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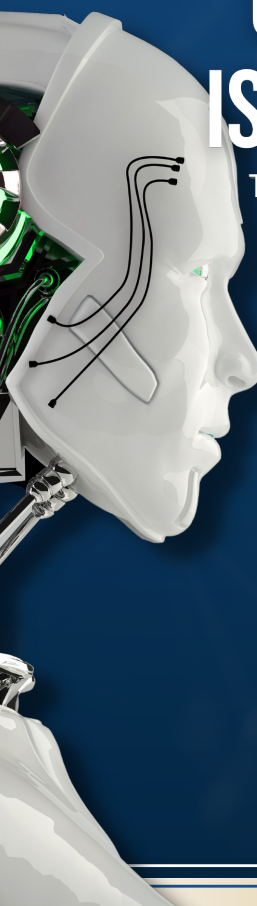
CURRENT TRENDS IN ISLAMIC TECHNOLOGY:

THROUGH RESEARCH AND INNOVATION

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HYBRID INTERNATIONAL CONFERENCE

CURRENT TRENDS IN ISLAMIC TECHNOLOGY:

THROUGH RESEARCH AND INNOVATION

FACULTY OF ISLAMIC TECHNOLOGY
UNIVERSITI ISLAM SULTAN SHARIF ALI
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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

FOREWORD



**Yang Mulia
Dr Haji Norarfan bin Haji Zainal, Sultan
Sharif Ali Islamic University (UNISSA)
RECTOR**

السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللَّهِ وَبَرَكَاتُهُ

I would like to congratulate the Faculty of Islamic Technology and UNISSA Working Committee for their dedication and hard work in ensuring the success of the Current Trends in Islamic Technology: Through Research and Innovation Conference 2022 (CTIIT2022).

الحمد لله: Praises be to Allah, this hybrid conference brought together researchers from several universities to present and discuss the current trends in Islamic technology through research and innovation. This conference will undoubtedly aid in publishing by allowing students and experts to exchange ideas and information.

My warmest gratitude goes to the keynote speakers, paper presenters, postgraduate students, and Technology Student Society from the Faculty of Islamic Technology who worked thoroughly to make the conference a success. The conference received a very positive response, with more than 120 papers submitted by local and international universities.

My appreciation is also extended to all our sponsors and co-hosts or university collaborators for supporting this well-attended conference.

May Allah shower you with compassion in return for your good deeds.

Thank you once again.

وعليكم السلام ورحمة الله وبركاته

بِسْمِ اللّٰهِ الرَّحْمٰنِ الرَّحِیْمِ

PREFACE

Yang Mulia
Dr Dayang Hajah Tiawa binti Awang Haji
Hamid,
DEAN
Faculty of Islamic Technology (FIT),
Sultan Sharif Ali Islamic University



السَّلَامُ عَلَيْكُمْ وَرَحْمَةُ اللّٰهِ وَبَرَكَاتُهُ

In conjunction with BRUNEI MYCE 2022, UNISSA participated in the Hybrid International Conference on Current Trends in Islamic Technology: Through Research and Innovation 2022 (CTIIT 2022) on June 9 & Technology Expo (in Digital Technology Week starting on 8 - 11 Jun).

The conference provides a platform to discuss current trends in Islamic Technology with participants from around the world, both from academia and industry. Its success is reflected in the papers received, with participants coming from several countries, enabling the exchange of real multidisciplinary experiences and ideas. Each submission was peer-reviewed by 2-3 reviewers in the appropriate field, and more than 120 submissions were received. All of those received will be judged for the 28 awards (10 best presenters, 10 best papers, 5 best posters, and 3 Best of the Best) provided in the final presentation. In addition, all papers will be published in e-conference proceedings and others will be recommended to the Scopus journal with assistance from university collaborators.

