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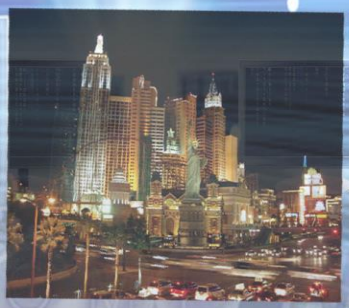

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ABSTRACT BOOK

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IMPROVING STUDENT INTERACTION DISCUSSION THREADS

Ahmed Azam

Abstract

This research will address ways to improve the quality of student interaction in discussion threads for an online course by examining factors that contribute to reaching that goal. The study was conducted by using action research and observations by one of the authors for an online Principles of Computer Security course he taught many times over the past five years at DeVry University. Past research has shown that online courses provide the ability for students to have a rich environment for virtual discussions, which is an intricate part of an online course. The results of this research reinforce past findings and examine ways that the quality of the online discussions can be highly improved and more interactive. In this research, the author will show how to measure the level of depth of a discussion when examining student interaction.

Keywords: rich environment for virtual discussions

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A TAXONOMY OF ARTIFICIAL INTELLIGENCE APPROACHES FOR ADAPTIVE DISTRIBUTED REAL-TIME EMBEDDED SYSTEMS

Jeremy Davis
Erik Vanlandingham
Joe Hoffert

Abstract

Distributed real-time embedded (DRE) software systems such as are used to manage critical large-scale infrastructure are important systems to consider for increasing functionality and resiliency. DRE systems that can adapt to changes in the environment and/or changes in available resources are more robust to unexpected changes and extend both the systems' usefulness and lifespan. Articial intelligence techniques are used for adaptation of software systems in general. However, they must meet certain requirements to be appropriate for use with DRE systems

Keywords: environment and/or changes in available resources

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REGULATING INTERNET HOSTING SERVICES IN THE CLOUD COMPUTING ERA. AN EU-US COMPARATIVE APPROACH

Cristina Blasi Casagran

Abstract

We live today in an interconnected world, characterized by increasing global companies that process, transfer or simply store huge amounts of data around the globe in the *cloud*. The *cloud* is composed of all data we put on the net. While businesses are beginning to see the power of storing all their data in the cloud, from a legal perspective, this digital world has led to several debates. They have mostly referred to the lack of a common global legal framework on data processing and data protection, as well as the uncertainty of the applicable jurisdiction when data is collected in one territory but processed in another. Are social media companies based in the United States subject to European data privacy laws? The jurisprudence is not consistent on this matter.

Keywords: referred to the lack of a common global

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SECURED AUTHENTICATED VOTER REGISTRATION EXERCISE FOR NIGERIA ELECTION

Anthony Eniayejuni

Abstract

Electoral conducts and outcomes in Nigeria has been marred by electoral malpractices and lack of genuine voters register. Electoral malpractices include exercises such as underage voting, ballot stuffing, and multiple tombs printing. Often times, fictitious names such as names of family members leaving abroad, foreigners, dead people and non-living objects are enlisted and included in the voters register. In order to tackle these issues a secured authenticated voter registration exercise is proposed. Prior to election, every eligible voters must register to the server using his/her biometric data, identification number and a password and collects a registration card containing the server public key and his/her password. All communication between the voter's terminal and server would be encrypted using an Elliptic curve cryptography based symmetric encryption. One advantage of this scheme is that it processing time is lesser than that of the public key based encryption techniques while the key sharing is still protected. The proposed scheme registration, password authentication and the session key distribution phases are given. The security analysis of the proposed scheme against the attacks are also given. From the analysis, it can be observed that the proposed scheme provides protection against password guessing attack, data eavesdropping attack, and server spoofing attack

Keywords: proposed scheme provides protection against password

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SEASONAL CHANGES IN BIOMASS OF SELECTED MACROPHYTES OF KABAR WETLAND: A TECHNOLOGY TOOL TO ASSESS THE WETLAND PRODUCTIVITY

