusco, T., Dumas, C., Merline, W. J., Yang, B., Berthier, J., Kervella, P., Vernazza, P.
Number of pages: 5
Publication date: 1 Sep 2015
Peer-reviewed: Yes
Knowledge Management operationalization – how it differs in large enterprises and SMEs in Finland

Information and knowledge are essential resources for businesses to maintain their competitiveness and to constantly develop further. Knowledge Management (KM) enables companies to develop their activities by having the right information at the right time, as well as by offering the tools to manage the skills and knowledge of the personnel. The aim of this paper is to empirically analyze how KM is operationalized in large and small and medium sized companies in Finland, and furthermore, what kinds of challenges the companies face in KM operationalization. The empirical study was carried out in spring 2014 as a web-based questionnaire survey and structured interviews. Results of the study provide direction for the development directions of KM in Finnish companies.

Stop It, and Be Stubborn!

A system is always may-terminating, if and only if from every reachable state, a terminal state is reachable. This publication argues that it is beneficial for both catching non-progress errors and stubborn, ample, and persistent set state space reduction to try to make verification models always may-terminating. An incorrect mutual exclusion algorithm is used as an example. The error does not manifest itself, unless the first action of the customers is modelled differently from other actions. An appropriate method is to add an alternative first action that models the customer stopping for good. This method typically makes the model always may-terminating. If the model is always may-terminating, then the basic strong stubborn set method preserves safety and some progress properties without any additional condition for solving the ignoring problem. Furthermore, whether the model is always may-terminating can be checked efficiently from the reduced state space.
Understanding business ecosystem dynamics: A data-driven approach

Business ecosystems consist of a heterogeneous and continuously evolving set of entities that are interconnected through a complex, global network of relationships. However, there is no well-established methodology to study the dynamics of this network. Traditional approaches have primarily utilized a single source of data of relatively established firms; however, these approaches ignore the vast number of relevant activities that often occur at the individual and entrepreneurial levels. We argue that a data-driven visualization approach, using both institutionally and socially curated datasets, can provide important complementary, triangulated explanatory insights into the dynamics of interorganizational networks in general and business ecosystems in particular. We develop novel visualization layouts to help decision makers systematically identify and compare ecosystems. Using traditionally disconnected data sources on deals and alliance relationships (DARs), executive and funding relationships (EFRs), and public opinion and discourse (POD), we empirically illustrate our data-driven method of data triangulation and visualization techniques through three cases in the mobile industry Google’s acquisition of Motorola Mobility, the coopetitive relation between Apple and Samsung, and the strategic partnership between Nokia and Microsoft. The article concludes with implications and future research opportunities.

General information
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Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, School of Interacting, Computing and Tennenbaum Institute, Georgia Institute of Technology, MediaX, Stanford University, Graduate School of Information Systems, University of Electro-Communications, VTT Technical Research Centre of Finland, School of Industrial and Systems Engineering, Tennenbaum Institute

Authors: Basole, R. C., Russell, M. G., Huhtamäki, J., Rubens, N., Still, K., Park, H.
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ASJC Scopus subject areas: Computer Science(all), Management Information Systems
Keywords: Business ecosystem, Data triangulation, Information visualization, Interorganizational networks

SmartWoW – constructing a tool for knowledge work performance analysis
Purpose – New Ways of Working (NewWoW) refers to a novel approach for improving the performance of knowledge work. The purpose of this paper is to seek innovative solutions concerning facilities, information technology tools and work practices in order to be able to “work smarter, not harder.” In order to develop work practices toward the NewWoW mode there is a need for an analytical management tool that would help assess the status of the organization’s current work practices and demonstrate the impacts of development initiatives. This paper introduces such a tool.

Design/methodology/approach – Constructive research approach was chosen to guide the development of the Smart ways of working (SmartWoW) tool. The tool was designed on the basis of previous knowledge work performance literature as well as on interviews in two knowledge-intensive organizations. The usefulness of the tool was verified by applying it in four organizations. Findings – SmartWoW is a compact questionnaire tool for analyzing and measuring knowledge work at the individual level. The questionnaire consists of four areas: work environment, personal work practices, well-being at
work and productivity. As SmartWoW is a standardized tool its results are comparable between organizations. Research limitations/implications – SmartWoW was designed a pragmatic managerial tool. It is considered possible that it can be valuable as a research instrument as well but the current limited amount of collected data does not yet facilitate determining its usefulness from that perspective. Originality/value – This paper makes a contribution to the existing literature on knowledge work measurement and management by introducing an analytical tool which takes into account the NewWoW perspective.

General information
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Organisations: Department of Information Management and Logistics, Research group: Novi, Department of Industrial Management, Research group: Center for Research on Operations Projects and Services, Managing digital industrial transformation (mDIT)
Authors: Palvalin, M., Vuolle, M., Jääskeläinen, A., Laihonen, H., Lönnqvist, A.
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Scopus rating (2014): SJR 0.421 SNIP 1.289 CiteScore 1.59
Scopus rating (2013): SJR 0.345 SNIP 1.003 CiteScore 1.28
Scopus rating (2012): SJR 0.294 SNIP 1.144 CiteScore 1.22
Scopus rating (2011): SJR 0.317 SNIP 0.71 CiteScore 1.2
Scopus rating (2010): SJR 0.344 SNIP 0.939
Scopus rating (2009): SJR 0.485 SNIP 1.214
Scopus rating (2008): SJR 0.5 SNIP 0.948
Scopus rating (2007): SJR 0.152 SNIP 0.184
Scopus rating (2006): SJR 0.118 SNIP 0.071
Scopus rating (2005): SJR 0.114 SNIP 0.079
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ORG=tta,0.25
Source: Scopus
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Research output: Scientific › peer-review › Article

ADAM: A general method for using various data types in asteroid reconstruction
We introduce ADAM, the All-Data Asteroid Modelling algorithm. ADAM is simple and universal since it handles all disk-resolved data types (adaptive optics or other images, interferometry, and range-Doppler radar data) in a uniform manner via the 2D Fourier transform, enabling fast convergence in model optimization. The resolved data can be combined with disk-integrated data (photometry). In the reconstruction process, the difference between each data type is only a few code lines defining the particular generalized projection from 3D onto a 2D image plane. Occultation timings can be included as sparse silhouettes, and thermal infrared data are efficiently handled with an approximate algorithm that is sufficient in practice because of the dominance of the high-contrast (boundary) pixels over the low-contrast (interior) pixels. This is of particular importance to the raw ALMA data that can be directly handled by ADAM without having to construct the
standard image. We study the reliability of the inversion, using the independent shape supports of function series and control-point surfaces. When other data are lacking, one can carry out fast non-convex lightcurve-only inversions, but any shape models resulting from it should only be taken as illustrative large-scale models.

**General information**

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Organisations: Department of Mathematics, Research group: MAT Inverse Problems, Mathematical modelling with wide societal impact (MathImpact), Astronomical Institute, Faculty of Mathematics and Physics, Charles University in Prague
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Scopus rating (2013): SJR 2.544 SNIP 1.058 CiteScore 2.01
Scopus rating (2012): SJR 2.585 SNIP 1.295 CiteScore 3.14
Scopus rating (2011): SJR 2.373 SNIP 1.231 CiteScore 3.42
Scopus rating (2010): SJR 2.74 SNIP 1.444
Scopus rating (2009): SJR 2.879 SNIP 1.404
Scopus rating (2008): SJR 2.923 SNIP 1.297
Scopus rating (2007): SJR 2.816 SNIP 1.34
Scopus rating (2006): SJR 3.224 SNIP 1.349
Scopus rating (2005): SJR 2.891 SNIP 1.355
Scopus rating (2004): SJR 2.633 SNIP 1.462
Scopus rating (2003): SJR 1.967 SNIP 1.373
Scopus rating (2002): SJR 1.742 SNIP 1.346
Scopus rating (2001): SJR 1.555 SNIP 0.727
Scopus rating (2000): SJR 2.178 SNIP 1.039
Scopus rating (1999): SJR 2.489 SNIP 1.076
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Source-ID: 84925251323
Research output: Scientific - peer-review Article

'They do not get along without us and we do not get along without them...': Uncertainty in information system development

This paper discusses about issues related to un-certainties when developing information system in inter-organizational relationships (IORs). The study is a part of longitudinal grounded theory study where a business critical information system development (ISD) project is retrospectively followed over a time period of a one and half year. The main actors are two private sector organizations that share a long common ISD history and mutual trust. In the course of the project, prevailing optimism among actors generated uncertainties about the outcome and over-all success of the project. The paper presents sources and consequences of those uncertainties from the IOR viewpoint. The findings provide new insights on
the earlier studies of a dynamic nature of trust and uncertainties in ISD cooperation.

