

**JOURNAL OF INFORMATION SYSTEMS &
OPERATIONS MANAGEMENT**

**Vol. 10 No. 1
May 2016**



**EDITURA UNIVERSITARĂ
București**

Foreword

Welcome to the Journal of Information Systems & Operations Management (ISSN 1843-4711; IDB indexation: ProQuest, REPEC, QBE, EBSCO, COPERNICUS). This journal is an open access journal published two times a year by the Romanian-American University.

The published articles focus on IT&C and belong to national and international researchers, professors who want to share their results of research, to share ideas, to speak about their expertise and Ph.D. students who want to improve their knowledge, to present their emerging doctoral research.

Being a challenging and a favorable medium for scientific discussions, all the issues of the journal contain articles dealing with current issues from *computer science, economics, management, IT&C*, etc. Furthermore, JISOM encourages the cross-disciplinary research of national and international researchers and welcomes the contributions which give a special “touch and flavor” to the mentioned fields. Each article undergoes a double-blind review from an internationally and nationally recognized pool of reviewers.

JISOM thanks all the authors who contributed to this journal by submitting their work to be published, and also thanks to all reviewers who helped and spared their valuable time in reviewing and evaluating the manuscripts.

Last but not least, JISOM aims at being one of the distinguished journals in the mentioned fields.

Looking forward to receiving your contributions,

Best Wishes

Virgil Chichernea, Ph.D.

Editor-in-Chief

JOURNAL OF INFORMATION SYSTEMS & OPERATIONS MANAGEMENT

GENERAL MANAGER

Professor Ovidiu Folcut

EDITOR IN CHIEF

Professor Virgil Chichernea

EDITORIAL BOARD

Academician Gheorghe Păun	Romanian Academy
Academician Mircea Stelian Petrescu	Romanian Academy
Professor Eduard Radaceanu	Romanian Technical Academy
Professor Ronald Carrier	James Madison University, U.S.A.
Professor Pauline Cushman	James Madison University, U.S.A.
Professor Ramon Mata-Toledo	James Madison University, U.S.A.
Professor Allan Berg	University of Dallas, U.S.A.
Professor Kent Zimmerman	James Madison University, U.S.A.
Professor Traian Muntean	Universite de la Mediterranee, Aix – Marseille II , FRANCE
Associate. Professor Susan Kruc	James Madison University, U.S.A.
Associate Professor Mihaela Paun	Louisiana Tech University, U.S.A.
Professor Cornelia Botezatu	Romanian-American University
Professor Ion Ivan	Academy of Economic Studies
Professor Radu Șerban	Academy of Economic Studies
Professor Ion Smeureanu	Academy of Economic Studies
Professor Floarea Năstase	Academy of Economic Studies
Professor Sergiu Iliescu	University “Politehnica” Bucharest
Professor Victor Patriciu	National Technical Defence University, Romania
Professor Lucia Rusu	University “Babes-Bolyai” Cluj Napoca
Associate Professor Sanda Micula	University “Babes-Bolyai” Cluj Napoca
Associate Professor Ion Bucur	University “Politehnica” Bucharest
Associate Professor Costin Boianțiu	University “Politehnica” Bucharest
Associate Professor Irina Fagarasanu	University “Politehnica” Bucharest
Associate Professor Viorel Marinescu	The Technical University of Civil Engineering Bucharest
Associate Professor George Carutasu	Romanian-American University
Associate Professor Cristina Coculescu	Romanian-American University
Associate Professor Daniela Crisan	Romanian-American University
Associate Professor Alexandru Tabusca	Romanian-American University
Lecturer Gabriel Eugen Garais	Romanian-American University
Lecturer Alexandru Pirjan	Romanian-American University
Senior Staff Text Processing:	
Lecturer Lavinia Stănică	Romanian-American University
Assistant lecturer Mariana Coancă	Romanian-American University
Assistant lecturer Dragos-Paul Pop	Romanian-American University

JISOM journal details 2016

No.	Item	Value
1	Category 2010 (by CNCSIS)	B+
2	CNCSIS Code	844
3	Complete title / IDB title	JOURNAL OF INFORMATION SYSTEMS & OPERATIONS MANAGEMENT
4	ISSN (print and/or electronic)	1843-4711
5	Frequency	SEMESTRIAL
6	Journal website (direct link to journal section)	http://JISOM.RAU.RO
7	IDB indexation (direct link to journal section / search interface)	ProQuest EBSCO REPEC http://ideas.repec.org/s/rau/jisomg.html COPERNICUS http://journals.indexcopernicus.com/karta.php?action=masterlist&id=5147 QBE

Contact

First name and last name	Virgil CHICHERNEA, PhD Professor
Phone	+4-0729-140815 +4-021-2029513
E-mail	chichernea.virgil@profesor.rau.ro vchichernea@gmail.com

