

ICTKEA-2018



**International Conference on ICT, Telecommunication
and Knowledge Engineering Applications**

The Howard Plaza Hotel Taipei, Taiwan

March 05-06, 2018



ESRDB

CONFERENCE BOOK OF ABSTRACT PROCEEDINGS

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Engineering Science Research & Development Board



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***International Conference on ICT, Telecommunication and
Knowledge Engineering Applications (ICTKEA-2018)***

Venue: The Howard Plaza Hotel Taipei, Taiwan

Conference Theme: Conference enables interdisciplinary collaboration among ICT, Knowledge management and Information in the academic and industrial fields as well as networking internationally.

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CONFERENCE TRACKS

- Basic Science
- ICT
- Electrical Engineering
- Mechanical & Industrial Engineering
- Civil Engineering
- Business and Management Studies
- Electric Drives and Control
- Electrical Machines
- Instrumentation Engineering
- Power Generation, Transmission and Distribution
- Power System Engineering

CONFERENCE CHAIR MESSAGE

Ms. Mei Shu Lai

“International Conference of Engineering Science Research and Development Board” is a platform that thrives to support the worldwide scholarly community to analyze the role played by the multidisciplinary innovations for the betterment of human societies. It also encourages academicians, practitioners, scientists, and scholars from various disciplines to come together and share their ideas about how they can make all the disciplines interact in an innovative way and to sort out the way to minimize the effect of challenges faced by the society. All the research work presented in this conference is truly exceptional, promising, and effective. These researches are designed to target the challenges that are faced by various sub-domains of the social sciences and applied sciences.

I would like to thank our honorable scientific and review committee for giving their precious time to the review process covering the papers presented in this conference. I am also highly obliged to the participants for being a part of our efforts to promote knowledge sharing and learning. We as scholars make an integral part of the leading educated class of the society that is responsible for benefitting the society with their knowledge. Let’s get over all sorts of discrimination and take a look at the wider picture. Let’s work together for the welfare of humanity for making the world a harmonious place to live and making it flourish in every aspect. Stay blessed.

Thank you.

Ms. Mei Shu Lai

Conference Chair

Email: contact@esrdb.com

CONFERENCE SECHDULE

ESRDB-2018

Venue: The Howard Plaza Hotel, Taipei, Taiwan

Time: Registration & Kit Distribution (09:00 am - 09:30 am)

Day: Monday

Date: March 05, 2018

Venue: Room 1

08:00 08:30 am	Introduction of Participants
08:30 08:45 am	Inauguration and Opening address
08:45 09:00 am	Grand Networking Session

Tea Time: 10:15 - 10:30 am

DAY 01 (March 05, 2018)

Presentation Session 01 (09:00 10:15 am)

Venue: Room 1

Track: Business, Economics, Social Sciences & Humanities

Presenter Name	Manuscript Title	Paper ID
Hamid Rizal	Tourists E-Loyalty in Online Travel Agency (Ota): An Exploration of Its Antecedents and Determinants	ASEM-MAR-TW102
Nelson Jose Cruz Flores	Simulation Based Decision Support System for Business Innovation and Competitive Strategy	ASEM-MAR-TW105
Patsara Sirikamonsin	Development of Media Learning on Breastfeeding	TPS-138-101
Dr. Ampairat Ak-sornprom	A Development of Self-Assessment Instrument of Social Work Case Manager for Elderly	TPS-138-102

DAY 01 (March 05, 2018)

Presentation Session 2 (10:30 am 12:00 pm)

Venue: Room 1

Track: Track B: Engineering, Information Technology & Applied Sciences

Presenter Name	Manuscript Title	Paper ID
Arman Bernard G. Santos	Web Portal Student Services Management of Asia School of Arts and Science	ICTKEA-MAR-TW111
Arman Bernard G. Santos	Deployment and Evaluation of E-Learning System for Fundamentals of Programming Using C Language Implementing Reinforcement Learning	ICTKEA-MAR-TW101
Myra S. Santos	An Analysis of the Efficiency and Effectiveness of Implementing Singly Linked Lists on Web Browser History and Operating System Processes	ICTKEA-MAR-TW107
Ani Rahmani	Analysis of Term Weighting Methods for Automatic Scoring of Indonesian Essay by K-Nearest Neighbor	ICTKEA-MAR-TW108
Dr. Nurjannah Syakrani	Melanoma Detection Using Gray Level Co-Occurance Matrix and Artificial Neural Network	ICTKEA-MAR-TW109
Rahil Jumiyani	Study of Microservices Architecture to Develop Smart Campus Framework in Politeknik Negeri Bandung	ICTKEA-MAR-TW110
Hyeongkyu Cho	Spatial Analysis of Architectural Design in terms of Crime Prevention	TPE-138-101

Ending Note

Conference Day 02 (March 06, 2018)

Second day of conference will be specified for touristy. Relevant expenses are borne by Individual him/herself.

