39th World Conference on Applied Science, Engineering & Technology

WCASET-2021

24th & 25th November 2021

Kuala Lumpur, Malaysia

ORGANIZED BY

INSTITUTE FOR ENGINEERING RESEARCH AND PUBLICATION (IFERP)

ISBN : 978-93-92105-28-9

39th World Conference on Applied Science, Engineering and Technology

39th WCASET-2021

24th & 25th November, 2021
Kuala Lumpur, Malaysia

Institute For Engineering Research and Publication

www.iferp.in

Publisher : IFERP Explore

ISBN : 978-93-92105-28-9

Editorial

We cordially invite you to attend the **39th World Conference on Applied Science, Engineering and Technology (39th WCASET-2021)** which will be held on **24th & 25th November, 2021** - virtually conference. The main objective of **39th WCASET-2021** is to provide a platform for Researchers, Students, 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 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 their view process, and to the authors for contributing their research result to the conference.

Since September 2021, the Organizing Committees have received more than 110 manuscript papers, and the papers cover all the aspects in Electronics, Computer Science, Information Technology, Science Engineering and Technology. Finally, after review, about 41 papers were included to the proceedings of **39th WCASET-2021**.

We would like to extend our appreciation to all participants in the conference for their great contribution to the success of **39th WCASET-2021**. 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.

Acknowledgement

IFERP is hosting the **39th World Conference on Applied Science, Engineering and Technology** this year in month of **November**. The main objective of 39th WCASET-2021 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 organizing committee 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 make this conference successful.

Er. R. B. Satpathy
Chief Executive Officer
Institute for Engineering Research and Publication (IFERP)

Keynote Speakers

DR. ZAMBRI HARUN
Head, Mechanical Engineering Programme

Universiti Kebangsaan Malaysia

Malaysia

Prof. Dr. Rashmi Gujrati
Professor & Dean, CT University, Ludhiana,

India.

Dr. Vitantonio Roma
Head of Geotechnical Engineering Department

TEAM Engineering Spa

Italy

39th WORLD CONFERENCE ON APPLIED SCIENCE, ENGINEERING AND TECHNOLOGY

24th & 25th November, 2021 - Kuala Lumpur, Malaysia

Organizing Committee Members

Conference Chair

DR. PHAM VU PHI HO
Van Lang University
Vietnam

Co-Chairs

DR. NGUYEN DINH DUC
Dean
Department of Civil Engineering
Vietnam National University
Hanoi, Vietnam

DR. SAMEEM ABDUL KAREEM
Dean & Professor
Faculty of Computer Science & Information Technology
University of Malaya
Kuala Lumpur, Malaysia

Session Chair

DR. VAISHALI DHINGRA,
Rama University,
India.

DR. MA'AN ALKHATIB,
International Islamic University Malaysia,
Malaysia.

International Advisory Board

EYAS MAHMOUD
Assistant Professor
Chemical & Petroleum Engineering Department
United Arab Emirates University
Al Ain, UAE

IR. DR. CHUAH JOON HUANG
Senior Lecturer
Department of Electrical Engineering
University of Malaya
Kuala Lumpur, Malaysia

NURIDAH SABTU
Lecturer
School of Civil Engineering
Universiti Sains Malaysia
Penang , Malaysia

Index

Index

Index

Index

Index

Index

39th World Conference on Applied Science, Engineering and Technology

39th WCASET-2021

24th & 25th November, 2021
Kuala Lumpur, Malaysia

ABSTRACTS

Organized by

Institute For Engineering Research and Publication [IFERP]

39th World Conference on Applied Science, Engineering and Technology

24th & 25th November, 2021 – Kuala Lumpur, Malaysia

Perceptions from Industrial Perspectives on the Stormwater Management Practices in Kota Kinabalu, Sabah

Awang Nasrizal Awang Ali, Faculty of Engineering, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia and Faculty of Civil Engineering, Universiti Teknologi MARA Cawangan Sarawak, 94300 Kota Samarahan, Sarawak, Malaysia

Grace Agnes Justin, Faculty of Engineering, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

Nurmin Bolong, Faculty of Engineering, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

Nazaruddin Abdul Taha, Faculty of Engineering, Universiti Malaysia Sabah, 88400 Kota Kinabalu, Sabah, Malaysia

Abstract

Regardless of the efforts done, development compromises the preservation of the ecosystems. The rapid urbanization in Kota Kinabalu, Sabah, has altered the way water flows through the increasing impervious landscape and raises pollutants in stormwater, which constitutes a potential risk to human health, the environment, and causes flood disasters. Initially, local stormwater management focuses on dislocating high volume discharge, which has changed into a more storage-oriented approach. This includes implementing a range of Best Management Practices (BMPs) for improving urban stormwater quality while reducing critical flood events and stream erosion. This study determines the industrial players' perception of the stormwater management practice in Kota Kinabalu, Sabah. A set of questionnaires have been distributed, and data is descriptively analyzed using IBM SPSS Statistics. The results highlighted the need for improvement in the drainage system and waterways design and that funding and enforcement become barriers to proper stormwater management implementation. Hence, involvements from all sectors are essential to facilitate improving the practices in stormwater management.

Keywords

Best management practices (BMPs), perceptions, questionnaires, stormwater management, urbanization.

Engaging Students in Learning through Visual Demonstration Models in Engineering Education

Hadear Hassan, Undergraduate Student, Texas A&M University at Qatar

Muhammad Saad Khan, Postdoctoral Research Associate, Texas A&M University at Qatar

Mohammad Azizur Rahman, Associate Professor,Texas A&M University at Qatar

Ibrahim Hassan, Professor,Texas A&M University at Qatar

Mayur Pal, Team Leader EOR, North Oil Company Qatar

Abstract

Well-rounded engineering graduates are the foundation of a sustainable future, and this necessitates critical thinking and problem-solving abilities. Engineering education can be significantly improved by giving students the opportunity to co-construct a visual demonstration unit of the classroom knowledge. Connecting complex engineering classes to real-world problems is an innovative way to help students understand them. In addition, visual observation of the complex engineering concept is essential for understanding the technical content. The incorporation of physical demonstrations and embedded virtual environments into traditional classroom settings increases student motivation and interest in prestigious learning. The current study provides an overview of the use of integrated and augmented reality (AR)-based approaches. Findings from recent case studies show that using these techniques in a classroom environment piques students' interest, which improves their understanding, thinking, and remembering abilities. The proposed method has also potential to help struggling students succeed in their classes. As a result, the physical demonstration and AR-based combined approach will be a valuable futuristic strategy that values engineering students' learning.

Three-Dimensional Numerical Investigation on Flow and Heat Transfer Characteristics in a Counter Flow Vortex Tube on the Effect of the Number of Intake Nozzles

Shek Rahman, Sustainable and Renewable Energy Engineering, University of Sharjah, Sharjah, United Arab Emirates

Ahmed A. Hachicha, Sustainable and Renewable Energy Engineering, University of Sharjah, Sharjah, United Arab Emirates

Tareq Salamehn, Sustainable and Renewable Energy Engineering, University of Sharjah, Sharjah, United Arab Emirates

Salah Issa, Sustainable Energy Development Research Group, Sustainable Energy and Power Systems Research Center, Research Institute for Sciences and Engineering, University of Sharjah, Sharjah, United Arab Emirates

Malathe Khalil, Department of Materials Science and Engineering, Khalifa University, Abu Dhabi, United Arab Emirates

Abstract

A vortex tube is a simple device with an attractive role and different industrial applications. Normally, air enters the vortex tube as a high-pressure compressible gas through the inlet nozzles and leaves its form the cold and hot outlets at lower and higher temperatures, respectively. This fluid enters the vortex tube through more than one nozzle and deliveries a cold vortex flow parallel to the axis and a hot vortex flow besides the wall. Typically, number of inlet nozzles plays an essential role in the performance of the vortex tube. In this paper a three-dimensional computational fluid dynamic simulation is carried out to study the nozzle's roles on flow behavior and thermal separation. In this work the k-epsilon RNG model was applied to carry out the numerical simulation which was validated to capture the essential behavior of the vortex tube with an experimental data, conducted in previous work. Numerical investigation was carried out on 2 to 6 rectangular shapes of inlet nozzles to compare the effect of nozzles on energy separation and flow behavior. Results suggest that increases of number nozzles play an important role in enhancing energy separation magnitude.