ISSN: 1843-4711

CONTENTS

Editorial

PRANSHU GUPTA RAMON A. MATA-TOLEDO	<i>CYBERCRIME: IN DISGUISE CRIMES</i>	1
COSTIN ANTON BOIANGIU ADRIAN FIRCULESCU ION BUCUR	<i>TEACHING SOFTWARE PROJECT MANAGEMENT: THE INDEPENDENT APPROACH</i>	11
MARIA MION POP MIHAELA GIURGIULESCU VANESA MAGHERUȘAN	<i>THE DIGITAL TECHNIQUE – TOOL FOR LEARNING FOREIGN LANGUAGES</i>	29
ZAID ALI SHHEDI ALIN MOLDOVEANU FLORICA MOLDOVEANU CRISTIAN TASLITCHI HESHAM ALABBASSI	<i>EVALUATING SMART COMMUNICATION AND MONITORING TECHNOLOGIES FOR HOSPITAL HYGIENE WORKFLOWS</i>	32
COSTIN ANTON BOIANGIU ADRIAN FIRCULESCU	<i>TEACHING SOFTWARE PROJECT MANAGEMENT: THE COMPETITIVE APPROACH</i>	45
NEDELESCU DUMITRU MIHAI STĂNESCU MARIA CRISTINA BOTEA LUCIAN CROITORU LUCIA IORDACHE GABRIEL	<i>INFLATION IN ROMANIA AND ITS EVOLUTION IN VIEW OF ACCESSION TO THE EUROZONE</i>	51
IOANA GABRIELA RADOI EMIL IOAN LENARD	<i>A STUDY ABOUT IMAGE NOISE REMOVAL</i>	67
ALIN ZAMFIROIU MONICA ANGHEL CARMEN ROTUNĂ	<i>EUROPEAN SUSTAINABLE DEVELOPMENT THROUGH NETWORKED ELECTRONIC SERVICES</i>	79
ADRIAN FIRCULESCU ION BUCUR	<i>TEACHING SOFTWARE PROJECT MANAGEMENT: THE ANARCHIC APPROACH</i>	92
ALICE ȚÎNȚĂ	<i>FISCAL AND ACCOUNTING OPTIONS AND POLICIES ON TAX RESULT</i>	99
ALINA-NICOLETA RUSU NARCIS-FLORIN-STEFAN VOICU	<i>A SURVEY ON EDGE DETECTION IN IMAGES</i>	110
MARILENA-ROXANA ZUCA	<i>FINANCIAL STATEMENTS – MAIN SOURCE OF INFORMATION FOR THE PROCESS OF MANAGEMENT AND DECISION MAKING</i>	123

<i>COSTIN-ANTON BOIANGIU ION BUCUR</i>	<i>TEACHING SOFTWARE PROJECT MANAGEMENT: THE COLLABORATIVE APPROACH</i>	134
<i>MIHAI ALEXANDRU BOTEZATU</i>	<i>INSIGHT INTO PROJECT RISK MANAGEMENT</i>	141
<i>FLORIN DAN PIELEANU</i>	<i>PREDICTING THE EVOLUTION OF BET INDEX, USING AN ARIMA MODEL</i>	156
<i>ADRIAN FIRCULESCU</i>	<i>TEACHING SOFTWARE PROJECT MANAGEMENT: THE MIXED COLLABORATIVE-COMPETITIVE APPROACH</i>	168
<i>GABRIEL EUGEN GARAIS</i>	<i>SECURITY MEASURES FOR OPEN SOURCE WEBSITE PLATFORMS</i>	175
<i>CĂTĂLINA VIȘAN</i>	<i>SYMMETRICALLY-CLOSED VALUATIONS ON $K(X_1, \dots, X_N)$</i>	186
<i>ALEXANDRU ADRIAN ȚOLE NICOLETA CRISTINA MATEI</i>	<i>EXECUTIVE INFORMATION SYSTEMS' (EIS) STRUCTURE AND THEIR IMPORTANCE IN DECISION-MAKING. A COMPARISON BETWEEN DECISION SUPPORT COMPUTER SYSTEMS</i>	200
<i>ANDREEA-ALISA DRAGOMIR</i>	<i>AUTOMATICALLY ADJUSTING THE COLOR PERCEPTION: A QUALITATIVE ANALYSIS</i>	214
<i>DIANA-MARIA POPA</i>	<i>ON IMAGE RECOLORING – PART 1: CORRECT GRAYSCALE CONVERSION</i>	222
<i>ANDREI TIGORA</i>	<i>DESIGNING A FLEXIBLE DOCUMENT IMAGE ANALYSIS SYSTEM – PART 1: THE ARCHITECTURE</i>	235
<i>VLAD BADOIU ANDREI-CONSTANTIN CIOBANU SERGIU CRAITOIU</i>	<i>OCR QUALITY IMPROVEMENT USING IMAGE PREPROCESSING</i>	246
<i>TIRMANN, VICTOR TĂBUȘCĂ, ALEXANDRU</i>	<i>UNIVERSITY STUDENT ATTENDANCE MANAGEMENT SYSTEM</i>	259
<i>IOANA VLĂDĂU-BABII DRAGOS-PAUL POP</i>	<i>THE VIRTUAL UNIVERSITY - A CONCEPT NEEDED IN A SUSTAINABLE DEVELOPMENT</i>	270