This conference can only succeed as a team effort. As the chairperson of this conference, I would like to extend my most sincere congratulations to the internal committee of postgraduate students who have successfully completed the mandatory audit course by organizing this outstanding conference. Special appreciation to EXCO and POM UNISSA for their financial and other support in organizing this technological conference and exhibition. In addition, we would like to express our gratitude to the UNISSA Committee, which is comprised of various parties such as PTM, Library, Estate, Faculties, and Centers as conference participants or committee members, as well as paper reviewers, who review papers with excellence and offer extremely valuable input and advice

وعليكم السلام ورحمة الله وبركاته

ROOM 1
THEME: EMERGING TECHNOLOGY

FEASIBILITY STUDY OF THE APPLICATION OF MICRO-LEARNING ON THE TEACHING-LEARNING PROCESS FROM THE PERSPECTIVE OF ELEMENTARY SCHOOL TEACHERS

Author: Bostanmanesh nik, Negin

Abstract

The main purpose of this study was to assess the applicability of micro-learning in the teaching-learning process of primary schools from the perspective of primary school teachers. In this study, the target population included all male and female primary school teachers in the 95-96 academic year, numbering 233 people, and the random sampling method was simple. In this study, a researcher-made questionnaire was used to collect information about the research topic and according to its theoretical foundations and background, it was designed based on a five-level Likert scale. The data obtained from the questionnaire were analyzed at two levels of descriptive and inferential and one-sample t-test.

Keywords: Teaching-Learning Process, Micro-Learning, Teaching, Learning

ANALYSIS OF GYM CUSTOMER SATISFACTION SURVEY BASED ON HOLOGRAPHIC PROJECTION TECHNOLOGY – AN EXAMPLE FROM SHENZHEN, CHINA

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Abstract

Since the birth of modern science, five technological revolutions have taken place. With the rapid development of electronic information technology and the advent of the 5G era, technological innovation has become a key variable in influencing and changing the world's economic landscape. Holographic projection technology is a popular technology in electronic technology, and many powerful countries such as the United States, Japan and Germany are committed to its research. In recent years, holographic projection technology has continued to mature and is being used in more and more areas, quietly changing our lives. 2014, a new training method combining holographic projection technology - holographic training - was developed and quickly put into use as a pilot in gyms in first-tier cities such as Shanghai, Beijing and Shenzhen in China. To date, more than 105 health clubs in 45 countries have offered holographic training classes worldwide, with over 100,000 users. In China, many well-known fitness clubs have created holographic training rooms, such as holographic cycling training rooms and holographic aerobics training rooms. The effective use of holographic projection technology in the gym can achieve the interface between virtual and reality, holographic projection training makes the participating members more expressive in the process of exercise, so that the participants become more active in the course, the virtual atmosphere brings members more environmental infection and visual impact, the coach can also increase the interaction with members in the training process, for the future development of the gym has a This is a revolutionary innovation for the future development of gyms. In this paper, we visited gyms with holographic training courses in Shenzhen, China, and conducted a questionnaire survey on their members using the Customer Satisfaction Survey Scale.

Keyword: Holographic Projection Technology, Gym

PALM OIL FRESH FRUIT BUNCHES (FFB) RIPENESS CLASSIFICATION TECHNIQUE USING IMAGE SEGMENTATION

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Abstract

The ripeness of palm oil fruit is currently determined through manually visual inspection by palm oil estate workers that could result inconsistent and inaccurate fruit grading. By using this approach, the manual inspection is time-consuming and exhausting duty for humans to complete the daily repetitive task. To overcome this limitation, this paper proposes an automatic fruit grading classification by utilizing computer vision technologies using an image segmentation approach known as Mask R-CNN. This technique is analysed in this work and compared with common object detection technique which is YOLOv3. From the analysis, it is clearly demonstrated that image segmentation approach is remarkable in improving ripeness category based on pixel-by-pixel details of an object from the foreground of the images.