Keywords

Energy, separation, CFD, nozzle, Vortex tube.

A Collective Study on Energy Efficiency Design Effectiveness Comparison between Green Building in Malaysia

Nur Qamarina Raffikhul Houssain, Universiti Teknologi Mara, Malaysia.

Afiqah Amran, Universiti Teknologi Mara, Malaysia.

Abstract

Energy efficiency is one of the criteria of the green building index rating tool and it can be acquired through the implementation of energy efficient lighting, auto sensor, building integrated photovoltaic (BIPV) systems and many more. One of the highly debated issues of our time is the increase in the energy consumption for all types of building which will result in the climate change and the emissions of greenhouse gases. Lighting has been found to be one of a major part of the overall energy consumption in buildings. Hence, the energy saving in lighting systems can be very crucial in minimizing energy consumption. This paper presents summary information from a literature review on energy efficiency in green buildings. The purpose of this study is to identify and compare the energy efficiency at three (3) selected green buildings which are Heriot-Watt University, Greentech Malaysia and Tun Razak Exchange Kuala Lumpur. These selected buildings were awarded with Platinum and Certified certification by the GBI Association Malaysia. This study employed a case study method.

Keywords

Sustainable construction, green building, energy efficiency, energy efficient lighting, building integrated photovoltaic systems.

Assessment on the Extent of Acceptability of the Interactive Agri-knowledge as Agricultural Marketing Information Support System

Remie-Bie Donato Andres, DIT, Isabela State University-Angadanan Campus

Abstract

This descriptive study was conducted among the 122 participants in the sector of agriculture in Isabela and assessed the extent of acceptability of the Interactive Agri-Knowledge as an agricultural marketing information support system using the ISO 25010:2011 System and Software Quality Requirements and Evaluation Standards. Results revealed that as to the functional suitability, performance efficiency, compatibility, usability, reliability, security, maintainability, and portability of the Interactive Agri-Knowledge as an information system, it complied with the ISO 25010:2011 System and Software Quality Requirements and Evaluation Standards as evaluated by the user-participants. The users and IT experts accepted the system without any conditions for the reason that it may support farmers in producing high value crops and help market their agricultural products. It is therefore recommended that the developed information system must be mounted and be utilized in order to realize its full benefits and help the participants especially the farmers. The provincial agricultural office should provide the permanent secure hosting service of the developed system, and a permanent IT expert be designated by the provincial agricultural office to maintain the system and provide technical support to those who are using the system.

Keywords

Assessment, Extent of Acceptability, Interactive Agri-Knowledge, Software Quality Assurance Standard, Agricultural Marketing Information System

A Framework for Managing Construction Claims in Building Projects

Essam Zaneldin, Department of Civil & Environmental Engineering, UAE University

Souzan Kabbani, Banking and Finance Department, Aleppo University

Abstract

The United Arab Emirates (UAE) government is spending billions of dollars in construction projects. The increase in complexity of such projects has contributed to a higher possibility of claims, conflicting interpretations, and adversarial attitudes. This problem initiated the need of a proper mechanism to prevent/reduce construction claims in future projects. In response to this need, this research suggests a framework for managing construction claims (FMCC) in building projects using artificial intelligence (AI). The proposed AI system of the suggested framework is expected to learn from past claims in order to classify future recurring claim types and causes, predict future claims based on similarity of circumstances in which they previously occurred, and provide most-relevant recommendations to tackle/prevent claims based on past experience and ASCE guidelines. The suggested framework will set a roadmap for the development of a comprehensive construction claims management system centralizes upon a 'case-base', where claims are initially classified and indexed manually based on their types and causes. An initial study, that was conducted in this regard, classified the types of claims encountered in UAE construction projects into six main types while there are more than twenty possible causes of claims. The proposed framework suggests that the AI system automatically processes newly fed information through two modules: 1) a classification module and 2) a prediction module. The proposed framework is expected to help in developing an AI system to predict possible future claims for construction projects in order to avoid/reduce such claims.

Approaching an Android Based Application of COVID-19 Tracker and User Case Analysis in Bangladesh

Aaquib Javed, Electrical and Computer Engineering (ECE), North South University

Md. Sayem Mahmud, Electrical and Computer Engineering (ECE), North South University

Md. Takbir Alam, Electrical and Computer Engineering (ECE), North South University

Md. Foysal Bin Ohab, Electrical and Computer Engineering (ECE), North South University

Khandakar Ratul Ali, Electrical and Computer Engineering (ECE), North South University

M. Monir Uddin, Associate Professor of Department of Mathematics and Physics at North South University

Abstract

In December 2019, a neighborhood episode of obscure infection at first was advised as pneumonia distinguished in Wuhan (Hubei, China), and was immediately resolved to be brought about by a novel Covid 2019, first namely severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). [1][2] From December 2019 to January 2021 around 102,942,987 globally confirmed cases of COVID-19 and 2,232,233 deaths reported to WHO (World Health Organization). [3] To understand the exact coronavirus outbreak and the way it quickly surges worldwide, many countries are adopting non-therapeutic preventive measures, which include travel bans, remote work, complete country lockdown, regular updates of this pandemic, and most importantly social distancing. However, these measures face challenges in many countries including Bangladesh. This war-like situation, a lower-middle-income economy put Bangladesh and the government is a big challenge to implement the mitigation facilities. To moderate the effect of the Covid-19 pandemic the versatile sterilization, transitory isolate destinations, and medical care facilities could assist with spreading knowledge however to keep up this knowledge among the people, but we've come up with a digital solution in the form of an android application that uses the Haversine Algorithm to keep people informed. That can be easy to keep people updated all over the world in a moment but initially we design it for Bangladesh. By using this, people can track who is next to them are positive COVID-19 patients. In this managerial work, we are advancing toward an application reliant on Covid-19 known as overall pandemic and to amass this we utilize the Haversine algorithm, moreover, we take the customer case examination subject to Covid-19 situation.

Keywords

COVID-19, Novel Coronavirus, Coronavirus Application, Healthcare, Pandemic, COVID-19 in Bangladesh, infection prevention and control, COVID-19 awareness.

An efficient way of predicting hostel's room using Single layer fuzzy logic

Abhishek Sharma, Lovely professional University, Phagwara, India

Amandeep Kaur, Lovely professional University, Phagwara, India

Abstract

In search of better amenities be it education, skills, job etc. people leave their home towns, cities, states and even countries. Students are the most displaced section of society. Accommodation of students is very important as the environment they live in have a very important impact on their day to day living. Earlier the hostels were allocated using a bin packing algorithm and the first come first serve technique. This allocation process has evolved a much right starting from the pen-paper system then came automated system [4], online systems connected with the internet [8] and the need is to enhance the system to improve the allocation process. Hostel's room allocation system will help the students to live with the best match student sharing common behaviour and characteristics. The use of Fuzzy logic is a new concept used to resolve the problem statement. The methodology of fuzzy logic will recommend the best room as per the attributes of a student is bearing.

Keywords

Room allocation, Fuzzy logic, Hostel management system, Characteristics, Pairing of roommates.

Machine Learning based Hybrid approach for Email Spam Detection

Chirag Bansal, Student, Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab

Dr. Brahmaleen Sidhu, Assistant Professor, Department of Computer Science and Engineering, Punjabi University, Patiala, Punjab

Abstract

Spam e-mail is one that told the conspicuous crises in this growing world today and had caused a huge financial failure. Surprisingly Though the methoords and techniques for this crisis are usually being refreshed regularly, the current system is not that much sensitive. The results of those approaches and techniques do not seem to be wise at the current time also email spam is developing in Association with an appealing degree of growth. Like this, only a lot of profitable fishing recognization innovations Are the threat of phishing emails is expected to be eliminated. In this document, we will first look at the construction of the email so the email addresses. I Will try to have a different approach all over this paper with the data management ocr, Associated degree ANN to find spam email. To assess the suitability of ANN we got a tendency to use a Kaggle data set that has a less proportion of spammed emails and real emails. The beta Outputs show that the positive yield of ANN appear at the ratio of 97.5 8% then the FPR is 0.03 3% higher perfection and low perfection of FPR promises that the modification Could be able to distinguish in the phishing emails with high likelihood. And even modifying can authenticate emails as A's near Agar as could also be extracted below the circumstances. Sach promising outcomes is best than this recognization technique. And it collectively works on the HTML-based templates emails that are hard to find and makes sure the suitability of ANN in typical spammed emails.