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Authors: Salmimaa, T., Hekkala, R., Pekkola, S.
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Research output: Scientific - peer-review » Conference contribution

**Yhteiselle tiedolle on tarvetta työpaikoilla**

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**Riding for a fall in outsourced ISD: Transferring knowledge between onshore vendor and offshored unit**

**General information**
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Organisations: Department of Information Management and Logistics, Research group: Novi
Authors: Alanne, A., Pekkola, S.
Publication date: 18 Feb 2015

**Host publication information**
Designing a performance measurement system to support outsourcing decisions in a Finnish university

In recent years, the role and importance of performance measurement in public organisations has been much emphasised. However, the discussion on the issue so far has been on a rather general level. This paper aims to understand the challenges faced by public organisations in developing performance measurement systems (PMSs) for a specific managerial purpose, to support outsourcing decisions. The objective of the paper is approached with a literature review and a single qualitative case study carried out as an action research. The case study introduces a detailed description of a PMS development project carried out in the support services of a Finnish university. A framework developed in prior research is utilised to analyse the impacts of two typical characteristics (conflicting stakeholder needs and undefined objectives) of public organisations in a PMS design project. The contribution of the paper is to extend the existing understanding about public sector PMS especially regarding two key points: 1) to understand the impact of different purposes for measurement (in this case the outsourcing context) on the PMS development process; 2) to understand the need to align the PMS system with the organisational culture and other managerial control systems in order to achieve desired performance outcomes.

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Organisations: Department of Industrial Management, Research group: Center for Research on Operations Projects and Services, Department of Information Management and Logistics, Managing digital industrial transformation (mDiT), Lappeenranta University of Technology
Authors: Jääskeläinen, A., Lönnqvist, A., Kulmala, H. I.
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Scopus rating (2014): SJR 0.102 SNIP 0 CiteScore 0
Scopus rating (2013): SJR 0.102 SNIP 0 CiteScore 0
Scopus rating (2012): SJR 0.15 SNIP 0.044 CiteScore 0.36
Scopus rating (2011): SJR 0.17 SNIP 0.063 CiteScore 0.18
Scopus rating (2010): SJR 0.126 SNIP 0.063
Scopus rating (2009): SJR 0.103 SNIP 0.078
Scopus rating (2008): SJR 0.104 SNIP 0.586
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ASJC Scopus subject areas: Strategy and Management, Organizational Behavior and Human Resource Management, Public Administration
DOIs:
10.1504/IJPSPM.2015.067814
Links:
http://www.scopus.com/inward/record.url?scp=84924369881&partnerID=8YFLogxK (Link to publication in Scopus)

Bibliographical note
ORG=tta,0.6
ORG=tlo,0.4
Source: Scopus
Source-ID: 84924369881
Research output: Scientific - peer-review › Article
The connection between cycling safety and volume

General information
State: Published
Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne
Authors: Luukkonen, T., Vaismaa, K.
Number of pages: 26
Pages: 71-96
Publication date: 1 Jan 2015

Host publication information
Title of host publication: Cycling Futures: From Research into Practice
Publisher: Ashgate
ISBN (Print): 978-1-4724-5361-7
ISBN (Electronic): 978-1-4724-5362-4
ASJC Scopus subject areas: Social Sciences(all)
Links:
http://www.scopus.com/inward/record.url?scp=84946920192&partnerID=8YFLogxK (Link to publication in Scopus)
Source: Scopus
Source-ID: 84946920192
Research output: Scientific - peer-review » Chapter

Winner-Does-Not-Take-All: Selective Attention and Local Bias in Platform-Based Markets
We examine competition between platforms in platform-based markets with agent-based modeling. In our proposed model, a consumer adopts a platform that offers the most relative utility of competing platforms. More specifically, the utility is derived from the local direct network effects arising from the social network of the consumer and the indirect network effects arising from complementary products of the platform. We portray the consumer as selectively attentive and locally biased. We contrast the proposed model to several alternative models with empirical data from the competition between Sony’s PlayStation 3 and Microsoft’s Xbox 360 and show that the proposed model, where the aforementioned consumer characteristics, and platform pricing, explain the adoption decisions of consumers and thus the division of the market between platforms. We offer important insights on how the dynamics of competition on the macro-level emerge from micro-level interactions between consumers.

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Lappeenranta University of Technology, Hanken School of Economics
Authors: Huotari, P., Järvi, K., Kortelainen, S., Huhtamäki, J.
Publication date: Jan 2015

Host publication information
Title of host publication: Academy of Management Proceedings : Meeting Abstract Supplement
Publisher: Academy of Management

Publication series
Name: Academy of Management. Annual Meeting Proceedings
Publisher: Academy of Management
ISSN (Electronic): 2151-6561
Links:
http://proceedings.aom.org/content/2015/1/16901.short
Research output: Scientific - peer-review » Conference contribution

An Initial Homophily Indicator to Reinforce Context-Aware Semantic Computing
The vast increase of personal sensor information is driving the rise in popularity of context-aware applications. Users crave and very often expect tailored services that are based on the users’ context or personal preferences. The users themselves, using forms, often provide such information. An inference solution typically addresses this problem. In this paper, we present and show by way of a real-world example, the first step towards incorporating information of the user’s social networking behavior in the inference task. We define an initial indicator of a particular social phenomenon, called Homophily, and describe how the indicator measures the presence of homophily at certain moments, also capturing the degree to which it is present. Different from existing indicators, ours lends itself to indicating the presence of homophily in a way that is easier to comprehend, so that it may be easily integrated into and reinforce context-aware semantic computing.
Approach for Investigating Crowdfunding Campaigns with Platform Data: Case Indiegogo

Crowdfunding via the internet is a relatively new phenomenon in research and gaining momentum currently. While taking a data-driven approach into investigating the properties and dynamics of crowdfunding campaigns would allow the use of computational social science in investigations on crowdfunding, existing data-driven research on crowdfunding remains very limited. This is particularly true on the level of individual funder data. In this study, we contribute to the empirical body of knowledge on crowdfunding by introducing Indiegogo as a data source and, more specifically, the development and implementation of a crawler and scraper for accessing Indiegogo campaign data, and sharing this openly for other researchers. Due to the extremely dynamic and rapidly increasing amount of crowdfunding data in terms of the number of crowdfunding campaigns and the available investment and individual investor data, we believe our approach is useful for supporting public and open data-driven research, instead of providing merely a static data set.
Associating Event Logs with Ontologies for Semantic Process Mining and Analysis

Process mining uses various forms of event logs to extract process-related information, in order to discover, analyze conformance, or to enhance (business) processes. The vast majority of process mining applications are based on event logs with flat, keyword-based activity and resource descriptions. Many human-designed processes, however, are based on explicit workflow or lifecycle models with associated product models, both of which can be described using taxonomies or more complicated ontologies. This additional information can be used to analyze and visualize the processes with better insight of and improved formal access to the data. In this paper, we introduce a generic approach for enriching process mining using event logs with associated ontology structures. The main contribution and benefit of this approach lies in the ability to analyze the models in different abstraction levels, which greatly helps understanding complicated processes. Our main application areas are related to engineering and documentation processes.
Emotion measurement services for knowledge workers

In order to understand and manage how emotions affect knowledge work, organizations need proper tools to become aware of emotions. Measuring emotions is an approach to consider. In this paper, three different emotion measurement services are tested: daily experience survey, electrodermal activity ring and self-tracking of emotions. The paper provides new insights and user experiences of emotion measurement services and their applicability in daily knowledge work. Managerial guidelines are drawn up for planning and executing emotion measurement services in an organization for two purposes – self-development and measuring company pulse.