Sufia Irfan

Abstract

Photosynthetic productions are important source of organic matter and stored energy essential for all life forms including human. Despite agricultural advancement and developments in food technology, human population is still facing the problems of hunger, malnutrition, poverty, and other climatic calamities especially in Afro-Asian subcontinents. It is essential to turn our attention towards different techniques to harvest solar energy through plants and production and inputs of plant biomass. A nutrient storage and biomass study of dominant macrophytes was done in Kabar wetland. The wetland represents an enriched diversity of productive biota and supports the local deme of the Begusarai district in Bihar. It is large perennial fresh water system situated between 86° 05 E to 86° 09 E longitude and 25° 30 N to 25° 32 N latitude. Sun is the prime source of energy promoting trophic dynamism between inflow and outflow of energy at each trophic level. Wetland has less anthropogenic effects but is under stress of agricultural runoff. Migratory birds visit this wetland every winter. The three selected study point of the wetland was dominated by species of *Phragmites australis*, was the most dominant emergent flora of the wetland and available through out the seasonal changes. *Nympheae stellata, Nelumbo nucifera, Eichhornia crassipes*, *Lemna minor*, *Pistia stratiotes Hydrilla verticillata*, *Vallisneria spirallis*, *Potamogeton pectinatus*, *ceratophyllum demersum* and *Aponogeton natans*. The study was performed to determine the monthly estimation of mavrophytes biomass of the wetland for one year. Computation of primary productivity (seasonal and annual) was also performed for the assessment of productive status of the wetland. *Phragmites australis Nymphaea stellata* and *Nelumbo nucifera* were the constituent species of rooted floating zone and their contribution to the total annual biomass of the pond was only 10%. Free-floating zone was constituted by three species i.e. *Pistia stratiotes, Eichhornia crassipes and Lemna minor* The *E. crassipes* had maximum biomass (1018±36.5 gm^{-2}) in the month of October.

Keywords: floating zone and their contribution to the total annual

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GENDER DIFFERENCES IN COMPUTER-RELATED ACHIEVEMENT, ANXIETY AND ATTITUDE: A META-ANALYSIS IN TURKEY SAMPLE

Esad Esgin
Mehmet Elibol
Muhammed Dağlı

Abstract

Today, commonly and intensively used computer technologies have become a very important and inseparable part of human life. Every individual benefits from computer technologies at some point. Many studies have been conducted with an aim to analyze the relationship of computer technologies with different variables. Within the scope of this study, the differences between male and female individuals, who are the key elements of societies, regarding computer-related achievement, anxiety and attitude were investigated.

Keywords: relationship of computer technologies

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E-LEARNING IN HIGHER EDUCATION: FACULTY ATTITUDES TOWARDS THE USE OF LEARNING MANAGEMENT SYSTEMS

Mohja Jerbi

Abstract

In the contest of the rapid growth of Information and Communication Technologies (ICT), there has been a tremendous change in the education landscape. Many higher education institutions have been researching the best way to promote their educational mission using Learning Management Systems (LMS). The use of LMS has proved to be helpful in promoting teaching and learning (Lonn & Teasley, 2009). Even though research showed the advantages of using LMS to manage and deliver online courses, some faculty continue to be neutral when it comes to the instructional and psychosocial benefits of LMS (Woods, Baker, & Hopper, 2004). It has been suggested that attitude plays a huge role in LMS usage (Harrington, Staffo, & Wright, 2006).

Keywords: proved to be helpful in promoting teaching and learning

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FORECASTING TECHNOLOGICAL TRENDS USING BIG DATA ANALYSIS

Jinhwa Kim

Abstract

This study suggests a method that predicts technologica trends using bigdata analysis. The study used data sets from web and social network site. Text mining, decision tree analysis, association analysis, and keywords analysis were used. The result confirms that the suggested method can be useful in predicting technological trends of future techniques.

Keywords: analysis, association analysis, and keywords analysis

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SUBMITTING AN OPTIMAL MODEL OF TOURISM DESTINATION CHOICE BASED ON WEB DECISION SUPPORT SYSTEM

Seyed Ali Khatami
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Abstract

Nowadays, Tourism Industry has become one of the most comprehensive industry in the world. To maintain this situation and exploit its maximum potential, it is required to go along with the quick growth of technology. Satisfying the tourist requirements, adapting them with the existing situation and making the best decision have been always considered as main challenges. Moreover, the strategies and specific policies of the holders of tourism industry as well as the agencies presenting tourism services, have imposed some limitations. In this article, in order to select the best choice, we will implement, evaluate and analyze the result of this system in Iran specifically in a sample. Web Decision System Support, will process the data of the operator after receiving the requested data as an input and presenting the best decision by considering all situations and according to the requested parameters such as travel cost, type of transportation, type of hotel, type of service & etc. by profiting a huge collection of information as Tourism Knowledge which is implementing and promoting by reeducation feature. The system's sagacity which is an obvious characteristic of this system, is on the basis of recognizing the operator paradigm according to his/her choices, ranking the results and presenting them by priorities.

