24th World Conference on Applied Science, Engineering and Technology

(24th WCASET)

Kuala Lumpur, Malaysia

26th - 27th November' 19

Organized by

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In Association With

Universiti Kuala Lumpur, Malaysia

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IFERP-Explore

Preface

We cordially invite you to attend the ***24th World Conference on Applied Science, Engineering and Technology (24th WCASET)*** which will be held at ***Holiday Inn Express, Kuala Lumpur, Malaysia.*** on ***November 26th - 27th, 2019***. The main objective of ***WCASET*** is to provide a platform for researchers, engineers, academicians as well as industrial professionals from all over the world to present their research results and development activities in relevant fields of Science, Engineering, Management, Education and Technology. This conference will provide opportunities for the delegates to exchange new ideas and experience face to face, to establish business or research relationship and to find global partners for future collaboration.

These proceedings collect the up-to-date, comprehensive and worldwide state-of-art knowledge on cutting edge development of academia as well as industries. All accepted papers were subjected to strict peer-reviewing by a panel of expert referees. The papers have been selected for these proceedings because of their quality and the relevance to the conference. We hope these proceedings will not only provide the readers a broad overview of the latest research results but also will provide the readers a valuable summary and reference in these fields.

The conference is supported by many universities, research institutes and colleges. Many professors played an important role in the successful holding of the conference, so we would like to take this opportunity to express our sincere gratitude and highest respects to them. They have worked very hard in reviewing papers and making valuable suggestions for the authors to improve their work. We also would like to express our gratitude to the external reviewers, for providing extra help in the review process, and to the authors for contributing their research result to the conference.

Since September 2019, the Organizing Committees have received more than 280 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering, Management, Education and Technology. Finally, after review, about 94 papers were included to the proceedings of ***24th WCASET***.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of ***24th WCASET***. We would like to thank the keynote and individual speakers and all participating authors for their hard work and time. We also sincerely appreciate the work by the technical program committee and all reviewers, whose contributions made this conference possible. We would like to extend our thanks to all the referees for their constructive comments on all papers; especially, we would like to thank to organizing committee for their hard work.

Ankit Rath
CSO(Chief Scientific Officer)
Institute for Engineering Research and Publication (IFERP)

Acknowledgement

IFERP is hosting the ***24th World Conference on Applied Science, Engineering and Technology*** this year in month of November. The main objective of 24th WCASET is to grant the amazing opportunity to learn about groundbreaking developments in modern industry, talk through difficult workplace scenarios with peers who experience the same pain points, and experience enormous growth and development as a professional. There will be no shortage of continuous networking opportunities and informational sessions. The sessions serve as an excellent opportunity to soak up information from widely respected experts. Connecting with fellow professionals and sharing the success stories of your firm is an excellent way to build relations and become known as a thought leader.

I express my hearty gratitude to all my Colleagues, staffs, Professors, reviewers and members of Advisory Board for their hearty and dedicated support to make this conference successful. I am also thankful to all our delegates for their pain staking effort to travel such a long distance to attain this conference.

A. Siddth Kumar Chhajer
Director
Institute for Engineering Research and Publication (IFERP)

Institute For Engineering Research And Publication (IFERP) Malaysia Chapter

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Seminars/Guest Lectures
Faculty Exchange Programme

IFERP Malaysian Chapter had Organized two WCASET series in Kuala Lumpur, Malaysia. 24th WCASET is the third series organized by IFERP, Malaysia.

WCASET series is a platform of IFERP through which we hope to foster innovative thinking, strengthen R&D and nurture the entrepreneurial culture in the community

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Message from Chief Guest

Prof Dr. Ir Ts Vinesh Thiruchelvam

Deputy Vice-Chancellor & Chief Innovation Officer

Asia Pacific University of Technology and Innovation (APU / APIIT)

MALAYSIA

WCASET sets a platform for researchers to present new tech findings via key areas of the current trends in engineering and technology evolution.

I warmly welcome all the delegates in this scientific meeting staged to address the issues in a wide spectrum of interrelated disciplines. I expect the participation of intellectuals from the various specialities in engineering and management. The present-day life is faced with plethora of problems related to management. Engineering and technologies issues requiring immediate addressal and redressal in a sustainable waythrough interdisciplinary approaches and collaborations worldwide. The conference will surely act as a great stimulus and active platform for students, researchers, academicians, industrial professionals and business delegates belonging to different disciplines from all over the world to present their research works, share ideas and strategies with each other in various areas of management, Engineering and Technology. The cerebral congregation in question can be an auspicious opportunity to interact with eminent experts of diverse disciplines, to establish research collaborations and to find suitable sites for scientific exchange of ideas and techniques. I believe this conference will help researchers in enhancing their capacities through genuine discussions and healthy interactions.

Prof Dr. Ir Ts Vinesh Thiruchelvam

Message from Keynote Speaker

Dr. Achmad Wicaksono
Associate Professor
Civil Engineering Department
Universitas Brawijaya,
Indonesia

It is a pleasure to note that Institute for Engineering Research and Publication (IFERP), India and University of Kuala Lumpur are organizing the 24th WCASET (World Conference on Applied Sciences, Engineering and Technology) on Nov 26-28, 2019 in Holiday Express Inn Hotel. WCASET has invited researchers, delegates, and academic students to join this Conference. As all we know, WCASET is an international conference that aims to gather researcher, engineers, academics staffs, and students in applied science, engineering and technology from all over the world to share the information about research progress and development of the relevant fields of science.

I realize there is very keen response to this Call for Papers both from within and outside the country. Such conferences of this nature provide a stage for industry professionals, young graduate students, faculty members and researcher to present their research work, share the feedback and ideas to improve their quality of work.

This Conference will provide an opportunity to exchange ideas on latest research, technologies, and applications relating to some engineering topics and thus serve some useful to young researcher, students, lecturers, and practicing industry professionals. I take this opportunity to express my sincere gratitude to team of IFERP and University of Kuala Lumpur team, for their maiden attempt in holding this international conference. I am sure all the delegates will carry their pleasant memories of this Conference. I wish the delegates very productive in technical interactions during the WCASET meeting, and an enjoyable stay in Kuala Lumpur, Malaysia.

Dr. Achmad Wicaksono

Message from Keynote Speaker

Dr. Elenita M. Tiamzon

Research Director

World Citi Colleges, Philippines

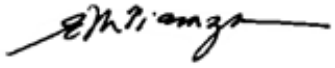
Let me thank the hosts, Institute for Engineering Research and Publication (IFERP) and University of Kuala Lumpur, Malaysia of this important World Conference on Applied Science, Engineering and Technology for allowing me to welcome and address all of you. For me, it is an honor and pleasure.

I would also like to thank them for having brought us together in this city of Kuala Lumpur, to discuss future advances in multiple fields of science and engineering and its dependency on the availability of advanced technology.

The two days will be intended to cover several and different themes related to “Applied Science”, Engineering and Technology in this field. I am sure that each one of you will identify topics (subjects) of his/her interest and will benefit from many fruitful and enriching discussions.

It is my happiness and joy to be attending the event today and to be exchanging views and sharing experiences with other professionals, colleagues, and friends from different Universities and Research Institute together with different International Organizations.

Congratulations on your commitment and active participation in this Research endeavor and wish you all the success.



Elenita M. Tiamzon

Message from Keynote Speaker

Dr. Norzahir Sapawe

Head of Research and Innovation

Universiti Kuala Lumpur (UniKL MICET)

MALAYSIA

On behalf of the organizer, it is my pleasure to warmly welcome all participants, delegates, and speakers to the 24th World Conference on Applied Science, Engineering and Technology (WCASET). This year, 24th WCASET is held in Holiday Inn Express Kuala Lumpur, from 26th – 27th November 2019, is jointly organized by Institute for Engineering Research and Publication (IFERP) and Universiti Kuala Lumpur (UniKL). This conference will provide a good platform for researchers and scientists to present and share their research, disseminate ideas and create a platform for collaborative research in the related fields, and the most important incorporates new findings across interdisciplinary research between science, engineering and technology, to provide the latest information and knowledge. I would like to congratulate all participants for being a part of this conference. I am sure that you will find this conference both fulfilling in embracing new knowledge and enjoyable with huge opportunities for future research collaboration. Appreciation also goes to IFERP for invited me as one of the Keynote Speaker to this prestige's world conference.

Thank you.

Dr. Norzahir Sapawe

Message from Keynote Speaker

Dr. Abu Bakar Sade

Professor

Department of Marketing

Univetsiti Putra Business School, Malaysia

Fertile research areas emerge as the fourth industrial revolution technology innovations unfolds. It will be an exciting time for researchers to discover new findings that will shape the 21st century markets. Brands will explore ways and means to deliver innovative values that technology enables. Customers on the other hand will expect a lot more in fulfilling their needs and wants as they become more familiar with the technologies. Market demand will fundamentally change, and never be the same again just like how it was from the 1st to 3rd industrial revolutions.

Dr. Abu Bakar Sade

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ABSTRACTS

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The Effect of Modulation Index in THD of Transformerless Inverter

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Abstract:--

Due to the fast increase of photovoltaic (PV) adoption and utilization, their efficiency and power quality become of great importance. The grid connected inverter is a basic part in grid connected PV system. The inverter design has to keep the total harmonic distortion (THD) under permissible and tolerable limits. In this work, several techniques have been suggested and employed to mitigate the effects of the THD in the inverter output. These techniques are based on using both the sinusoidal pulse width modulation (SPWM) while varying the amplitude modulation index (Ma) for controlling THD. The full bridge and H5 transformerless topologies has been simulated at different modulation index Ma using MATLAB Simulink. The simulation shows that H5 topology has a lower THD than the unipolar inverter. Also, the results verified that the best performance of the two topologies occurs at Ma = 1.02.

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Measuring the Brand Personality Dimensions of Modest Fashion Industry in Malaysia

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Abstract:--

Brand personality is one of the key concepts in branding that can be used to create competitive differentiation. Brand personality scale by Aaker (1997) has been widely used however many studies has shown that the scale is not stable across various businesses. In view of that, this study examines the structure of brand personality dimensions in modest fashion industry in Malaysia. Samples of 400 respondents were surveyed to establish the dimensions of brand personality among the generation y female. Based on the Principle Component Analysis result, a new dimension emerged and expanded the original five dimensions; sincerity, excitement, competence, sophisticated and ruggedness. The motivation to focus on generation y female consumers is the assumption that they will be drawn to brands that reflect to individual personality. Validation of new constructs brings a significant interaction of measurements of brand personality. Structural Equation Modelling (SEM) approach was employed to examine and validate detail proposed dimensions with a series of observed variables. The findings empirically support the reliability and validity of the scale developed. The result also revealed that the new dimension of brand personality can be a suitable enhancer to develop brand personality scale for modest fashion in Malaysia.

Keywords:

Brand Personality, Exploratory Factor Analysis, Confirmatory Factor Analysis, Modest Fashion

Mathematical Thinking towards an Efficient Approach to Problem Solving Situation

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Abstract:--

Mathematics is a discipline indispensable in man's daily survival. It finds its place in almost all endeavors man engages in. However, it is the subject much feared by a number of students. Few if there are, who finds mathematics easy and pleasurable and these are the exceptional few endowed with the brain for figures, hence the need to put a great deal of emphasis on different activities and strategies for better understanding and learning. The confines of my study catered to developing thinking of learners to develop in them the efficiency towards problem solving situation. The salient features of this study focused on the difficulties surfaced at in learning Mathematics, the factors that deter in learning the subject, the learning enhancement activities, and the strategies implemented to make learning feasible and convenient. The findings reveal that the respondents find difficulty in the derivation and application of formulae- rules and principles to a problem under study, and weaknesses in understanding in the regrouping of numbers. Tracing out what factors are affective of these difficulties, student factor came out dominant. On the strategies that make students maximize their learning, dominant was on determining appropriate solutions and approaches. This is certainly the entry-point towards gainful learning. It is thus imperative for teachers to be cognizant of what incites learners to go into a more commitment to learning not only to the maximum but also to the optimum.

Keywords:--

Mathematical Thinking, Strategies, Problem Solving, Descriptive

Load Side Management (LSM) for Solar PV household System

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Abstract:--

In this paper we present a model of Load side management (LSM) control for household appliances that energized through on grid PV system. The intention here is to reduce the dependency on the grid operator to supply excess power above usual when there is PV intermittency. The proposed model of LSM control introduced here is to compensate for the reduction of power generated by solar PV system from its rated capacity by reducing the power consumption of the variable heavy loads depending on the power availability from Solar PV. This strategy was recently introduced for air condition systems employing variable fan speed. It was proved that using variable fan speed can manage energy consumption from the PV source and optimize energy utilization. In the developed solution here, home heaters can be also managed as variable loads that adapt their consumption according to the energy available from the PV source. The model is based on using PWM (Pulse width Modulation) to control heating power. As a result, the heating time of the water to a certain temperature will be dependent on the energy availability. The developed algorithm uses measured values for available solar power and the heater thermal model in order to generate the suitable PWM signal that control the energy delivered from the PV source. The algorithm was tested using Matlab Simulink and the early results shows the validity of the proposed technique for Load side managements.

Index Terms

PV systems, PWM, Load management , home heaters

The Influence of Social Media Richness on the Consumer Intention to Purchase

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Abstract:--

Many companies are increasing their investment in social media marketing amid the projection of contribution to the companies' profitability. However, few studies have looked at the empirical link between the richness of the social media posting with the intention to purchase. This paper is an attempt to study the dimensions of social media and its influence on purchase intention in undergraduate students at Kuala Lumpur. Questionnaires distributed to undergraduate students as respondents in short experimental session in a classroom. The respondents will be exposed to Instagram postings. The response from the questionnaires is used to measure the constructs of this research. The implication of this research is to understand the Social Media richness; meaning the key dimensions of social media posting that elicit intention to purchase. The result of this research will provide a method to marketers in measuring the potential return of investment for their social media marketing. The main limitation of this study is the use of respondents. Future study should use national random sample to validate the relationship between social media influence and the brand attitude. Future studies also may include other constructs such as intention to engage with the brand's social media.

Keywords:

Social Media, Consumer Behaviour, Intention to Purchase, Theory of Reasoned Action, Brand Loyalty, Brand Equity.