Keywords: Classification, Deep Learning, Mask R-CNN, Palm Oil Fresh Bunches Ripeness

EXPLAINABLE ARTIFICIAL INTELLIGENCE-BASED SIMULATION MODELLING USING FORMAL CONCEPT ANALYSIS: A POSITION PAPER

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Abstract

Recent utilisation of Artificial Intelligence technologies within the healthcare domain has grown interest among researchers, modelers, and stakeholders, enabling extensive uses of simulation modeling for decision-making. The comprehensive AI-based simulation system, an emerging enabling technology, is receiving a lot of attention as a decision support tool for a more transparent representation of a complex and heterogeneous system. One of the advantages of a transparent yet explainable AI-based simulation is the simulation model reconfiguration can be used to analyse changes or alternative scenarios explicitly to meet the needs of increasingly competitive markets. Furthermore, by implementing an explainable approach of the simulation modelling, enable the model to understand 1) the system behaviours and its related components; 2) how and why they behave the way they are. This article presents the attribute implication approach of Formal Concept Analysis (FCA) in identifying relationships or patterns in healthcare data to underpin the predictive model generated using Machine Learning/Deep Learning (ML/DL). This study deals with relationships or rules between variables in COVID-19 data for an explainable Artificial Intelligence (AI) and uses it to build a 'white-box' simulation model. This study aims to facilitate decision-making in the healthcare domain and improve simulation models' adaptability. The novelty of this work lies in increasing the transparency of AI techniques to optimize their use in various real-world applications. The discussions are helpful and can lead to new research opportunities especially to support robust future scenario analysis and serve as a reference framework for researchers and industrialists for informed decision making.

Keywords: Formal Concept Analysis, Artificial Intelligence, Simulation Modelling

APPLYING RASCH ANALYSIS USING LATEST WINSTEPS TECHNOLOGY TO EVALUATE QUESTIONNAIRES OF THE RADIO UNIVERSITY ESTABLISHMENT ACCEPTANCE AND TALK SHOW PROGRAM INSTRUMENT

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Abstract

Students enrolled in media and communication programme or those interested in media communication studies may use university radio as a training platform; accordingly, how accepting are UNISSA students of establishing university radio on campus as a medium of instruction and improving communication skills among students through university radio talk show programs? Therefore, the purpose of this paper was to assess the psychometric properties of the University Radio Establishment Acceptance Instruments (UREAi) on campus, as well as the suggested module for talk show, using the Rasch Measurement Model. This questionnaire instrument was designed and developed using three fundamental systematic processes namely (1) item design and development, (2) item testing, and (3) instrument testing. Numerous items were removed or amended during the multiple stages of pilot testing until an item reliability value of 0.92, a high person reliability value of 0.98, and the ability to divide with a separation value of 3.47 were reached. For items with an MNSQ (mean squared) value of 1 or greater, or with an MNSQ close to or greater than 1, and a square Z value greater than or equal to 0 (including minus/plus values such as -1.03). And if the item with the specified value is in a different construct, it can be deleted or removed. Finally, a 35 items survey was administered to 333 respondents chosen using a stratified group random selection procedure. Furthermore, an effective rating scale, robust item matching, and no item functional differences (DIF) were also found. A valid and reliable University Radio establishment instrument with good psychometric characteristics was developed. As a conclusion, this research has a quality instrument and can create unbiased data to make decisions.

Keyword: UREA-Instrument, Rasch Analysis, Winsteps 5.2.1.0 Technology

PERSONAL KNOWLEDGE MANAGEMENT: OBSIDIAN OR NOTION?

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Master of Educational Management Program

Abstract

The purpose of this paper is to discuss the productivity apps (obsidian and notion) for personal knowledge management (PKM) in today's fast-moving workplace. Creating personal knowledge management workflow are a real challenge for individuals to be more productive. The paper questions which apps that suitable for the PKM within the most known productivity app such as notion and obsidian. User's opinion of these two apps were analyzed and several features of the apps also deeply compared. Obsidian and Notion plays a multifaceted role for linking, collaborating, sharing, and managing the knowledge. These apps enable a new way of idea emergence, and productivity booster. Based on the findings, obsidian is better for a second digital brain which mimics how the brain works with the backlinking system, it enables user to connect several ideas that has been stored to the app. Notion in the other hand, also has the backlinking system but it is more preferable when it comes to the project, task, or wiki database management. Alternative arguments are highlighted and outlined in broad strokes to give the reader an idea of which apps that work for them.