CYBERCRIME: IN DISGUISE CRIMES

Pranshu Gupta^{1*}

Ramon A. Mata-Toledo²

ABSTRACT

Cybercrime is commonly defined as any criminal act in which a perpetrator breaks or hacks into a computer or computer network in order to illegally obtain sensitive information or disseminate destructive computer software. Common examples include Internet fraud, identity theft, credit card account theft, or access to information that can cause harm to an individual or corporation. Web technology has played an important role in giving rise to such crimes. Hacking into a computer these days is like taking snapshots or x-rays of someone's body – there is vast amount of personal information stored in the computer. A person may have actual research or potential ideas for it (the brain), memorable pictures (the heart), work files (making a living) and some additional information stored on the computer. On the surface the hacker is not physically hurting anyone in this scenario, but this is not true in general. The damage caused by these crimes cannot be easily measured. Physical violence is a visible form of crime but cybercrimes are committed in the 'unseen' world of Internet that may be 'accessible' by the world. In this case we could say that this is not physical violence because nobody is physically hurt; however this is no an encompassing definition of violence. According to the World Health Organization (WHO), violence can be defined as "the intentional use of physical force or power, threatened or actual, against oneself, another person, or against a group or community, which either results in or has a high likelihood of resulting in injury, death, psychological harm, mal-development, or deprivation." In addition to these, violence can also include exposure to ridicule or defamation of character. In this sense, cybercrimes can cause more psychological harm and deprivation than any other crime committed against a person. The trauma caused by cybercrime can have a long term effects on a person's mental, physical health, and financial affairs. In this paper the authors consider some aspects of how the computer can be used as a tool to commit violent and criminal acts and some key factors to mitigate these risks.

KEYWORDS: *cyber, crime, internet, cyber law, hacking*

^{1*} corresponding author, DeSales University, Center Valley, PA, 18036, Tel: (610) 282-1100 x 2854, Pranshu.Gupta@desales.edu

² James Madison University, Harrisonburg, VA, 22807, Tel: (540) 568-2775, matatora@jmu.edu

TEACHING SOFTWARE PROJECT MANAGEMENT: THE INDEPENDENT APPROACH

Costin-Anton Boiangiu ^{1*}
Adrian Firculescu ²
Ion Bucur ³

ABSTRACT

The process of learning has continuously evolved throughout time. Several didactic approaches have been designed to meet certain academic needs. In light of today's technological advancements, new educational topics have emerged, some which do not explicitly fit other already defined didactic methods. This paper aims to propose a specifically designed learning approach for teaching Software Project Management in a university-based environment by adapting parts of other general learning techniques into a new and better defined teaching approach for a computer software education field.

KEYWORDS: *software project management, educational models, teaching strategies, collaborative learning, cooperative learning, competition-based learning, mixed collaborative-competition learning, independent learning, anarchy learning.*

THE DIGITAL TECHNIQUE – TOOL FOR LEARNING FOREIGN LANGUAGES

Maria Mion Pop ^{4*}
Mihaela Giurgiulescu ⁵
Vanessa Magheruşan ⁶

ABSTRACT

The essence of efficient communication is perceived in 45 seconds. Beyond this, everything is just some filler that only outlines the main idea, namely it enriches

^{1*} corresponding author, Professor PhD Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, costin.boiangiu@cs.pub.ro

² Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, adrian.firculescu@cti.pub.ro

³ Associate Professor PhD Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, ion.bucur@cs.pub.ro

^{4*} corresponding author, Academician Prof. Dr., University of Bucharest, Faculty of Psychology and Education Sciences and Center of Education Performance "Fibonacci", mariana.mionpop@libero.it

⁵ Ph.D. Candidate, University of Bucharest, Faculty of Psychology and Education Sciences; mgiurg@gmail.com

⁶ Teaching assistant, Romanian-American University; Ph.D. Candidate University of Bucharest, Faculty of Psychology and Education Sciences; vanesamagherusan@yahoo.com

communication. So we can say that every lesson should be well focused and concentrated into a sequence of no more than 45 seconds. It should be the goal of trainers of foreign languages by means of computers. Therefore, we would like to point out hereby the results of a research conducted on a sample of 1,055 participants, distributed as follows: 10-14 years old, 307 participants; 15 – 20 old years, 212 participants; 21-35 years old, 325 participants; 36-50 years old, 106 participants; 51 - 65 years old, 56 participants; over 66 years old, 49 participants. All participants in experimentation want / need to learn foreign languages, with preference: English, as language of trade and wide circulation and Italian because it is smooth, fine and delightful. Our research aims to improve the use of digital techniques both for trainers and subjects in teaching/learning foreign languages, from A1 to C2, in particular through e-learning. The study's results show the need to involve IT tools in the interactions with adults, young adults and children in learning foreign languages. We would like to emphasize the challenging psycho-didactics in achieving the goal of learning and independent learning.