Keywords

Artificial Neural Network, Optimization, Spam, phishing attack, OCR, Template Email recognization, Hybrid approach, Database Management

Employability of Agricultural Engineering Graduates from the College of Engineering and Agroindustrial Technology, University of the Philippines Los Baños

M.F. Gallardo, Science Research Specialist II, DOST-Engineering Research and Development for Technology, Office of the Dean, College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños, College Laguna, Philippines

M.T. Quimbo, Professor 10, Institute for Governance and Rural Development, College of Public Affairs and Development, University of the Philippines Los Baños, College Laguna, Philippines

R.O. Dela Cruz, Associate Professor 3, Institute for Governance and Rural Development, College of Public Affairs and Development, University of the Philippines Los Baños, College Laguna, Philippines

E.P. Serrano, Associate Professor, Institute for Governance and Rural Development, College of Public Affairs and Development, University of the Philippines Los Baños, College Laguna, Philippines

M.Y. Castro, Associate Professor 1, Agrometeorology, Bio-structures and Environment Engineering Division, Institute of Agricultural and Biosystems Engineering, College of Engineering and Agro-industrial Technology, University of the Philippines Los Baños, College Laguna, Philippines

Abstract

The Master of Science in Agricultural Engineering (MSAE) and Doctor of Philosophy in Agricultural Engineering (PhDAE) curricular programs of UPLB-College of Engineering and Agro-industrial Technology (CEAT) were assessed through determining the employability of the graduates from Class of 2010 to Class of 2020. Using the general systems theory perspective, both quantitative and qualitative analysis were conducted through a non-experimental, self-administered online survey. This is to determine the competencies developed by the AE graduates through their programs and its relevance to their current jobs. The profile of the respondents showed a relatively high attraction of AE programs from different areas in the Philippines. There is high employment rate of the AE graduates at 93.1%. Majority were employed within less than 6 months after graduation, mostly working in the academe as faculty members, researchers, engineers and project staff. This signifies their marketability due to the trainings and competencies acquired during graduate study. AE graduates acknowledged that they have developed values and skills that proved useful in their current jobs. Values developed were Competence (86.21%), followed by Confidence (82.76%), and Diligence and Commitment (both with 77.59%). Some respondents also developed Patience, Integrity and Excellence, which they listed as among other values. Evaluating the AE graduate curricular programs through the employability of the graduates shows that the feedback of an organization's output (graduates) is important in improving and strengthening an institution's educational system and services. Recommendations and suggestions to improve the curriculum can be made based on the needs and demands of the respondents accordingly.

Keywords

agricultural engineering, graduate program, employability, general systems theory

Model of Crowd Context-Based Learning via IoT Wearable Technology to Promote Digital Health Literacy

Vitsanu Nittayathammakul, Division of Information and Communication Technology for Education, Faculty of Technical Education, King Mongkut's University of Technology North Bangkok

Pinanta Chatwattana, Department of Electronics Engineering Technology, College of Industrial Technology, King Mongkut's University of Technology North Bangkok.

Pallop Piriyasurawong, Division of Information and Communication Technology for Education, Faculty of Technical Education, King Mongkut's University of Technology North Bangkoky

Abstract

The global pandemic of coronavirus disease 2019 (COVID-19) demonstrates the urgent need for digital instructional system design to facilitate digital health literacy for citizens in a ubiquitous healthcare ecosystem. This research aimed to propose the Model of Crowd Context-Based Learning via IoT Wearable Technology (CCBL via IoTW Model). The research objectives were to synthesize and evaluate the suitability of the CCBL via IoTW Model to promote digital health literacy. This study employed Mixed-Method Research (MMR), which collects and analyzes both qualitative and quantitative data. The results show that: (1) The CCBL via IoTW Model has 4 components: 1) Input Factors, 2) IoTW-Driven Learning Processes, 3) Digital-Driven Assessments, and 4) Data Visualization and Real-Time Feedback; (2) All the experts agreed that the CCBL via IoTW Model is suitability for promoting digital health literacy and health behavior change of the citizens towards bio-digital citizenship in a ubiquitous healthcare ecosystem through digital health intervention in the future at a very high level ($\bar{x}$ = 4.76, S.D.= 0.43).

Keywords

Crowd Context-Based Learning, IoT Wearable Technology, Digital health literacy, Instructional system design.

Employment Status of the Graduates of Bachelor of Physical Education in Bicol State College of Applied Sciences and Technology, Philippines

Emily J. Berja, Associate Professor 1/Sports and Wellness Coordinator/BSESS Program Chair
Bicol State College of Applied Sciences and Technology, Naga City, Camarines Sur, Philippines

Abstract

The employability of graduates is a symbol of the quality of an academic institution. In addition, graduates are the product of the institutions' efforts to help the nation move forward. This tracer research was performed to assess the job status of Bachelor of Physical Education graduates of the Bicol State College of Applied Sciences and Technology A / Y 2018—2019. The survey instrument tailored to the study is the structured tracer study questionnaire formulated by the Higher Education Commission of the Philippines. The questionnaires have been distributed via the online platform. On the basis of the data provided, the majority of graduates are female. In addition, despite the graduation rating of "slightly satisfied" with their knowledge and skills acquired in the curriculum of the Bachelor of Physical Education, the majority of graduates are employed in different sectors of society. It is also found that the primary reason for those who were not employed was to pursue further studies. Based on the findings, there is a need for an institutionalized career counseling network for students to follow their key fields and for a forum between high school graduates and their parents and teachers to build a career direction and a successful work climate. In addition, the Bachelor of Physical Education curricula can be improved to guarantee that participants are prepared with the expertise they need to be at the same standard as the business.

Keywords:

Bachelor of Physical Education, employment status, graduates, tracer study, descriptive study, Philippines

Surface Litter Barrier: A Response to Solid Waste Management

Maria Christina G. Remoquillo, Associate Prof. / Research Coordinator CTT Dept
Bicol State College of Applied Sciences and Technology (BISCAST)

Abstract

The surface litter barrier technology was developed and initiated as a response to solid waste management. The purpose of the development which was being combined with fermented organic matter technology was on the idea of addressing the solid waste problems in Bikol River situated at Naga City Camarines Sur Philippines. Purposely to trap the floating solid wastes in the river for the city personnel to collect and dispose it to proper waste facilities. This is to improve the surface litter collection system aiming to lessen the solid waste volume to promote 3'Rs. The study was conducted in Naga City for both onsite and off-site interviews of key respondents composed mainly of personnel from the City Environment and Natural Resources Office (ENRO). The ones directly involved in the management and interventions in the Naga River. The respondents provide ratings as to the effectiveness of the product and their level of acceptability. Ten (10) respondents were interviewed and the rating resulted in five (5) with the verbal interpretation of Highly Effective (HE). It was also mentioned by the respondents that the reasons behind the high rating on effectiveness and acceptability were mainly the simplicity of the product, durability, ease to assemble, availability of materials used, cost-effectiveness, promotion of 3R's (reduce, reuse and recycle) and product can be replicated by other LGUs (Local Government Unit). It was then concluded that because of the quest for the proper segregation of waste plastics, the community was aware on its responsibilities. Respondents were also asked for their ideas and recommendations on how to further improve the technology. It was then recommended to apply the following: barrier should cover the entire cross-section of the river; bottles should be in an upright position to better capture the floating wastes; increase the width of the barrier instead of a single file barrier; and place a barrier in other strategic major locations along the bridges.