General information
State: Published
Ministry of Education publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Information Management and Logistics, Research group: Novi, Department of Information Management and Logistics, Intopalo Oy
Authors: Vuolle, M., Salonius, H., Lintinen, J., Mäkinen, J.
Number of pages: 20
Publication date: 2015

Host publication information
Title of host publication: RESER2015 : 25th Annual RESER Conference, September 10-12, 2015 Copenhagen, Denmark
Place of publication: Copenhagen
Publisher: RESER European Association for Research on Services
ISBN (Electronic): 978-87-7349-921-4
Keywords: Knowledge work, Emotions, Measurement, self-management

Bibliographical note
AUX=tlo,"Lintinen, Johanna"
Research output: Scientific › Conference contribution

Knowledge security risk management in contemporary companies – toward a proactive approach

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT), Luleå University of Technology
Authors: Ilvonen, I., Jussila, J., Kärkkäinen, H., Päivärinta, T.
Number of pages: 10
Pages: 3941-3950
Publication date: 2015

Host publication information
Title of host publication: 2015 48th Hawaii International Conference on System Sciences (HICSS)
Publisher: IEEE
DOIs: 10.1109/HICSS.2015.472
Research output: Scientific › peer-review › Conference contribution

"New Ways of Working" as a tool for improving the performance of a knowledge-intensive company

This paper explores ‘New Ways of Working’ (NewWoW) – that is, non-traditional mobile and flexible work practices, settings and locations using sufficient ICT tools – as a novel approach to improve the performance of a knowledge-intensive organization. This paper makes a contribution by illustrating how the measurement of the impacts of NewWoW can be done and by producing empirical evidence of the benefits of NewWoW. The conceptual background of the study is anchored in the literature on knowledge work productivity and performance as well as on NewWoW. The empirical section reports a longitudinal case study of a change process during which the case company, Rapal, went through a NewWoW project. The impacts of the change are evaluated based on the results of both objective and subjective performance measures. The project was successful and resulted in significant cost savings as well as improvements in environmental performance (CO2 emissions).
Organisational knowledge flows and structural change the case of dispersed education organizations

The paper studies the implications of structural change for organisational knowledge flows. A qualitative case study was carried out in two vocational education and training organisations in Finland in order to recognise how the system-level structural change has been perceived by the education managers. The paper aims to bridge a research gap in knowledge management in situations of changing organisation structures. The results reveal that the externally driven structural change has led to concurrent and somewhat conflicting organisation structures leading to distortion of knowledge flows. Administrative Bureaucracies, team adhocracies and professional autonomies favour different structures and knowledge flows. The results also show that the integration of smaller organisations into large administrative entities further complicates the flow of knowledge and amplifies management challenges relating to concurrent structures. The paper calls for better integration of knowledge management into the strategic management of knowledge-intensive education organisations. The findings provide practical support for the management of previously independent education institutes to confront the structural change towards regional and geographically dispersed actors. More generally, the discussion contributes to the discussion on managing growing knowledge-intensive organisations and knowledge work.

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Information Management and Logistics, Research group: Novi, School of Management (JKK)
Authors: Laihonen, H., Syysnummi, P.
Number of pages: 14
Pages: 247-260
Publication date: 2015
Peer-reviewed: Yes

Publication information
Journal: International Journal of Knowledge Management Studies
Ostinato: The Exploration-Automation Cycle of User-Centric, Process-Automated Data-Driven Visual Network Analytics

General information
State: Published
Ministry of Education publication type: A3 Part of a book or another research book
Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory
Authors: Huhtamäki, J., Russell, M. G., Rubens, N., Still, K.
Pages: 197-222
Publication date: 2015

Host publication information
Title of host publication: Transparency in Social Media: Tools, Methods and Algorithms for Mediating Online Interactions
Publisher: Springer International Publishing
Editors: Matei, S. A., Russell, M. G., Bertino, E.
ISBN (Print): 978-3-319-18551-4
ISBN (Electronic): 978-3-319-18552-1

Publication series
Name: Computational Social Science
DOIs:
10.1007/978-3-319-18552-1
Research output: Scientific - peer-review › Article

Paradoxes in the development of a business critical information system

General information
State: Published
Ministry of Education publication type: D3 Professional conference proceedings
Organisations: Department of Information Management and Logistics, Research group: Novi
Authors: Salmimaa, T., Hekkala, R., Pekkola, S.
Publication date: 2015

Host publication information
Title of host publication: The 19th Pacific Asian Conference on Information Systems 2015 (PACIS 2015)
Publisher: Association for Information Systems
Links:
Paradoxes of change management in information system development

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Research group: Novi, Aalto University
Authors: Salmimaa, T., Hekkala, R., Pekkola, S.
Publication date: 2015

Host publication information
Title of host publication: The 23rd European Conference on Information Systems (ECIS 2015)
Publisher: Association for Information Systems
ISBN (Electronic): 978-3-00-050284-2
Links:
http://ecis2015.eu/
Research output: Scientific - peer-review » Conference contribution

Performance management practices in construction business - a service recovery perspective
This paper studies how service recovery perspective can be utilized in order to improve performance management practices in construction industry in Finland. The purpose is to redesign service recovery encounters to better handle negative customer experiences when service failure or other problem has occurred. From performance management point of view, the key challenge is to manage negative customer experiences in order to avoid negative impacts on the performance of the company. The analysis focuses on how negative customer encounters can be used as a source of learning and thus, improving customer and employee satisfaction and the whole image of the industry.

Literature on service failure and recovery discusses various components of unsuccessful customer experience, their cognitive elements and ways of reacting to service failures. However, this discussion is separated from the business performance management literature. Theoretically the paper combines methods from service management and performance management and contributes with its holistic approach to the role of service quality in construction business.

Empirical data was gathered first by interviewing 16 employees and customer engaging to customer service in 4 construction companies. The purpose was to identify the key pitfalls and practices of service recovery encounters in three main phases of the customer journey: 1) buying and planning a new home, 2) construction period, and 3) living in a new home. After interviews, two workshops in two companies were organized to reflect findings and to improve and create new service recovery encounter practices.

As a result, three performance management practices were identified: 1) guideline for customer recovery encounters, 2) developing systematic service recovery process and related quality metrics, and 3) developing the service oriented attitude and recovery of employees.

General information
State: Published
Ministry of Education publication type: B3 Non-refereed article in conference proceedings
Organisations: Department of Information Management and Logistics, Research group: Novi
Authors: Vuolle, M., Sillanpää, V.
Number of pages: 17
Publication date: 2015

Host publication information
Title of host publication: 8th Conference on Performance Measurement and Management Control
Publisher: The European Institute for Advanced Studies in Management, EIASM

Publication series
Name: Conference on Performance Measurement and Management Control
ISSN (Print): 2295-1660
Links:
http://www.eiasm.org/frontoffice/event_announcement.asp?event_id=1035
Research output: Scientific » Conference contribution

Quality measures for improving technology trees
The quality of technology trees in digital games can be improved by adjusting their structural and quantitative properties. Therefore, there is a demand for recognizing and measuring such properties. Part of the process can be automated; there are properties measurable by computers, and analyses based on the results (and visualizations of them) may help to
produce significantly better technology trees, even practically without extra workload for humans. In this paper, we introduce useful technology tree properties and novel measuring features implemented into our software tool for manipulating technology trees.