TRACK A

***BUSINESS, ECONOMICS, SOCIAL SCIENCES AND
HUMANITIES***

Tourists E-Loyalty in Online Travel Agency (OTA): An Exploration of Its Antecedents and Determinants

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Keywords: Functionality, E-Relationship Quality, E-Loyalty, Online Travel Agency

Building on the model of ICTRT merits, this article extends current empirical works by examining the correlation between functionality dimensions and e-relationship quality on perception of e-loyalty towards the Online Travel Agency (OTA). Data were distributed and collected using 190 local and foreign tourists located at Kota Kinabalu in Sabah, Malaysia. For data analysis, we employed the structural equation modelling using the SmartPLS 3.0. The path-coefficient analysis indicates that all the functionality dimensions of communicational, transactional and relational have significant correlations as reliable antecedents for both e-trust and e-satisfaction. Correspondingly, the findings also indicate that both of our latent constructs of e-relationship quality positively influence consumers intention of e-loyalty towards OTA. Limitations and recommendations for future research are also discussed and noted.

Simulation Based Decision Support System for Business Innovation and Competitive Strategy

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Keywords: Competition, Business Innovation, Strategy Dynamics, Decision Support, System Dynamics, Simulation

Nowadays the development of innovative products can give companies a competitive advantage in the market, giving added value to their services and allowing them to earn a higher percentage of the market share. Therefore business innovations have become one of the essential strategies for enterprises to develop competitiveness and market potential in a global environment. Since in the business world, innovativeness has become a major factor in influencing strategic planning. It has been acknowledged that innovation leads to wealth creation. Even though efficiency is essential for business success, in the long run, it cannot sustain business growth. To enhance strategic business planning capability with entrepreneurial knowledge and innovations, this paper aims to develop a Simulation-based Strategic Decision Support System (SSDSS), integrating the principles of innovations and System Dynamics methodology for innovative business development. Using the newest brand of Sushi Express Group, Magic Touch, as a real-world case study with empirical data is benchmarked to examine the effectiveness of SSDSS applications in supporting a competitive strategic decision and business innovation development. Through iterative computer simulations and scenario analysis of competitive-oriented and sustainability-oriented business innovations to improve performance, make a market-oriented strategic decision based on different scenarios and creating market value, could be systematically analyzed. Based on the results derived from simulations and sensitivity analysis, with this simulation model, can be identify different customer stages and create the optimal an effective approach strategy to add share value to the customers, allowing the firm increase loyal customer, moreover improve the sales and profits, achieve the established objectives and successfully implement innovations to the business.

Development of Media Learning on Breastfeeding

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Keywords: Media Learning, Breastfeeding, Infographic

This research had the objectives to develop media learning for breastfeeding and to evaluate the efficiency of the developed media learning. The sample employed in this research comprised of pregnant women and nursing mothers. An educational medium for breastfeeding and a survey on the satisfaction towards such educational medium were used as the tools for data collection. The statistics used in the analysis consisted of mean, standard deviation, and t-test. According to the results, the media learning for breastfeeding that had been developed in this research indicated the highest level of overall satisfaction amongst users, at the level of 4.72. Based on the opinions given by the sample, it was evident that the media learning for breastfeeding was highly beneficial to pregnant women and was easily comprehensible. In addition, such media learning instilled an inspiration in nursing mothers in the aspect of breastfeeding.

A Development of Self-Assessment Instrument of Social Work Case Manager for Elderly

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Keywords: Self-Assessment Instrument, Social Work, Case Manager, Elderly