An Architecture Improvement of Electronic Braille Quran Based on Raspberry Pi

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Abstract:--

An electronic braille (eBraille) Quran is a braille display that is use to aid the visually impaired and blind Muslims in their journey of understanding and appreciating the Quran in a much more convenient way. It is an invention of University of Technology Malaysia (UTM) since 2009 for the blind people to recite Quran through the Braille system. However, current architecture of eBraille Quran comprises of too many modular components, numerous microcontrollers and complexly designed. Another vital issue is that its architecture still uses old technologies where the firmware updating or data correction process cannot be done remotely. This makes it hard to maintain, repair, costly and time consuming. This study proposed an enhancement of current architecture with the latest technology of single board computer named Raspberry Pi 3B+. The architecture is first designed according to the existing features of the eBraille Quran. Then, a prototype circuit is developed and fabricated for testing purposes of the proposed architecture. Once the circuit is fabricated, an experiment is conducted to test on how well the new architecture manages the intended functionalities, controlling input and output of braille cells, the performance of start-up time and battery consumption. The result shows that the proposed architecture using Raspberry Pi manages to carry out all the proposed functionalities of eBraille Quran. The start-up time is also within tolerable level with only 1 second slower than the current architecture. Battery consumption on the other hand shows that using Raspberry Pi reduces the battery consumption by 1.2% per hour.

Index Terms:--

Braille System, Raspberry Pi, Single-Board Computer, eBraille Al-Quran, Architecture.

Common Mode Reduction of Transformer less Inverter for Grid Connected PV System

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Abstract:--

Small size, low cost and high efficiency transformerless, grid connected inverter for PV system are highly in demand. If the PV inverter has not galvanic isolation, leakage current will appear and the common mode voltage (CMV) will increase. Due to the lack of isolation, the system may generate strong ground currents which are depending on the stray capacitances to ground. The CMV of the inverter should be low to prevent adverse effects resulting from the leakage current. Furthermore, the switching loss must be low in order to reach high efficiency. In this paper, a modified topology based on the H6 topology is proposed and analyzed. Performance of the proposed topology is compared to other several topologies using the MATLAB/Simulink. The performances of the pulse width modulation (PWM) topologies are discussed and results are compared on the basis of leakage current and CMV. The simulation results show that using diode clamped to dc voltage, leakage current is reduced and generated CMV is approximately constant.

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Vegetation Stress Study in Chon-Alai Area Using NDVI, Kyrgyzstan

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Abstract:--

Agriculture and livestock are main sectors of Kyrgyzstan's economy that makes sustainable pasture and land management critical for human well-being, economic stability, social welfare and ecosystem resilience. Both human-induced and natural factors play key role in the sustainability issues of rural mountainous communities in Kyrgyzstan that rely heavily on land resources. This study focuses centrally on finding linear interrelationship between NDVI and climatic variables that mainly include air temperature, land surface temperature and precipitation. This helps to understand the idea behind seasonal and inter-annual behavior and dynamics of vegetation characteristics. Besides, secondary goal of this research is to prepare land cover classification of Doorot-Korgon area in Chon-Alai District. Overall, implications of this study are directed towards the general understanding of interaction between terrestrial ecosystems and climate change. Study encompassed two time periods (1993-1996 and 2000-2003) and linear relation and positive correlation coefficient was found only in two years (1994 and 2003). This might not be enough to establish a significant annual trend between NDVI and climatic variables. However, seasonal trend was found; as a rule, the lowest NDVI values are observed in May than reaches its peak at the end of July and at the beginning of August and decreases in the middle or at the end of September. In addition, trend was found in NDVI values over the last five years in Daroot Korgon area, there is an inter-annual even distribution of values without any sharp fluctuations and variations. Acknowledgement: Financial support for this research project comes from PEER NAS/USAID Grant Subaward No. 2000007764.

Why is Bilingual Education Important

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Abstract:--

English learning has always been a fever in Taiwan. From traditional daily newspapers to magazines, it seems like any reading behavior related to English represents "a higher chance of having greater competitiveness", of which the last is a word that is always appearing on the headlines of newspapers. It has even given rise to heated discussions amongst parents (Suleimenova, 2013). The purposes of the research is the following reasons: The competition of pursuing further education; English lessons were given in junior high schools in the past, but has gradually progressed to the situation where elementary students have to study English as it has become an important subject for examination, so it is natural that bilingualism exists in the area. Research method the researcher conducted interviews and recordings under the consent of teachers and parents; the researcher compiled a semi-structured interview outline based on literature reviews and research purposes. Cross comparison was carried out on the result data and other relevant documents were referred to for conducting triangulation of sources. The researcher found that the objective of bilingual education was for the students to become balanced bilinguals, i.e. being able to understand school courses taught in two languages and use the two languages to engage in academic activities. We can know how it happened by summing up the above research results.

Key words:

Bilingual, globalization, competence

Initial Study on the Daily Activity, Trip Arrangement, the Use of Ict, And Social-Economic Characteristic in Malang City

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Abstract:--

Undertaking healthy activities and trips is manifested from a set of daily activities and travels. The consequences of undertaking healthy activities and trips also includes reducing the time of some unhealthy activities. At present, ICT (Information, Communication and Technologies) activities are replacing some daily physical activities into non-physical daily activities in the digital age. The penetration of ICT might also determine the trip arrangement either number of trips and trip chains of the travelers that will also influence the traffic volume, especially on urban streets. Travelers try to improve their travel efficiency through a variety of ways, but now people have more varied activities, so that their travel behavior has changed, as well as their travel patterns. The purpose of this study is to analyze the characteristics of household socio-economic on different trip arrangement with the influence of ICT penetration. The ones who use ICT more often might have different choice on transport modes from someone who undertakes no online activities. Data collection is done using an activity diary. The survey location was focused on Malang City of Indonesia, and the nearest city boundary, the sample used was 200 household samples in this study. The analysis technique in this study uses Logistic Regression with the Purposive Sampling method by constructing a number of models based on individual daily physical activity travel data records, the data obtained are expected to be able to describe travel patterns and mode choice use on a household scale based.

Index Terms

Activity diary, travel patterns, socio-economic, trip arrangement, Malang city

Linking Attitude and Achievement in Chemistry

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Abstract:--

It is the goal of the Philippines to make students globally competitive. With this goal the country must strengthen its science education system. This study was conducted to determine the profile, attitude and achievement of the 3rd year high school students at Cauayan City National High School-Research Annex. A total of 42 students participated in this study. A standardized questionnaire adapted from International General Certificate of Secondary Education (abbreviated as IGCSE) was used for the achievement of students in Chemistry. Encompassing both descriptive and correlational designs, the results obtained were analyzed using frequency and percentage, t-test and Pearson r. Statistical package aided the computation of the statistical parameter. Analyses of data revealed that:(1) respondents had moderately favorable attitude in Chemistry subject; (2)their Chemistry achievement was fair; (3) attitude and Chemistry achievement had changed when grouped according to sex and age (4) and there was no significant relationship between the attitude and achievement of students in chemistry.

Keywords:

Achievement, Attitude,Cauayan City,Chemistry

Prediction Model of Variation Order for Construction Cost and Time in the Construction of Terrace housing projects

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Abstract:--

Being a developing country, the construction industry plays a pivotal role in Malaysians development. However, the fast phased industry may have overlooked some of its project management issues namely variation order during the construction stage which effected the project handing over and also increased in the construction cost. The research objective is to develop a prediction model to decrease variation order in terrace housing construction projects in Malaysia. A total of ten (10) variables were analysed to test their impact on construction cost and time. Two regression models are developed using real data obtained from a project located in the state of Selangor, Malaysia. It was found that there are three independent variables were a significant positive impact on the effects of time and cost in the construction project. The variables are as follows: Scope of work changes by the owner, Changes of building materials and work methods by the owner and Specifications change by the owner. Besides, the prediction model for project cost and time have also validated the results.

Keywords:

Prediction model, Construction project, time, cost.

PharmaSys : Mobile Application for General Medical Terms. Dispensing Instructions and Communication in Pharmacy

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Abstract:--

Most common problem of diverse nation in the world is communication or language barriers. Miscommunication and misinterpretation are the results of this which can be life-threatening for some diseases. Country like Malaysia, the citizen consists of many Chinese speaking residents. There are also those who came from China resides in Malaysia without the ability to speak and understand English and Malay language. Health sector has the issue of language barriers with could lead problems in wrong medicines dispense, patients wrongly consume their medicines, just to name a few. A mobile application is designed and developed for the mentioned problem that have general medical terms, dispensing instruction and communication in the Mandarin language. Interview sessions with a certified pharmacist working of Alpro Pharmacy at Kemaman, Terengganu, Malaysia is from where the application requirements and design were gathered. With Java language and Firebase integration for the database, six modules of the app produced. Questionnaires given to thirty respondents to gauge the usefulness of the app. Findings showed that 66.67% strongly agreed that the application functions perfectly. Pharmasys, medical mobile application gained 80% satisfaction and considered good system by users.

Index Terms: –

Mobile Application, Software Development, Speech Translator, User Acceptance Test.

Leadership Capability and Performance of the Socio Cultural Affairs Officers of the State Universities and Colleges (SUCS) in Region2, Philippines and Its Implication to Education

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Abstract:--

In attaining the organizational goals effectively and efficiently, the Leadership capability of the heads of office must be strengthened, monitored and evaluated. Hence, the researcher was interested to measure the leadership capability and performance of the socio cultural affairs Officers in Region 02, Philippines. The study utilized the descriptive-correlational method of research. The respondents involves in this study are the Socio Cultural Affairs officials and coaches of four State Universities and Colleges in Region 02. Results show that the level of implementation of academic policies and admission requirements are directly linked to leadership behaviors of the socio-cultural directors. Furthermore, it was identified that the most reported problems in the office of the socio cultural affairs officers are lack of time for practices and inadequate budget. In view of these facts, the head or the director of socio cultural affairs must also possess technical, human and conceptual skills so that they can easily perform duties and responsibilities through advance educational and advance educational attendance to national conference and seminars along management, administration and specific task on socio-cultural affairs/activities.

Index Terms:--

Leadership capability, academic policies, admission requirements, leadership behavior, management capabilities, descriptive-correlational, Philippines

3D Animation Production and Synthesis Process using Chinese Tea CG Short Film

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Abstract:--

As the crystallization of art and technology, 3D animation has made the world fascinated by every technological change in the film industry. Due to the huge potential of the animation market, many companies have begun to invest in relevant animation creation plans, which have driven the demand for professionals. With the development of the film industry and the intensification of competition, the 3D animation market will multiply in the future for a long time, and the related industries will double. Everything that people appreciate in the future, movies, TV, and games, were brought about by 3D animation technology. Animation, as a field of art or science has the capability to impart life and zeal to non-living characters. With this, the authors wanted to promote the Chinese culture in a form of animation. Chinese tea culture has a long history. It not only contains material and cultural aspects, but also contains profound spiritual civilization. China is an ancient country with a civilization and Chinese tea is one of the important kinds of etiquette of Chinese. Tea and tea ceremony are essential for entertaining guests. With the use of 3D animated film entitled "Chinese Tea CG, the author aims to promote the Chinese culture and tradition of drinking tea. The authors presented the process of creating the 3D animation and illustrated the 3D animation production process.

Keywords:

3D animation, animated short film, Chinese Tea

The Art of 3D: Development and Application of 3D Model in Animation, Games and Films

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Abstract:--

The 3D technology is an emerging technology that comes with the development of computer hardware and software technology. It is usually generated by special software such as 3D modeling tools, which exists in a virtual way in a computer or computer file. Three-dimensional technology has been used in a variety of fields, such as engineering, animation, education, fashion, movies among others. The research aims to widen the knowledge of the people by introducing the theory and method of modeling data in three-dimensional technology in the application and development of film, animation and games. Through the introduction of 3D in the paper, we can understand the 3D world more and recognize the influence of 3D models in animation, games, and film. The scientific application of 3D modeling technology can improve the flexibility and production level of animation, produce high quality 3D movies and TV effects, and promote the development of the film, animation and game industries.

Key Words:

3D image, 3D models, three-dimensional technology

Mobile Learning Application: World beyond Limit with Internet of Things (IoT) for Secondary School Students

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Abstract:--

Internet of things (IoT) is a concept of connecting devices online or offline to the internet or each other's. The Internet of Things (IoT) is a network that connect "things" which is also includes people. It is included everything from mobile device, wearable device, household device etc. Statistic reported that 20.4 Billion IoT devices by 2020, that's a lot of devices. Gartner, Inc. predicts that the numbers of IoT devices will be connected to the internet by the end of the decades. Gartner, Inc. is a global research and advisory firm providing insights, advice, and tools for leaders in IT, Finance, HR, Customer Service and Support, Legal and Compliance, Marketing, Sales, and Supply Chain functions across the world. However, most people and community are still lack of information about Internet of Things (IoT) and the potential impacts that can be seen on how it's worked in our daily life or environment. Therefore, the aim of this research is to develop an application to help educate people as young as the secondary school students to understand about Internet of Things (IoT). Thus, to see the potential impacts that can be seen on how it works in our daily life and importance of securing the internet of things (IoT). In addition, this research will evaluate the edutainment application awareness of the students to the Internet of Things (IoT).

Keyword:--

The Internet of Things (IoT), mobile learning application, secondary school

Design of an Autonomous Controlled and GPS-guided : Experimental Small-Scale Prototype

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Abstract:--

Research work on autonomous ground vehicle are commonly used small-scale vehicles as a proof of concept for autonomous navigation system. This paper describes the design development process of developing a navigation system based on COTS (commercially-off-the-shelf) components for small-scale autonomous car prototype for waypoints via GPS and magnetometer as navigational inputs. Field experiments were conducted at a selected test site to validate the navigational algorithm developed and the small-scale prototype. The experiments were successful where the small-scale prototype has successfully managed to navigate to all waypoints within the designated turning and stopping criteria. However, the prototype is found to have looping behaviour when traveling from Waypoint 2 to Waypoint 3 which is attributed to the GPS receiver obtained a different current GPS position while travelling and the maneuvering of the prototype based on the differences between the heading angles of the two sensors.

Keywords:

Autonomous control navigation, Small-scale prototype, GPS, magnetometer.

A Review on the Importance/Roles of Business Intelligence in Telecommunication Industry

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Abstract:--

Business Intelligence (BI) is data- driven decision making. BI integrates data gathering, information stockpiling, and knowledge management with systematic and analytical tools in order to present complex and complete information to the organization's stakeholders and decision makers. Telecommunications companies worldwide are exploring BI solutions to survive and maintain their competitiveness. This paper is a review of journal articles on business intelligence in relation to telecommunication industry all over the world. The types of BI (tactical, strategic and operational), BI application in different industries such as Telecommunication, Manufacturing and financial, the roles of business intelligence in the telecommunication industry in terms of decision making, customer relationship management, data mining, financial fraud detection, and prevention were discussed. The highlights of the importance of business intelligence in the industry forwarded at the end of the paper.

Key Words:

Business Intelligence, BI Application, Telecommunication Industry.