**General information**
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics, Research group: MAT Computer Science and Applied Logics
Authors: Heinimäki, T. J., Elomaa, T.
Number of pages: 10
Publication date: 2015
Peer-reviewed: Yes

**Publication information**
Journal: International Journal of Computer Games Technology
Volume: 2015
Article number: 975371
ISSN (Print): 1687-7047

**Relational Capital for Shared Vision in Innovation Ecosystems**
This paper provides a multiscopic view of the relationship profiles of businesses in three selected urban innovation ecosystems. With the Triple Helix framework, the ecosystem perspective and with shared vision for transformation initiatives, we explore relationships as structure in the metropolitan areas of Austin, TX, Minneapolis, MN, and Paris, France. Network metrics are interpreted as relationship indicators; and network visualizations reveal existing relationships and distinct patterns that structure the business ecosystems in each geographic area at the enterprise, growth and startup levels. We illustrate that relationship indicators and their visualization can be valuable resources for quantitatively and qualitatively understanding and analyzing the complexities of engagement, agility, structural cohesion, vitality, embeddedness, and linking factors in innovation ecosystems. Furthermore, these indicators highlight opportunities for the development of shared vision through interventions and network orchestration.

**General information**
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory
Authors: Russell, M. G., Huhtamäki, J., Still, K., Rubens, N., Basole, R. C.
Number of pages: 36
Publication date: 2015
Peer-reviewed: Yes

**Publication information**
Volume: 2
Issue number: 1
ISSN (Print): 2197-1927
Original language: English
Keywords: Ecosystem, Networks, Innovation, Business, Metropolitan, Relationships, Visualization
Riding for a fall in outsourced ISD: Knowledge transfer challenges between the onshore vendor and the offshored unit

**General information**
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Research group: Novi, Managing digital industrial transformation (mDIT)
Authors: Alanne, A., Pekkola, S.
Number of pages: 17
Pages: 124-140
Publication date: 2015

**Host publication information**
Title of host publication: Achieving Success and Innovation in Global Sourcing: Perspectives and Practices : 9th Global Sourcing Workshop 2015, La Thuile, Italy, February 18-21, 2015, Revised Selected Papers
Place of publication: Germany
Publisher: Springer Verlag
Editors: Oshri, I., Kotlarsky, J., Willcocks, L.
ISBN (Print): 978-3-319-26738-8
ISBN (Electronic): 978-3-319-26739-5

**Publication series**
Name: Lectures Notes in Business Information Processing
Volume: 236

**Robust Regulation Theory for Transfer Functions With a Coprime Factorization**
Classical frequency domain results of robust regulation are extended by requiring only a right or a left coprime factorization of a plant, but not both. The famous internal model principle is generalized first, which leads to a necessary and sufficient solvability condition of the robust regulation problem and to a parametrization of all robustly regulating controllers. In addition, a procedure for constructing robustly regulating controllers is proposed.

**General information**
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics
Authors: Laakkonen, P.
Number of pages: 6
Publication date: 2015
Peer-reviewed: Yes

**Publication information**
Journal: IEEE Transactions on Automatic Control
ISSN (Print): 0018-9286

Scopus rating (2016): CiteScore 6.06 SJR 4.174 SNIP 3.159
Scopus rating (2015): SJR 3.926 SNIP 2.884 CiteScore 5.08
Scopus rating (2014): SJR 4.196 SNIP 3.347 CiteScore 5.14
Scopus rating (2013): SJR 4.096 SNIP 3.13 CiteScore 5.24
Scopus rating (2012): SJR 4.143 SNIP 3.292 CiteScore 5.11
Scopus rating (2011): SJR 3.749 SNIP 2.961 CiteScore 4.11
Social Approach for Context Analysis: Modelling and Predicting Social Network Evolution using Homophily

Understanding the user’s context is important for mobile applications to provide personalized services. Such context is typically based on the user’s own information. In this paper, we show how social network analysis and the study of the individual in a social network can provide meaningful contextual information. According to the phenomenon of homophily, similar users tend to be connected more frequently than dissimilar. We model homophily in social networks over time. Such models strengthen context inference algorithms, which helps determine future status of the user, resulting in prediction accuracy improvements of up to 118% with respect to a naïve classifier.

Towards Traditional Simulation Models of Context Using Process Mining

Context (sensor) systems are hard to model: they require constant updating and insightful approaches, especially considering the increasing data volume, variety, and generation rate of contemporary networking paradigms, like the Internet of Things. In this paper, we argue that intelligent process models can be mined to look at the actual system activity from alternative context perspectives, i.e., perspectives observable from the sensor attributes themselves. We explain how the close relationship between the models derived using Process Mining, and Event-Driven Simulation can be exploited to help not only better understand what is happening in such systems but also provide alternative models for the
intelligent solutions they support, such as context inference. We demonstrate this using a real-world example and discuss the feasibility of extending these alternative process models to be viewed as simulation. We envision automated steps that would result in traditional simulation models of context using Process Mining.

**General information**
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory
Authors: Pileggi, P., Rivero-Rodriguez, A., Nykänen, O.
Number of pages: 6
Pages: 70-75
Publication date: 2015

**Host publication information**
Title of host publication: Computational Intelligence, Communication Systems and Networks (CICSyN), 2015 7th International Conference on
Publisher: IEEE
ISBN (Print): 9781467370165
Electronic versions:
CICSyN2015-ProcessMining
DOIs:
10.1109/CICSyN.2015.23
Links:
http://urn.fi/URN:NBN:fi:tty-201605043939
Source: Mendeley
Source-ID: 3b5a7052-83aa-3c38-ba30-f4290873ae25
Research output: Scientific - peer-review › Conference contribution

**Tuottavuusloikka sosiaalisen median avulla**

**General information**
State: Published
Ministry of Education publication type: Not Eligible
Organisations: Department of Information Management and Logistics, Research group: Novi, Pori Department, Research group: Business Ecosystems, Networks and Innovations, Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory, Managing digital industrial transformation (mDIT)
Authors: Jussila, J. J., Kärkkäinen, H., Aramo-Immonen, H., Huhtamäki, J.
Number of pages: 2
Pages: 26-27
Publication date: 2015

**Host publication information**
Title of host publication: TiedeAreena 2015
Place of publication: Pori
Publisher: Tampereen teknillinen yliopisto, Porin laitos
Editor: Väkiparta, M.

**Publication series**
Name: Laitosraportti - TUT Publication series
Publisher: Tampereen teknillinen yliopisto. Porin laitos. Julkaisu - Tampere University of Technology. Pori Department
ISSN (Print): 2323-8976
Keywords: social media, productivity
Links:
http://dspace.cc.tut.fi/dpub/handle/123456789/23399

**Bibliographical note**
Research output: Scientific - peer-review › Conference contribution
Tviittien politiikka – politiisen viestinnän sisäpiirit Twitterissä


General information
State: Published
Ministry of Education publication type: B1 Article in a scientific magazine
Organisations: Department of Mathematics, Research group: MAT Intelligent Information Systems Laboratory
Authors: Vainikka, E., Huhtamäki, J.
Number of pages: 19
Pages: 165-183
Publication date: 2015
Peer-reviewed: No

Publication information
Journal: Media ja Viestintä
Volume: 38
Issue number: 3
ISSN (Print): 1798-3827
Original language: Finnish
Source: RIS
Source-ID: urn:5DC4656774F98722AB4C937648409BB9
Research output: Scientific : Article

Guard-based Partial Order Reduction
This paper aims at making partial-order reduction independent of the modeling language. To this end, we present a guard-based method which is a general-purpose implementation of the stubborn set method. We approach the implementation through so-called necessary enabling sets and do-not-accord sets, and give an algorithm suitable for an abstract model checking interface. We also introduce necessary disabling sets and heuristics to produce smaller stubborn sets and thus better reduction at low costs. We explore the effect of these methods using an implementation in the model checker LTSmin. We experiment with partial-order reduction on a number of Promela models, on benchmarks from the BEEM database in the DVE language, and with several with LTL properties. The efficiency of the heuristic algorithm is established by a comparison to the subset-minimal Deletion algorithm and the simple closure algorithm. We also compare our results to the Spin model checker. While the reductions take longer, they are consistently better than Spin’s ample set and often surpass the upper bound for the process-based ample sets, established empirically earlier on BEEM models.