Keywords

Solid Waste Management, Surface Litter, Barrier, Fermented Organic Matter, 3'Rs

Impact Assessment of the Regional-Seminar Workshop on Instructional Material Preparation for K to 12 Educations in the Philippines

Rubi, Ronnie B, Bicol State College of Applied Sciences and Technology

Orbel, Cepeda S., Bicol State College of Applied Sciences and Technology

Abstract

Regional-seminar workshop on instructional material preparation for K to 12 education is an extension initiative and is a 5-day seminar-workshop conducted with 272 participants from different provinces of the Bicol Region, Philippines. The program has participated with students, teachers, and academicians. The paper assessed the impact of the regional seminar workshop on instructional material preparation for K to 12 Education. Along with acquired knowledge, skills, and attitude in instructional material preparation and presented the utilization of the IM outputs from the program. The study adopted the mixed-method of research since it determines the impact of the implemented extension program. Data gathered through questionnaires, direct observation, and interviews. The study was also quantitative and qualitative since the researchers used a questionnaire to know the impact of the program. The 135 respondents in this study were teachers in the Bicol Region, the Philippines, who were the said participants and beneficiaries of the said extension program. The data were analyzed using different statistical tools. Over three years after the seminar-workshop, 135 participants have confirmed that they have utilized their acquired knowledge, skills, and attitude in IM preparation in the classroom instruction. Furthermore, 55% of the IM outputs were used for classroom instruction, 19% were improved and used for action researches and others are utilized in different ways. The results contributed to the different research contexts and investigation of impact of an extension program. The results also show that the seminar-workshop implemented last 2017 brought a positive impact to its participants and also contributed to addressing the scarcity of instructional material in different disciplines. Thus, it is recommended that further implementation of research-based extension program should be established. Furthermore, professional development for teachers should be promoted and encouraged focusing on the current technological skills the teachers needed for the flexible learning system implementation.

Keywords

extension, impact assessment, instructional preparation

Innovation of Batik Fixation Machine with Pahl and Beitz Methods

Etwin Fibrianie Soeprapto, Politeknik Negeri Samarinda

Ani Fatmawati, Politeknik Negeri Samarinda

Pipit Sari Puspitorini , Univeritas Islam Majapahit

Abstract

The fixation process is a color locking process with chemical liquids in batik process. Waterglass is one of chemical liquid that is applied to dyed fabrics. The use of waterglass on fabrics is currently in 2 ways, they are with sponge brushing method and with dipping into reservoir of waterglass. Application by sponge brushing has the advantage efficient in using of waterglass but inefficient processing time. The application by dipping directly in the reservoir has the advantage efficient in processing time, but wasteful in using of waterglass. By using the Pahl and Beitz method, a fixation machine designed with more efficient in processing time and efficient in the using of waterglass. The process off Pahl and Beitz method are Plan and Explanation of Tasks, Product Concept Design, Product Shape Design, and Product detail design. A fixation machine with a cloth grinder was produced that worked in conjunction with flushing recycle waterglass.

Keywords

Fixation Machine, Batik Process, Waterglass, Pahl and Beitz Method

Adoption of Green cloud computing – A review

Kirti Baghele, Research Scholar, University Institute of Technology RGPV, Bhopal [M.P], India

Raju Baraskar, Associate Professor, University Institute of Technology RGPV, Bhopal [M.P], India

Uday Chourasia, Associate Professor, University Institute of Technology RGPV, Bhopal [M.P], India

Abstract

With the advent of cloud computing, the IT industry has picked a pace in case of development and new technologies. With the emergence of technology, users are also increasing at a rapid speed. If development is increasing, then at the same time we are setting back in terms of the environment by degrading it. Initially, any degradation is not visible but when use increases degradation appears, and at that time research is conducted to minimize or neutralize the demerits. Same with cloud computing, as it has been adopted by every second person in a crowd of thousands, much degradation is being caused, and to stop or to minimize green cloud computing has opted. The computer industry is contributing to global warming with high pollution, high energy, high water enterprises. Green computing is in the process to minimize power consumption, energy consumption, and carbon dioxide emission.

Keywords

Green cloud computing, Cloud computing, Virtualization

The Prevalence of Collapse Buildings in India: A Way Forward for the Institute of Architects, Planners and Engineers

Ar. (Dr.) Adedayo Jeremiah Adeyekun, B. Tech Arch (FUTA), M.Plan (MDU) India, Ph.D. in Civil Engineering (JNUB) India,
Faculty of Engineering and Technology, Jagannath University, Delhi – NCR, Haryana, (India)
Junaid N. Khan, B. Tech Arch (FUTA), M. Tech Arch (FUTA), Department of Architectural Technology, Federal Polytechnic Ado Ekiti, Nigeria.

Abstract

This paper explains the need to consider a building monitoring mechanism that will check and ensure all buildings, either new or old are erected based on building regulations. This is the major reason why India is having a high rate of collapse buildings. Many lives and properties have been lost in the collapse of buildings most especially in Mumbai, Kolkata, Chennai and Karnataka. According to research, 90% of collapse buildings in India were a result of improper monitor of construction and lack of approval of building drawings. No building should be constructed without approval from the municipal corporation in every district across states in India if the institutes concerned with buildings are ready to put an end to building failure.

The development and construction of the property are very necessary to every individual in life and as such, many individuals involve themselves in the construction of property for either personal uses or for investment purposes. In Mumbai, every investor will like to acquire a property due to the rapid economic development and nature of the investment, while some acquire properties and lands for prestigious reasons. No investor or property owner will be happy to see his/her building collapse. Therefore, the need to follow the required due process before embarking on the development of houses is imperative.

This study also aimed to suggest a way forward for the Institute of Architects, Planners and Engineers in India. To carry out this study, a study will be done in the affected areas including Mumbai, Delhi and Gurugram. A questionnaire was drafted to derive information on the causes of collapsed buildings.

Keywords

Building, Collapse, Monitoring, Approval, Institute.

Ontology Modelling to Support Personalization for Internship Recommendation

Puspa Setia Pratiwi, President University, Indonesia

Abstract

In this paper, the proposed model will be the basis of constructing an ontology that captures and stores all information to personalize the content of internship occupations according to the student profile.
The basis of our research is to construct an internship recommendation system by collecting from different data sources. Due to the huge amounts of data, the internship seekers are facing the problem of getting the suitable job based on their skill and experience.
The knowledge acquisition based on the requirements is very difficult in case of huge amounts of the data sources. To achieve this, firstly we have extracted the data into .csv files. In the second stage, the stored input files are used by the similarity measure and ontology creation module by generating the corresponding Web Ontology Language (.owl) file by using Protege.
The use of ontology for knowledge representation in knowledge-based recommendation systems has become an interesting research area. Existing approaches in knowledge-based recommendation systems have adopted the use of ontologies to solve problems related to personalization, but the approaches still lack to provide a complete representation of user's preferences.

Dynamic Positioning System Capability Analysis for Offshore Support Vessel

Essam S. Salem, Department of Marine Engineering, College of Engineering and Technology, Arab Academy of science, technology and Maritime transport, Alexandria, Egypt.

Mohamed A. Kotb, Department of Naval Architecture and Marine Engineering, Faculty of Engineering, Alexandria University, Alexandria, Egypt

Aly H. Elbatran, Department of Marine Engineering, College of Engineering and Technology, Arab Academy of science, technology and Maritime transport, Alexandria, Egypt.

Abstract

The importance of Dynamic Positioning (DP) is growing because of the increase in the number of offshore construction sites requiring DP for their operations. The paper describes the background studies, methodology, and mechanism associated with the formulation and development of a reliable design tool to calculate DP capability, versatile enough to be integrated into the initial ship design stage of a vessel. The process includes the creation of the general concept of the solver module with the capacity to estimate empirically the external loads on the vessel due to the wind, current, and waves. The static force balance is obtained by suitably predicting thrust requirements for the propulsion system, bearing in mind the power and positional constraints. The optimization of the design variables for the station-keeping criteria targets the highest capability at the lowest possible energy expenditure. Finally, the results are automatically presented in the form of standard DP plots. As a method of cross-checking on the reliability, verification of the DP tool is done with the help of available data from DP offshore support vessel.