IT Instruction for Teacher's Learning Intention

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Abstract:--

Humanity's competitive advantages in the society are based on the intelligence and knowledge developed. One important way for human development is education. This study adopted the Decomposed Theory of Planned Behavior with the attitude aspect replaced by the teaching belief aspect, the perceived behavioral control aspect decomposed into perceived self-efficacy and condition of supportive resources, and the subjective norm aspect decomposed into teacher's superiors (the Department of Education), teacher's peers (colleagues in school), and teacher's teaching subjects (students and their parents). This study adopted the in-depth interview method and interviewed each subject individually in a face-to–face manner. A total of 5 teachers were selected for the interviews. In-depth interviews can be categorized into structured interviews, unstructured interviews, and semi-structured interviews depending on how structured they are. Due to the limitations of interview durations and the environment, the researcher wasn't able to take down all the contents on-site. This study showed the data analysis results to the subjects so that they could confirm if there was anything that didn't look right in data analyses and interpretations. Moreover, the research findings showed that the influences of teachers' teaching belief, perceived behavioral control, and subjective norm on their intention to implement IT instruction were all significant.

Keywords :—

Intention, IT Instruction, Teacher

Systematic Review of Barriers to Standard Method of Measurement Adoption

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Abstract:--

Non-adoption of the standard method of measurement (SMM) in construction works is affecting uniformity preparation of bill of quantities. Based on past and current studies on the standard method of measurement focus on issues relating to building works construction. However, the adoption of the standard method of measurement has been hampered by numerous barriers and challenges. No attention has been paid to the need to review existing knowledge of barriers towards SMM adoption. This paper presents a systematic review of literature on barriers to SMM adoption published in academic journals. A systematic review conducted to evaluate the barriers in implementing a standard method of measurement in construction in the Scopus and Google Scholar databases from 2000 to 2019 following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guideline. It has been found that resistance or reluctance to change the current practice is the most barrier in SMM adoption. Lack of information, knowledge, awareness, expertise, and training followed by the measurement does not update evolving new technologies, methods of construction and new materials. It is also no regulation, and enforcement body reflect various usage of the method of measurement and different standard method of measurement by in house, and international standard is the most reported barriers in the literature. This review provides a valuable reference for construction practitioners and academicians to implement the standard method of measurement in construction projects. Moreover, a developed checklist of SMM barriers in this paper can be useful for further empirical study.

Index Terms—

Barriers, Construction Industry, Standard Method of Measurement, Systematic Literature Review.

Digital Transformation in Managing Employee Retention using Agile and C4.5 Algorithm

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Luisito L. lacatan, Dean – College of Engineering, AMA University, Quezon City, Philippines

Abstract:--

Retention of employees became a critical success factor of an organization. Human Resource Management Society revealed that businesses would spend the equivalent of six to nine times the monthly wage of an employee to locate and train a replacement. In the 1950s, Fredrick Herzberg, a psychiatrist, conducted a study on knowing employee satisfaction. He set out to assess the impact of attitudes on motivation by asking people to describe situations where they certainly feel good and bad about their work. Herzberg's studies have shown that some workplace attributes are reliably related to job satisfaction, while different factors are associated with job dissatisfaction. These workplace attributes were converted numerically into this research in discovering patterns in large datasets involving decision tree method, extraction of information, and digital transformation of a comprehensible business structure. The digital transformation as a fundamental approach to business strategies today by envisioning the traits and trends that will happen in the future. An efficient digital strategy that gives priority to a handful of opportunities where organizations can build a digitally-enabled business model that utilizes competitive advantages in that corporate revenues, such as enhancing the organization's retention ability through collaborative resources. The result of this study showed that an upscale workplace strategy could a basis in designing a Human Capital Intelligence System that applies ISO 25010: Software Quality Model in terms of Functional Suitability, Usability, Reliability, Performance Efficiency, and Maintainability. The use of C4.5 Algorithm and calibrated datasets transforms the manual approach of employee retention to a digital-agile approach giving 99.59% data performance using WEKA will augment the retention of employees and avoids business disruptions. The Cost and Benefit analysis component allowed the visualization and analysis of the benefits of employee retention for businesses that take a toll on organizational performance and revenues.

Keywords:

Agile, Machine Learning, Data Mining, HR Systems, Digital Transformation.

Cigarette Smoke Alarm System via Website

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Abstract:--
This paper discussed on the design of a Cigarette Smoke Alarm System via Website. It is an innovation from the present smoke alarm, whereby this Cigarette Smoke Alarm System via Website will specifically detect the presence of cigarette smoke and will alert the authorities by a website connected to a Wi-Fi, to ensure prompt action after detection. The main components used in this system are the MQ sensors which will detect the presence of cigarette smoke, the Wi-Fi shield and Arduino Uno microcontroller that act as an interface between the components. This project will help reduce the possibility of people exposed to the poisonous gases from cigarette smoke especially in an indoor space.

Keyword—
Cigarette Smoke; Alarm System; Website; Wi-Fi;

Optimization of Own Electricity Usage with Electricity Supply from Solar Cells at Darajat Geothermal Power Plant

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Abstract:--

At Darajat Geothermal Power Plant there is the use of the generator's own electricity for equipment such as cooling water pumps, lubricating oil pumps, oil transfer pumps, lighting lamps, heaters and others. The cost of own-use electricity used by the equipment based on the selling price of electricity from geothermal power plants to Indonesian electrical company (PLN) is 1,119.74 Rp / kWh. With the potential of solar radiation of 4.90 kWh/m2 per day, optimization of electricity consumption using solar cells and batteries will be carried out. The price of the solar cell is assumed to be 12,000,000 Rp/kW, the battery inverter is 2,000,000 Rp/kW and the battery is 2,350,590 Rp/kW. The lifespan of solar cell equipment and batteries is 20 years. This paper will be simulated in 4 cases and the result will be the price of electricity based on the value of capital divided by the total electricity produced by solar cells and batteries for 20 years. Case 1 when using solar cell day and night using batteries and the result of electricity price for case 1 is 718.648 Rp kWh. Case 2 when using solar cell day and night using its own electricity from the generator and the result of electricity for case 2 is 990.952 Rp/kWh. Case 3 when using solar cell and battery, at night using battery and the result of electricity for case 3 is 711.77 Rp/kWh. Case 4 when using solar cells and batteries, at night using electricity itself from the generator and the results of the case 4 electricity price is 978.005 Rp/kWh. Based on the 4 case simulations, the price of electricity will be cheaper if during the day using a solar cell plus battery and night using a battery, as in case 3, the price of own electricity power plant is 711.77 Rp/kWh..

Keywords:

Own-Consumption, Solar Cell, Power Plant, Battery.

Organisational E-Learning Readiness of a State University in Northern Philippines: Inputs for Refining Instruction

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Abstract:--

E-learning has been diversifying the teaching and learning processes in educational institutions worldwide. The greatest driving force in its utilisation is the teaching workforce and the organisational climate. This study examines the organisational readiness along online learning 54 or 68.35% of the faculty members of the Cagayan State University at Aparri. The profile of the faculty members, their 21st-century competencies towards online learning, and the perceived assessment on the organisational e-learning readiness were described from the data retrieved through manually and online-administered, validated, self-administered questionnaire and Josenberg's (2000) e-learning readiness survey. Findings revealed that majority of the faculty-respondents were male, ages 35 to 45, married, with masters or doctorate degree aligned to their academic specialisation, and has been teaching for 16-20 years already. There was a balance of perception of online learning, instructional delivery, and its benefits to the university. Respondents were found competent along 21st-century competencies towards online learning, however, not so much ready for utilising online learning. The organisation readiness has been assessed with evident with initiatives underway, including how respondents perceive the changing nature of learning and e-learning, the value of instruction and information, the role of change management, training and support, and the e-learning industry in general. Progress is being made at CSU along online learning, considering the readiness of the faculty members, their 21st-century competencies, and readiness of CSU along online learning.

Keywords:

E-learning, 21st-century competencies, e-learning readiness, online learning, organisational readiness

Internet of Things Applied to Solar-Powered Irrigation system for Vegetable Farm: A Development Prototype

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Abstract:--

The Philippines is still relatively young when it comes to solar power development (inquirer.net,2018). A solar-powered smart irrigation system for vegetable farm using adaptive process for IoT applications was designed, developed, implemented and evaluated. In the process of development, an adaptive process for IoT applications was utilized. The technology employed was evaluated based on the criteria for evaluating IoT applications adopted from Kim (2016). Participants in the study were the Municipal Agriculturist and Agricultural Engineers, as well as vegetable farmers in the province of Isabela, Philippines. Participants were asked to give their ideas and experiences as well as challenges and problems in irrigation system for vegetable farming. IT Experts from the local government of Cauayan City and IT professionals from Isabela State University had an actual evaluation in the technology used in this study. It was revealed that most of the farmers do not have an adequate water supply to sufficiently produce vegetables to supply and sustain community needs as well as to sustain vegetable farming during the dry season. On the side of technology, IT experts have a very high appreciations on the functions of the technology used in the smart irrigation system. Municipal Agriculturist and farmers appreciated the use of wireless technology presented. For best results, the Philippine government must give the farmers and agriculturists the best supports, initiatives, and awareness regarding the potentials, risks, and options on the utilization of a solar-powered smart irrigation system.

Keywords

Smart irrigation, solar power, sustainable agriculture, IoT, Philippines, sensors

Historical and Architectural Studies of Masjid Warisan Kampung Parit Melana in Alor Gajah, Melaka

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Abstract:--

The mosque is a building built by Muslims to perform prayers and other activities related to Islam. The design of a mosque must meet the original purpose of the building, while other factors, such as its surrounding environment, influence the architectural aspect of the mosque. The objective of this study is to identify the origin and architectural influences of Masjid Warisan Kampung Parit Melana and determine sustainable features adapting to its construction. The study was conducted through desk study, site observation, and interviews with the identified respondents. Result shows that the building portrayed an archipelago architectural style with several Chinese influences on its construction, while few sustainable features have been discovered from the building plan, design, material usage, and construction of the old mosque. Other than a place for worship, the old mosque is an important piece of historical evidence and is part of the studies in the quest for national identity. Therefore, a heritage building, such as the Masjid Warisan Kampung Parit Melana, shall be conserved because it is an important reference for the future generation.

Keywords:

Masjid Warisan Kampung Parit Melana, historical building, old mosque design, traditional construction, sustainable features

Utilizing Smart Space Technology for Precision Agriculture

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Dr. Luisito L. Lacatan, College of Engineering ,AMA University, Philippines

Abstract:--

Embarking numerous technological advancement directed at rising and improving the agricultural sector is an idea that the Philippine Department of Agriculture is pushing in preparation to get ahead of the forthcoming dilemma of the new era. This research aims to use smart space technologies in the Philippine agricultural sector that plays a major part in our economy. The proposed concept alludes to the development of a prototype that integrates the Internet of Things (IoT), regarded to be the driving force of smart space technologies, to preserve growth and planting sustainability .This will work by installing a network of sensors that monitor greenhouse agricultural data such as moisture content, temperature, humidity, and pH level, which will be collected and will be transmitted online using a microcontroller. Soil moisture stress will be monitored in real-time and will trigger the sprinkler system once it drops below the threshold point. Based on collected data, factors affecting planting sustainability will be monitored which can give growers and farmers an opportunity to provide proper intervention o help reduce waste and, if necessary, enhance the competitiveness of medium and small sized farmers for high-value agro-products. The output of this study is a simpler and increasingly efficient method of managing and enhancing the yield of farming in greenhouses.

Index Terms

Smart Space, IoT, Argiculture, Wireless Network Sensor, LORAWAN.

Survivability of Aqua Marine Products in Fish Ponds through Water Quality Evaluation Using Machine Learning Algorithm

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Abstract:--

Water quality is the most important factor affecting fish health and performance in aquaculture production systems. Good water quality relates to what aquaculture wants and needs to survive and develop, which means that fish farmers must understand the water quality requirements of their cultured products to ensure their fast growth and survival. Different fish species have a different and specific range of water quality aspects within which they can survive, grow, and reproduce.[1]–[5] It is, therefore, imperative for fish producers to ensure that the physical and chemical conditions of the water remain, as much as possible, within the optimum range of the fish under culture all the time. Outside these optimum ranges, fish will exhibit poor growth, erratic behavior, and disease symptoms or parasite infestations. Under extreme cases or where the poor conditions remain for prolonged periods of time, fish mortality may occur.[1], [4], [6]–[8] Using water sampling to monitor water quality takes up time, while laboratory results do not show the current state of water in fish ponds, which is critical information needed by fish farmers. Water quality monitoring in fish ponds should be in real-time, analysis of water parameters must be done as soon as possible to ensure water quality and its acceptability for aquacultured products. The purpose of this study is to develop a system that can monitor water parameters in fish ponds analyze and evaluate these parameters to determine the suitability and survivability rate of aquacultured products base on water quality using machine learning algorithms regression tree and decision tree in accordance with the water quality requirements of cultured products. With the help of Arduino microcontroller device that uses IoT (Internet of Things) technology. By implementing this study, it was found out that the system effectively helps the fish farmers to manage and help maintain the water quality of their fish ponds it minimizes losses due to untimely solutions to water quality problems and promotes a healthy environment which helps increase the growth and survival of aquacultured products. It also increases the fish farmer harvest and income, which creates a positive impact on agricultural productivity in terms of fish farming.

Keywords:

Water Quality, Aquaculture, Decision Trees, Microcontroller, Internet of Things

Solar-powered Soil Nutrient Detector and Predictor System for Rice Production

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Dr. Luisito L. Lacatan, Dean – College of Engineering, AMA UNIVERSITY, Quezon City Philippines

Abstract:--

In Asian countries particularly in the Philippines, rice is considered as staple food for the Filipino. Philippines become one of the biggest rice importer not only in Asian country but in the world several decades ago. However, due to crop-related issues faced by rice farmers influencing the production rate resulting to low rice imports. Some key factors that affects the rice yield are soil fertility as biological constraints and suitable quality rice variant are some important issues need to be addressed for reducing farmer's yield gap. Determining the soil nutrient level and deficiency before the process of preparing the rice field for planting and recommended quality seed variant would have a better result on crop production. Several research was done combining different field specifically Information Technology, Data Science and Agriculture. Advancement of Information Technology brings opportunity to capture different data, analyze it and predict for improving rice production or cultivation. This study focused on identifying the suitable rice crop variety for a specific area based on the previous data of yield rate and soil characteristics data collected using soil nutrient detector device. Data mining technique will be used to create models and use the j48 algorithm in developing predictive analytics software tool that will identify the suitable rice variety for specific land area. The output will be used by the provincial agricultural office and agricultural technicians in giving proper recommendation for the farmer in choosing the suitable rice variant that will produce a higher yield.