KEYWORDS: *e-learning, challenge, psycho-didactics, computer science in psycho-didactics, independent learning*

EVALUATING SMART COMMUNICATION AND MONITORING TECHNOLOGIES FOR HOSPITAL HYGIENE WORKFLOWS

Zaid Ali Shhedi^{1*}
*Alin Moldoveanu*²
*Florica Moldoveanu*³
*Cristian Taslitchi*⁴
*Hesham Alabbassi*⁵

ABSTRACT

Hospitals receive many patients and visitors daily, and include a large number of medical staff members, thus, hospitals are eligible environments for infection transmission. The hospital acquired infection (HAI) is situated at the top of the reasons pyramid that lead to death. HAI means that a patient enters the hospital for some reason and gets infected because of another reason. Non compliance with hygiene protocols is a major cause of HAI. Therefore, the automatic monitoring of hospital workflows using the

^{1*} corresponding author, PhD Student, Doctoral School of Automatic Control and Computers, University POLITEHNICA of Bucharest, Splaiul Independentei 313, Bucharest, Romania, zaid.shhedi@yahoo.com

² Conf. dr. ing., Faculty of Automatic Control and Computers, University POLITEHNICA of Bucharest, Splaiul Independentei 313, Bucharest, Romania, alin.moldoveanu@cs.pub.ro

³ Prof. dr. ing., Faculty of Automatic Control and Computers, University POLITEHNICA of Bucharest, Splaiul Independentei 313, Bucharest, Romania, florica.moldoveanu@cs.pub.ro

⁴ PhD Student, Doctoral School of Automatic Control and Computers, University POLITEHNICA of Bucharest, Splaiul Independentei 313, Bucharest, Romania

⁵ PhD Student, Doctoral School of Automatic Control and Computers, University POLITEHNICA of Bucharest, Splaiul Independentei 313, Bucharest, Romania, al_abbassi2000@yahoo.com

recent communication technologies is a vital factor for infection prevention. In this article, we highlight in details the technologies that could be investigated for monitoring the workflows in a hospital room. We describe the hospital room use case, and we analyze the suitability for each technology. The goal of this paper is to suggest a system for monitoring the clinical workflows and preventing the HAI. Nowadays, it became possible to perform efficient automated monitoring of hygiene related clinical workflows and we expect such solutions to become widely available within a few years.

KEYWORDS: *Hospital Acquired Infection (HAI), hand hygiene rules, medical workflows monitoring, hospital room, technological choices.*

TEACHING SOFTWARE PROJECT MANAGEMENT: THE COMPETITIVE APPROACH

Costin-Anton Boiangiu^{1*}
*Adrian Firculescu*²

ABSTRACT

Learning has been the subject of continuous change throughout time. Although cooperation and competition are mostly two different ways of approaching the learning process, the combination of the two might offer promising outcome to the participants. This paper aims to put forward a particularly designed learning approach for teaching Software Project Management in an academic environment by adapting already-defined cooperation and competitive learning techniques to a new and improved teaching approach for a computer software study field.

KEYWORDS: *software project management, educational models, teaching strategies, collaborative learning, cooperative learning, competition-based learning, mixed collaborative-competition learning, independent learning, anarchy learning.*

^{1*} corresponding author, Professor PhD Eng., “Politehnica” University of Bucharest, 060042 Bucharest, Romania, costin.boiangiu@cs.pub.ro

² Eng., “Politehnica” University of Bucharest, 060042 Bucharest, Romania, adrian.firculescu@cti.pub.ro

INFLATION IN ROMANIA AND ITS EVOLUTION IN VIEW OF ACCESSION TO THE EUROZONE

Nedelescu Dumitru Mihai^{1*}

*Stănescu Maria Cristina*²

*Botea Lucian*³

*Croitoru Lucia*⁴

*Iordache Gabriel*⁵

ABSTRACT

In recent decades, the main problem of the world economy was a general rise in prices of goods. The pressure generated by the increase in prices leads to significant distortions in the monetary, economic, political and social areas. Inflation is the main factor of economic crisis by discouraging investment and causing migration of capital. The deteriorated stability created by inflation is strongly affecting private sector decisions to invest or develop, with final effects in reducing production and eventually stagnation. After years of high inflation, Romania has faced in recent years with a significant process of disinflation. This has very strong implications in the development of Romania's economy and foreign trade activity. In econometric models, the main statistical indicator for inflation rate is HICP. Accession to the EU increases the importance of the HICP. Inflation nominal convergence criteria for joining the euro area is given by the HICP and the ECB defines price stability as an annual increase in the HICP of less than but close to 2%.