Keywords: Personal Knowledge Management, Productivity, Obsidian, Notion.

ONTOLOGY-BASED CONCEPTUAL FRAMEWORK FOR UNSTRUCTURED DATA LABELLING

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Abstract

Data is everything in the realm of Machine Learning (ML), and it's been widely used in the development of Artificial Intelligence (AI) applications in a variety of industries. The AI model and the data are the two most crucial components of any AI solution. From the perspective of data and information, ontology is classified as a conceptual model to study data and its relations. Ontology, a semantic data model, is able to define the types of things that exist in domains and the properties to be used to describe them. In this paper, we propose a conceptual framework to synthesize attributes within domains that handle the recognition of complex objects by defining concepts and their components in unstructured data to produce more quality data. The ontology-based conceptual framework works in two-fold; 1) To provide an ontological representation of the domain and 2) To facilitate the practical implementation of data labeling objectives. The ontology-derived conceptual framework is helpful in data labeling for unstructured data through the identification of essential recognition by repeated exposition and the high-level classification of components from an ontology. This study highlights steps of ontology engineering - Ontology Merging, Ontology Integration, and Ontology Evaluation to build a data labeling ontology named Data Labelling Ontology (DL-Onto) for unstructured image data. DL-Onto is evaluated using Ontology Quality Evaluation Framework (OQuARE). The evaluation results are encouraging, providing concrete outcomes of the new technique of using ontology in data labeling to ensure data quality and contribute a new body of knowledge to the AI research community.

Keywords: Conceptual Framework, Data Labelling, Ontology-Based Conceptual, Unstructured Data

3D SA'I VIRTUAL REALITY FOR MONITORING HAJJ PILGRIMS' CARDIORESPIRATORY PERFORMANCE

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Abstract

Hajj is one of the pillars of Islam to those who can afford and capable of performing it. Physical fitness such as cardiorespiratory fitness places an important role in performing of Hajj and Umrah. This is due to the activity of Hajj and Umrah that require huge amount of energy. Activities such as Sai, Tawaf, throwing stones at 3 Jamrat with high environment temperature, overcrowding, improper eating and sleeping habits, Vigorous and Strenuous activity often resulted in many pilgrims' fatigue and exhaustion that can lead unconsciousness. Therefore, this paper aims to improve pilgrims' fitness and develop a proper training for Hajj and Umrah Pilgrims focusing mainly on Sa'i activity. Using 3D virtual environment called "Fit 4 Sa'i" that imitated the real environment of Sa'i. In the training program pilgrim will brisk walk on the treadmill with the "Fit 4 Sai." Software. The training program will be conducted for 8 weeks with a distance starting from mount Safa 0.45kilometer which is equivalent to 1 lap. The intensity increases gradually to a maximum of 5.6 kilometer, a total of 8 laps that cover an over distance training. The heart rate reading, blood pressure and oxygen consumption are measured using smart watch and verified using Attys software. It was found that the training provided is able to achieve the required fitness level to perform Hajj and Umrah.

Keywords: Hajj, Virtual Reality and Cardiorespiratory fitness.