Cloud-Based Smart Farming for Crop Production Suitability Using Wireless Sensor Technology

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Luisito L. Lacatan, Dean - College of Engineering, AMA UNIVERSITY - Quezon City, Philippines
Francis G. Balazon, Professor – School of Graduate Studies, AMA UNIVERSITY - Quezon City, Philippines

Abstract:--

Agriculture plays a dominant role in the economic development in the Philippines generating more than 6% of its total export, 25% total area is constraint-free while about 75% areas with various problem soils such as steep slopes, poor drainage, coarse texture soils, heavy cracking clays, severe fertility limitations, acid sulfate soils, feat soils, mine tailing and polluted lands. This paper aims to provide a cloud-based dashboard connected to a gateway via Internet of Things (IoT) for monitoring real-time measurements that will provide local farmers and concerned government agencies, and unit such as national and local. A model for crop production in order to classify "Highly Suitable", "Moderately Suitable" and "Not Suitable" types of crop for farming in terms of edaphic, biophysical factors and climatic conditions. The integration of wireless sensor technlogy is needed to measure moisture content, humidity, temperature and pH level of the soil and map its geographic locations utilizing Geographic Information System (GIS). The results of the study help Filipino farmers which crops are suitable to farm in their respective regions, provide an alternatives and to decision makers plan appropriate actions and formulate policy intended for stakeholders to adapt and mitigate climate-change initiative in agriculture industry.

Key Words:

Cloud, Smart Farming, Crop Production, Suitability, Wireless Sensor Network

Microcontroller-Based Soil Nutrients Analyzer for Plant Applicability using Adaptive Neuro-Fuzzy Inference System

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Dr. Luisito Lacatan, Professor, AMA University, Project 8, Quezon City, Philippines

Abstract:--

Philippines has a large agricultural land, but the agriculturists and farmers can't easily determine the condition of the soil in the agricultural land. Soil nutrients analysis is necessary to determine the fertility of the soil. The present paper aims to develop a microcontroller that will analyze soil macronutrients such as Nitrogen, Phosphorous and Potassium that are primarily needed for the effective growth of the plants. Soil pH will be the main soil parameter in determining the nutrient contents of the soil by using a pH meter sensor. The study will also integrate the adaptive fuzzy inference system (ANFIS) in the microcontroller to predict suitable crops to be planted.

Keywords:
soil nutrients, soil pH, microcontroller, ANFIS

Manufacture of Fly Ash Based Coagulants for Use in Water Treatment

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Abstract:--

Fly ash was explored as a raw material for the production of three fly ash-based coagulants being raw, calcined and calcined– sodium hydroxide complex coagulants. Calcined fly ash and calcined fly ash – sodium hydroxide complex coagulants were prepared by calcining raw fly ash at a temperature of 800ºC and all three were acid washed with hydrochloric acid before being used as coagulants. A fly ash sample from a local coal fired power plant was characterization by means of an XRD and FTIR. The characterization results revealed the presence of various compounds which included quartz, hematite, magnetite, anhydrite, and ettringite with a large characteristic peak showing quartz at approximately $26º \approx 2\theta$. The behaviour of the prepared coagulants in treating waste water was investigated at different turbidity ranges of low (19 NTU), medium (49 NTU) and high (80 NTU) in jar test experiments. Coagulant doses were also varied at these different turbidity levels to determine the dosage that gives the lowest turbidity for all the three coagulants. From this study, we observed that an increase in coagulant dose from 0.05 to 0.25g/l led to a decrease in residual turbidity. Calcined fly ash was more effective at low and medium turbidity at a dosage of 0.20 g/l whereas Calcined fly ash – sodium hydroxide complex coagulant was found to be more effective with the highest % reduction of 99.8% at a higher turbidity for the same dose.

Key words:--

Bentonite Clay, Coagulant, Fly Ash, Waste Water

Effectiveness of Using Milled Moringa Oleifera Seeds as a Disinfectant in Waste Water Treatment

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Abstract:--

Water disinfection is a crucial water treatment process because it deals with the removal of pathogens to make water safe to drink. Moringa oleifera extract was used as a disinfectant and the total coliform count was monitored through microscopic observations. The total coliform bacteria removal at a dosage of 5 ml/100 ml of Moringa Oleifera extract was counted to be 13 colonies from an original count of 200 colonies, translating to about 93.5% removal of the bacterial strains. The results showed that MO extract dosages higher than 5 ml/100 ml remove lesser bacteria due to an increase in organic matter. Moringa oleifera seeds have shown the ability to act as a disinfectant by reducing the total coliform bacteria in waste water by 93.5% at an extract dosage of 5 ml/100 ml proving that it has anti-microbial properties.

Keywords:

Bacteria, Disinfectant, Coliforms, Moringa Extract

Effectiveness of Using Milled Moringa Oleifera Seeds as a Natural Coagulant in Waste Water Treatment

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Abstract:--

This research was conducted with the aim of investigating the performance of milled moringa oleifera seeds as a natural coagulant in waste water treatment. Operating parameters such as pH, temperature and total suspended solids were tested at different water turbidities. Elemental analysis of raw Moringa Oleifera seeds showed that iron was the predominant element. The percentage turbidity removal for Moringa Oleifera seeds on low, medium and high turbidities were 84.6%, 94.8%, and 72% respectively. Generally, the turbidity removal increased with an increase in Moringa Oleifera dosage. Lower speeds promote the floc formation rate on low turbid water and the results also revealed that the dosage of Moringa Oleifera does not affect the pH of water as the final pH for all the experiments was within the required standard of 6.5-9.5. Moringa oleifera seeds showed a greater potential to be applied as a natural coagulant.

Key words

Bentonite clay, Moringa, Natural coagulant, Waste water

Student Entrepreneurs' Intention to Adopt Social Media as a Business Platform: A Sri Lankan Study

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Abstract:--

Social media is one of the major players in today's social commerce world. Although connecting people around the world to connect and share their interests, it is becoming as a business platform for not only small startup firms but student entrepreneurs too. The purpose of this investigation is to delineate the factors that influence student entrepreneurs' behavioural intention to use social media as their business platform. This study used quantitative approach using questionnaire survey. The duration was four months in the year 2019. Responses from 559 student entrepreneurs were included for analysis. Partial Least Square Structural Equation Modeling using SmartPLS 3 software was deployed to validate the measurement and structural model and test the hypotheses. It was found in this study that Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions, Perceived Enjoyment and Perceived Risk were positively and significantly impacting student entrepreneurs' behavioural intention to use social media as the business platform. This investigation primarily based the well-known UTAUT for the model to study student entrepreneurs' behavioural intention to adopt social media as their business platform. Findings of this study would put up a foundation for those who design and implement programmes promoting the social media as business platform for not only student entrepreneurs but other startups as well.

Keywords

Student Entrepreneurs, Social Media, UTAUT, Perceived Enjoyment, Perceived Risk, Sri Lanka

The Impact of Internal Marketing on Employee Satisfaction and Customer Satisfaction with the Mediating Role of Service Quality: Vietnamese Bank Case

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Nguyen Viet Lam, Faculty of Marketing, National Economics University, Hanoi Vietnam
Nguyen Thu Lan, Faculty of Marketing, National Economics University, Hanoi Vietnam
Nguyen Thai Ha, National Economics University, Hanoi Vietnam

Abstract:--

The service-profit chain model introduced by Heskett et al. (1994) is the background for analyzing the relationship among internal marketing, employee satisfaction, customer satisfaction and service quality in this research. The purpose is to investigate the role of internal marketing towards employee satisfaction, customer satisfaction and service quality in the context of Vietnamese commercial banks. Also, the study will identify the mediating role of service quality in the impact of internal marketing run inside Vietnamese commercial banks on customer satisfaction. The study used the quantitative survey method. The research selected a dyad sample of each pair of employees - customer using banking services from 10 out of 38 Vietnamese commercial banks in Hanoi. Findings show that internal marketing influences directly and positively both employee satisfaction and service quality. The main findings indicated service quality mediates both two relationships: (1) internal marketing and customer satisfaction and (2) employee satisfaction and customer satisfaction. As the result, the managerial implication for Vietnamese commercial banks is to invest effectively in internal marketing activities which will be designed toward the better service quality for their target customers.

Key words:

Internal Marketing, Employee Satisfaction, Customer Satisfaction, Service Quality, Vietnamese Banks

Assessment of Stakeholders' Gender and Development Awareness of Isabela State University, Ilagan Campus

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Lalaine M Nerona, Co-study Leader, Faculty of Isabela State University, Philippines
Jolo B Galabay, Co-study Leader, Faculty of Isabela State University, Philippines

Abstract:--

This Study assessed the Gender and Development (GAD) awareness of the stakeholders of Isabela State University Ilagan Campus. The descriptive method was employed. A questionnaire was administered to the respondents. The data gathered were analyzed through frequency counts, mean and standard deviation, t-test, and one-way analysis of variance. There were more female than male respondents and most of them were adolescents. They are aware of gender roles, but have moderate awareness on gender issues, national laws and programs of GAD. The sexual category of the respondents does not show a significant effect on their level of awareness on national GAD mandates and laws; government agencies integrating GAD; gender issues; reproductive roles; and community managing roles. However, the male respondents were more aware of productive roles than female respondents. There is a significant difference on the level of awareness of the respondents on Gender and Development when grouped by age. The community-respondents registered a lower level of awareness on GAD approach when compared to other stakeholder-respondents. .

The feedback indicates that the level of awareness of the stakeholders of the University could still be enhanced. Faculty, employees, and students are great implementers and influencers of GAD approach in the community.

Waste Analysis and Characterization, Knowledge and Practices of Students at ISUC: Basis for Solid Waste Management Planning

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Daniel C. Jacinto, Dean, Institute of Business Management, Isabela State University (ISU), Cabagan, Isabela, Philippines

Abstract:--

The prevalent waste problem in the Campus has come up with a study on students' knowledge and practices on Solid Waste Management (SWS) simultaneously with Waste Analysis and Characterization (WACS) and photo-documentation of the SWM. The survey employed cross-sectional design and descriptive-correlational method. A WACS protocol by the Department of Environment and Natural Resources-Environmental Management Bureau (ENR-EMB) with slight modification was adopted. Results revealed that student-respondents have moderate to high level of knowledge on SWM (weighted mean=2.89-4.44). Generally, students are strongly responsible in their practices but are also responsible in burning uncollected wastes (mean=2.20) and illegal dumping (mean=1.70). No significant difference was found on students' extent of practices from various colleges (p-value=0.101123). Further, Spearman's rho results revealed weak correlation (coefficient=0.209) between students' level of knowledge and extent of SWM practices. WACS results show that majority (77.03%) of generated wastes is biodegradable, residual=12.31%, recyclable=10.49%, and special=0.17%. Residential generates the highest (14.38kg/day). Per capita waste generation is 0.012kg. Unfortunately, all generated wastes are being disposed. Moreover, waste diversion strategy is burning while saleable scraps are sold. Projected waste generation is expected to increase in the next 10 years (2019-2028, mean=60.153kg/yr). Photo-documented Campus initiatives include: Segregation and Reduction; Collection; Processing; Recycling; and Marketing of Saleable/Recyclables. Results reveal the necessity of adoption for the development of short-to-long term Campus ESWM Plan and WACS Methodological Guidelines.

Keywords:

Waste Analysis and Characterization Study (WACS), Knowledge, Practices, Solid Waste Management (SWM), Ecological Solid Waste Management (ESWM) Plan

Productivity of Sugarcane High Yielding Varieties Planted At Different Furrow Spacing

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Roel V. Puyot, Agriculturist I, Sugar Regulatory Administration

Abstract:--

The study was conducted to evaluate the productivity of new high yielding varieties planted at different furrow spacing under Isabela condition. It was conducted at the Central Experiment Station of the Isabela State University at Cabagan Campus from August 2017 to December 2018. A total of 3,060 sq. m. area was used in the study. The experiment was laid-out following the Randomized Complete Block Design (RCBD) in two factorial experiment with the following treatments replicated three times: Three varieties namely V1 - VMC 84-524 (Control); V2 - Phil 99-1793; V3 - Phil 2000-2569; and four furrow spacing such as B1 - 1.20 meter (Control); B2 - 1.40 meter; B3 - 1.60 meter and B4 - 0.50 m x 1.20 m. Result of the study revealed that Phil 2000-2569 (V3) planted at 0.50 x 1.20 m significantly produced the highest cane yield while VMC 84-524 (V1) and Phil 2000-2569 (V3) gained highest income when planted at 1.60 m.

Keywords:

Sugarcane productivity, sugarcane HYV, furrow spacing, dual row spacing

Artificial Neural Network (ANN) with Back-Propagation Algorithm Forecasting Model and Spatiotemporal Data Visualization for Forestland Rehabilitation

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Dr. Gilbert M. Tumibay, Program Chair, DIT Program, Graduate School, Angeles University Foundation Angeles City, Philippines

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Abstract:--

For several years, United Nations have been concerned with Global Forests Issues. One of its Sustainable Development Goals focuses on Life on Land emphasizes the importance of forests to people which leads to a vision of increasing the forestland area by 2030. The Philippines, in response to this through the National Greening Program under the Department of Environment and Natural Resources is targeting to rehabilitate 7.1 million hectares of identified unproductive, denuded and degraded forestlands and needs to plant 1.5 billion seedlings. This study aims to develop a forecasting model for rehabilitated forestland using a forecasting model algorithm. The model will be able to identify among which of the factors or predictors contributed greatly or significantly to the changes occurred in the forestland. Result are then presented using Spatiotemporal Visualization, which illustrate the changes happened in the forestland in a yearly basis using historical data and will show the forecasted value for the succeeding years, which may be used as a guide by the NGP for rehabilitation and reforestation strategic planning and resource management.

Tracer Study of Master in Information Technology Graduates of Isabela State University, Philippines using eGTS Platform

Mary Jane Santiago Bitanga, Associate Professor V , Isabela State University, Philippines

Abstract:--

The study focuses on the employment status of graduates in the Master in Information Technology (MIT). Descriptive type of research method was utilized in the study. The data gathered are extracted from the online tracer survey questionnaire of the electronic-Graduate Tracer Survey (eGTS). The survey instrument used in the study was provided by the Research and Development Office of the university. It is essentially a locally developed and validated instrument designed for tracer studies by the Commission on Higher Education. Differences on the responses of the graduates were also identified in the different factors affecting MIT graduates' employability in terms of personal factors, academic factors, employment factors, unemployment factors and school related factors. It was also described the employment status of graduates considering the length of waiting period, starting pay, nature of job taken, and relevance of the job to training, mobility and job satisfaction. Results revealed that more than half of the presently employed MIT graduates are in education. Most of the respondents waited for one to six months before being employed in their first job. Salaries and benefits, career challenge and related to special skill are the top three reasons of the MIT graduates for staying in the present job.