Epidemics and Preventive Cure in Colonial Kashmir

Sajad Ahhmad Mir, Ph.D Scholar, Jawahar Lal Nehru University, New Delhi

Abstract

Medical science advanced in the Nineteenth Century, what surfaced was the germ theory, made a paradigm shift in understanding the genesis of diseases. In this context, the cause of epidemics came to be associated with pathogens. This, however, didn't take away from the environmental determination of health as environmental factors, in association with bacteria, came to be seen as contributing to the emergence of diseases. The germ theory created another framework to address the problem of epidemics. It made the system of preventive and curative medicine the basis of disease control. As a result, a mere social response, based on traditional modes of healing, was replaced by a comprehensive public health policy, thus revolutionizing entire medical system. This research deals with the rise of epidemics in the nineteenth century and the many processes that went into interpreting and combating the cause of these diseases. After a brief discussion on the colonial state's response to the advent of various epidemics in the subcontinent, the paper goes on to examine the strategies of cure and prevention adopted by the Dogra state as epidemics came to wage havoc in the princely state of Jammu and Kashmir.

A Review on Machine Learning Prediction Model of Plant Growth and Development in Hydroponic System

Nur Ameerah Mohd Johar, Industrial Automation Section, Universiti Kuala Lumpur Malaysia France Insitute, Bandar Baru Bangi, Selangor

Zalhan Mohd Zin, Industrial Automation Section, Universiti Kuala Lumpur Malaysia France Insitute, Bandar Baru Bangi, Selangor

Abstract

The agriculture sector has faced a major challenge in producing more and better food to be supplied to the urban population due to the migration of people from rural areas to the cities. Hydroponics farming has become the need of hour in supplying food to the urban population since it offers more advantages than the traditional soil cultivation which it can produce higher yield of crops in a limited space and can be cultivated all year-round in all kind of climate. The factors that affecting plant growth and development are the environment condition of the plant. Determining the optimum environment condition in cultivation of hydroponics can improve the growth, yield and quality of crops produce. So, an effective model that can predict the plant growth and development is needed. A subset of artificial intelligence which is known as machine learning allow computers to train and test themselves to make prediction on the growth and development of plant from a massive amount of data obtained from the environment parameters. This paper reviews the machine learning methods that were used in developing a prediction model of the plant growth and development in hydroponics farming.

Keywords

Environment condition, hydroponics, machine learning, prediction model.

The Design and Development of Interactive Multimedia and Activities for New Normal Public Relations to Promote the Public Image of the Continuing Education Center

Kanjana Namaso, Department of Educational Communications and Technology, Faculty of Industrial Education and Technology , King Mongkut's University of Technology Thonburi

Kuntida Thamwipat, Department of Educational Communications and Technology, Faculty of Industrial Education and Technology , King Mongkut's University of Technology Thonburi

Pornpapatsorn Princhankol, Department of Educational Communications and Technology, Faculty of Industrial Education and Technology , King Mongkut's University of Technology Thonburi

Abstract

The purpose of this research was to survey the demand, to design, to develop and to evaluate the quality of the interactive multimedia and activities for new normal public relations to promote the public image of the Continuing Education Center, and to evaluate the perception and the satisfaction of the sampling group in accordance with the ADDIE Model as in Analysis, Design, Development, Implementation and Evaluation. The QR code technology was used as part of the interactive multimedia. The tools consisted of 1) the demand survey, 2) the interactive multimedia and activities for new normal public relations to promote the public image of the Continuing Education Center, 3) the quality evaluation form, 4) the perception evaluation form, and 5) the satisfaction evaluation form. The sampling group consisted of 30 third-year undergraduate students from the Department of Educational Communications and Technology, Faculty of Industrial Education and Technology, King Mongkut's University of Technology Thonburi in the first semester of the academic year 2021. They were chosen using purposive sampling method out of the ETM 314 Professional Experiences in Educational Technology and Mass Communication course which allowed students to know about organizations before their internship in their fourth year. According to the survey, the demand for the multimedia and activities was at a high level ($\bar{x}$= 4.40, S.D. = 0.65). The quality of the contents as evaluated by the experts was at a very good level ($\bar{x}$= 4.81, S.D. = 0.24) and the quality of the media presentation was at a very good level ($\bar{x}$= 4.56, S.D. = 0.43). The activities for new normal public relations to promote the public image of the Continuing Education Center involved 3 stages as in before, during and after activities for the sampling group. The perception of the sampling group was at the highest level ($\bar{x}$= 4.68, S.D. = 0.48) and the satisfaction of the sampling group was at the highest level ($\bar{x}$= 4.76, S.D. = 0.44).Therefore the interactive multimedia and activities developed for new normal public relations to promote the public image of the Continuing Education Center can be used .

Keywords:

Interactive Multimedia, Activities for New Normal Public Relations, Public Image, Continuing Education Center

Behaviour analysis of light-duty vehicle drivers using naturalistic driving data collection

Putradamazman, Automotive Research Group, Centre for Energy and Industrial Environmental Studies, Faculty of Mechanical and Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat, Johor, Malaysia.

Mas Fawzi, Automotive Research Group, Centre for Energy and Industrial Environmental Studies, Faculty of Mechanical and Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat, Johor, Malaysia.

Anwar Syahmi, Automotive Research Group, Centre for Energy and Industrial Environmental Studies, Faculty of Mechanical and Manufacturing Engineering, Universiti Tun Hussein Onn Malaysia, Parit Raja, Batu Pahat, Johor, Malaysia.

Abstract

It is known that driving patterns have a significant impact on fuel economy. Much fuel is wasted due to unnecessary driving activity, even in the case of highly qualified drivers. This paper examines the driver's behaviour across two sections of the selected routes and quantifies the possible benefits of fuel savings from improvements in driving patterns during transport. Drivers' behaviour on the roadways differs depending on the road condition, and it directly affects fuel consumption. The fuel consumption rate of the vehicle increases with speed but is also dominated by acceleration. During acceleration, fuel consumption rates are excessive even under low-speed conditions, especially in the range of 31-60km/h with 11.57 Liter/100km.

Keywords

Driving Behaviour, Light-Duty Vehicle, Naturalistic Driving.

Energy Efficiency for Low-Energy Indoor Eco-Friendly Application through Green Building Material

Sr. Anas Zafirol Abdullah Halim, Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Campus Seri Iskandar, Perak, Malaysia

Nor Azizah Talkis, Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Campus Seri Iskandar, Perak, Malaysia

Wan Nordiana Wan Ali, Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Campus Seri Iskandar, Perak, Malaysia

Mohd Fareh Majid, Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Campus Seri Iskandar, Perak, Malaysia

Roslee Ali, Department of Building, Faculty of Architecture, Planning and Surveying, Universiti Teknologi MARA, Campus Seri Iskandar, Perak, Malaysia

Abstract

World environment climate has changed toward unpredictable weather where average global temperature has increase up to 0.74^0C since 1906 until 2017. This increment is indication of more heat from the sun is penetrated to our primary protector which is ozone layer. Due to this scenario, the secondary protector which is the building should play major roles in giving comfort to the human. This is where the thermal conductivity of the building material becomes important matter to study. Thermal conductivity or k-value of solid material describing the ability of heat being transfer through conduction. High k-value describes the material as highly conductive from one point to another. In another words, high k-value material is easily allow the heat transfer passed through it, in which this is not a good property for building material. The design thickness is very crucial where it will impact the cost of producing green materials. Thicker brick uses more amount of material and hence, it increase the production cost. The requirement on heat resistivity is very important for a building to prevent the building to be hot and uncomfortable. U-value for green materials wall is very low and it can block the entry of large amounts of heat and thereby cool the building rather than the clay brick wall and concrete wall.