Keywords: obvious characteristic of this system

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DESIGN AND DEVELOPMENT GAMEGARDENPORTAL FOR SERIOUS GAMES.

Marian Hostovecky

Abstract

In period from September 2008 to August 2011 was realized research named "Diagnosis of knowledge and skills of pupils in the Czech-Slovak border region with a focus on their development." This research was focused on exploring knowledges of primary and secondary schools students in the border areas of the Czech Republic and Slovakia. It was testing more than 17,000 students who were tested in the following areas of knowledge: Slovak, English and German language, Math and Science (Biology, Physics and Chemistry). After that based on the results of research our next main goal was to design and develop web-portal for serious games for pupils and students. Reason is to improve cognitive level of pupils in selected subjects at primary and secondary schools.

Keywords: main goal was to design and develop web-portal

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COMPUTING TECHNOLOGICAL ADVANCES, SOCIAL IMPLICATIONS, ETHICAL AND LEGAL ISSUES

Olakunle felix Adekunle

Abstarct

Computing and information technology have made significant advances. The use of computing and technology is a major aspect of our lives, and this use will only continue to increase in our lifetime. Electronic digital computers and high performance communication networks are central to contemporary information technology. The computing applications in a wide range of areas including business, communications, medical research, transportation, entertainments, and education are transforming local and global societies around the globe. The rapid changes in the fields of computing and information technology also make the study of ethics exciting and challenging, as nearly every day, the media report on a new invention, controversy, or court ruling. This tutorial will explore a broad overview on the scientific foundations, technological advances, social implications, and ethical and legal issues related to computing. It will provide the milestones in computing and in networking, social context of computing, professional and ethical responsibilities, philosophical frameworks, and social, ethical, historical, and political implications of computer and information technology. It will outline the impact of the tremendous growth of computer and information technology on people, ethics and law. Political and legal implications will become clear when we analyze how technology has outpaced the legal and political arenas.

Keywords: philosophical frameworks, and social, ethical, historical

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DESIGN AND IMPLEMENTATION OF MULTIMEDAI DATA TYPYS AND INTEGRATION INTO A DTATABASE SYSTEM

Haroon Altarawneh

Abstract

One of the most important issues nowadays is the increasing awareness in the computer science community that there will be more and more non standards textual data to process in the future. Some examples of such data include image data, audio data, video data, document data, and handwriting data. Handling these new multimedia data types brings new challenges to traditionally established areas of computer science. For example, Database management systems need to re-assess existing data-handling paradigms to accommodate these new forms of data, as well as the new types of operations that processing such data requires**.** The design and implementation of multimedia database systems is a very difficult issue since it needs support from many different research fields such as data retrieval and metadata handling. Multimedia databases are of interest in many application areas which deal with video, image, audio, text, or graphic data, or any kind of mixture of them.

Keywords: design and implementation of multimedia database systems

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LIFI PROPOSAL

Norah Ali AlJallal
Marim Turki AlTurki

Abstract

Nowadays people are looking for the easiest, fastest and most secure ways to transfer their data, this provided by Li-Fi technology. Li-Fi is simply the optical version of Wi-Fi. Some people used to label it as the fast and cheap wireless-communication system. What if there is a secondary memory that support this feature where the device can identify memory through the light sends to a special inner chip without physical connect with the device.

Keywords: device can identify memory through the light sends

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COMPUTERIZATION IN THE EUROPEAN UNION HEALTH CARE SYSTEM - LEGAL ASPECTS

Renata Maria Pal

Abstract

The presentation deals with the issue of computerization in the European Union health care system viewed from the perspective of legal regulations and their application in the member states' internal law. The aim of the study is to analyse the principles included in the EU legal acts concerning the creation of a single market of health care services based on new technologies. The topic seems to be exceptionally interesting because it is at the junction of new technologies and legal regulations. Thanks to computerization in the health protection sector the use of e-prescriptions, e-referrals, e-orders and e-leaves becomes possible. It also enables the creation of electronic medical documentation and patient's online account, or even providing medical services over long distances with the use of telemedicine.