Learning Style and Preferences of Students in Skills-Based Course

Marie Ann Gladys G. Delos Angeles, Associate Professor, College of Industrial Technology, Cagayan State University, Philippines

Abstract:--

When teachers teach students with consideration of their preferred learning styles and recognize their unique qualities, then teachers are making a commitment to providing tools and opportunities needed for students to achieve success. The study was conducted to determine the preferred learning style of students enrolled in the skills-based courses of a state university in Cagayan Valley, Philippines. Differences in the preferred learning style across sex, courses, curriculum year, and GWA of the 480 students enrolled in four (4) undergraduate technology-based courses were described through the use of Computerized Assessment Program- Styles of Learning (CAPSOL). Results showed the learning style preferred include individual, written expression, sequential, and bodily-kinesthetic. When grouped according to sex, course, curriculum year and GWA, females are bodily-kinesthetic and individual learners, while, males show preference to visual-auditory and group learning. Among the four courses, students taking Accounting Technology are visual learners while those from the other courses were bodily-kinesthetic. Students in their sophomore year show preference to being sequential learners. In terms of GWA, those with lower tend to learn new materials with a group and those with higher prefer to study alone. Since differences in preferred learning styles courses were, there is a need to expose students to varied learning tasks where they are best engaged and offer instructional materials responsive to their needs and learning styles.

Keywords:

CAPSOL, Learning Style, Learning Preference, Technology-based Courses

Drinking Water Mapping with Decision Support System

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Abstract:--

Water quality and assessments, being the primordial health need of a person have attracted many researchers across the globe. This study focused on mapping of drinking water thru GIS, and its assessment as a primary input to yield an inhibiting factor to evidence-based decision making. The study will be utilizing the software development method and descriptive research design wherein data collection, data analysis and system development using Design Science Research (DSR) model and integrate GIS tools. Concerned LGU personnels and members of the community households whether owner or recipient of sources of drinking water will be surveyed and interviewed to elicit problems and issues. The assessment of the proposed system to its extent of compliance to ISO 25010:2011 software quality characteristics will be obtained thru a validated 5-point Likert survey questionnaire among 10 IT experts, Sanitary Inspector and staff. Drinking water maps obtained from GIS-based results will be beneficial providing meaningful and reliable information to governing bodies to unveil facts on the status of sources of drinking water as well as to address the necessity of effectively monitoring, managing, and operation in sustaining the quality of water. It will further be adopted by decision-makers to implement strategies and will serve as a decision-support tool akin to health risks for reconsidering the surveillance and possible conservation and management of drinking water resource in Aparri, Cagayan, Philippines towards sustainability.

Browsing Towards Happiness: Determinants of Happiness of Young Millenial Students

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Abstract:--

Sources of happiness of young millennial students in Northern Philippines was examined using sample of female college students. Descriptive survey design was utilized with Myerrs-Briggs Type Indicator, a standardized personality test, structured questionnaire and document analysis as data gathering tools. Results showed that majority of the millennial's concept of happiness is equivalent to Abraham Maslow's third stage of hierarchy of needs, "belongingness and love needs." Chi-square analysis revealed that some family profile variables are correlated with happiness. Further, top five sources of young millennial women's happiness include engagement in social media activities, possession of electronic gadgets, chatting with friends, and listening to music.

Keywords:

Happiness, well-being, millennial, Northern Philippines, students

Designing Damn Vulnerable Operating System (DVOS) for Cyber Security Teaching & Learning

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Abstract:--

Educators teaching computer system security students are often faced with finding a suitable environment to test their student's skills and knowledge without breaching any law or misconduct security ethics. Students normally have no problem in understanding the theory part of a syllabus but when it comes to practical part, as there is no single environment that can be used for all type of attacks. Security students had to setup a multiple environment for all these different types of attacks, which can become troublesome as some environment is not easy to setup. In this study, we have designed a machine, Damn Vulnerable Operating System (DVOS), that focus on preparing a defensive cyber security testing environment. The DVOS is an environment that are intentionally vulnerable and can handle multiple type of common security attacks that covers from web application attack, network attack and open service port attack. Other than that, DVOS is also developed in the form of an ISO image file that can be bootable from a USB drive. By using DVOS, computer system security students can now own a defensive testing environment to apply what they have learn in class.

Relevance of Blank's Customer Development Model in Selected Cases of Market-Oriented R&D Commercialization in Malaysia

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Indok Nurul Hasyimah Mohd Amin, Universiti Kuala Lumpur Malaysian Institute of Chemical and Bio-Engineering Technology, Malaysia

Abstract:--

Steve Blank's Customer Development Model (CDM) was used to assess several acknowledged cases of successful R&D commercialization in Malaysia. Some aspects of Phase 1 (Customer Discovery) of CDM where hypotheses were developed, tested and verified in the field with prospective customers and the feedback was then used to qualify the business model, were adopted by the cases. Successful cases also implemented key features of Phase 2 (Customer Validation) by developing value propositions that were qualified by early customers and these were then used to drive sales. Product and company positioning were also developed and effectively communicated to target audience at this phase. None of the cases qualified the market type for their products or technologies by means of market-type questionnaire as recommended for Phase 3 (Customer Creation) of CDM. However, all the cases did implement some other aspects of Phase 3, i.e. (1) developing marketing & sales communication strategies to support company & product positioning during launch of company & product; and (2) demand creation strategies. Two of the cases have reached Phase 4 (Company Building) by going after mainstream customers and having functional departments to manage sales growth. The iterative nature of the processes for all four phases of CDM was found to be applicable in all the cases.

Index Terms

Case Study, Customer Development Model, Malaysia, R&D Commercialization.

Market-Oriented R&D Commercialization at Research Universities in Malaysia – Insights from Selected Cases

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Amran Md. Rasli, Universiti Teknologi Malaysia, Malaysia
Aniza Othman, Universiti Teknologi Malaysia, Malaysia

Abstract:--

Market-Oriented R&D Commercialization Framework (MO-R&D-CF) was used to assess four cases of successful R&D commercialization at three Research Universities in Malaysia. All four exhibited the ability to identify and qualify existing or latent needs of their prospective customers by means of developing and testing specific product or system prototypes in iterative manner with prospective customers: (1) in the case of the non-steroid eczema cream (Remdii), the prototype product was made available to members of Malaysia Eczema Support Community and the feedback from users was used for further clinical trials to validate the product; (2) in the case of customized prosthetics and orthotics services (BioApps), a full laboratory facility to measure movements, walking profiles, foot pressures, etc. was used to develop customized prototypes that were tested by ready patients at the university hospital; (3) in the case of the fitness, wellness and healthy living solutions provider (UMCH Technology), need qualification was done by means of a pilot project using the prototype system with one of the industry players; and (4) in the case of Primera Red Rice, it was developed to ride on the trend for healthy lifestyle, specifically in addressing the issue of obesity and diabetics among consumers in Malaysia. All four cases clearly indicated the iterative nature of the various stages of MO-R&D-CF as well as the need to work closely with prospective customers and relevant stakeholders before commercial scaling up.

Index Terms:--

Case Study, Malaysia, R&D Commercialization, University Spin-Off.

Licensing Approach to R&D Commercialization among Government Research Institutes in Malaysia – Lessons from Selected Cases

Baharudin Kadir, Universiti Kuala Lumpur Business School, Malaysia
Mohd. Farid Shamsudin, Universiti Kuala Lumpur Business School, Malaysia

Abstract:--

The three selected Government Research Institutes (GRI) in Malaysia, namely Malaysian Palm Oil Board (MPOB), Forest Research Institute Malaysia (FRIM) and Malaysian Agricultural Research and Development Institute (MARDI) being research agencies under specific ministries of the government, are constrained by statutory restrictions in their options for R&D commercialization path – technology licensing is currently the preferred option. In the case of MPOB, technology licensing for the production of palm-based trans-free liquid santan was taken up by two industry players. The market need was well qualified and the commercial production technology was appropriately developed; the major commercialization challenges were in the forms of the need to increase brand and product benefits awareness so it could be accepted by mainstream consumers as alternative to coconut milk. In the case of FRIM's High Temperature Drying (HTD) system, it was developed to address rubber wood furniture industry's need for chemical-free technology and shorter processing time. The commercialization challenge is to convince industry players of the benefits from adopting HTD technology. In the case of MARDI, Clearfield Production System for rice was developed in collaboration with BASF to address the problem of weedy rice. User acceptance (i.e. rice farmers) has been encouraging since substantial financial benefits can be realized. All three cases exemplified clear industry-driven market needs that led to successful R&D commercialization via technology licensing.

Keywords:

Case Study, Government Research Institutes, Malaysia, R&D Commercialization.

Singkonet: Vending Machine for Internet Library Services

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Abstract:--

Service automation is the process of integrating all domain and functionality tools into various automation layers in order to have unified interface for all workflows. It is then the primary aim of this study to develop a system automating the Internet Library services of San Mateo campus using the Agile Development Process that undergone to different phases; the Design, Build, Configure, Test and Release. Through this process, the development follows a continuous improvement of system life cycle which achieved the value faster as releases arrived at the customer. Through this, a "SingkoNet" was developed to automate the internet services of the library. As a result, "SingkoNet" generates transaction, monthly, quarterly and annual reports faster. It also provides accurate reports and even retrieve information for those students who failed to sign in the logbook, failed to pay the corresponding fee and most of all, it makes the work of the librarian easier, faster and economical because hiring a staff to man the Internet section will be minimized.

Index terms -

Automated Internet Management, Automated Library System, Automation, Internet Automation, Library Automation, SingkoNet, Vending Machine, Vendo

Effectiveness of Android-Based Games in Teaching Logic to Filipino Learners

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Kelvin Kris C. Gonzales, Isabela State University-San Mateo Campus, San Andres, San Mateo, Isabela Philipines

Abstract:--

An android-based game is a potential tool in the teaching learning process due to the radical change of learners of the 21st century. This study is an added literature to the development and validation of android-based games [ABG] as a learning tool for Filipino learners. The R&D methodology which included the validation of the quiz scores using android-based games was used. Descriptive statistics was employed particularly mean and standard deviation in order to analyze the data with regards to validity of the ABG and the students' feedback. The t-test for correlated samples was also utilized to determine the significant difference between the pre-test and post test scores. It was found out that the android-based games are valid in terms of education and playability attribute and therefore, are good instructional materials in learning logic. Likewise, android-based games are innovative tool in learning Logic that affects the students' achievement. Moreover, a positive feedback towards ABG was also drawn from the respondents.

Keywords:

Android-based games, game-based learning, motivation instructional material, achievement

Nature and Level of Support to the Community Based Fisheries Activities in the Coastal Towns

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Abstract:--

This study generally aimed at determining the nature of support institutions to community-based fishery activities, specifically, the profile of respondents, actual support to fisherfolks along Technical services, supply services for fisheries productivity, and supply infrastracture facilities; encountered fisherfolks problems and proposed intervention program.

Respondents utilized in the study were chairpersons and members of the different accredited fisherfolks association in Northern Cagayan. Structured questionnaires, and interview guide were employed to gather data. More so, total enumeration was employed. To obtain data on the problems encountered, focused group discussion was used.

Result revealed that most of the respondents engaged in fish cage operation, marine fishing, grow-out tilapia, aquasilvi and oyster culture are males, married, high school graduate with capitalization of 41,000-50,000. Municipal C had the highest distribution of fisherfolks association members. The respondents were found to be financially assisted however as regards Supply support along fingerlings, equipment and facilities, ttilapia and bangus are the fingerlings distributed in the different municipalities but are supported as to equipments and facilities. Further, the most pressing problem encountered by the respondents is on project management and prompt replacement of damaged items.

Finally, to strengthen the support mechanism of the government on the fisher folk community, the program of inclusive planning as intervention was raised.

Keywords:

Fisherfolks, association, stakeholders, assistance

Malware Predictor using Machine Learning Techniques

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Luisito L. Lacatan, Dean – College of Engineering, AMA UNIVERSITY, Quezon City Philippines

Abstract:--

Malware is always been a threat to the computer world but with fast growth in the use of the internet, the effects of the malware become severe and cannot be ignored. Malware predictors and detectors are the key tools in defense against malware. The existing malware detectors and predictors have been created, the effectiveness of these detectors and predictors depend upon the techniques being used. This study is specifically, addressed the following objectives: (1) propose a model to predict malware behavior using machine activity data; (2) apply random forest algorithm in predicting malicious behavior. In this study, applied research will utilize; it is the step in the research lifecycle in which we understand how well we used our knowledge to bring out a solution to solve a pressing problem and generate predictable outcomes. In the proposed work of this research, an effective machine learning model using the random forest is developed and implemented with the base of malware datasets. The proposed machine learning model based multilayered techniques is used for training and predictive analytics of malware on multiple parameters including error factor, accuracy rate, and overall performance. The result of the model base on the evaluation measures provide a high accuracy rate and lesser mean absolute error value. The random forest also has very few parameters, and these can be optimized using generalization theory without the need to separate validation set during training.

Keywords:

Malware Detection, Prediction, Random Forest, Machine learning

Integrating Artificial Neural Network and Smartbot on the Development of an E-learning Platform

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Mary Ann F. Quioc, AMA University
Luisito L. Lacatan, AMA University

Abstract:--

An e-learning is overtaking conventional classroom teaching methods. It is a teaching-learning approach that entails to maximize learning opportunities of learners through the integration of current technology in the classroom and to practice the principle of Learning Management System (LMS). Through this approach, knowledge could propagate possibly and absorbed irrespective of the teaching personnel and learners. This study is specifically addressed the following objectives: (1) utilize an e-learning platform with the integration of Artificial Neural Network focused on the predictive readiness of Science, Technology, Engineering and Mathematics (STEM) learners for Work Immersion; (2)To evaluate the developed learning platform (SMARTBOT) using ISO 25010 in terms of functional suitability, performance efficiency, usability, security, reliability and portability. In this study, applied and developmental research will utilize; it is a type of research design that deals on the formulation or development of such research output. The study came out with the following salient findings: 1) the ANN which is highly optimized system has a data accuracy of 92.80% based on WEKA results; and 2) the developed android application meets the software quality standards in terms of functional suitability, performance efficiency, usability, security, reliability, and portability.

Keywords:

Artificial Neural Network, e-learning, SMARTBOT, Learning Management System (LMS)

Harnessing the Power of Digital Transformation, Artificial Intelligence and Big Data Analytics with Parallel Computing

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Jamal Ahmad Dargham, Associate Professor, Computer Engineering Program, Faculty of Engineering, University Malaysia Sabah, Malaysia.

Abstract:--

Traditionally, 2D and especially 3D forward modeling and inversion of large geophysical datasets are performed on supercomputing clusters. This was due to the fact computing time taken by using PC was too time consuming. With the introduction of parallel computing, attempts have been made to perform computationally intensive tasks on PC or clusters of personal computers where the computing power was based on Central Processing Unit (CPU). It is further enhanced with Graphical Processing Unit (GPU) as the GPU has become affordable with the launch of GPU based computing devices. Therefore this paper presents a didactic concept in learning and applying parallel computing with the use of GPGPU was carried out and perform preliminary testing in migrating existing sequential codes for solving initially 2D forward modeling of geophysical dataset.