This research was aimed to development of self-assessment instrument of social work case manager for elderly. The research employed the research and development methodology. The sample were 2 groups. The first was 321 social worker who practice in delivering social services to elders. The second was 12 expert in evaluation and measurement research, social welfare, and elderly. Research instruments comprised 1) a questionnaire, 2) the prototype of self-assessment instrument for social work case manager for elderly, and 3) a question guidelines form for focus group discussion. Major research findings were as follows: The social workers were recognized social services management of the social work case manager to the elderly at the high level. Their preferment in social work case management for the elderly was at the moderate level. They needed a self-assessment instrument of the social work case manager to the elderly at the high level. The self-assessment instrument of social work case manager for elderly comprises 2 parts. The first was the form of self-assessment of social work case manager for elderly. It comprised 3 standards, there are knowledge standard, ethic standard, and skill standard. The second was the handbook of the form of self-assessment of social work case manager for elderly. It comprised 3 parts: a cover, usage description of the form of self-assessment of social work case manager for elderly, and method of score summary of self-evaluation. The experts commented that the self-assessment instrument of social work case manager for elderly was appropriate in all components. They also added that this self-assessment instrument of social work case manager for elderly can improve social work case managers performance, especially help the elderly to meet the rights according to the law by well-arrange social services.

TRACK B

***ENGINEERING, INFORMATION TECHNOLOGY & APPLIED
SCIENCES***

Web Portal Student Services Management of Asia School of Arts and Science

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Keywords: Web Portal, Student Services, Management System, Information System, Intervention, Accreditation, Enrolment Management

Information Technology plays an important role in the future economic success and advancement of human being for better career and future at the same time. Therefore, parents are always concerned and looked for a better school to which the dreams of their children will be fulfilled. The dilemma of both parents and school administrators about the services being offered by the school is very critical and crucial in the sense that all aspects of students lives suffered and the operation of the school was affected. Huddleston Jr. stated that the radical commitment of enrollment management in is its unswerving focus on the longitudinal care and comprehensive education of students. This statement captures the essence of student services in focusing on the long-term welfare of the students and the entirety of the collegiate experience [1]. It define student services as the program of an assertive approach to ensure the steady supply of qualified students required to maintain school vitality. Likewise, Harris defined student services as a comprehensive process designed to help an school achieve and maintain the optimum recruitment, retention and graduation rates of students, and an school-wide process that embraces virtually every aspect of an schools function and culture [2]. Information Technology leads the world to new horizon and gives so much contribution in the advancement of better life. It has given new ways to enhance the skills and capabilities of human resources. It has made great impact to all fields and aspects in life, opening doors towards the success of every school in updating nation including the country. Thus, the involvement of technology in making the students services available to the students will create a modification when it comes to transactions, it will become much easier, convenient and efficient.

Deployment and Evaluation of E-Learning System for Fundamentals of Programming Using C Language Implementing Reinforcement Learning

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Keywords:E-Learning, Programming, C Language, Learning Management System, Artificial Intelligence, Reinforcement Learning, Algorithms

E-Learning is very applicable in a classroom setting specially in the subject Introduction to Programming using C Language. It covers the nine major concepts: History of C Language, Flowcharting, Input/Output, Program Logic Formulation, Conditional Statements, Looping Statements, Arrays, and String and Functions. The researchers will deploy and evaluate this current state of technology in some higher education institutions in the Philippines. The purpose of this research after deployment, is to evaluate the effectiveness and efficiency of using this E-Learning in the classroom and outside the classroom settings. E-Learning in the subject Introduction to Programming using C Language can be a big help because it has elements needed to make learning easier. Studies show that students minds absorb seventy five (75) percent of what they see, hear or experience, not as much as when they just memorize a poem, reviewing a lesson or reading a book. [1] Also, Reinforcement Learning Algorithm will be applied to the proposed system. Reinforcement Learning is a type of Machine Learning, and thereby also a branch of Artificial Intelligence. It allows machines and software agents to automatically determine the ideal behavior within a specific context, in order to maximize its performance. Simple reward feedback is required for the agent to learn its behavior; this is known as the reinforcement signal. Reinforcement Learning allows the machine or software agent to learn its behavior based on feedback from the environment. This behavior can be learnt once and for all, or keep on adapting as time goes by. If the problem is modeled with care, some Reinforcement Learning algorithms can converge to the global optimum; this is the ideal behavior that maximizes the reward. [2]

An Analysis of the Efficiency and Effectiveness of Implementing Singly Linked Lists on Web Browser History and Operating System Processes

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Keywords: Linked List, Efficiency, Effectiveness, Web Browsers, Operating System, Nodes

In a web browser history and operating system processes, a linked lists is really important. It is being implemented for the purpose of keeping track of the running and sleeping processes in an operating system, chaining to resolve hash collisions, or simply fetching the history section of web browsers. This research presents thorough study about the efficiency and effectiveness of singly linked lists implemented on some system processes such as memory allocation, process scheduling, hashing, stacks and queues, and manipulation of each specific node.