Keywords: medical documentation and patient's online account

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TESTING FIT OF MILES AND SNOW'S (1978) STRATEGIC ARCHETYPES WITH IT RESOURCES, ORGANIZATIONAL CULTURE TYPES AND ITBV BENEFITS

Sonal Daulatkar
Purnima S. Sangle

Abstract

Do Organizations' IT Resources (ITR), Organizational Culture (OC) types and associated IT Business Value (ITBV) benefits show significant difference for different Strategic Archetypes (SA)?To identify the existence of associations between Organizational SA and ITR, OC and ITBV benefits. Reliability Analysis, Exploratory Factor Analysis for ITR and ITBV benefits scale; ANOVA for testing Fit as Matching. The scales were found to be reliable and factor analysis conformed the proposed factor. ANOVA suggested that significant difference exists between data when groups clustered by SA were compared for ITR, Organizational Culture type and ITBV benefits.

Keywords: between Organizational SA and ITR, OC and ITBV benefits

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COMPUTERIZATION IN THE EU HEALTH CARE SYSTEM - LEGAL ASPECTS

Renata Maria Pal

Abstract

The study deals with the issue of computerization in the European Union health care system viewed from the perspective of legal regulations and their application in the member states' internal law. The aim of the study is to analyse the principles included in the EU legal acts concerning the creation of a single market of health care services based on new technologies. The topic seems to be exceptionally interesting because it is at the junction of new technologies and legal regulations. Thanks to computerization in the health protection sector the use of e-prescriptions, e-referrals, e-orders and e-leaves becomes possible. It also enables the creation of electronic medical documentation and patient's online account, or even providing medical services over long distances with the use of telemedicine.

Keywords: new technologies and legal regulations

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COMBATING CLIMATE CHANGE IMPACT WITH ICT AND BETTER AGRICULTURAL PRACTICES FOR ENHANCING FOOD SECURITY IN GREAT LAKE REGION OF AFRICA

Mireille Tabitha N'SIMIRE

Abstract

Smallholder farmers are key to food security in Grand Lake region of Africa where two thirds of the population depends on small-scale, rain-fed farming as their main source of food and income. Critical farming and household decisions depend upon the weather, for example, how much rain falls, the length and start date of the rainfall season and the timing of dry spells. Such aspects of the weather vary considerably from year to year. Combating Climate Change Impact with batter Agricultural Practices and ICT for enhancing food security in great Lake Region of Africa aims to facilitate farmers to make informed decisions based on accurate, location specific, climate and weather information; locally relevant crop, livestock and livelihood options; and with the use of participatory tools to aid their decision making.

Keywords: livelihood options; and with the use of participatory

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USING CONTEXT-AWARENESS TO ADAPT REMINDERS FOR BUILDING A CONTEXT-AWARE REMINDER

Yohani Shamindi Ranasinghe
Malaka J. Walpola

Abstract

Busy schedules in life lead people to set reminders to recall tasks to-do. But no sophisticated enough tools are provided to support users for handling reminders. Current reminder tools are triggered considering only the time factor. The main reason is the lack of using rich context that specify when a reminder should be presented to its recipient. Since Context-Awareness in mobile computing is more engaging area in gathering information about the user's current situation it would be ideal to integrate context awareness with the reminders to generate context-aware reminder where rich context is used that specifies when a reminder should be presented to its recipient. The aim of this research is to propose a model to integrate context-awareness to reminder decision making process and develop a Context-Aware reminder. In this research more focus has put on capturing user context using technologies like IoT. Context is captured under five categories; Location, User Activity, User Preference, Identity of the user and Date and Time. Developing a context representing model and processing context data to infer valuable information in a mobile environment. Then a conceptual framework for a context-aware reminder has presented and finally "RemindMe", an android app has developed as the proof of concept. As the conclusion it can be stated that if more rich context can be captured, by integrating rich context for decision making more sophisticated context reminders can be generated, which makes the reminder process much more sophisticated.