There are many challenges in performing these tasks mainly due to lack of some necessary development software tools, but the preliminary findings are promising.

Transformational Rector Leadership in Building Achievement Motivation and Lecturer Performance

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Abstract:--

The research is focused on applied model of transformational leadership. The objective of this research was to determine the level of influence of transformational leadership with achievement motivation on lecturer performance. This research was a quantitative analysis regarding influence of transformational leadership and achievement motivation on lecturer performance. The subjects were lecturers in Mercu Buana University (N=78). The result of the research showed that transformational leadership and achievement motivation had very significant and positive effects to the lecturer performance. Based on the determination coefficient, R2 is 0.857 which is the percentage of contribution of transformational leadership and achievement motivation to lecturer performance. Therefore, the programmes and strategic plans of Mercu Buana University in the future must also address issues of higher education, i.e. global (competitiveness & professionalism, international standardization, and networking/linkage), national (system & management, quality & relevance, access and equity), and internal university (intake, fail rate, inefficiency, productivity & quality).

Keywords :

Transformational leadership, motivation and lecturer performance

Water Tank Monitoring System Using IoT Technology

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Abstract:--

This research paper describes the water level monitoring system using LoRa technology. An IOT sensor detects the condition and triggers an alert to notify users as the water goes to low level. The prototype is using Arduino, LoRa shield and water sensor as main components. Once the sensor is triggered, the signal communication occurs between transmitter and receiver module via LoRa wireless technology. Data is then displayed using the serial monitor. The distance covered by the LoRa signal is also tested. The prototype works well within 500 meters' distance range under given circumstances. The system is valuable in measuring and monitoring the water inside a tank with minimal physical work.

Keywords :

Transformational leadership, motivation and lecturer performance

The Digital Transformation Obstacles in Implementing Emerging Technologies within Higher-Education Institutions in Indonesia

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Basuki Wibawa, Faculty of Educational Technology, Universitas Negeri Jakarta - Indonesia

Abstract:--

This study focuses on finding the obstacles of the implementation of emerging technologies in higher-education ecosystem. The barriers to adopt new technologies are the parts of transformation process of the university which is willing to change to the future environment – which is triggered by the industrial revolution 4.0. The research was conducted in two stages. The first qualitative research had an objective to define the types of emerging technologies that were suitable to Indonesia's university context. Another objective was to investigate the potential obstacles that might be faced by the university along the way. The second quantitative research was using survey approach to get more deep analysis on the obstacles. Firstly, it started by mapping how many percent of respondents who had implemented each defined emerging technology (adoption rate). Secondly, it followed by investigating the obstacles of every emerging technology stated – that could be seen from different perspectives. And thirdly, it measured the level of literacy of respondent's understanding on the concept of university 4.0 – a new future mode higher-education institution which inherits the characteristics of industrial revolution 4.0.

Keywords :

Emerging Technologies, Higher-Education, Obstacles

Status of the Pinacanauan de San Pablo River, Isabela, Philippines for Water Resources Management

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Abstract:--

The Lower Pinacanauan de San Pablo River possesses a good water quality as far as physical and chemical characteristics are concerned. Analyzed physical and chemical characteristics did not surpass the level set under Department of Environment and Natural Resources -Department Administrative Order 2016, series No. 8 (DENR-DAO 2016-08) on water quality criteria for inland freshwaters. Hence, there are observed aquatic fauna that inhabits the river. Unfortunately, very high fecal coliform counts were analyzed which greatly affected the water quality status as observed in its water quality indices. Fecal coliforms may have originated from untreated sewage, from swine, poultry, or livestock production, and from human feces. These fecal coliform posts health risks to human which should be given emphasis for priority action. The overall result of the status of the river implies that it is not advisable for bathing due to the tendency of drinking the water. Therefore, the result of the study should be discussed with the LGU and DENR Region 2 for appropriate activities that will help solve the problems on river pollution.

Keywords :

River, Water Quality, River, Microbial

Organoleptic Evaluation and Consumer's Acceptability of Zea Mays Hair as Herbal Tea

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Aldwin M. Martin, Research Assistant, Isabela State University- City Of Ilagan Campus
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Abstract:--

Herbals are one of the alternative medicine used for health and medical purposes. Corn silk is one of the wastes material from corn cultivation and available in abundance. This study focused on the development and acceptability of corn hair extract as herbal tea. Specifically, it aims to evaluate the aroma, appearance and taste. It made use of descriptive method of research using the hedonic scale in determination of the evaluators rating. Result of the study shows that on the level of acceptability Zea Mays Hair as herbal tea the overall assessment of the three group respondents in terms of appearance, aroma and taste was moderately acceptable supported by the obtained grand mean of 3.92 without flavour, 4.17 with calamansi, 4.41 with honey.

Keywords :

Zea mays ,Beneficial, Human Health

Analysis of Secondary Metabolites and Antimicrobial Activity of Corn Hair (STIGMA MAYS) Tea

Ma. Cristina Lalaine M. Nerona, Associate Professor V, Isabela State University City of Ilagan Campus

Abstract:--

Corn Hair (Stigma mays) is considered as a waste product in the agricultural industry. But there are reports of its medicinal ptoperties.This study investigate the chemical components present in Stigma mays,its antimicrobial characteristics and therapeutic potential as herbal tea. The extracts were subjected to standard procedure to test the presence of metabolites. The result of the studypositivelyshowed abundant (+++) of alkaloids, flavonoids and triterpenes. The formation of muddy brown color, and a wooly brownish precipitate indicates the presence of this compound to both aqueous samples of fresh and dried corn silk hair.Saponins, tannins, glycosideshoweverturned out to be moderate (++). Stigma mays hair extract possessa very strong antimicrobial activity against Escherichia coli, Saccharomycescerevisaeand Pseudemonasaeruginosa with complete inhibitory activity. However, the aqueous extract showed negative inhibition activity against Aspergillusniger. The findings indicates that Stigma mayscontain various metabolites. Thismanifest potential application in health care and can be utilize as herbal tea.

Keywords :

Herbal,civilization,synthetic drugs;traditional plants

A Research Study by Delphi Technique in School Counselling

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Abstract:--

This conceptual paper examines the Delphi technique a researcher can apply towards school counselling and how the technique is carried out by various steps to achieve the aim and objective of a study. The application of Delphi technique is developed as a forecasting tool that predicts the future scenarios and it has been widely used in many disciplines. As for this paper, it was applied by a Modified Delphi approach where five main factors was identified based on preselected and screened by the researcher based on synthesized review of literatures. This study can be further developed by the steps of choosing experts or panel, data collection method, conducting interviews, method to set the questionnaire and focus group or further integrating with other research methods such as Structural Equation modelling (SEM), Interpretive Structural Modeling (ISM) and many more. Finally to conclude this paper, recommendations have been provided on how to start a research study by using Delphi Technique.

Keywords :

Delphi Technique, School counselling, School Leadership, School Funding, Stakeholders, Stigmatization, Training and Development.

JEL classification: M1,M13, H51,A20

Estimating Earthquake Risks: A Case of Rapid Earthquake Damage Assessment System (REDAS) Application in the Province of Isabela, Philippines

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Abstract:--

Disaster management remains a major challenge to achieve a disaster-resilient & safer community. Natural hazards abound: typhoon, flood, landslide, earthquake, tsunami, volcanic eruption, drought, etc. exacerbated by changing climate. Moreover, poverty, a vulnerability condition, fast growing population, increasing population densities, urbanization, environmental degradation and pollution increases disaster risks has add up to complexities of disaster management.

This study aimed to assess earthquake risk using the Rapid Earthquake Damage Assessment System (REDAS) for three pilot barangays in Ilagan City, Isabela namely: Calamagui I, Calamagui II and Alibagu. The latter is the seat of provincial government while barangay calamagui 1st and calamagui 2nd, as commercial barangays with critical facilities such as hospitals and schools,.

Result of simulation study showed that at intensity 7.8 earthquake, Calamagui 2nd would have the highest total damaged floor area and consequently the highest in replacement cost covering 13,180 sq.m areas and Php 64 million damage cost, respectively. This is attributed to structural types of CWS dominant in this barangay. At barangay Alibagu on the other hand, the total damaged floor area is 9,789 sq.m. and with replacement cost of Php 53.4 million. Alibagu is the widest barangay among the three but registered lower risk than Calamagui due to the dominant structural type of S2 which is stronger than CWS. Calamagui 1st being the smallest barangay among the three recorded only 3,292 sq.m. damaged floor area and Php 16.3 million replacement cost. Government offices and commercial buildings will be the most damaged establishments in Alibagu, Calamagui 1st will have major damages on residential areas while Calamagui 2nd would affect mostly schools, hospitals and some residential.

This study showed the capability of the Rapid Earthquake Damage Assessment System (REDAS) program to give rapid estimate of the possible seismic hazards and the severity of the impacts to population, buildings, lifelines, road networks and other elements-at- risks.

Review Paper on Public Service Announcement (PSA) Videos of Child Marriage Awareness

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Abstract:--

Child marriage is the marriage of a child underneath the age of 18 in any case the gender. Based on United Nations International Children's Emergency Fund (UNICEF) information, South Asia is at the top of the ranking of child marriage within the world (UNICEF, 2013). Child marriage violates the children fundamental rights such as health, education and safety. Children who are involve are at high danger of violence, exploitation and abuse. Due to this issue, it is importance to enhance the awareness of child marriage. To enhance the awareness issues, researchers use Public Service Announcement (PSA) as a medium in raise awareness. However, the issue of child marriage did not use this kind of medium to handle the issue in Malaysia. Therefore, in this paper a review on the ideas of enhancing the awareness among people especially Malaysian regarding this issues. PSA is a video created to raise awareness of child marriage is investigated as a medium frequently have a capable message that sticks with the watcher.

Index Terms:--

Child marriage, public service announcement, video

Framework on Public and Private Partnership for Smart Cities Growth in Malaysia

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Ibtessam Boubekeur, Universiti Kuala Lumpur Business School, Kuala Lumpur, Malaysia

Abstract:--

To enable the growth of smart cities in Malaysia, it is important to understand the work flow and interaction between the different departments and teams within the government's institutions .Part of the issue is identified as Collaboration. Private sectors comprehend both large corporation and SME's, therefore it is important to understand both systems and define an appropriate approach for each of them accordingly. Few articles and internet sources were reviewed by the researchers on the public and private partnership from different countries. The proposed framework derived from reviews of past literature via online searches for the duration of six months. The stakeholders comprise of universities, government institutions and private companies (public, and private sectors). It is critical for Smart Cities growth to incorporate healthy relationship between the public and private partnership that includes incorporating all stakeholders. The result indicated that the public and private partnership includes government with the stakeholders. It is critical for Smart Cities growth to incorporate healthy relationship between the public and private partnership. The proposed framework will be tested to come out with a finalize blueprint for Public and Private Partnership engagement with the stakeholders towards the growth of Malaysia smart cities.

Comparison on Smart Cities Features from Different Countries

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Abstract:--

The world is facing a global phenomenon of rapid urbanization all over the cities, thus developing smart cities worldwide is considered as a must for countries to ensure a good quality of life for its citizen. Smart cities model is elaborated on a main six pillars of smart people, smart economy, smart mobility, smart environment, smart living and smart government; as a result, adopting smart city concept become a trend among modern cities. However, a huge number of cities are still behind for the smart cities race. Hence, the comparison between smart cities is quite hard since each city has its own characteristics but in order to find similarities or differences, comparing the six pillars outputs as well as evaluating the business impact of these smart cities could help in understanding the issue of having cities being late to drive their own smart cities to a highly top indexed smart cities in a global scale.

The Relationship of Emotional Quotients of UniKL TEKNOPUTRA Alumni entrepreneur on Business Performance

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Haniza Ahmad, Universiti Kuala Lumpur Business School, Kuala Lumpur, Malaysia
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Abstract:--

The world is facing a global phenomenon of rapid urbanization all over the cities, thus developing smart cities worldwide is considered as a must for countries to ensure a good quality of life for its citizen. Smart cities model is elaborated on a main six pillars of smart people, smart economy, smart mobility, smart environment, smart living and smart government; as a result, adopting smart city concept become a trend among modern cities. However, a huge number of cities are still behind for the smart cities race. Hence, the comparison between smart cities is quite hard since each city has its own characteristics but in order to find similarities or differences, comparing the six pillars outputs as well as evaluating the business impact of these smart cities could help in understanding the issue of having cities being late to drive their own smart cities to a highly top indexed smart cities in a global scale.

A Review on the Importance/Roles of Business Intelligence in Telecommunication Industry

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Abstract:--

Business Intelligence (BI) is data- driven decision making. BI integrates data gathering, information stockpiling, and knowledge management with systematic and analytical tools in order to present complex and complete information to the organization's stakeholders and decision makers. Telecommunications companies worldwide are exploring BI solutions to survive and maintain their competitiveness. This paper is a review of journal articles on business intelligence in relation to telecommunication industry all over the world. The types of BI (tactical, strategic and operational), BI application in different industries such as Telecommunication, Manufacturing and financial, the roles of business intelligence in the telecommunication industry in terms of decision making, customer relationship management, data mining, financial fraud detection, and prevention were discussed. The highlights of the importance of business intelligence in the industry forwarded at the end of the paper.

Electrosynthesis of Zirconia Nanoparticles Catalyst with Enhanced Photodegradation of Methyl Orange

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Abstract:--

A facile one–pot electrosynthesis method of zirconia (EGZrO2) nanoparticles catalyst was studied. The catalysts were characterized using Fourier transform infrared (FTIR), X-ray diffraction (XRD), transmission electron microscopy (TEM), Brunauer-Emmett-Teller (BET), and ultraviolet–visible diffuse reflectance spectroscopy (UV–vis DRS). A 10 mg L–1 methyl orange (MO) was completely degraded (100%) when using 0.4 g L–1 of EGZrO2 catalyst at pH 3 under light irradiation. The degradation followed pseudo first–order kinetic rationalized Langmuir–Hinshelwood model. An excellent activity towards degradation of methyl orange promises the catalyst to be used in textiles industry wastewater treatment and also other applications.