O-YOLO: Obstacle detection system for Visually Impaired People

Kulwarun Warunsin, Department of Computer Engineering, Faculty of Engineering, Ramkhamhaeng University, Bangkok, Thailand

Waranyuta Yanin, Department of Computer Engineering, Faculty of Engineering, Ramkhamhaeng University, Bangkok, Thailand

Kamphol Promjiraprawat, Department of Computer Engineering, Faculty of Engineering, Ramkhamhaeng University, Bangkok, Thailand

Kiattichai Atthayuwat, Department of Computer Engineering, Faculty of Engineering, Ramkhamhaeng University, Bangkok, Thailand

Abstract

Smart blind navigation system can potentially enhance the safety of users during a hazardous occurrence. Although, there are several situations that could cause the visually impaired people to feel unsafe outdoor, they still need to go outside. One way to ease them in doing so is helping them to identify the surrounding objects using computer vision technology. Recently, Deep Learning (DL) techniques are implemented to improve the object detection accuracy. However, this strategy is very challenging. In this research, the Optimal You Only Look Once (O-YOLO) model along with the transfer learning are proposed to detects the objects by the real-time obstacle recognition algorithm for the visually impaired people using a smartphone application. This method was improved from the YOLO model by applying the k-means clustering algorithm to increase the anchor boxes. The O-YOLO model takes full advantage of YOLO's real-time feature as well as the improvement of the generalization ability brought by transfer learning to perform the object detection on MS coco dataset by O-YOLO architecture. The object detection accuracy was analyzed for the performance comparison.

Evaluation of a Strategic Management of Mid-Range cars Manufacturing Companies

Dr.Triveni P, Associate Professor, Ramaiah Institute of Management, Bengaluru

Suraj Aravind M, Student, Ramaiah Institute of Management, Bengaluru

Chinthan V, Student, Ramaiah Institute of Management, Bengaluru

Thanushree. K. Murthy, Student, Ramaiah Institute of Management, Bengaluru

Abstract

Over the years, India's automobile sector has developed by leaps and bounds, with all major global manufacturers having a presence in the country. India is called as a hub for automakers due to the availability of resources. The manufacturer is in south, west, and north India as it is considered as the home to the majority of international and national manufacturers who are looking to set up facilities to produce automobiles for both domestic and international markets. This paper studies the Automobile companies which manufacture cars catering to the Middle-Income group of the strata. A review of the automobile industry of India is done to understand the variations, not just in terms of the technology but the customer preferences and competitors. The objective of the study is to understand the evolution of the car segments in the industry by evaluating the trends over the years, with a focused approach to study the major players and the low lying performers on the key factors like strategic management decision, the disruptive technological advancement that changed the game, government contribution, speculations, controversies, expectation, supply to demand, and so on that led to a certain company's success or decline with time through a series of cause-effect analysis. The study also attempts to forecast the future advancement and the growth of this sector.

Keywords

Automobile, Midrange, Strategy

Micro-entrepreneurship and rethinking on Education

Dr. T K Sateesh, Professor & Principal, East Point College of Engineering & Technology, Bangalore, India.

Abstract

The structure of the workforce and its concepts have transformed due to COVID19 disruptions. Pandemic has disrupted normal business activity and companies are made to invest in technologies to enable newer ways of working. Companies have discovered newer arrangements in accomplishing their results, and this has brought in a new-form of stability to the organizations. Organizations have realized that disruptions can be regular, and need to be managed. The coming years will most likely bring about fast paced changes. This massive change in operations has included the introduction of concepts like a blended workforce to achieve a competitive advantage. The gig-force which was largely supplemental in nature, has embarked on to a mainstream role, involving high skilled jobs.

This new-found structure continues to grow, post-pandemic, and forces individuals to adapt to the inevitable ways to ensure long-term viability. This shift has forced individuals to be micro-entrepreneurs.

This paper aims to provide a deeper understanding of the reason behind the need to teach entrepreneurial education in educational institutions. A structure to introduce such a curriculum is also suggested. Further, the study goes about the question of why people need to be Micro - entrepreneurs rather than conventional employees. Articles, scholar papers, and research papers were used to analyze, find out, and validate the same. Moreover, this study enhances one's knowledge of the new-age skills and their importance in the practical world today. It also goes over the statistics of employees and entrepreneurs in the world. The study educates one on how entrepreneurial education not only helps one in their career but also helps students graduate "innovation ready". (Friedman, 2013)

Ovarian Cancer Diagnosis System Using Computer Vision

Siti Fazilah, Senior Lecturer, UOW Malaysia KDU University College, Utropolis Glenmarie

Sujata Navaratnam, Senior Lecturer, UOW Malaysia KDU University College, Utropolis Glenmarie

Abstract

The construction sector plays an important role in ensuring that a country can compete healthily with each other in order to achieve a developed country in the future. Addressing the ethical issues among professionals is important in ensuring successful project completion besides meeting quality requirements, completing on time and being carried out within the budget. A questionnaire data from 203 respondents involving the contractor's professional from the Malaysian private construction sector was collected. The finding of this study indicated that the ethical issues among professionals focusing on the contractor perspective for the private sector have a direct and negative impact on the construction project. The study's outcomes confirmed the significance of corruption, negligence, unfair conduct, favouritism, and fraud was the most important unethical among the professional that needs to be paid attention to and optimised. This study will provide useful information to all stakeholders in dealing with ethical issues, especially among professionals involved in each construction phase. The preventive measure must be taken and considered accordingly in resolving these ethical issues in ensuring success in the construction project management and determining the success of project completion within the cost, quality and time expected.

The Effect of Traffic Vehicles Loads on Deflection of Bridge (Case Study Bridge on Boulevard Grand Depok City)

Mudiono Kasmuri, State Polytechnic of Jakarta

Fauzri Fahimuddin, State Polytechnic of Jakarta

Rikki Sofyan, State Polytechnic of Jakarta

Abstract

Each bridge goes through the stages of planning, designing, implementing construction, then monitoring and maintenance for the life of the bridge. Since the beginning of the design, the maximum deflection, vibration, and deflection are determined as the limits as a control that the performance of the bridge in prime condition meets the aspects of stability, strength, and serviceability. This must be monitored periodically and or immediately when conditions require. In the process of monitoring the performance of a bridge, one of the things that is most often needed is the condition of the deflection, vibration and slope of the bridge. Conventionally using ordinary measuring tools or surveying tools is very difficult and requires quite a lot of manpower, many tools and complicated implementation, plus again, the results cannot immediately be used to make a decision whether the bridge is in normal condition or in an unstable condition such as over-loading and others, which can endanger the bridge and its users. In this study, we will develop a bridge performance monitoring system by combining the concept of bridge structure work and a monitoring system based on continuous bridge performance according to bridge conditions. This system can provide results that are fast and easy to implement and accurate information in accordance with the condition of the bridge in the field due to the load of traffic vehicles that occur on the bridge.

Key Words

Bridge, Deflection, Performance

Productivity of Grafted Tomato Using Different Sources of Eggplant Rootstock

Cipriano M. Ticman JR, Isabela State University, Cauayan City, Isabela

Abstract

A study the growth and productivity of tomato using different rootstock of eggplant was conducted at the experimental area of the College of Agriculture, Isabela state University, Echague Isabela. The specific objectives were to determine the compatibility of scion and rootstock combination and identify which treatment produced the highest yield. The study focused on the evaluation of the productivity of grafted tomato using different sources of rootstock such as wild eggplant, open pollinated variety (OPV) and hybrid (Casino F1). The study was laid out in a Randomized Complete Block Design. The treatments were as follows: T1– Control (Non-grafted), T2 – Grafted onto a Rootstock of wild eggplant, T3 – Grafted onto a Rootstock of Hybrid Eggplant (Casino F1), and T4 – Grafted onto a Rootstock of Open Pollinated Variety (OPV) Eggplant (Aurora Green). The height of the plants at 20, 40, 60, and 80 days after transplanting were not influenced by the different eggplant rootstocks. The grafted plants regardless of rootstock obtained the highest number of branches and marketable fruits per plant. Significantly bigger fruit diameter, heavier marketable fruits per plant and per sampling area. The non-grafted plants obtained the lowest values in all the parameters gathered. The computed yield of tomato per 1,00 square meters using different sources of eggplant showed that the rootstock of wild eggplant obtained the heaviest fruit yield with 10.82 tons as well as the highest return on investment with 432.43 percent. The used of wild eggplant rootstock is a potential cultural production modality to increase the productivity of tomato for off-season production.