Keywords: processing context data to infer valuable

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RACE AND GENDER ISSUES IN VIDEO GAMES

Milton David Grays

Abstract

The way in which you view society and what one deems important will have a huge impact on what adheres to their aesthetics. Personal experiences contribute greatly to ones outlook on morals, and what behaviors are considered appropriate versus inappropriate. Every experience and encounter has the ability to alter and impact our way of thinking and behavior as a human. The human mind is like a sponge, easily absorbing information and stimuli. This is factual in reference to gaming as well.

Keywords: experience and encounter

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THE DEFINITIONS OD CITIES IN DIGITAL FORMS: A COMPARATIVE ANALYSIS OF NICOSIA AND PALMANOVA

Gamze Anil,
Gökçe Keçeci,

Abstract

As it is known, the existence of star-shaped cities went back to 16th century. Although these cities include different life forms because of the reason why they were established, at the same time, they share structural similarities. There are nine star-shaped cities in the world and can be found in Italy, Cyprus, Japan, Holland, Canada, Vietnam, Finland and Russia. Because the same architect designed Nicosia and Palmanova in Italy, the study will begin with a broader view on star-shaped cities and compare both. Although the walls were designed for defensive purposes, today, they are protected as a cultural heritage and this is significant for tourism. In this context, this study will analyse the web interface and how both Palmanova and Nicosia use the web, in terms of content, visual aspects, and how these are being used. As the number of users for web pages and blogs are increasing day by day, the impact on tourism of these sites will be studies through the pages of Nicosia and Palmanova.

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ONLINE LEARNING COMMUNITY SOFTWARE TO SUPPORT SUCCESS IN PROJECT TEAMS

Brian Patrick Thoms,

Abstract

In this research we explore aspects of social interaction and community as they relate to success in project-based courses. Using specialized online community software consisting of social networking technologies and project-based wikis, project teams are able to collaborate and interact as they progress towards project milestones. Our study underscores the importance of sustained engagement as a means for fostering high levels of community and how these levels relate to project motivation and, ultimately, project success. Guided by a theoretical model that explains how individuals collaborate within online communities, we measure member perceptions of the software before and after our intervention. Survey results found that online learning community (OLC) software can successfully support learning and social interaction. These results are supported by a social network analysis (SNA), which shows high levels of individual engagement across the project lifecycle.

Keywords: Social Networking; Online Learning Community; Wiki; Project Management; Capstone Project.

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Green Computing Measures For Environmental Issues

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Abstract

At present Green Computing is under the consideration of businesses organisations and IT industries. With the advancement in variety of applications and user demands the infrastructure and resources are increasing exponentially. In past few years, computer and IT industry have realized the importance of going green, both in terms of environmental issues and minimizing costs which has led to remarkable drift in strategies and policies of IT industry. The motivation behind this change comes from the ever increasing business computing demand, ever growing cost of energy, rising awareness of global warming issues. This paper presents several green initiatives under way in the IT industry and in brief covers the main research challenges which are still open in the race to meet green computing requirements.

Keywords: TCO, ICT, PUE

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The Approximate Approaches in Addressing of SCADA Security Issues

Aamir Shahzad,

Abstract

The security is an important concerned that has been commonly founded within real time infrastructure sectors. Several security enhancements have been made to secure the communication of critical infrastructures such as SCADA (Supervisory Control and Data Acquisition) systems, DCS (Distributed Control Systems) and other Industrial control systems. Based on exiting security developments including TLS/SSL, IPSec, SSH and other well-known techniques, the cryptography based security solutions are selected as most appropriate solutions for critical sectors. Due to the great and positive security enhancements in real time infrastructure sectors via cryptography mechanisms, the proposed study analyzed these security solutions and suggested a best security solution for SCADA system. The SCADA system has different acquirements according to its communication such as “unicasting, multicasting, broadcasting, polling and others”. Therefore, security solutions using cryptography have been designed and implemented according to these acquirements that significantly made contribution in SCADA communication security enhancements.

Keywords: SCADA System; Critical Sectors; SCADA Protocols; Cryptography Mechanisms.

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Cloud Security Penetration Testing: Case Study with OpenStack

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Brian Groves, Frostburg State University
Willson Kwok, Allegany County of Community College

Abstract

The cloud computing techniques bring different security challenges. In this paper, we set up ownCloud as the example cloud computing infrastructure. Then we present our work process and results of a series of penetration testing performed on the ownCloud. We also analyse these results and give key recommendations for addressing the identified vulnerabilities.