Keywords:

Electrosynthesis, zirconia, methyl orange, photocatalytic, Langmuir-Hinshelwood model

Factors that Influence the Effectiveness of Online Advertising in Enhancing Consumers' Purchase Intention among Young Adults in Malaysia

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Serena Lim Kai Xin, Student Department of Marketing, Sunway University
Arman Ahmad, Lecturer, UNIKL

Abstract:--

The advertising industry is seeing growth for online advertising, where it has now exceeded the performance of TV advertising. However, the advertising industry in Malaysia still relies heavily on traditional forms of advertising. This paper therefore aims to determine the factors that might affect the effectiveness of online advertising in enhancing consumers' purchase intention. As young adults are more exposed to online advertising as compared to other age groups, convenience sampling is applied to approach Millennials around the city areas of Malaysia. A sample size of 300 respondents is selected for this study to ensure that the data accuracy is acceptable. Furthermore, the hierarchy of effects model and the source credibility theory are applied to study the effects of online advertising towards young adults in Malaysia. The results show that there are significant relationships between the advertising appeal (emotional), credibility of endorser, and the exposure rate of online advertisements with consumers' purchase intention. However, it was found that the creativity of online advertisements does not have a relationship with consumers' purchase intention. This study helps local marketers and advertisers to strategize more effective online advertising campaigns that better attract the attention of young adults and influence their purchase intention.

The Impacts of Social Media Advertisement on Millennials' Consumption

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Christine Wong Mei Kee, Student Department of Marketing, Sunway University

Abstract:--

Social media is increasingly being used as a platform to conduct marketing and advertising activities. Organizations spent a lot of money on social media ads to turn prospects into actual consumers. However, some might face the challenge of designing effective social media advertising in order to motivate consumers to purchase the advertised product. Hence, this study aims to examine the factors that might affect the effectiveness of social media advertising in order to enhance Malaysian Millennials' purchase intention. Quantitative research method is adopted to enable larger sample size of Millennials in Malaysia through convenience sampling. Data from a total of 200 respondents were collected to ensure that the results are accurate and minimize the non-response rate. The proposed conceptual model is based on findings of previous studies and the hierarchy of effects model theory. Findings in this study indicated there are 4 factors (advertising appeal, informativeness, perceived relevance and emotional-based evaluation) that have positive influence on Malaysian Millennial's intention to purchase the advertised product. This study will hopefully provide some insights for the advertising industry and marketers in Malaysia to effectively plan and implement their ads over the social media platform.

SERENE: Android Based Biofeedback Anxiety and Panic Attack Assistant

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Abstract:--

The mental health problem, especially among adults between aged 16 years and above in Malaysia, has increased rapidly over the years. The study on this issue has been conducted by the National Health and Morbidity Survey (NHMS 2015) to identify the causal factors on the alarming increase rate from 11 percent in 1996 to 29 percent in 2015.

This study has extended the work of Rubin et al on the usage of the smartphone to get real-time information on the mental health condition. SERENE, a smartphone application was developed to identify people who suffer anxiety and panic attack. SERENE was proposed to detect the mental health possibilities disorder by guiding users to take certain action to reduce the illness condition.

SERENE application customized the existing heart rate sensor devices in a smart watch currently available in the market with newly added components. This study also proposed a new framework that consists of several users included the patient, psychiatric service provider, administrator.

SERENE was tested using data collected from final year students of Universiti Kuala Lumpur Malaysian, Institute of Information Technology (UniKL MIIT) to identify any possibilities errors during the deployment execution.

Faculty Attendance Monitoring System for World Citi Colleges

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Abstract:--

Even in this digital age- where the abundance of technology proliferate, the conventional way of using pen and paper is still the usual method of recording the daily attendance of the teachers despite of the laborious and time-consuming process. It is not only time consuming, but it is also unreliable and unsecure where data recorded in the sheet can be tampered, lost or torn. Due to inaccurate scheduling and monitoring of attendance of the professors and educators using the traditional approach, the researchers aimed to develop a faculty attendance monitoring system that is cost-efficient and user friendly for World Citi Colleges Quezon City. The study used an automatic process which is based on image processing. A web based system with step by step execution of the process helps to achieve the final output. A self-constructed questionnaire was used to compare the efficiency and accuracy of the monitoring of attendance using the existing monitoring process and the automated system Ten (10) participants from the administration and checkers were used as sample. Interview and focus group discussion were also conducted. The project provides an organized and high quality process of information system and better service for the World Citi Colleges.

The Relationship of IQ Among Project Managers with Oil and Gas Project Success

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Kamran Shavarebi, International University of Malaya-Wales, Kuala Lumpur, Malaysia
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Abstract:--

This study focuses on intellectual quotients (IQ) dimensions of oil and gas managers in approving or disapproving certain projects. The questionnaires were distributed to one thousand project managers, however, only three hundred and ten responded to the survey giving 31% response rate. Sixteen items identified to measure the project managers IQ with Cronbach's Alpha of 0.951, as such the elements is related to each other, and can be used to measure the dimension on intellectual quotients. The top three most important elements of IQ include abilities in communicating one's knowledge, reasoning using past experiences or procedures, and comprehending quantitative concepts. There is a positive and significant relationship between IQ of project managers and project success. As shown, there is significant positive relationship between IQ of project managers with the ability to complete the project on time (r =0.398**; p=0.000), within cost allocated (r= 0.526**; p=0.000), and quality of the project delivered (r=0.646**; p=0.000).

Development and Evaluation of Co-CAMP: A Platform for Co-curricular Activities Management for Students

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Alvin R. Malicdem, Don Mariano Marcos Memorial State University,Philippines

Abstract:--

For quite a while, information technology has been extensively implemented and encouraged in education. Various information systems have been developed to collect, integrate, and disseminate information from numerous sources to support planning, policy formulation, monitoring, and management in education. Unfortunately, there has been insufficiency of accessible systems that concentrate on co-curricular activities management. Co-curricular activities have been considered to be very influential on students' interdisciplinary learning. These are components of non-academic curriculum, and do not offer any form of academic credit but in some way, supplement and provide form of complementary instruction and learning for students. Therefore, the development and implementation of a co-curricular activity management system is extremely recommended.

By adopting a co-curricular activites management platform architectural design, and utilizing descriptive and developmental research designs, the researchers were able to developed the platform. Following the phases of DSDM as the software engineering methodology, the researchers were able to deliver a working prototype of the platform. DSDM can adjust to frequently changing system requirements and produce valuable software in short duration with the aid of software development tools readily available in the market. The level of usability of the developed platform was later on assessed through a survey questionnaire administered to selected end-users and IT experts. The usability evaluation results indicated that the developed co-curricular activity management platform is usable, reliable, functional, and efficient in supporting the co-curricular events that educational institutions has to offer. Although the effectiveness of the co-curricular management platform could depend on many aspects, in order to get optimum results, further study on the effects of the platform to the performance of students is needed.

Index Terms:--

co-curricular activity management platforms, student engagement, educational systems, co-curricular activities, usability evaluation, system development

Synthesis of Zirconia Catalyst with Tailored Size and Crystal Phases Via Electrochemical System

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Abstract:--

Electrolysis is an alternative procedure for the synthesizing of new metal catalyst. This procedure can easily control the use of reagent and current density which allows us establishing new morphology and structural rearrangement, tuning and tailoring size of zirconia metal nanoparticle, and also the adjustment of crystal phases of the nature of zirconia metal catalyst. The successful application of an electrochemical synthesis requires a detailed understanding of the phenomena, leading to an appropriate choice of parameters, such as the nature of the electrochemical cell, the use of electrode plate, the mixture and formulation of media solution. Our study reveals that the zirconia metal catalyst that is generated through this method shows an excellent activity towards the photocatalytic reaction especially in the degradation of organic pollutants contamination in wastewater. Therefore, the controllability and the efficiency of this electrochemical system to generate excellent metal catalyst in a shorter time, simple, and less chemical use; thus make this method is the right choice and more preferable.

Keywords:

Electrochemical method, metal catalyst, controllable, morphology, photocatalytic

Smart Parking Reservation System

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Abstract:--

An efficient parking system is one of the features of a smart city. One of the problems faced by drivers around the world is a bad experience to park their vehicle, especially when related to time constraints. A traditional parking reservation system needs human interaction. However, the increases in car usage over the years make it challenging to implement the parking reservation manually. This forces the innovation to develop a system that can automatically identify a specific car for specific parking space through their vehicle registration number. However, the number of online parking reservation system in Malaysia is very minimal and still need to be carefully studied. Numerous studies and project conducted for an online parking reservation system are focused on the reservation process without giving the attention of ways to secure the reserved parking spot. Thus, in this project, a Smart Parking Management System is proposed to give a better experience to the driver in their quest to park their vehicle. The outcome of this project is a mobile application that allows the driver to make a reservation of a specific parking space and provide grant access by using plate number recognition based on the vehicle information that has been registered in the system for a specified duration. The system will improve the overall quality of services given by the organization that provides parking services.

Keywords:

Smart Parking Management System, Parking Reservation, License Plate Recognition

Blockchain-based Agricultural Supply Chain Management System in Malaysia

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Abstract:--

Blockchain is a distributed ledger technology that can record transactions between parties in a secure and permanent way. By sharing Blockchain databases between multiple parties, it essentially removes the need for intermediaries who were previously required to act as trusted third parties to verify record and coordinate transactions. The decentralized approach effectively made the transaction transparent to all nodes in the network. In this paper, a preliminary study on the implementation of smart contract in adoption of Blockchain based system will be discussed focusing on agricultural sector in supply chain system, to prevent fraud, track and to verify that by applying smart contract, the state of an event in the supply chain transaction can be autonomously execute when specific rule is meet. A proposed solution is to integrate the existing Agreement Contract web application with Digital Authentication Passport to track the record of ownership from origin to the last destination.

Keywords:

Blockchain; Supply Chain; Agriculture; Intelligent Information Systems.

Knowledge, Awareness and Attitudes of Pharmacy Students toward Infopreneurship: A Case Study in Unikl RCMP

Ts Dr Farahwahida Mohd, Senior Lecturer, Universiti Kuala Lumpur, Malaysian Institute of Information Technology, Malaysia
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Norsila Shamsuddin, Senior Lecturer, Universiti Selangor, Malaysia
Mohamad Hafiz Rosli, Lecturer, Universiti Selangor, Malaysia
Latifah Abd Latib, Lecturer, Universiti Selangor, Malaysia

Abstract:--

It is common for healthcare consumers worldwide to use self-medication are often called Over the Counter (OTC) drug to treat or prevent illness. Major problems arise related to self-medication such as increased resistance of pathogens and cause serious health hazards such as an adverse reaction and prolonged suffering. As a pharmacy student who represents a better-educated group of society regarding the use of drugs are required to grasp the appropriate knowledge of drug use and have positive attitudes toward healthcare issues. They have the potential to create awareness and understanding among public knowledge regarding medication safety to address this issue. As a future healthcare professional, they may create enterprising information-based businesses through the internet as an infopreneur (information entrepreneur) and disseminate business information through online while influencing the public's attitude and behavior to safe medication practices. In Malaysia, to the best of our knowledge, no attempt has been made to explore the awareness of infopreneur towards health sciences student. Hence, the objective of this study is to determine the level of knowledge, awareness and attitudes among pharmacy students towards infopreneurship. A questionnaire-based survey has been conducted to find the relationship among those variables and the significance in terms of their readiness toward infopreneurship. Hence, the finding shows that there is a positive relationship on the attitude towards the infopreneurship among pharmacy students.

Keywords:

Information Entrepreneur, Entrepreneur, Infopreneur, self-medication

Signal Phase Timing Models: An Approach to Address Traffic Congestion in a Y-Intersection

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Abstract:--

Intersections in the urban transportation network are the critical points that influence the operation and performance of a traffic system. Delay due to traffic causes vehicle wear and tear, increased health risks due to pollution, and loss of productive time. The Magsaysay-Bonifacio Y-intersection causes severe delay to motorists especially during peak hours, thus, an engineering solution is needed. Interviews were conducted to determine the effect of policies to traffic volume. On the other hand, the Highway Capacity Manual (HCM) was used to calculate the cycle time, green time distribution, capacity and level of service of the intersection respectively. Using several signal phase timing models, calculations show a significant reduction delay time resulting to an improvement in the level of service. In connection, a significant reduction of delay time amounting to 316.49 seconds in the morning and 266.18 seconds in the afternoon. Moreover, an optimal coding scheme was recommended in the study to significantly reduce the volume of traffic.

Sustainable Rainwater Harvesting System

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Abstract:--

Climate change and rapid population growth are global threats that have a great impact in the degradation of water quantity and quality. Rainwater harvesting is accustomed in most countries and is simple, effective, and environmental friendly. The rainwater harvesting concept was adapted in Nalseb, Ambassador, Tublay, Benguet. Main water source of the populace is springs, however, when dry season comes, water scarcity was experienced forcing the availment of water delivery services. This study aimed to design a sustainable rainwater harvesting system to surmount the locale's water shortage. Rainwater will be collected through catchment during rainy season and converted for domestic use and irrigation on dry season. Design was mainly based on the Rural Water Supply Design Manual (2012). Digital mapping tools such as QGIS, Google Earth, Google map, GPS essentials were used in the design process. EPANET was used in the analysis of distribution piping system. The designed sustainable rainwater harvesting system is composed of a gravity dam, break tank, storage tanks and distribution pipes. Water treatment was considered for domestic use. Thus, the designed system is recommended to be adapted to sustain the increasing water demand of the sitio.

Seismic Performance of Essential Buildings in Hazardous Areas: The Case of Baguio City

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Abstract:--

Devastating earthquakes cause huge number of casualties, significant loss of limb to a certain population, wide scale damage to properties, and considerable economic losses. However, community preparedness and engineering initiatives can help reduce the impacts of these devastating earthquakes. The Philippines is located within the "Ring of Fire" which makes the country at high vulnerability to earthquakes. One of the devastating earthquakes recorded with a magnitude of 7.0 happened in Baguio city in 1990. As a motivation, the study found areas with vulnerability to earthquakes using seismic risk maps derived using InaSAFE, a plugin of Quantum Geographic Information System (QGIS). With these areas identified, assessment of essential facilities was conducted using a seismic performance tool. Areas in and around the periphery of Baguio Central Business District and its outskirts was found to have the highest risk to a devastating earthquake. Furthermore, the seismic performance score of three essential structures revealed the need for earthquake risk mitigation measures. As a result, earthquake risk mitigation measures for low seismic performance buildings were recommended.

An Evaluation of the Impact of AIS on the Accounting Practices implemented in the ERP Environment

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Low Lock Teng Kevin, Graduate School of Management, Management and Science University, Malaysia.
Samsudeen Thowfeek Ahamed, Hardy Advanced Technological Institute Ampara, Sri Lanka

Abstract:--

The importance of the application of AIS is crucial for any organizations as they face tough competition due to volatile changes in technology. The important issue is whether ERP implementation increases the Accounting Practices (APs), consequently to achieve the goals of firms. Thus, the main purpose of this study was to examine the effect of ERP System Quality (ERPSQ) and Accounting Information Quality (ACIQ) on APs moderated by User Competency (UC) in an ERP environment. The primary data were collected for this study using self-administered structured questionnaire from 217 accounting practitioners of public listed companies in Sri Lanka. Moreover, structural equation modelling techniques (SEM) were used to construct the model and it showed the good model fit with the identified constructs. The study developed the hypothesis based on the conceptual model that there was a significant relationship between ERPSQ and APs and there was a significant relationship between ACIQ and APs. The study revealed that both ERPSQ and ACIQ were significantly influenced on APs in public listed firms in Sri Lanka. Moreover, the ACIQ had mediating effect between ERPSQ and APs. In addition, it was proved that UC provides a moderating effect between AIS and APs. Moreover, The novelty of this paper was the contribution of both theoretically and empirically to the information system success model through AIS in ERP system. Further, it also contributed to ACIQ to APs.