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics, Research group: MAT Computer Science and Applied Logics
Authors: Laarman, A., Pater, E., Van de Pol, J., Hansen, H.
Pages: 427-448
Publication date: Dec 2014
Peer-reviewed: Yes

Publication information
Journal: International Journal on Software Tools for Technology Transfer
Volume: 18
Issue number: 4
ISSN (Print): 1433-2779
Ratings:
Scopus rating (2016): SJR 0.574 SNIP 1.642 CiteScore 2.14
Scopus rating (2015): SJR 0.587 SNIP 1.587 CiteScore 1.59
Scopus rating (2014): SJR 0.469 SNIP 1.6 CiteScore 1.5
Analysis of a city-region from the knowledge perspective: Tampere, Finland

Purpose - The paper aims to evaluate the knowledge-based urban development (KBUD) dynamics of a rapidly emerging knowledge city-region, Tampere region, Finland. Design/methodology/approach - The paper empirically investigates Tampere region's development achievements and progress from the knowledge perspective. Findings - The research, through qualitative and quantitative analyses, reveals the regional development strengths, weaknesses, opportunities and threats of Tampere region. Originality/value - The paper provides useful suggestions based on the lessons learned from the Tampere case investigation that could shed light on the KBUD journey of city-regions.

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Information Management and Logistics, Research group: Novi, Queensland University of Technology QUT, School of Management
Authors: Yigitcanlar, T., Lönnqvist, A., Salonius, H.
Number of pages: 22
Pages: 445-466
Publication date: 5 Aug 2014
Peer-reviewed: Yes

Publication information
Journal: VINE
Volume: 44
Issue number: 3
ISSN (Print): 0305-5728
Ratings:
Scopus rating (2016): SJR 0.316 SNIP 0.947 CiteScore 1.35
Scopus rating (2015): SJR 0.356 SNIP 0.711 CiteScore 1.12
Scopus rating (2014): SJR 0.243 SNIP 0.547 CiteScore 0.89
Scopus rating (2013): SJR 0.4 SNIP 0.863 CiteScore 1.08
Scopus rating (2012): SJR 0.287 SNIP 0.601 CiteScore 0.72
Scopus rating (2011): SJR 0.247 SNIP 0.481 CiteScore 0.75
Scopus rating (2010): SJR 0.384 SNIP 0.772
Scopus rating (2009): SJR 0.297 SNIP 0.478
Scopus rating (2008): SJR 0.294 SNIP 0.713
Scopus rating (2007): SJR 0.247 SNIP 0.774
Scopus rating (2006): SJR 0.115 SNIP 0.272
Scopus rating (2005): SJR 0.105 SNIP 0.399
Scopus rating (2004): SJR 0.163 SNIP 0.417
Automated driving and the key megatrends of future

Road transport is facing several changes that derive from the operational environment. Technological progress supporting advances in automated driving is one of these. Alongside e.g. globalisation, urbanisation, aging, climate change and digitalisation are challenging the transport needs and solutions of today. This paper discusses how automated driving is related to the factors of change. Based on the analysis, the progress towards more automated driving is supporting and is supported by the changes deriving from the key megatrends even though also some conflicting issues are recognised.
Centralized and Distributed ERP Development Models: Operations and Challenges

Content analysis and visualizations - Tools for a social media-enhanced learning environment
Ecosystemic relational capital: framework and process for measuring it

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics
Authors: Still, K., Huhtamäki, J., Russell, M. G.
Number of pages: 10
Pages: 1-10
Publication date: 2014

Host publication information
Title of host publication: Triple Helix XII International Conference, THC 2014. The Triple Helix and Innovation-Based Economic Growth: New Frontiers and Solutions, September 11-13, 2014, Tomsk, Russia
Publisher: Triple Helix Association
Editors: Etzkowitz, H., Uvarov, A. F., Galazhinsky, E. V.

Publication series
Name: Triple Helix International Conference
Links:
http://tsu.ru/upload/THC%202014_080920142_1.pdf

Bibliographical note
Contribution: organisation=mat,FACT1=1<br/>Portfolio EDEND: 2014-12-31<br/>Publisher name: Triple Helix Association
Source-ID: 1550
Research output: Scientific - peer-review › Conference contribution

Editorial: ambient media as metaphor for creating new experiences and user interfaces

General information
State: Published
Ministry of Education publication type: C2 Edited books
Organisations: Department of Information Management and Logistics
Number of pages: 5
Publication date: 2014

Publication information
Publisher: Springer
Original language: English

Publication series
Name: Multimedia Tools and Applications
Volume: 71
No.: 1
ISSN (Print): 1380-7501
ISSN (Electronic): 1573-7721
DOIs:
10.1007/s11402-014-1899-0
Links:
http://download.springer.com/static/pdf/13/art%253A10.1007%252Fs11402-014-1899-
Experiences from content and language integrated learning in engineering education

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Kukko, M., Helander, N.
Number of pages: 5
Pages: 3928-3932
Publication date: 2014

Host publication information
Title of host publication: 8th International Technology, Education and Development Conference, INTED 2014, 10.-12.3.2014, Valencia, Spain
Publisher: International Association of Technology, Education and Development IATED
ISBN (Print): 978-84-616-8412-0

Publication series
Name: International Technology, Education and Development Conference
ISSN (Print): 2340-1079
Links:
http://library.iated.org/publications/INTED2014

Information systems and management in media industries a first problem evaluation from a business perspective

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Scheib, C., Lugmayr, A.
Number of pages: 5
Pages: 1-5
Publication date: 2014

Host publication information
Title of host publication: 2014 IEEE International Conference on Multimedia and Expo Workshops ICMEW 2014, July 14-18, 2014, Chengdu, China
Publisher: IEEE
ISBN (Print): 978-1-4799-4717-1

Publication series
Name: IEEE International Conference on Multimedia and Expo
ISSN (Print): 2330-7927
ISSN (Electronic): 1945-7871
DOIs:
10.1109/ICMEW.2014.6890680

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-07-14<br/>Publisher name: International Association of Technology, Education and Development IATED
Source: researchoutputwizard
Source-ID: 818
Research output: Scientific - peer-review › Conference contribution
Insights for orchestrating innovation ecosystems: the case of EIT ICT Labs and data-driven network visualisations

This paper explores opportunities for supporting the orchestration of innovation ecosystems, hence contributing to a fundamental capability in the networked world. We present analysis, evaluation and interpretation toward the objective of decision support and insights for transforming innovation ecosystems with a case study of EIT ICT Labs, a major initiative intended to turn Europe into a global leader in ICT innovation. Towards this, we use a data-driven, relationship-based and network centric approach to operationalize the "Innovation Ecosystems Transformation Framework". Our results indicate that with coordinated and continuously improved use of visual and quantitative social network analysis, special characteristics, significant actors and connections in the innovation ecosystem can be revealed to develop new insights. We conclude that the IETF transformation framework can be used to develop shared vision and to support the orchestration of innovation ecosystem transformations.