KEYWORDS: *inflation, index of consumer prices, Security Market Line, optimal structure, regression model.*

JEL Classification: *C01, C51, C52, E22, F2, P45.*

^{1*} corresponding author, Lecturer PhD, Romanian American University, 1B Expozitiei Blvd. Sector 1, Bucharest, nedelescu.dumitru.mihai@profesor.rau.ro

² Lecturer PhD, Romanian American University, Bucharest, stanescu.cristina@profesor.rau.ro

³ Lecturer PhD, Romanian American University, Bucharest, botea.lucian@profesor.rau.ro

⁴ Asistant PhD, Romanian American University, Bucharest, lucia.croitoru@profesor.rau.ro

⁵ Student, Romanian American University, Bucharest

A STUDY ABOUT IMAGE NOISE REMOVAL

Ioana Gabriela Radoi^{1*}
*Emil Ioan Lenard*²

ABSTRACT

This paper presents a comparison between different techniques of noise removal such as NL-means algorithm, local smoothing filters, bilateral filtering, wavelet thresholding and median filtering, based on current researches. The main goals of this article are to recover the original image after applying a noise measurement, smoothing the images and preserves the edges.

KEYWORDS: *bilateral filtering, NL-means algorithm, wavelet thresholding, median filtering*

EUROPEAN SUSTAINABLE DEVELOPMENT THROUGH NETWORKED ELECTRONIC SERVICES

Alin Zamfiroiu^{3*}
*Monica Anghel*⁴
*Carmen Rotună*⁵

ABSTRACT

An important percentage of the projects undertaken at EU level are mainly set up in view of creating strategies, methods and models for developing the digital infrastructure of the Member States, but also to ensure sustainable development at national, European and international level. The European Sustainable Development Network has set priorities that need to be and are addressed within the framework of the majority of the projects aforementioned.

KEYWORDS: *sustainable development, electronic services, European, development, e-SENS.*

^{1*} corresponding author, Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, ioana.radoi92@gmail.com

² Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, lenard90@gmail.com

^{3*} corresponding author, Senior Researcher, National Institute for Research & Development in Informatics; university assistant, University of Economic Studies, Bucharest. Romania, zamfiroiu@ici.ro

⁴ PhD candidate, "Lucian Blaga" University of Sibiu, National Institute for Research & Development in Informatics, 8-10 Averescu Avenue, 011455, Bucharest, Romania, monica.anghel@ici.ro

⁵ Researcher and software developer, National Institute for Research & Development in Informatics, 8-10 Averescu Avenue, 011455, Bucharest, Romania, carmen.rotuna@rotld.ro

TEACHING SOFTWARE PROJECT MANAGEMENT: THE ANARCHIC APPROACH

Adrian Firculescu^{1*}
Ion Bucur²

ABSTRACT

Throughout time, education has faced several adjustments depending on the nature of the subject it aimed to teach. Although anarchy has often been confused with chaos, an anarchical system tries to achieve social stability by encouraging individuals to make self-initiated decisions towards the benefit of the community. This paper aims to apply that anarchic philosophy in an academic-based environment, while teaching Software Project Management, and adapting these principles to a computer science study field.

KEYWORDS: *software project management, educational models, teaching strategies, collaborative learning, cooperative learning, competition-based learning, mixed collaborative-competition learning, independent learning, anarchy learning.*

FISCAL AND ACCOUNTING OPTIONS AND POLICIES ON TAX RESULT

Alice Țintă^{3*}

ABSTRACT

According to international accounting standards (IAS 12 Income taxes), income tax includes all domestic and foreign taxes which are based on taxable profits. Meanwhile, income taxes include withholding taxes that are paid by a subsidiary, associate or joint venture on distributions to a reporting entity⁴. The main problem that arises in accounting income taxes is the way current and future tax consequences of recovery, future liquidation, or book value of assets/liabilities are accounted for, that are recognized in the balance sheet of a company and the transactions and other events of the current period that are recognized in an entity's financial statements. When it is probable that recovery or settlement of an asset or liability will result in future tax payments smaller or larger than their value, then the recovery or settlement would have no tax consequences, so the company must recognize either a deferred tax liability or a deferred tax asset.

^{1*} corresponding author, Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, adrian.firculescu@cti.pub.ro

² Associate Professor PhD Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, ion.bucur@cs.pub.ro

^{3*} corresponding author, Lecturer Ph.D, Romanian-American University, 1B Expozitiei Blvd. Sector 1, Bucharest, alicetinta@yahoo.com

⁴ CECCAR, 2015, International Financial Reporting Standards 2015 Part A (conceptual framework and provisions), Publishing House CECCAR, pg. A844.

KEYWORDS: *income tax, accounting options and policies, fiscal policies and options, deferred tax, fiscal consequences, assets, liabilities.*

COD JEL: M41

A SURVEY ON EDGE DETECTION IN IMAGES

Alina-Nicoleta Rusu ^{1*}
Narcis-Florin-Stefan Voicu ²

ABSTRACT

This paper presents the main edge detection methods currently used. Given the importance of the issue in processing imaging domain, over time there were developed several techniques. They behave relatively close in terms of noise, but in practical situations, some may look more favorable than others. This paper aims to be brief conceptual and mathematical presentation of the most popular methods of edge detection.