Keyword:

ERPSQ, ACIQ, APs and User Competency.

Analyzing High-volume Video Traffic Transmission in Mmwave Cellular Network (5G) and LTE using Ns3

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Husna Osman, Systems & Networking, MIIT, Universiti Kuala Lumpur, Lumpur, Malaysia
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Shazrul Faiz Bin Mohamad, MIIT, Universiti Kuala Lumpur, Lumpur, Malaysia

Abstract:--

This project is focused on the high-volume video traffic in mmWave cellular network. This work targets to review and analyze how the high-volume video traffic will affect the LTE and 5g network because of the massive use of video streaming in this modern day. Milimeter wave (mmWave) technology is expected to play a core role in 5th generation (5G) because of its potential for multi-gigabit and low latency wireless links. Several simulations are carried out to study the performance of 5G and LTE network and system related to evaluate it. The simulation uses ns3 mmWave module which is a powerful opensource tool available to communication and networking researchers. This study aims to observe ns3 tool and its internal usage for the simulation of the network. Only the results that are achieved using ns3 mmWave module are published in this article. So, the work to be done to verify if the technology for the use cases of the heavy traffic of the current and future video users and producers.

Modern Recommendation System for Big Data Based E-Commerces Platform

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Husna Osman, MIIT, Universiti Kuala Lumpur,Lumpur, Malaysia
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Abstract:--

An Ecommerce website is known as the platform where selling and buying product, services, activities over the internet. Ecommerce system has already ruled the entrepreneur world in current trends. Whenever people want to sell or buy the products, they only need to register and simply do the selection of items and do the transactions over the internet. Most people prefer to purchase the products that they want on online because it is more efficient and reliable to the customers. The recommendation system will identify the products based on the customers' behavior pattern, preference, psychology, current trends and so on . The purpose of the algorithm is to make the ecommerce system work efficiently so that the when the customer is surfing the website, the algorithm will determine the set of products or services for the customer automatically connecting to the database and it will show the similarities of the products that users has been search for. Or, the system thinks that these set of products are better for him. Besides, the recommendation system will run in the background even someone is new to the system while it was being used. Also, a common problem that customers always face is the network page loading delay, network delay, jitter, etc when there are more users are on that site. These problems will be identified by using network monitoring tools and the proposed system will detect it in efficient way. The system admin will be able to see instantly the current usage pattern of the said website.

Evaluation of 5G Based Network Using ns-3

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Abstract:--

Due to the rapid growth of the internet, a new revolution of 5G technology can solved problem of high demand bandwidth and internet usages in Malaysia. It also will give a huge impact in many areas such as healthcare, manufacturing and media as it offers many features that will ease and benefits to others. This paper focused is evaluation of 5G based network using NS-3. This work intends to design 5G cellular network and simulate it using NS-3. However, NS-3 does not have 5G module so it is needed to add external module to run it. The design will be developed using C++ and running in NS-3 simulator. An effort to analyze the current state of the art review is done which will be the base to the simulation design in depth. Performance of designed network will be evaluated by the specified parameter. Parameter of performance will be measured on speed, latency, bandwidth and energy consumption mainly. The result can be analyzed from the data and graph collected.

Mobile Augmented Reality Coloring Sheets Development for Dengue Awareness

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Abstract:--

Many of the tropical and subtropical regions of the world are facing significant socioeconomic concerns. In relation to this they face the spread of dengue fever. From the populations of Southeast Asia and Western Pacific regions, Asia remains disproportionately affected by 75% of the dengue infection. Thus, it has become a major challenge to the public health because of the worldwide spread and the dramatic increase in dengue cases particularly in the Asian region. Even though, action has been taken by the government and community, to combat the diseases through media campaign and other activities, the lack of knowledge such as understanding the life cycle and breeding of a mosquito may result in less effective mosquito control measures. Taking the advantages of augmented reality (AR) technology using marker-based will be able to facilitate the visualization and integration of information by displaying it directly to the user's view. This study aims to edutain school aged children about the mosquito breeding. The total participants involved in this survey were 86 standard 6 students from public schools. The results show that the scores for all scales in UEQ tools represent a positive evaluation describing a pragmatic quality aspect (efficiency, perspicuity, dependability) with a value of 1.26, hedonic quality (stimulation and novelty) with a value of 1.50 and attractiveness with a value of 1.57. Alpha coefficients are 1.570 for attractiveness, 1.302 for perspicuity, 1.279 for efficiency, 1.186 for dependability, 1.750 for stimulation and 1.244 for novelty. The value of attractiveness and stimulation give the highest scale in the results. This showed that users have found that the overall impression of the application is attractive, exciting and motivate them to use it. This suggested that the use of AR application can assist students understanding because it provides a dynamic visualization to support learning. Thus, able to create awareness in the early prevention of dengue control.

Index Terms

Augmented reality, dengue awareness, AR coloring, marker-based AR, multimedia development

Development of Markerless Augmented Reality for Cardiovascular System in Anatomy and Physiology Courses for Physiotherapy Education

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Nurulain Abu Bakar, Universiti Kuala Lumpur RCMP, Malaysia

Abstract:--

This paper focuses on the development of markerless Augmented Reality (AR) using ARCore platform, where interactive three-dimensional (3D) content was designed and developed based on the learning outcome syllabus to enhance the visualization and understanding of the anatomy and physiology for cardiovascular system topic. Currently, learning method is based on 2D images and slides, plastic models and cadavers have to deal with students' experience issues such as lack of interactive, uneasy feeling with dead body and cadavers storing and donation. Therefore, more advances using technology such as Augmented Reality (AR) in learning method are needed to overcome the current gap and enhance the students' learning. Thus, this study aims to develop markerless AR specifically focus on the cardiovascular system for undergraduate physiotherapy program at UniKL, RCMP. In this study, we describe a method used to create markerless AR content using 3D data from MRI images and 3D unity as an authoring tool. We present three processes, where the first design consideration based on author's previous works derived from systematic search strategy were outlined, the second 3D model was developed using a real object and subsequently converted to an AR asset that can be linked to a unique markerless using ARCore platform and the third AR content creation using 3D unity authoring tool. This application provides a better visualization for the anatomical parts to support for an innovative and flexible learning process. We have successfully analyzed the design consideration using a systematic search strategy and developed the markerless AR specifically for cardiovascular system in anatomy and physiology courses. This study has contributed to knowledge in design and development of AR used in physiotherapy education. Therefore, this will be a step forward to an exploration of design-based research for an AR benefit in experienced-learning approach application.

Index Terms

Markerless Augmented Reality, ARCore, Physiotherapy Education, Anatomy and Physiology, Cardiovascular System

Goods and Services Tax and Sales and Services Tax in Malaysia: Perceptions of Tax Agents

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Abstract:--

Malaysian Government has implemented goods and services tax (GST) on April 2015. However, the GST has been abolished since September 2018 after the new Malaysian Government has been in power. The GST has been replaced by the Sales and Services Tax (SST). Previous studies have shown that tax agents play an important function in assisting the businesses to meet with the tax law and policies. Hence, this study explores the implementation of the two tax systems by looking at the perceptions of the tax agents in Malaysia. The interviews were carried out with several tax agents in Malaysia. The results revealed that most of the tax agents agreed that GST system is much better as compared SST.

Index Terms

GST, Malaysia, SST, Tax

JEL Classification: M41

Revisiting Smart Tropical Shading – A conceptual Framework based on the Research at the Triple Green Mock-Up Building Park at British Malaysian Institute

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AP Dr. Mohd. Khairil Abd. Rahman, Universiti Kuala Lumpur

Abstract:--

Among all renowned features of passive design to reduce the heat, shading is the cheapest and often the easiest, but at the same time the most neglected. That counts both for hot countries and during summer seasons for the colder hemisphere alike. Hence, a simple but intricate adapted shading concept by external blinds or shutters is globally highly applicable for low-budget zero energy mass customized homes – and more sophisticated houses including offices both in low and high rises. This generic contribution which is based on empirical experiences in Malaysia looks into a combination of traditional shading architecture and modern tropical building technology to mainly stop the impact of the sun's direct radiation. The elaboration puts effort and dwells upon the credentials of shading for retrofitting especially when the window-wall ratio (WWR) is higher than necessary due to ample daylighting which falls in line with the aesthetic of architectural facades. It is hypothesized and shown by practical case studies, how the heat impact of the panes can be smoothly reduced through smart and intelligent shading.

Comparing different shading features in the global literature review, external blinds technology turns out to be by far the most favorable set-up to effectively reduce the sun's radiation heat including the tropical arena. This can be shown in global studies, as in our own experiments at the triple green mock up building park at British Malaysian Institute in Kuala Lumpur. Following Haggag's approach for Dubai [1], it can be demonstrated for the tropics around the equator that the cooler temperature caused by shutters compared to glazing exposed to the typical morning sun varies between 3-10 °C. The system is optimized by choosing light material allowing the air between the pane and the shutter to move gently by free ventilation.

In the conclusion, the paper argues that in practice the hot air in a high WWR-ratio is just killed by the air condition, not encompassing what passive technology including smart shading can do without. Hence, this was tries to develop the missing link between the Malay kampong house tradition and high tech integrated technology reconciling which has still been in an infancy stage. At a late stage it is necessary that industry players of shading and building automation together can meet the evident sleeping market needs.

Index Terms

Smart shading devices, intelligent building, tropical climate

Motion controlling of a four wheels vehicle basing on an Adaptive Neuro Fuzzy Inference System (ANFIS)

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Abstract:--

A robot motion control is a very complicated task that many strategies were presented to deal with , the (AI) Artificial Intelligence represents one of the most appropriate methods that solve the robot path planning , navigation and colliding avoidance.

In this paper , a hybrid soft computing technique has been proposed to control a four wheel vehicle system , this technique is known as (ANFIS) Adaptive Neuro Fuzzy Inference System , which combines between two of the AI methods which are the Artificial Neural Network (ANN) and the Fuzzy Inference System (FIS) to get the integrated system properties .

ANFIS method is used due to its ability to learn the human experience in order to develop various robot motion strategies .

In this proposed method , the distance between the vehicle and each of the nearest barrier and the target represent the inputs to the ANFIS processing structure , while the vehicle speed , approach angle , and the distance between the current and updated positions of the vehicle , represent the outputs that will show better robot performance in term of accuracy . Besides , this suggested low cost system accomplishes its mission of reaching target using simplest paths and avoiding colliding with barriers, in addition to overcoming the complex computations and providing very acceptable tolerances for the uncertainties that exists in the work space data .

Assessment of Knowledge Management Readiness in Hotel Sector in Sri Lanka: Modeling Enablers and Process of Knowledge Management

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Abstract:--

Knowledge Management (KM) has been considered as a competitive tool. Thus, the effective implementation of KM plays a vital role in improving the performance of the institutions. Hotel sector as a knowledge-based service providers KM practices become imperative. The main objective of this study is to assess the KM readiness of Sri Lankan hotel segment and how can manage KM enablers and process and applies systematically. Primary data collected through a survey using questionnaire. 253 usable questionnaires were redeemed for analysis from managerial level employees of hotels in Sri Lanka. KM enablers scale consisted four factors while process scale consisted six factors in the analysis. The study found that there is a strong positive impact
of KM enablers scale factors on KM process scale factors. KM enablers are the critical success factors of KM implementation in hotel sector in Sri Lanka.

Keywords:

Knowledge management, KM enablers, KM process, hotel sector.

Managing Knowledge Management: Identifying and Evaluating Enablers and Hinders From the Perspective of Practicing Managers from Tourism Sector in Sri Lanka

Mubarak Kaldeen, Department of Marketing Management, South Eastern University of Sri Lanka

Abstract:--

The fundamental requirement of managing Knowledge Management (KM) successfully is to recognise the knowledge assets and manage it in the circumstance of overall organizational performance. The effective KM process influenced by knowledge-enablers and hindering factors. Hence, this study focuses to analyze the enablers and hinders that impact on KM practices and implementation in tourism sector in Sri Lanka. A total of 25 enablers and 20 hindering factors that could impact on KM implementation and practices have been identified based on a review of the related literature, and discussions with experts in the tourism filed. Random sampling method was employed and questionnaire survey carried out. 243 usable responses were received and results of statistical analysis of the responses revealed that the organisational infrastructure, management leadership and support, organisational culture, motivational aids, team building and knowledge variety, and use of internet and information technology have been identified as the most important enabler rank respectively for KM in tourism sector in Sri Lanka. Meantime, employee turnover, knowledge loses, failure to identify the variables of improving KM, use of inappropriate KM strategies, over focus on IT and pressure for conformity were the most important hindering factors rank respectively for KM in tourism sector in Sri Lanka.

Keywords:

Knowledge Management, knowledge-enablers, hindering factors of KM, Tourism Sector.

The Study of Nam June Paik Video Art

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Abstract:--

Working with the limitations and the potentiality of new media, fine artist and designer are still searching for answers that are both creative and critical. One of the pioneering artist in the new media installation is the Korean-born artist, Nam June Paik who pioneered video art in the 1960s. This writing will discuss on selected video art installations by Nam June Paik and elaborate on the dynamic tension between technologies and the space they are promulgating. Art today take advantage and possibility of the many technological advances of our age. The many facets of new media generate images that are preparatory simulative or final artworks. The mankind as it evolves in time, space or action has become an inspiration to study, redefine, reinvent, the creativity in many exciting forms. Nowadays, art and technology have always been inseparable. Artists have used complex and unfamiliar tools and techniques to present or stimulate their imaginations and ideas. They continually take up the challenges posed by technology, shaping and subduing their material. Since the time of Marcel Duchamp who added his signature to an assortment of ready mades, that artists alone have the authority to determine or define the scope of art. The television have given birth to the art form (video art). Television or TV, is the first electronic systems that extends the sense of vision and hearing. It transmits still or moving images and the simultaneous accompanying sounds over electrical transmission lines or by electromagnetic radiation waves. Nam June Paik and Wolf Vestell pioneered video art installation in the 1960s by appropriating the tool, that is by, subverting and disrupting the normal operation of the television set. In this context, we will discuss from a visual and aesthetic point of view the relationship between art and technology in the case of Nam June Paik selected video installation.

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