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics
Authors: Still, K., Huhtamäki, J., Russell, M. G., Rubens, N.
Number of pages: 23
Pages: 243-265
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: International Journal of Technology Management
Volume: 66
Issue number: 2/3
ISSN (Print): 0267-5730
Ratings:
- Scopus rating (2016): SJR 0.45 SNIP 0.622 CiteScore 1.25
- Scopus rating (2015): SJR 0.424 SNIP 0.642 CiteScore 1.09
- Scopus rating (2014): SJR 0.412 SNIP 0.722 CiteScore 0.88
- Scopus rating (2013): SJR 0.361 SNIP 0.564 CiteScore 0.83
- Scopus rating (2012): SJR 0.378 SNIP 0.526 CiteScore 0.78
- Scopus rating (2011): SJR 0.428 SNIP 0.841 CiteScore 0.87
- Scopus rating (2010): SJR 0.302 SNIP 0.629
- Scopus rating (2009): SJR 0.346 SNIP 0.571
- Scopus rating (2008): SJR 0.348 SNIP 0.54
- Scopus rating (2007): SJR 0.563 SNIP 0.658
- Scopus rating (2006): SJR 0.358 SNIP 0.51
- Scopus rating (2005): SJR 0.274 SNIP 0.389
- Scopus rating (2004): SJR 0.29 SNIP 0.372
- Scopus rating (2003): SJR 0.31 SNIP 0.557
- Scopus rating (2002): SJR 0.347 SNIP 0.505
- Scopus rating (2001): SJR 0.193 SNIP 0.538
- Scopus rating (2000): SJR 0.29 SNIP 0.64
- Scopus rating (1999): SJR 0.292 SNIP 0.592
Original language: English
Electronic versions:
still_insights_for_orchestrating_innovation_ecosystems.pdf
DOIs:
10.1504/IJTM.2014.064606
Links:
http://urn.fi/URN:NBN:fi tty-201501201000

Bibliographical note
Contribution: organisation=mat,FACT1=1
Portfolio EDEND: 2014-12-31
Publisher name: Inderscience Publishers
Source: researchoutputwizard
Source-ID: 1551
Knowledge perspective to public management - managing public service provision with knowledge

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Laihonen, H., Mäntylä, S.
Number of pages: 21
Pages: 2333-2353
Publication date: 2014

Host publication information
Title of host publication: Proceedings of the 9th International Forum on Knowledge Asset Dynamics, IFKAD 2014, 11-13 June 2014, Matera, Italy
Place of publication: Matera, Italy
Publisher: Institute of Knowledge Asset Management
ISBN (Print): 978-88-96687-04-8

Publication series
Name: International Forum on Knowledge Asset Dynamics
ISSN (Print): 2280-787X
Links:
http://www.knowledgeasset.org/IFKAD/Proceedings/

Bibliographical note
Proceedingsin tarvitaan käyttäjätilun ja salana<br/>Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-07-14<br/>Publisher name: Institute of Knowledge Asset Management
Source: researchoutputwizard
Source-ID: 873
Research output: Scientific - peer-review › Conference contribution

Knowledge Transfer Challenges in ERP Development Networks

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Alanne, A., Kähkönen, T.
Number of pages: 16
Increased bicycle and pedestrian traffic is one of the objectives of the national transport policy. One of the sub-objectives is to develop bicycle and pedestrian traffic monitoring. This report includes a model for creating an indicator toolbox for bicycle and pedestrian traffic monitoring to be implemented by municipalities. The report has been compiled on the basis of examples in Finland and abroad, specialist reports and two workshops arranged during the project. A total of 41 specialists from municipalities, the Finnish Transport Agency, the ELY Centres, organisations representing urban regions, and consulting firms participated in the workshops.

This report includes the most important available methods and indicators, based on which the municipality can create its own set of indicators for bicycle and pedestrian traffic monitoring. The indicators have been categorized into: input, output, land use, travel chains, mobility behaviour, traffic volumes, traffic and social safety, accessibility, quality of the mobility environment, outlook and impact. The choice of recommended comparative indicators has been based on the workshops and specialist advice. The municipalities should find it useful to compare the data from these indicators.

Measuring and monitoring do not provide any absolute values, but they are tools for coherent planning and development. The strategies and the objectives to promote bicycle and pedestrian traffic should be treated as part of the transport strategy of the municipality, which in its turn is part of a greater whole. The implementation of the monitoring practice depends on the policy, the prevailing practice and plans of the municipality.

Monitoring data increases the understanding of the specific characteristics of bicycle and pedestrian traffic, which also makes it easier to promote non-motorized traffic as well as justify and plan the development measures to be taken. Without monitoring data it is impossible to set the objectives to promote bicycle and pedestrian traffic. When the starting level is unknown, it is impossible to follow up how the objectives have been achieved. Monitoring data can also be used to compare different municipalities. The comparison between municipalities is necessary in order to draw conclusions on the development of the own municipality. Comparative data is also useful for examining if the own objectives are set at an appropriate level. Comparisons make it easier to identify and share experiences of successful measures and to boost development. The greatest obstacle to monitoring bicycle and pedestrian traffic is insufficient time and fiscal resources. However, monitoring data is a helpful tool when making decisions on how to allocate resources in a sensible way.

A comprehensive set of indicators combines several measuring
perspectives resulting in a monitoring model. When creating a set of indicators, one should not only look into the traditional mobility indicators, such as the division between modes of transport, but also use well tried indicators. Already existing data on bicycle and pedestrian traffic monitoring should be utilized before new research is initiated. At its minimum, monitoring can simply mean pulling together already existing data. The limitations and characteristics of different methods of data collection should be identified, for example regarding generalisation of results.

The use of monitoring data varies according to the demands and objectives of the users. A comprehensive picture of bicycle and pedestrian traffic and the use of urban spaces can be gained by utilizing monitoring in an extensive and versatile way and by set

General information
State: Published
Ministry of Education publication type: D4 Published development or research report or study
Organisations: Department of Information Management and Logistics, Research group: Transport Research Centre Verne
Authors: Rantala, T., Luukkonen, T.
Number of pages: 37
Publication date: 2014

Publication information
Place of publication: Helsinki
Publisher: Liikennevirasto
Original language: Finnish

Publication series
Name: Liikenneviraston tutkimuksia ja selvityksiä 15/2014
Publisher: Liikennevirasto
ISSN (Print): 1798-6656
ISSN (Electronic): 1798-6664
Keywords: promoting walking and cycling, monitoring, measuring, travel behaviour, monitoring methods, sojourning
Links:
Research output: Professional › Commissioned report

Methods for Analyzing the Impacts of Workplace Changes on Knowledge Work

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Vuolle, M., Palvalin, M., Lönnqvist, A.
Number of pages: 9
Pages: 418-426
Publication date: 2014

Host publication information
Title of host publication: 11th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning, ICICKM 2014, November 6-7, 2014, Sydney, Australia
Place of publication: Reading, UK
Publisher: Academic Conferences and Publishing International Limited
Editors: Rooney, J., Murthy, V.
ISBN (Print): 978-1-910309-71-1

Publication series
Name: International Conference on Intellectual Capital, Knowledge Management and Organisational Learning
ISSN (Print): 2048-9802
ISSN (Electronic): 2048-9811

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-11-17<br/>Publisher name: Academic Conferences and Publishing International Limited
Negative Emotions and Knowledge Work Performance

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Vuolle, M., Laihonen, H.
Number of pages: 15
Pages: 3810-3824
Publication date: 2014

Host publication information
Title of host publication: Proceedings of the 9th International Forum on Knowledge Asset Dynamics, IFKAD 2014, 11-13 June 2014, Matera, Italy
Place of publication: Matera, Italy
Publisher: Institute of Knowledge Asset Management
ISBN (Print): 978-88-96687-04-8

Publication series
Name: International Forum on Knowledge Asset Dynamics
ISSN (Print): 2280-787X
Links:
http://www.knowledgeasset.org/IFKAD/Proceedings/

Bibliographical note
Proceedingsiin tarvitaan käyttäjätunnus ja salasana
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-07-14
Publisher name: Institute of Knowledge Asset Management
Source: researchoutputwizard
Source-ID: 1767
Research output: Scientific - peer-review › Conference contribution

Networks of Pain in ERP Development

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Alanne, A., Kähkönen, T., Niemi, E.
Number of pages: 10
Pages: 257-266
Publication date: 2014

Host publication information
Publisher: SCITEPRESS - Science and Technology Publications
ISBN (Print): 978-989-758-028-4

Publication series
Name: International Conference on Enterprise Information Systems
Links:
http://www.iceis.org