KEYWORDS: *edge detection, classical operators, Robert operator, Sobel operator, Prewitt operator, Gaussian based methods, wavelet base methods, zero crossing, Laplacian of Gaussian, colored edges methods*

FINANCIAL STATEMENTS – MAIN SOURCE OF INFORMATION FOR THE PROCESS OF MANAGEMENT AND DECISION MAKING

Marilena-Roxana Zuca ^{3*}

ABSTRACT

*Managerial decisions have certain aspects that are different from the analyzed perspective. From the point of view of human resources to be hired, the management of the entity takes decisions based on the amounts investes in resources and exploitation transactions as well as a proper financing mix. These are the reasons for which **accuracy and the level of detail in information** has to be at a higher level in order to support the business and it increase its value.*

*The quality of **decision-making** is dependent to a large extent on the **amount** and quality of information upon which the decision is **based on**, which, once adopted is considered the most important process that takes place in the management of an entity. This, more so today, as IFRS generated changes in the conceptual sense of fundamental elements of*

^{1*} corresponding author, Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, alina.rusu@cs.pub.ro

² Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, narcis.voicu@cs.pub.ro

^{3*} corresponding author, Senior lecturer Ph.D., Romanian-American University, Bd. Expoziției 1B, Sector 1, Bucharest, Romania, zuca.marilena.roxana@profesor.rau.ro

financial reporting and results, as well as increased volatility of indicators results, leading to consolidation of the interest for information, analysis and decision making.

KEYWORDS: *financial statements, users, financial and accounting information, decision process, reporting entities.*

Code JEL: *M41*

TEACHING SOFTWARE PROJECT MANAGEMENT: THE COLLABORATIVE APPROACH

Costin-Anton Boiangiu^{1*}
*Ion Bucur*²

ABSTRACT

The process of learning has been subject of change in order to meet new principles of study in emerging technologies. There is a consensus that collaborative learning is a method in which participants achieve success more often. This paper aims to combine the benefits of collaborative learning and apply them while teaching Software Project Management in a computer science academic education field.

KEYWORDS: *software project management, educational models, teaching strategies, collaborative learning, cooperative learning, competition-based learning, mixed collaborative-competition learning, independent learning, anarchy learning.*

INSIGHT INTO PROJECT RISK MANAGEMENT

Mihai Alexandru Botezatu^{3*}

ABSTRACT

The unprecedented development of project work within all types of organizations and activities, makes specific project issues be largely presented and analyzed in the literature. Project management, as a temporary management activity with precisely defined objectives and resources, has a number of features that require the managerial skills, knowledge and excellent competencies. Lately, increased complexity, duration and diversity of the issues addressed in projects have triggered hazards making room to risk situations which are more and more present. Under such circumstances, risk management is designed to anticipate, prevent, manage and establish the reaction of the project team

^{1*} corresponding author, Professor PhD Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, costin.boiangiu@cs.pub.ro

² Associate Professor PhD Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, ion.bucur@cs.pub.ro

^{3*} corresponding author, Associate Lecturer PhD, School of Computer Science for Business Management, Romanian-American University, 1B Expozitiei Blvd., Bucharest, botezatu.mihai.alexandru@profesor.rau.ro

to possible risk situations, thus becoming an important component of management. This article presents several risk management aspects and ways of taking action for achieving a successful project.

KEYWORDS: *risk, uncertainty, risk management, risk assessment, risk scoring matrix, diagram risks, decision trees*

JEL code: *A2, C7, D1, D2*

PREDICTING THE EVOLUTION OF BET INDEX, USING AN ARIMA MODEL

Florin Dan Pieleanu^{1*}

ABSTRACT

Trying to predict the future price of certain stocks, securities or indexes is quite a common goal, being motivated by different reasons and being based on various techniques. The present article has the same purpose, employing an ARIMA model, due to its proven effectiveness and success. Used data is comprised of monthly values for the mentioned index, on a four-year period, from 2010 to 2014, which lead to 60 recordings. The main steps for the analysis are identifying the model, estimating the parameters and the prediction itself.

After each one of them is carefully conducted, a comparison is made: the predicted values for BET versus the real values for BET, in order to see if any resemblances exists, or if the differences are significant. Those resemblances or differences are explained, while the conclusion will highlight ARIMA's capacity or incapacity of forecasting in an accurate way, in the presented context.

TEACHING SOFTWARE PROJECT MANAGEMENT: THE MIXED COLLABORATIVE-COMPETITIVE APPROACH

Adrian Firculescu^{2*}

ABSTRACT

Education has been the subject of change throughout history. There is a consensus among scientists that collaborative learning has a positive effect on student achievement, while competitive learning depends on a student's self-reliance in order to achieve high learning results. This paper aims to propose a new learning method for teaching Software Project Management in a university-based environment that combines the competitive and collaborative approaches into a mixed approach, and creates better academic-oriented conditions for students to improve their team-working skills in a computer software education field.