Analysis of Term Weighting Methods for Automatic Scoring of Indonesian Essay by K-Nearest Neighbor

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Keywords: K-Nearest Neighbor, Supervised Term Weighting, TF-Chi2, TF-RF, Unsupervised Term Weighting, TF-IDF

Automatic essay scoring is one of an alternative solution for solving problems in essay scoring manually which are not reliable, less objective, and spent a lot of time. In the automatic essay scoring, an essay is compared to another labeled essay within training data. Each essay is transformed into a vector containing the weight of each term to calculate similarity. This study compares the accuracy of 2 kinds of term, which are unsupervised term weighting TF-IDF and supervised term weighting TF-Chi2 TF-RF and TF-RF in Indonesian essay. A machine learning algorithm used in this research is K-Nearest Neighbor. The experiment is conducted by applying k-fold cross validation method with value of k, which are between 2 to 10. The used data are the essays of three subjects of a high school in Bandung-Indonesia, those are Bahasa Indonesia, History, and Economy. The result in 15 scenarios show that supervised term weighting method produces better accuracy than unsupervised term weighting; TF-Chi2 became the term weighting method with the best accuracy in 8 scenarios and TF-RF in 7 scenarios. In other hand, TF-RF method has more stable performance than TF-Chi2 proven in other scenarios. TF-Chi2 becomes the term weighting method with the lowest accuracy in 5 scenarios while TF-RF is only in 1 scenario. Therefore, the recommended term weighting method for automated essay scoring by K-Nearest Neighbor is the TF-RF method with k of KNN value is 3.

Melanoma Detection Using Gray Level Co-Occurance Matrix and Artificial Neural Network

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Keywords: Feature Extraction, Gray Level Co-Occurance Matrix, Gray Level, Orientation Angel, Artificial Neural Network, Melonoma Cancer

Image feature extraction is a step of extracting object information in an image to recognize or distinguish it from other objects. The method used for feature extraction is the Gray Level Co-Occurance Matrix (GLCM). This research is related to the calculation of features or information from the image of melanoma cancer and non-melanoma using GLCM based on variation of gray level, which are 4, 8, 16, 32, and 64 as well as angles of GLCM orientation consist of 4 and 8-way. The used features are angular second moment, contrast, correlation, entropy, inverse different moment and variance. Then, the feature values are used as input parameters to classify melanoma cancer by utilizing artificial neural network (ANN). This experiment is conducted by using 45 data set of images from www.skinvision.com. Generally, All of experiment types results have accuracy of melanoma and non-melanoma classification by ANN more than 93%. Particularly, by inputting 6 parameters from GLCM feature extraction using (1) 4th degree of gray level and 4 -way orientation angles, (2) 16th degree gray level and 8-way orientation angles obtain the accuracy of ANN classification by 100%.

Study of Microservices Architecture to Develop Smart Campus Framework in Politeknik Negeri Bandung

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Indonesia

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Keywords: Microservices Architecture, Scalability, Loosely Coupling, Smart Campus Framework

Development technology and the requirement of Internet of Thing (IoT) in the academic environment need a system which can be maintained and extent flexibility and scalability. Microservices architecture is an approach to develop and deploy software known by one of its own characteristics, which is loosely coupling. So that, the maintenance and extensibility on the software are possible to do as incremental rapidly. This study focus on feasibility microservices as a basic architecture to develop Smart Campus Framework in Politeknik Negeri Bandung (Polban). In the result, the recommended solutions to refactor the existing monolithic system in Polban are Splitting Frontend and Backend and Extract Services.

Spatial Analysis of Architectural Design in terms of Crime Prevention

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Keywords: Spatial Analysis, Crime Prevention, Architectural Design, Mixed Use

Architectural design goes through many decision-making processes and often becomes complex according to the perceptions of those involved in the decision-making. In other words, architectural design is likely to be dominated by the experiences and sensibility of the designer as well as the building owner and the licensing agency. Recent architectural projects are becoming larger and more complex and there is heightened social interest in space allocation of buildings for crime prevention. In response to such trend in recent architecture, it is important to evaluate the relevance of an architectural design for crime prevention. Accordingly, there is a growing need for objective evaluation tools of architectural design. This study evaluates the architectural design of a multi-purpose complex with three buildings in terms of crime prevention using objective and quantitative spatial analysis tools. Visual Graph Analysis is used to simulate space usage and predict crime-prone areas in the plan. Based on the analysis results, this study proposes plans for crime prevention.

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You can find the details regarding our upcoming events by following below:

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