Bibliographical note
Proceedingsiin tarvitaan käyttäjätunnus ja salasana
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-06-30<br/>Publisher name: SCITEPRESS - Science and Technology Publications
Source: researchoutputwizard
Source-ID: 82
Research output: Scientific - peer-review › Conference contribution
New Insights for Relational Capital

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics
Authors: Still, K., Huhtamäki, J., Russell, M.
Number of pages: 10
Pages: 384-392
Publication date: 2014

Host publication information
Title of host publication: 11th International Conference on Intellectual Capital, Knowledge Management and Organisational Learning, ICICKM 2014, November 6-7, 2014, Sydney, Australia
Place of publication: Reading, UK
Publisher: Academic Conferences and Publishing International Limited
ISBN (Print): 978-1-910309-71-1

Publication series
Name: International Conference on Intellectual Capital, Knowledge Management and Organisational Learning
ISSN (Print): 2048-9802
ISSN (Electronic): 2048-9811
Links: https://www.dropbox.com/sh/b8lnvw3mj0me6to/AADHOufCTzBviqecYNtStrKVa/ICICKM2014_Proceedings.pdf?dl=0

Bibliographical note
Contribution: organisation=mat,FACT1=1<br/>Portfolio EDEND: 2014-12-31<br/>Publisher name: Academic Conferences and Publishing International Limited
Source: researchoutputwizard
Source-ID: 1549
Research output: Scientific - peer-review › Conference contribution

Predicting tree structure from tree height using terrestrial laser scanning and quantitative structure models

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics
Authors: Krooks, A., Kaasalainen, S., Kankare, V., Joensuu, M., Raumonen, P., Kaasalainen, M.
Number of pages: 11
Pages: 1-11
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Silva Fennica
Volume: 48
Issue number: 2
Article number: 1125
ISSN (Print): 0037-5330
Ratings:
Scopus rating (2016): SJR 0.65 SNIP 1.013 CiteScore 1.45
Scopus rating (2015): SJR 0.63 SNIP 0.998 CiteScore 1.46
Scopus rating (2014): SJR 0.605 SNIP 0.985 CiteScore 1.44
Scopus rating (2013): SJR 0.914 SNIP 1.175 CiteScore 1.79
Scopus rating (2012): SJR 0.881 SNIP 1.121 CiteScore 1.44
Scopus rating (2011): SJR 0.797 SNIP 1.076 CiteScore 1.46
Scopus rating (2010): SJR 0.728 SNIP 0.933
Scopus rating (2009): SJR 0.747 SNIP 1.184
Scopus rating (2008): SJR 0.718 SNIP 0.668
Social Media Utilization In B2B Networks Organizational Learning - Review and Research Agenda Proposal

General information
State: Published
Ministry of Education publication type: A2 Review article in a scientific journal
Organisations: Department of Information Management and Logistics, Pori Department, Managing digital industrial transformation (mDIT)
Authors: Pettersson, E., Aramo-Immonen, H., Jussila, J.
Number of pages: 16
Pages: 218-233
Publication date: 2014
Peer-reviewed: Yes

Publication information
Journal: Journal of Mobile Multimedia
Volume: 10
Issue number: 3&4
ISSN (Print): 1550-4646
Ratings:
Scopus rating (2016): SJR 0.157 SNIP 0.502 CiteScore 0.81
Scopus rating (2015): SJR 0.197 SNIP 0.427 CiteScore 0.57
Scopus rating (2014): SJR 0.127 SNIP 0.401 CiteScore 0.57
Scopus rating (2013): SJR 0.116 SNIP 0.612 CiteScore 0.52
Scopus rating (2012): SJR 0.115 SNIP 0.305 CiteScore 0.21
Original language: English

Electronic versions:
Social media utilization in B2B networks organizational learning - review and research agenda proposal
Links:
http://urn.fi/URN:NBN:fi:ttty-201606294319
http://www.rintonpress.com/journals/jmm/

Bibliographical note
Contribution: organisation=pla,FACT1=0.67<br/>Portfolio EDEND: 2014-05-31<br/>Publisher name: Rinton Press
Source: researchoutputwizard
Source-ID: 1273
Research output: Scientific - peer-review › Review Article

Summary of pilot cases. New ways of working

General information
Teachers’ learning analytics tools in a social media enhanced learning environment

In this paper, we introduce the results of a study concerning the usefulness of learning analytics tools implemented in the TUT Circle, a social media enhanced learning environment, from the teachers’ point of view. According to the results of the study, learning analytics tools with interactive visualizations can help teachers utilize data about students’ actions recorded in log files of learning environments for didactical purposes. The tool can help teachers to make decisions regarding potential pedagogical strategies, instructional guidance, actions, and interventions that may be used to support student participation and activity. The ability to access real time information about students’ actions, compare students’ activities during the course, and identify students who might be at risk of failing or dropping out are of significant benefit to the teachers. However, in order to support teachers in obtaining more practical value from the learning analytics tools the controls for specifying the data and manipulating views need to be developed further.

The impacts of inter-organizational knowledge transfer on performance of a collaborative network
Transfer of performance information as a driver of network performance

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Laihonen, H., Pekkola, S.
Number of pages: 12
Pages: 1-12
Publication date: 2014

Host publication information
Title of host publication: PMA Conference 2014, Performance Management Designing the high-performing organization, 25.-27.6.2014, Aarhus, Denmark
Place of publication: Cambridge, UK
Publisher: Performance Management Association PMA
ISBN (Print): 978-8-778826-52-7

Publication series
Name: Performance Management Association Conference
Links:
http://www.performanceportal.org

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2014-07-14<br/>Publisher name: Performance Management Association PMA
Source: researchoutputwizard
Source-ID: 875
Research output: Scientific - peer-review › Conference contribution
Visual network analysis of Twitter data for co-organizing conferences: case CMAD 2013
The aim of this research is to explore what kinds of insights information visualization of social media data can provide for co-organizing conferences. Our paper focuses on Twitter use before, during and after conference. We present a case study based on an conference of Community Manager Appreciation Day (CMAD 2013). With the process of data-driven visual network analysis, we used Twitter data to analyse the network of conference participants and the conference’s discussion topics. We were able to identify e.g. influential conference participants, most interesting presentations and discussions, similarities between interests of the conference participants. Hence, several development and information needs of conference co-organization were derived from the information visualizations, which have implications for improving the planning and co-organizing of conferences, as well as for Twitter use in conference communication.

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics, Department of Mathematics, Managing digital industrial transformation (mDIT)
Authors: Jussila, J., Huhtamäki, J., Henttonen, K., Kärkkäinen, H., Still, K.
Number of pages: 10
Pages: 1474-1483
Publication date: 2014
Developing learning analytics for TUT Circle

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics
Authors: Tervakari, A., Marttila, J., Kailanto, M., Huhtamäki, J., Koro, J., Silius, K.
Number of pages: 10
Pages: 101-110
Publication date: 2013

Host publication information
Publisher: Springer Berlin Heidelberg
Editors: Ley, T., Ruohonen, M., Laanpere, M., Tatnall, A.
ISBN (Print): 978-3-642-37284-1
ISBN (Electronic): 978-3-642-37285-8

Publication series
Name: IFIP Advances in Information and Communication Technology
Publisher: Springer Berlin Heidelberg
Volume: 395
ISSN (Print): 1868-4238
DOIs:
10.1007/978-3-642-37285-8_11

Bibliographical note
Contribution: organisation=mat,FACT1=1<br/>Portfolio EDEND: 2013-07-29
Source: researchoutputwizard
Source-ID: 3535
Research output: Scientific - peer-review › Conference contribution

E-learning environments as niche strategy to match the ‘DNA’ of particular university

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Lugmayr, A.
Number of pages: 8
Pages: 5-12
Publication date: 2013

Host publication information
Title of host publication: The 4th International workshop on Interactive Environments and Emerging Technologies for e-learning, IEETeL 2013, 4.6.2013, Utrecht, the Netherlands
Publisher: CEUR-WS.org