Keywords: Cloud Computing; Security; Penetration Tesing; OwnCloud

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Scanning Of DNS and Email Server Using Nmap Scripting Engine

Aasia Sana,

Abstract

Penetrating organizational information assets has become more important with the increase in number of attacks these days. Penetration testing plays key role in improving overall security infrastructure of organizations where information assets are involved. Scanning the target for vulnerabilities is the second phase of penetration testing after Reconnaissance i.e. gathering information about the target. Reconnaissance phase is skipped for this research since we are acting as pen testers who are already familiar with the target being scanned. This paper focuses on scanning of a DNS and Email server specifically configured to be tested over university's LAN i.e. Local Area Network. NSE i.e. Nmap Scripting Engine, which is one of the powerful feature of Nmap, is used for scanning of our target server. Both servers are configured on a single VM i.e. Virtual Machine where Windows Server 2012 built-in features are enabled for DNS Server and Exchange Server 2013 is used as an Email Server with Outlook 2007 as its email client. Scan results are provided and discussion is done on the basis of scan results. Scan results produced are verified against the target and none of them is a false positive. Hence, it is a good option to use Nmap in initial phases of penetration testing such as reconnaissance and scanning.

Keywords: Penetration Testing; Scanning; DNS Server; Email Server; Nmap; Nmap Scripting Engine (NSE).

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Cross Organizational Standardized Business Process Integration and its Application in Saudi Arabian Banking System Regulation: A case study of Advanced IRB Regulation

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Abstract

The idea for this paper came after the recent financial crisis, its global consequences and specifically how it affected the banking sector. Financial institutions and regulators are – from a technical point of view - not fully integrated and automated yet. The inaccuracy in banks' data and the long set interval period, quarterly, to send the information to the regulators leads to delays interventions by local supervisory regulators. Most of the banks are using an Internal Ratings Based (IRB) approach that allows them to use their own methods to calculate the credit risks, which makes it difficult for the regulators to verify and validate the banks' data without adopting fully automated connectivity for the regulatory reporting system through sophisticated tools. The importance of this issue, for the central banks as well as the global economy, encourages us to investigate and to find solutions for the problem at hand.
This paper is focused on the Advanced Internal Ratings Based (A-IRB) approach to evaluate credit risk due to the importance and the sensitivity of this approach on the banking sector. The flexibility of the A-IRB approach allow banks to use their own method to calculate the credit risk without regulators having the right tools to validate the data is a major issue . The second issue with the A-IRB approach is that the report is only delivered quarterly to the regulator (SAMA). This period is too long as decisions can be taken based on data that is almost a quarter old. Therefore, evaluating the existing framework and solving the issues concurrently is essential to improve the regulatory reporting system.

Keywords: Business Process, Business Rules, Bank Management

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Mobile Visualization Platform for Exploring Social Media Data

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Abstract

With the increasing application of using mobile device and social media, large qualities of continuous information about human behavior are available. Social media data exploration and discovery is valuable for exploring market strategies and other research opportunities on various issues. Data visualization provides an insightful presentation for the large-scale social media datasets. In this paper, a mobile-device based visualization and analysis platform is developed for retrieving and visualizing the visitors' information for a specific region. By applying the emerging technologies, the information of visitors can be collected from Swarm via the Instagram account and stored on a server. This proposed platform allows user to view the "big picture" of the visitors' location and time information. Column chart and line chart are used for displaying the information. The visualization module can assist local government and organization to view the instant information of visitors, therefore to support strategy development and policy-making. The approach was tested in Niagara Falls, NY. The visualization and analysis in regarding to this technology offers a great potential to assist the local government to specify a better policy to customize the Niagara Falls specific tourist-oriented economy in this particular region. This technology can be generalized across various sectors in various geographic locations. The result shows that the proposed platform 1) performs a satisfied data collection and data visualization on a mobile device, 2) assists user to understand the varieties of human behavior while visiting a place, and 3) offers an feasible role in imaging immediate information from social media and leading to further policy-making in respective related sectors and areas. The research opportunity and challenges for social media data visualization are discussed. We conclude with suggestions for retrieving and visualizing social media datasets.