^{1*} corresponding author, Associate teacher, Adjunct Assistant, PhD, School of Cybernetics, Statistics and Economic Informatics, Academy of Economic Studies Bucharest, Romania, florin.dan.pieleanu@gmail.com

^{2*} corresponding author, Eng., "Politehnica" University of Bucharest, 060042 Bucharest, Romania, adrian.firculescu@cti.pub.ro

KEYWORDS: *software project management, educational models, teaching strategies, collaborative learning, cooperative learning, competition-based learning, mixed collaborative-competition learning, independent learning, anarchy learning.*

SECURITY MEASURES FOR OPEN SOURCE WEBSITE PLATFORMS

Gabriel Eugen GARAIS^{1*}

ABSTRACT:

Open Source Website Projects are widely spread among web developers and web users. The ease of installing and handling Open Source Web Site Platforms is known to be a handy solution but also a risky one. The use of such platforms is under heavy discussion because of the transparency that not only a normal user sees but also a hacker.

KEYWORDS: Open Source Websites, Open Source Projects, Security

SYMMETRICALLY-CLOSED VALUATIONS ON $K(X_1, \dots, X_n)$

Cătălina Vișan^{2*}

ABSTRACT:

In the domain of valued fields K and, more specifically, the extensions of valuations on K to $K(X_1, \dots, X_n)$, an important category of extensions, namely the symmetric extensions with respect to the indeterminates X_1, \dots, X_n , came recently into attention. This paper deals with the characterization of the symmetric extensions of valuations on K to $K(X_1, \dots, X_n)$ that are not symmetrically-open, thus not having a simple closed-form expression for definition. We will define the notions of *symmetry degree* and the *most relevant restriction* (symmetrically-wise) of an extension of a valuation from K to $K(X_1, \dots, X_n)$ and we will use these quantities to characterize this unfriendly class of symmetrically-closed extensions.

Mathematics Subject Classification: 12F20, 12J10, 13A18

KEYWORDS: commutative algebra, non-Archimedean norm, valued fields, extensions of valuations, symmetric valuations

EXECUTIVE INFORMATION SYSTEMS' (EIS) STRUCTURE AND THEIR IMPORTANCE IN DECISION-MAKING. A COMPARISON BETWEEN DECISION SUPPORT COMPUTER SYSTEMS

Alexandru Adrian ŢOLE^{1*}

^{1*} corresponding author, Lecturer PhD, Romanian-American University, Bucharest, garais.gabriel.eugen@profesor.rau.ro

^{2*} corresponding author, Assistant Professor, PhD, Romanian-American University, Bucharest, catalina.visan@gmail.com

Nicoleta Cristina MATEI²

ABSTRACT

The rise of competitiveness at the economic level due to the acceleration of decisions-taking process as a result of situations occurring within a company led to the creation of information systems that enhance the managers' knowledge of the environment where the organization operates. The abundance of information solutions help the decision makers within a company steer better in the business they belong to.

Due to the fact that the information processed by means of information systems comes from the majority of departments in a company, the management can thus identify the source of problems and take measures to correct the errors encountered.

KEYWORDS: *Executive Information Systems, Decision Support Systems, Management Information Systems, EIS structure, decision making*

**AUTOMATICALLY ADJUSTING THE COLOR PERCEPTION:
A QUALITATIVE ANALYSIS**

Andreea-Alisa Dragomir^{3}*

ABSTRACT

Image processing is an old concept, being a key issue in high quality pictures. The high quality of pictures can be affected by lightness, weather, time of day when the picture was captured, camera photo, shadows. This paper presents a literature review of some techniques of images processing such as: Autolevels, Contrast stretching, Histogram equalization, Multiscale Retinex with color restoration, Luminance based on Multiscale Retinex. All comparisons are aimed at finding a combination of the techniques such that the output image will be more accurate.

KEYWORDS: *Retinex, Histogram, Image enhancements, Autolevels, Luminance*

^{1*} *corresponding author*, PhD. Student, Romanian – American University, Bucharest, Romania, alexandru.tole@gmail.com

² PhD. Student, Nicolae Titulescu University, Bucharest, Romania, cmatei@univnt.ro

^{3*} *corresponding author*, Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, aliss.andreea91@gmail.com

ON IMAGE RECOLORING – PART 1: CORRECT GRAYSCALE CONVERSION

Diana-Maria Popa^{1}*

ABSTRACT

This paper aims to analyze and develop the algorithm of the grayscale conversion by performing a reduction of the three dimensional input color set into a single dimension with a minimal loss of information. In the meantime, the results obtained are desired to be as perceptually plausible as possible. The related software application uses as input a colored image, three varying parameters and outputs a greyed-out image.