Publication series
Name: CEUR Workshop Proceedings
Volume: 991
ISSN (Print): 1613-0073
Links:
http://ceur-ws.org/Vol-991/
http://urn.fi/urn:nbn:de:0074-991-5

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2013-11-29<br/>Publisher name: CEUR-WS.org
Framework for understanding ERP development ecosystems: business and technology perspectives

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Alanne, A., Pekkola, S.
Number of pages: 15
Publication date: 2013

Host publication information
Place of publication: Oslo, Norway
Publisher: University of Oslo

Publication series
Name: Information Systems Research Seminar in Scandinavia
Links:

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2013-10-29<br/>Publisher name: University of Oslo
Source: researchoutputwizard
Source-ID: 1902
Research output: Scientific - peer-review » Conference contribution

Heikoin lenkki ratkaisee

General information
State: Published
Ministry of Education publication type: E1 Popularised article, newspaper article
Organisations: Department of Information Management and Logistics
Authors: Ilvonen, I., Virtanen, P.
Number of pages: 1
Pages: 18-18
Publication date: 2013
Peer-reviewed: Unknown

Publication information
Journal: Aamulehti
ISSN (Print): 0355-6913
Original language: Finnish
Links:
http://www.aamulehti.fi

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2013-11-29<br/>Publisher name: University of Oslo
Source: researchoutputwizard
Source-ID: 2370
Research output: General public » Article

Information and communication technology impacts on knowledge work performance

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Information Management and Logistics
Authors: Palvalin, M.
Number of pages: 12
Pages: 1-12
Publication date: 2013
Information Security Assessment of SMEs as Coursework - Learning Information Security Management by Doing

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Information Management and Logistics, Managing digital industrial transformation (mDIT)
Authors: Ilvonen, I.
Number of pages: 57
Pages: 53-59
Publication date: 2013
Peer-reviewed: Yes

Publication information
Journal: Journal of Information Systems Education
Volume: 24
Issue number: 1
ISSN (Print): 1055-3096
Ratings:
Scopus rating (2016): SJR 0.173 SNIP 0.733
Scopus rating (2015): SJR 0.139 SNIP 0.767
Scopus rating (2014): SJR 0.129 SNIP 0.299
Scopus rating (2013): SJR 0.145 SNIP 0.084
Original language: English
Links:
http://jise.org/Volume24/24-1/PDF/Vol24-1pg53.pdf

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2013-10-29<br/>Publisher name: Journal of Information Systems Education
Source: researchoutputwizard
Source-ID: 2369
Research output: Scientific - peer-review › Article

Information visualization of Twitter data for co-organizing conferences
The aim of this research is to explore what kinds of insights information visualization of social media data can provide for co-organizing conferences. Our paper focuses on Twitter in ‘during-conference’ use. We present a case study based on CMAD2013 conference and on the tweet traffic during the conference day. We applied the process of data-driven visual network analysis for providing insights on Twitter use during CMAD2013 conference day. By analyzing the network of conference participants and the conference’s discussion topics, we were able to identify e.g. influential conference delegates, most interesting presentations and discussions, similarities between interests of the conference participants, and several development and information needs of conference co-organization derived from the information visualizations, which have implications for the planning and co-organizing of conferences, as well as for Twitter use in communicating during conferences.
Students' participation in a social media enhanced learning environment

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics
Authors: Tervakari, A., Silius, K., Kailanto, M.
Number of pages: 9
Pages: 871-879
Publication date: 2013

Host publication information
Publisher: Institute of Electrical and Electronics Engineers IEEE
ISBN (Print): 978-1-4673-6111-8

Publication series
Name: IEEE Global Engineering Education Conference
ISSN (Print): 2165-9559
DOIs:
10.1109/EduCon.2013.6530209

Bibliographical note
Contribution: organisation=mat,FACT1=1<br/>Portfolio EDEND: 2013-07-29<br/>Publisher name: Institute of Electrical and Electronics Engineers IEEE
Source: researchoutputwizard
Source-ID: 3536
Research output: Scientific - peer-review › Conference contribution

Students' Participation in a Social Media Enhanced Learning Environment

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics
Authors: Tervakari, A., Silius, K., Kailanto, M.
Number of pages: 8
Pages: 20-28
Publication date: 2013
Peer-reviewed: Yes
Teollisuudelle etua sosiaalisesta mediasta

General information
State: Published
Ministry of Education publication type: D1 Article in a trade journal
Organisations: Department of Information Management and Logistics
Authors: Kärkkäinen, H.
Number of pages: 1
Pages: 42-42
Publication date: 2013
Peer-reviewed: Unknown

Publication information
Journal: Reset
Issue number: 1
ISSN (Print): 2341-7692
Original language: Finnish

Bibliographical note
Contribution: organisation=tlo,FACT1=1
Portfolio EDEND: 2013-10-29
Source: researchoutputwizard
Source-ID: 2507
Research output: Professional → Article

Tietojohtaminen

General information
State: Published
Ministry of Education publication type: D5 Text book, professional manual or guide or a dictionary
Organisations: Department of Information Management and Logistics
Number of pages: 84
Publication date: 2013

Publication information
Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, Tietojohtamisen tutkimuskeskus Novi
Original language: Finnish
Electronic versions:
tietojohtaminen.pdf
Links:

Bibliographical note
Contribution: organisation=tlo,FACT1=1<br/>Portfolio EDEND: 2013-09-29
Source: researchoutputwizard
Source-ID: 2704
Research output: Professional › Book

Virtuaalinen konelaboratorio ja semanttinen mallinnus konejärjestelmän suunnittelun tukena, Loppuraportti, Semogen II -hanke

General information
State: Published
Ministry of Education publication type: D4 Published development or research report or study
Organisations: Department of Intelligent Hydraulics and Automation, Department of Mathematics
Number of pages: 50
Publication date: 2013

Publication information
Place of publication: Tampere
Publisher: Tampereen teknillinen yliopisto, Smart Simulators -tutkimusryhmä
Original language: Finnish
Links:

Bibliographical note
Contribution: organisation=mat,FACT1=0.6<br/>Contribution: organisation=iha,FACT2=0.4<br/>Portfolio EDEND: 2013-12-29
Source: researchoutputwizard
Source-ID: 3028
Research output: Professional › Commissioned report

Visualizations of user data in a social media enhanced web-based environment in higher education

General information
State: Published
Ministry of Education publication type: A4 Article in a conference publication
Organisations: Department of Mathematics
Visualizations of User Data in a Social Media Enhanced Web-based Environment in Higher Education

General information
State: Published
Ministry of Education publication type: A1 Journal article-refereed
Organisations: Department of Mathematics
Authors: Silius, K., Tervakari, A., Kailanto, M.
Number of pages: 7
Pages: 13-19
Publication date: 2013
Peer-reviewed: Yes

Publication information
Journal: International Journal of Emerging Technologies in Learning
Volume: 8
Issue number: 2
ISSN (Print): 1868-8799
Ratings:
Scopus rating (2016): SJR 0.218 SNIP 0.516 CiteScore 0.47
Scopus rating (2015): SJR 0.208 SNIP 0.418 CiteScore 0.46
Scopus rating (2014): SJR 0.128 SNIP 0.337 CiteScore 0.27
Scopus rating (2013): SJR 0.205 SNIP 0.361 CiteScore 0.35
Scopus rating (2012): SJR 0.188 SNIP 0.321 CiteScore 0.31
Scopus rating (2011): SJR 0.235 SNIP 0.407 CiteScore 0
Scopus rating (2010): SJR 0.134 SNIP 0.37
Scopus rating (2009): SJR 0.14 SNIP 0.094
Original language: English
DOIs:
10.3991/ijet.v8iS2.2740
Links:
http://online-journals.org/i-jet/article/view/2740

Bibliographical note
Contribution: organisation=mat,FACT1=1<br/>
Portfolio EDEND: 2013-07-29<br/>
Publisher name: Institute of Electrical and Electronics Engineers IEEE
Source: researchoutputwizard
Source-ID: 3418
Research output: Scientific - peer-review › Conference contribution