A STUDY OF CNN-BASED TECHNIQUES FOR FACE MASK CHECKING AND PEOPLE COUNTING USING JETSON NANO AND NVIDIA GTX

Hadhrami Ab Ghani

Abstract

Deep Learning based techniques are widely used artificial intelligence approaches for tackling many daily issues and applications, including machine vision applications, paving the way for new solutions in various fields of life. It offers a broad array of uses, from self-driving cars to agricultural and healthcare-related functions. Of the many machine vision techniques proposed in the literature, some of the most frequently applied solutions with good accuracy performance are based on Convolutional Neural Networks (CNN) such as the Region-based CNN (R-CNN), Faster R-CNN and the currently popular method known as the You Only Look Once (YOLO) method. As the current pandemic and endemic situations require efficient vision-based monitoring techniques, these aforementioned algorithms can be adopted to monitor people, including checking whether they wear face masks and counting the number of people present (with or without masks) in an open space or closed areas and buildings such as airports, hospitals, religious buildings, or places of worship such as mosques. This initiative is efficient and essential in controlling the transmission of diseases such as COVID-19 while monitoring the security of the area. The key obstacles are the picture databases, which are traditionally unstructured and massive in size, affecting the machine vision performance. Second, the needed mobility of the proposed machine vision system, which is often dependent on portable platforms, such as the NVIDIA Jetson Nano. This study intends to explore and propose real-time healthcare monitoring, via face mask checking and people counting, based on the NVIDIA Jetson Nano platform.

DEVELOPMENT OF HUMAN-LIKE ROBOTIC INDEX FINGER AND THUMB FOR PINCHING OPERATIONS FOR ISLAMIC MEDICAL EDUCATION

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Abstract

During the Islamic golden age, Muslim scholars such as Abu al Qasim al Zahrawi and Ibnu Sina promoted the image of Islam in the medical field by developing over 200 medical devices especially in the field of surgery. Therefore, a continuation for Islamic scholars to contribute in the medical field by employing current robotic approaches are necessary. The conventional method for visualizing human anatomy in medical education is by use of cadaver models. However, cadaver models have issues of high cost, supply shortage and storage difficulty. This study aims to design a human-like robotic index finger and thumb which closely mimic their human counterparts for the field of medical education. This is achieved by closely mimicking the human index finger and thumb in terms of muscles, bones, ligaments and tendons. The range of motion is validated by measuring the joint angles and comparing the actual joint range of motions of humans. The mechanism is also evaluated by pinching experiments of different objects with different shape, sizes and mass. It is found that the proposed design is able to mimic the human range of motion and is able to pick objects such as water bottle, eraser and card with mass smaller than 300g. The design of the musculoskeletal system introduces robotics alternative solution in the field of medical education rather than using the real cadaver model.

Keywords: Human-like Robot, Thin McKibben Muscle, Soft Robot

STUDENT'S ACCEPTANCE TOWARDS UNIVERSITY RADIO AS AN EDUCATIONAL MEDIA TO DEVELOP EFFECTIVE COMMUNICATION SKILLS

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Abstract

Various information technologies have covered the whole world including radio which has been used for a long time but is still relevant today in various forms for educational purposes across the world, was founded with the goal to link human beings via communication. As an educational and communication medium, educational radio has grown in popularity. Radio, while not having the same importance as other technologies like television and the internet, is nonetheless a medium that may provide society with high-quality educational value. University radio, or campus radio operated by a university, will serve as a platform for university students to train themselves to become better presenters through program management, enhancing their communication skills, and operating the technology. University radio also helps in transmitting information and knowledge effectively. Therefore, the objectives of this study are to determine to what extent does the university radio is needed if it is established in UNISSA, the acceptance of UNISSA students on the establishment, and lastly, what educational elements will be achieved through university radio as a medium of education and communication among students. This study was conducted using a study design questionnaire as the main collecting data. The frequency distribution data was generated using descriptive statistical analysis, and the propensity of the study findings will determine whether university radio reception is in the low, medium or high-level categories. For the study, three hundred and thirty-three (333) students from Sultan Sharif Ali Islamic University participated in the survey. The results of the study will be used to promote university radio as an educational media platform on the UNISSA campus, as well as attempts to educate campus residents, particularly students, in communicating information and education to the community. University radio can be implemented in the current media context, particularly with the availability of the Internet and new technology that can help it evolve, changing conventional radio into a new interactive concept.

Keywords: University Radio, Communication Skills, Educational Media.

APPLICATION OF ARTIFICIAL INTELLIGENCE USING K-NEAREST-NEIGHBORS FEEDFORWARD CONTROL FOR ROBOTIC PROSTHETIC HANDS TO REDUCE INEQUALITY IN ISLAMIC SOCIETIES.