Keywords: Social media; data visualization, mobile device

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Design and Implementation of Neural Network Based Controller for self-driven vehicle

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Abstract

This paper devises an autonomous self-driven vehicle that is capable of taking a disabled person to his/her desired location using three different power sources (gasoline, solar, electric) without any control from the user, avoiding the obstacles in the way. The GPS co-ordinates of the desired location are sent to the main processing board via a GSM module. After the GPS co-ordinates are sent, the path to be followed by the vehicle is devised by Pythagoras theorem. The distance and angle between the present location and the desired location is calculated and then the vehicle starts moving in the desired direction. Meanwhile real-time data from ultrasonic sensors is fed to the board for obstacle avoidance mechanism. Ultrasonic sensors are used to quantify the distance of the vehicle from the object. The distance and position of the object is then used to make decisions regarding the direction of vehicle in order to avoid the obstacles using artificial neural network which is implemented using ATmega1280.Also the vehicle provides the feedback location at remote location.

Keywords: Autonomous self-driven vehicle, obstacle avoidance, desired location, Pythagoras theorem, Neural network, remote location.

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Assessing Productivity to Address Safety Concerns for Information Technology and Promoting Global Standardization within Aeronautical Practices

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Abstract

Analyzing the advancement of technological practices in aviation and aerospace based on the historical success provides a long-term standard that reflects the engineering influence of principles within productivity and the environmental safety concerning performance within global operation (Yadav, Mueller, Dragoni, & Michalak, 2010). Implementing business and governmental standards create collaborative efforts utilized to investigate ethical practices for manufacturing aeronautical functions in critical areas (American Institute of Aeronautics and Astronautics, 2011). These factors are analyzed in global transportation by addressing different ways to both capture and assess entities that are associated within modeling of methods, environmental variables, and safety attributes directly applied towards aeronautical systems development (Yadav et al., 2010). The performance factors that are applied to the psychological operation promote the development of aviation and aerospace training used to strengthen the industrial structure adopting long-term standards (Peter, 2011). Supporting this assessment is based on the technological advancement in the decision-making process to engineer industry standards for manufacturing technology systems (Renliang, 2012). These concepts are important in increasing productivity for design standards by comparing the technological advancement long-term success through the validation of business performance (Campbell, Castaneda, & Pulos, 2010).

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Challenges of Big Data Storage and Management

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Abstract

The amount of data generated daily by industries, large organizations and research institute is increasing at a very fast rate. These huge volumes of data need to be kept not just for analytic purposes, but also in compliance with laws and service level agreements to protect and preserve data. Storage and management are major concern in this era of big data. The ability for storage devices to scale to meet the rate of data growth, enhance access time and data transfer rate is equally challenging. These factors, to a considerable extent, determine the overall performance of data storage and management. Big data storage requirements are complex and thus needs a holistic approach to mitigate its challenges. This paper examines the challenges of big data storage and management. In addition, we also examine existing current big data storage and management platforms and provide useful suggestions in mitigating these challenges.

Keywords: Big Data; Storage Systems; Challenges; Performance.

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Kernel Principal Component Analysis for Multimedia Retrieval

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Abstract

Principal component analysis (PCA) is an important tool in many areas including data reduction and interpretation, information retrieval, image processing, and so on. Kernel PCA has recently been proposed as a nonlinear extension of the popular PCA. The basic idea is to first map the input space into a feature space via a nonlinear map and then compute the principal components in that feature space. This paper illustrates the potential of kernel PCA for dimensionality reduction and feature extraction in multimedia retrieval. By the use of Gaussian kernels, the principal components were computed in the feature space of an image data set and they are used as new dimensions to approximate image features. Extensive experimental results show that kernel PCA performs better than linear PCA with respect to the retrieval quality as well as the retrieval precision in content-based image retrievals.

Keywords: Principal component analysis; kernel principal component analysis; multimedia retrieval; dimensionality reduction, image retieval

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Recommendation Algorithms in e-Commerce

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Abstract

Recommender systems are the most used methods in e-Commerce sites, by decreasing the company expenses and increasing sales faster by recommending products to customers. Nowadays every website has implemented these systems e.g. in tourism, which helps to develop the process of tourism; it is used also in security issues, and other areas. In this paper we describe the modern recommender algorithms, implementation of them in a faster manner and to find new ways to use these algorithms in other business activities. In particular we analyze the most famous algorithm Collaborative-filtering using data set from the website MovieLense, which is movie recommendation site.

Keywords: data set, collaborative-filtering, R, recommender systems.

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