Keywords

Bridge, Deflection, Performance

Economic comparison between two challenging approaches for On-Bottom Stability Assessment of Subsea Pipelines

T. Fouad, Arab Academy for Science, Technology and Maritime Transport – Mechanical Engineering Department

A. Hanafy, Arab Academy for Science, Technology and Maritime Transport – Mechanical Engineering Department

Gasser E. Hassan, Arab Academy for Science, Technology and Maritime Transport – Mechanical Engineering Department

Abdulhameed Yehya, Arab Academy for Science, Technology and Maritime Transport – Mechanical Engineering Department

Abstract

On-bottom stability design is a crucial mission to achieve safe subsea pipelines where such substantial loads may destabilize the pipe, leading to lateral movement. The pipeline instability leads to the occurrence of cracks in it, which results in the loss of the pipe product causing pollution to the marine environment. The purpose of on-bottom stability design is to ensure that the pipe does not go with the flow, laterally becomes unstable in place, and incidentally, interface with adjacent objects. However, movement is permitted up to certain ranges during the design to enhance stability and optimize the cost of stabilization. AGA/PRCI and DNV-RP-F109 are the most widely used and industry-acceptable methods that give detailed design procedures to achieve on-bottom stability. This paper presents an existing 10-inch pipeline, which is placed on sandy soil in the shallow water of 11-m depth. AGA approach is used to make a comparative study between its results with those of DNV to determine which of them is economically the better. Results show that AGA offers 40 mm of concrete thickness which is cost-wisely better than DNV that gives a concrete thickness of 120 mm. Concrete thickness and safety factor relation are studied and graphically presented in this paper.

Keywords

On-Bottom Stability, Subsea Pipelines, Lateral Movement, Marine Environment, Shallow Water, Concrete Thickness, Safety Factor

A Review on the Main Levels of Ontology and a Proposed Lower Level for the Quranic Ontology

Nurul Iman Shaari, Faculty Science and Technology, Universiti Sains Islam Malaysia (USIM)

Rosalina Abdul Salam, Faculty Science and Technology, Universiti Sains Islam Malaysia (USIM)

Zulkifly Mohd Zaki, Faculty Science and Technology, Universiti Sains Islam Malaysia (USIM)

Qusay Bsoul, Cybersecurity Department, Science and IT College, Irbid National University

Abstract

Ontology is a data model that describes the related meaning between concepts of knowledge. The knowledge fragments based on taxonomy are depicted by the levels of ontology, such as the upper, middle, lower, and lowest level, which differs in the reusability, depth, and breadth of knowledge. Previous literature focused on the ontology's upper level only, which disregarded the other levels. Two main levels, the upper and lower level, were compared where the lower level required less understanding to develop an ontology and retrieved higher results than the upper level, albeit the upper level could work in other domains because of its high reusability and flexible ontology. This paper reviewed the lower level of the Quranic ontologies, which described nouns or verbs of the part-of-speech (POS) of the various Quranic domains. Concerning other ontologies, one Quranic ontology got 196 and 180 Quran verses for two Arabic root words as sample query words, albeit this Quranic ontology could not retrieve the exact number of verses, which were collected by the research team of the Faculty of Quran and Sunnah Studies (FPQS), Universiti Sains Islam Malaysia (USIM). Therefore, this paper enhanced the Quranic ontology using several POS concepts and, synonym and antonym relations.

Insight into structural and magneto-electronic properties of $Ce_{1-x}Pt_xO_2$ (x=6.25%) : A density functional theory study

Aicha.BOUHLALA, Laboratoire de physique des matériaux. Université 8 mai 1945 Guelma. Algérie

Abstract

In this contribution, we have investigated the structural, magnetic and band structure properties of Pt doped CeO_2 using a method named linearized augmented plane wave with a full potential (FP-LAPW) based on the density functional theory incorporated into the Wien2k software. This study was performed using a WC-GGA for exchange-correlation potential developed by Wu-Cohen. The equilibrium lattice parameters of this compound is calculated. Features such as bulk modulus and its pressure derivative and electronic band structure are reported. The electronic results reveal that $Ce_{1-x}Pt_xO_2$(x=6.25%)alloy have a perfect half-metallic nature. Consequently, is semi-metallic and 100% of spin polarized at the Fermi level. In addition, the value of the total magnetic moment is found to be 2.01 μB for Pt-doped CeO_2. Based on the above properties, it is expected that this compound is potential candidates for spintronic devices.

Keywords

DFT, bande structure, Platine, spintronic.

Comparison of Fatigue Performance between Welded Joint Containing Undercut and Grinded Surface

Fauzri Fahimuddin, State Polytechnics of Jakarta`

Mudiono Kasmuri, State Polytechnics of Jakarta

Rikki Sofyan, State Polytechnics of Jakarta

Abstract

The load of heavy trucks passing over the bridge causes fluctuation stresses in all cross sections of the structural elements of the bridge. As a result of this dynamic load, the steel bridge can experience failure long before reaching the allowable stress of the conventional design approach, this phenomena is called fatigue failure. Fatigue failure is more susceptible to connection parts of bridge elements, such as welded joints. The aim of this research is to obtain fatigue performance from welded joints of SM570 steel plate material due to dynamic loads with two different conditions. The first condition is the test object without removing undercut defects, and the other condition is grinded completely by removing undercuts. This research was carried out by giving stress range at 110 MPa or threshold condition and higher stress range of 250 MPa on the welded joint test specimen. The test results are then plotted on the detailed B of AASHTO 2012 Fatigue SN-curve. The results of fatigue testing shown that by giving a stress range of 110 MPa on the test specimen comply with the fatigue standard according to detailed B-AASHTO 2012 Fatigue SN-curve. The test results by 250 MPa stress range testing, both types of specimens shown very different fatigue performance, SM570 steel welded joints with grinded surface shown a much higher fatigue performance compared to joints containing undercuts.

Keywords

fatigue strength, bridge, steel, welded joint, undercut, grinded surface, S-N curve, threshold

Interactive Agri-Knowledge: An Agricultural Marketing Information Support System in the Province of Isabela

Remie-Bie Donato Andres, DIT, Isabela State University-Angadanan Campus

Abstract

The profound impact by the rise of the Internet on a highly diverse range of fields as distinct as say aerospace technology, agriculture, information technology and manufacturing was once unimaginable in the past. Information systems, particularly of decision support systems are becoming increasingly important in the agriculture sector. Access to vital, timely information can help stakeholders involved in agriculture and agribusiness such as farmers, traders, government personnel make better decisions about crop production and trade. This study aimed to develop an information system integrated within a mobile application and assessed if it addresses the challenges and problems using the existing information systems using the Software Quality Assurance Standard (SQuaRE). Results revealed that the challenges using the existing system are the following: ensuring actual happening in the farmers, traders or agriculture sector when it comes to the availability of high value crops; improving competitiveness by becoming an important link in the agricultural sector; minimizing transaction costs to enable smallholder farmers to participate successfully in the agricultural sector; supplying products to the formal market given by the department of agriculture by disseminating. The Interactive Agri-Knowledge with different interfaces was developed to provide solutions and address the identified challenges using the existing system. The developed system is highly compliant with the prescribed standard using the System and Software Quality Requirements and Evaluation products model and accepted unconditionally by the users and experts in the field of information technology. It is recommended that the developed system must be deployed to realize its full benefits and provide a solution to the problems of the existing system, the provincial agricultural office should provide the permanent secure hosting service of the developed system, and a permanent IT expert be designated by the provincial agricultural office to maintain the system and provide technical support.