KEYWORDS: color conversion, greyscale to color, color to greyscale

DESIGNING A FLEXIBLE DOCUMENT IMAGE ANALYSIS SYSTEM – PART 1: THE ARCHITECTURE

Andrei Tigora^{2}*

ABSTRACT:

Archives of manuscripts, old printed books, papers and so on, are only available on paper support. Making them easily accessible to a wider public involves not only scanning them, but also processing them using OCR applications to extract the actual contents and make it searchable.

KEYWORDS: OCR, Digitization, Document Image Analysis, Document Export, Retroconversion

OCR QUALITY IMPROVEMENT USING IMAGE PREPROCESSING

Vlad Badoiu^{3}*

Andrei-Constantin Ciobanu⁴

Sergiu Craitoiu⁵

ABSTRACT:

Optical character recognition (OCR) remains a difficult problem for noisy documents or documents scanned at low resolution. Many current approaches rely on stored font models that are vulnerable to cases in which the document is noisy or is written in a font dissimilar to the stored fonts.

In this paper we test two approaches for preprocessing, or correcting the input images.

^{1*} *corresponding author*, Engineer, diana.popa@cti.pub.ro, "Politehnica" University of Bucharest, 060042 Bucharest, Romania

^{2*} *corresponding author*, Engineer, "Politehnica" University of Bucharest, 060042 Bucharest, Romania, andrei.tigora@cti.pub.ro,

^{3*} *corresponding author*, Engineer, vlad.badoiu@cti.pub.ro, "Politehnica" University of Bucharest, 060042 Bucharest, Romania

⁴ Engineer, andrei.ciobanu@cti.pub.ro, "Politehnica" University of Bucharest, 060042 Bucharest, Romania

⁵ Engineer, sergiu.craitoiu@cti.pub.ro, "Politehnica" University of Bucharest, 060042 Bucharest, Romania

The focus is on noise reduction, lightness correction and binarization, all relative to found letters with a slow but more accurate method and a fast and less accurate method. We then compare the results and see if the extra time spent in developing more complex letter deduction technique offers significant improvements.

Keywords: OCR preprocessing, image correction, noise reduction, binarization

UNIVERSITY STUDENT ATTENDANCE MANAGEMENT SYSTEM

Tirmann, Victor^{1}
Tăbușcă, Alexandru²*

ABSTRACT

This article describes the problem of managing the number of attendances or absences in the academic environment, as well as proposing a system of record and control of these data. The article supports the idea of an automated system over the day-to-day handwritten attendance registries, in order to facilitates the process. The system comprises a timekeeping system that will register every student or teacher in a database. The database itself will be managed by the University, so that reports, either individual or collective, can be issued whenever they are needed on both physical and electronic format. Also, these reports would be used to create statistics and further help the growth of the academic process correlated with students' interest or attendance rate on certain classes. The timekeeping machines offer a quick alternative of counting the attendances and the process to do so is very much simplified.

KEYWORDS: Attendance, registry, electronic, online.

THE VIRTUAL UNIVERSITY - A CONCEPT NEEDED IN A SUSTAINABLE DEVELOPMENT

Ioana VLĂDĂU-BABI^{3}
Dragos-Paul POP⁴*

ABSTRACT

Taking into consideration the fact that the system management is in a continuous development, the help, based on technological means, is lead to the organizational domain. The lack of a proportioned system, organizationally speaking, leads, in most cases, to the decrease of the students' performance. This is how we intervene in this

¹ * Corresponding author, Student, School of Computer Science for Business Management – Romanian-American University, email: victortirman@gmail.com

² Associate Professor, PhD, Computer Science for Business Management – Romanian-American University, email: tabusca.alexandru@profesor.rau.ro

³* Corresponding author, Student, Romanian-American University, Bucharest, Romania; ioanav3796@gmail.com

⁴ PhD Student, Academy of Economic Studies, Bucharest, Romania; pop.dragos.paul@profesor.rau.ro

process: we come up with new ideas to improve the current plethora of technological means.

The gap between students and their professors could be removed with only a click or at the push of a button. The platform is intended to come in handy to the needs of the students, as well as the professors' needs, through building a bridge that assures the communication between those two parties in real time. Using the user's location, the application would facilitate his access to the rooms in which he has to study, providing input of the current location and the finish location. Such an application should be introduced in any organization whose activities are happening in an internal space.

This would ensure that the human circuit is going smoothly without any stops, because it would reduce the response time. The time, taken as a reaction time, is the most important measuring unit in the area of technology, and therefore, if we can shorten it through this application, it would be innovative.

KEYWORDS: *virtual university; maps; university application;*

**JOURNAL
of
Information Systems &
Operations Management**

ISSN : 1843-4711

**Romanian American University
No. 1B, Expozitiei Avenue
Bucharest, Sector 1, ROMANIA
<http://JISOM.RAU.RO>
office@jisom.rau.ro**