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Abstract

The Quran instructs Muslims to persistently work whenever and wherever it is available. Unfortunately, working in normal conditions is a very difficult task for hand amputees which consists of 70% of patients with upper limb loss. Robotic solutions such as prosthetic hands assist people with these disabilities to work and do every day chores. Even though there are several prosthetic hands available, most hands are heavy due to motors and sensors that are mounted onto the prosthetic hand. This work proposes a K-Nearest Neighbors (KNN) feedforward method to control a human-like robotic hand actuated by artificial muscles. Motion of the robotic finger is captured using Vicon motion capture. The data is then used to build a KNN model to predict the combination of muscles used for fingertip position control. Different hyperparameters are compared using grid search method and the accuracy of the model is evaluated. KNN algorithm with Euclidean distance and nearest neighbors of 3, shows highest accuracy of 65% compared to using other hyperparameters and show improvements of up to 10% compared to using Minkowski distance with 10 nearest neighbors. The controller together with the human-like robotic hand reduces the overall weight by eliminating the use of motors and sensors. Physically and psychologically the design help users to feel a sense of belonging to the society and reduces inequality.

Keywords: Human-like Robot, Prosthetic Hand, Artificial Intelligence

LANE DETECTION USING CONTOUR SLOPE ANALYSIS WITH DEEP LEARNING IN ALL-WEATHER CONDITIONS

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Abstract

Prior research has shown that road marker classification using contour features in clear or dry weather conditions has high accuracy performance. However, the performance tends to be lower under rainy driving conditions due to the reduced quality of the road image when detecting the five classes of road markers which are Single, Single-Single, Dashed, Solid-Dashed, and Dashed-Solid. To address this challenging condition, lane marker detection based on the slope contour analysis with the 4-point approach is proposed in this paper. The lane marker object is captured from the region-of-interest (ROI) identified from an approximation function. With the improved ROI selection, the achievable classification accuracy is close to 100% in normal daily conditions and more than 70% in rainy conditions.

Keywords: Lane detection, Slope Contour, All-Weather, Deep Learning

HUMAN-LIKE ROBOTIC ELBOW DESIGN AND CONTROL FOR ENHANCING PRODUCTIVITY IN ISLAMIC COUNTRIES MANUFACTURING SECTORS

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Abstract

Automation which has advantages of higher production rates and increased productivity is vital for Islamic countries to thrive in the change of world economic climate in the manufacturing sector. Al-Jazari and the Banu brothers, who work on valves, have made significant contributions to modern automation technologies especially in the field of automation. Artificial muscles are one type of actuation method which use valves and are gaining increasing popularity in soft human-like robots. Advantages of using artificial muscles as actuators are high power to weight ratio, high compliance and safe interaction with the environment. However, it is difficult to control artificial muscles in an antagonistic configuration due to nonlinear characteristics of the muscle, parameter variations and dead-zones. This paper proposes a Modified proportional integral (MPI) control approach for TMM in an antagonistic pair configuration to develop a Thin McKibben Muscle (TMM) platform that matches the biomechanics of a human upper limb at the elbow joint. Set-point tracking is achieved by using a proportional integral control together with a dead-zone reduction algorithm for switching between flexion and extension muscles. To test the effectiveness of the proposed method, experiments are carried out on the TMM platform and injected with step and sinusoidal input signals. Experiments revealed that by adopting the MPI control scheme, the TMM platform was capable of producing high precision and a quick rise time. The findings of this study are crucial for the development of soft robotic arms that can be employed in automated operations in Islamic nations to boost productivity.