Keywords

Assessment, Challenges, Interactive Agri-Knowledge, Software Quality Assurance Standard, Information System

Quality Management Approach for a Sustainable and Competitive Production and Enterprise Development Services

Anna Liza M. Mateo, Bicol State College of Applied Sciences and Technology, College of Arts and Sciences

Abstract

State universities and colleges in the Philippines are permitted to engage in commercial activities to generate revenue. The study assessed a state college's production and enterprise development (PED) services, which could provide a platform for its stakeholders' entrepreneurial activities and income-generating projects. The study aimed to evaluate the present system, check if existing standards are in place, and determine how the institution complies with it to improve its current system. The study used a descriptive – evaluative research design, with a documentary survey, key informant interviews, and secondary data analysis among the data collection methodologies. The study's findings were presented using the Star Model Approach for Strategic Organization's five categories. The results implied that a set of standards for PED services' operation could be considered to improve its current system. The study also proposed developing a clear strategic direction for PED services and developing a PED manual incorporating the standards revealed in the study. The study aimed to contribute to the institution and meet the industry's fast-changing demands by applying innovation to its existing approach to PED services management.

Index Terms

Commercialization, Entrepreneurship, Innovation, Strategic Organization

User Unknown: The Incidence of Trolling Among Asteans

Jennifer E. Alipante, Bicol State College of Applied Sciences and Technology

Abstract

Internet trolling has been prevalent not only among the older demographic section of the internet users but also among students who are having the most internet hours in terms of usage. There has been little, if none at all, studies about trolling perpetration or victimization among College of Arts and Sciences students of the Bicol State College of Applied Sciences and Technology (BISCAST). Thus this descriptive, exploratory research profiles students of BISCAST, called Asteans, and their social media usage, and as a result if they have experienced internet trolling, or if they themselves troll other people. The respondents (N=199) are students of the 5 course programs under the College of Arts and Sciences, namely the BS Entrepreneurship, BS in Exercise and Sports Science, Bachelor in Physical Education, BS in Electronic and Multimedia Computing, and BS in Food Technology. Results show that 100% of the students surveyed have at least one social media account. Facebook and You Tube are the social media sites mostly being utilized. Seven out of ten students are aware of internet trolling. Three out of ten students have experienced being trolled. The study made use of a self-made questionnaire using frequency, mean, and percentile as statistical tools to get the result.

Keywords

internet trolling, Philippines, screen time, social media, Social Science

Development of a Sports Performance Metric s for the State Universities and Colleges in the Philippines

Marivic D. Paghubasan, Bicol State College of Applied Sciences and Technology

Abstract

Aiming to keep up with the global trends in sports performance brought some challenges among State University and Colleges (SUCs) in Bicol Region. The study is qualitative and quantitative research to developed sports performance metrics for the state universities and colleges in the Philippines. Practices of SUCs in sports development served as a basis to create metrics in measuring SUCs' sports performance in the Bicol Region. The developed metrics were content and face validated by five SUC sports director, and five professor in sports science professor. Suggestions from these experts were sought to improve the content and construct of the developed metrics. Fifty respondents pilot-tested the developed metrics of the study and selected sports stakeholders participated in the focus group discussion to discuss their comments and suggestions for the metrics. The development .of the metrics was conducted in four phases: selecting possible indicators of the standards; content and construct validation of indicators; try out of the evaluation tool and test of reliability. Results showed that all of the items in the subscales included in the developed standard metrics can be considered good to excellent and can be used to assess the state universities and college's sports performances. The development of the metrics on sports performance may contribute to the total quality management of the educational institution and may provide in promoting healthy and alert citizenry.

Keywords

Assessment, Practices, Sports Professionalization

The Flood effect on the relationship between land-use and Gross Provincial Product in major cities of Thailand

Weerakaset Suanpaga, Associate Professor, Department of Civil Engineering, Faculty of Engineering, Kasetsart University, Thailand.

Shirakawa Hiroaki, Associate Professor, Graduate School of Environmental Studies, Department of Environmental Engineering and Architecture Material-Systems Science in Environment.Nagoya University, Japan

Nichanun Trakulphudphong, survey and Geographic information system student, Faculty of Engineering, Kasetsart University, Thailand

Krittanut Thumsatsarn, survey and Geographic information system student, Faculty of Engineering, Kasetsart University, Thailand

Wuthiporn Klinhom, survey and Geographic information system student, Faculty of Engineering, Kasetsart University, Thailand

Abstract

Nowadays, the impact of climate change in Thailand causing flooding, leading to land-use change. According to in 2011, the big flood occurs in the whole country, and in 2015 report, heavy rainfall caused flooding in Khon Kaen, Thailand. In 2019, forest cover in Khon Kaen decreased by a percentage point. 0.67, which changed to increase the urban and agricultural areas. The objective of this study was to determine the relationship between climate change and land-use change, also to determine the relationship of the land-use change effects on Gross Provincial Product (GPP) which is one of the problem factors that influence the economy of Thailand.

The study areas were the four major provinces (Chiang Mai, Khon Kaen, Suphan Buri, and Songkla) of Thailand. The changing of monthly current income per capita and Gross Provincial Product (GPP) of each province were analyzed. The land use was classified into 4 categories, named agriculture area, built-up area, water, forest, and miscellaneous area. These were analyzed the future trend of land use variation which related to climate change and disaster occurring in the future. The final adaptation measure or best practice tackle and conform were proposed to the National strategy plan.

Customer's Preferences Analysis of IoT Features for Truck Fleet Logistics in Indonesia

Daniel Avian Karjadi, Pradita University

Bayu Yasa Wedha, Pradita University

Erick Dazki, Pradita University

Richardus Eko Indrajit, Pradita University

Abstract

Internet of Things (IoT) adoption in Truck Fleet Logistics companies in Indonesia has been implemented for decades. With advances of technology, IoT features in this field ranges from a simple location tracking using GPS only to utilization of sensors to capture delivery activities, and for Order Management (OM) from no integration to manual integration to full integrated order management system. Indonesian customer's preference over these features and combination of price are explored in this research. Data is acquired from IoT solution provider that has served 161 Truck Fleet Logistics companies across Indonesia and to a total of 104 survey respondents operating 6922 trucks on daily basis. Respondents consists of experts in logistics company that's already implementing to fulfill their customer's expectations. The Conjoint Analysis method is used to analyze the data and it is designed with 3 attributes: IoT type, IoT Platform Technology, and Price. For the analysis, part-worth function model is selected, using full-profile approach with 9 stimuli selected using fractional-factorial design. The result from the analysis shows that in Indonesia the importance is of the following order of attribute and level: IoT Platform featuring Integrated Order Management, Price and IoT type of GPS with sensors. The result of this analysis is beneficial for Truck Fleet company business, IoT service or platform provider, for truck fleet logistics community, logistics department of both private and state-owned company, and government as a policymaker.

Exploring Higher Education Teachers' Online Teaching Experiences during the Covid 19 Pandemic

Lucille G. Tanguihan, Associate Professor, Surigao State College of Technology

Abstract

The Lived Experiences of Higher Education teachers in the online practice teaching amidst the Covid - 19 were examined in the study. A phenomenological qualitative study that collected data through interviews. Interviews were recorded, transcribed, and examined thematically. Themes, sub-themes, and important assertions were identified during the data analysis. In-depth individual interviews were used to gather data. The guide questions were employed by the researcher, who subsequently analyzed them. The Problems encountered by College instructors are passive learners, limited teaching approaches and strategies, online cheating, not user-friendly software, tardiness in submitting requirements, the kind of gadgets used by the students, and maintaining discipline online. Teachers were so stressed, they experienced anxiety and worry and there was fear of uncertainty. As college teachers teaching online during the epidemic, this lived experience prepared the path for their coping mechanisms. They pursued new interests and hobbies, took a break from social media and listened to inspirational songs/videos. Hence, schools are also being urged to reinforce the curriculum's practices, Conduct webinars and virtual meetings regarding mental health and well-being, and craft educational policies to strengthen management and curricular systems of the college /university.

IFERP International Conference
IFERP Explore
https://wcasetkualalumpur.com/ | info@wcasetkualalumpur.com

UPCOMING CONFERENCES

Technoarete® Group
Integrating Researchers to Incubate Innovation

SUPPORTED BY

ALL CONFERENCE ALERT
Academics conferences at a glance

ECA
Get World wide Engineering Conferences Update..

Conference Alerts
Global Academic Conferences

INTERNATIONAL CONFERENCE ALERTS

ISBN : 978-93-92105-28-9