Keywords: Human-like Robot, Thin McKibben Muscle, Soft Robot

SERIOUS GAMES MODEL ON PROMOTING HALAL FOOD DIETARY FOR PREVENTION OF ADOLESCENTS OBESITY TOWARDS A SUSTAINABLE LIFESTYLE

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Abstract

Serious games have played a significant role in enabling users to gain knowledge, skills, and competencies which are crucial in facing today's challenges. One of the most challenging issues amongst Malaysians nowadays is stressful and unhealthy lifestyle which usually may lead to obesity. The rate of obesity in Malaysia is the highest in Southeast Asia in various ages ranging from children, adolescents and adults. Awareness of the danger of obesity should be presented in a more attractive and interactive medium to increase motivation towards a healthy lifestyle. Health games provide opportunities for the treatment and prevention of childhood obesity. Most existing healthcare apps are lacking of cognitive elements. There is a need to incorporate complex cognitive aspects such as in-depth understanding, problem solving, questioning and decision-making as well to promote healthy lifestyle which is in line with Islamic values. This study focuses on the design elements of the game to support behavioral cognitive models in a serious game for healthy lifestyle on halal food dietary. The methodology utilized in this study is the User Centered Design consists of five phases, namely, analysis, design, development, evaluation and validation. A preliminary study has been carried out by observing selected respondents aged between 14-16 years old in selected Malaysia secondary schools to obtain feedbacks on the suitable way to enhance the existing health applications. The findings have been incorporated into the process of developing the cognitive behavioral model which is applied into a serious game application to promote a healthy and sustainable lifestyle. The game is intended to provide an additional educational component for the prevention and treatment of obesity in children as well as for enhancing knowledge around sustainable development strategies.

Keywords: Serious Games, Obesity, User Centred Design, Halal dietary, Sustainable Lifestyle

ROOM 2
THEME: EXISTING TECHNOLOGY

DESIGN AND DEVELOPMENT OF MOOCS COURSE FOR ISLAMIC EDUCATION USING TRIPLE 3 STRATEGY

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Abstract

Accessibility, flexibility and economical fees of MOOCs courses attract millions of students worldwide today. Islamic education is critical for every Muslims especially adult Muslims. Increasing the flexibility of MOOCs Islamic courses structure and organization would improve course registration and completion rate. Therefore, this study proposes the design and development of Moocs Course for Islamic education using Triple 3 Strategy. In this strategy, a course design is introduced by using 3 levels. Every level consists of 3 modules and every module needs 3 hours' studying session. By completing every module, a module certificate is given. level certificate and course certificate are given by completing the required learning tasks too. The continuous collection of certificates by students during the progress in the course would attract more students to register and complete MOOCs Islamic courses.

INTEGRATION OF PERSUASIVE TECHNOLOGY WITH ISLAMIC DIGITAL SPIRITUAL INTERVENTION

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Abstract

Persuasive technology in digital health intervention is a technology that drives changes in user's attitudes and behaviours without coercive and deceptive with the implementation of activities and personalise health care. The digital health interventions are used for health and wellbeing through virtual methods between counselors and client, or by self-management. Although the internet access through computers and smartphones is increasing, the failure to use of digital health interventions among counselors and the community in Malaysia are due the preference of face-to-face method and the perception of taboo, especially involving sensitive issues including sexual behaviour problems. Sexual behaviour problems are one of the serious public health issues that are at risk of contributing to extramarital sex, extramarital pregnancies, unsafe abortions, and abortions. In addition to conventional interventions using Western approaches, religious and cultural adaptation intervention are frequently applied in awareness and education programs. Islamic psychospiritual approaches are used for addiction, anxiety attacks, marital relationships, and social problems such as sexual behaviour problems. Even though Islamic spiritual intervention has positive outcomes, but such approach are in favour to adopt a face-to-face method without any technology application. This approach is often used by shelters and rehabilitation centres for adolescent girls who have experienced more serious sexual behaviour problems. Therefore, this article aims to identify the availability of web-based digital health interventions or mobile applications with Islamic spiritual approaches by counselors or institutions on the internet. Observations and search queries on the internet discovered that there was no digital health intervention in the form of web or mobile application that uses the Islamic spiritual approach other than MyCare Covid-19 website by Jakim Malaysia. This website offers Islamic spiritual intervention through telephone service and attaches assistance kits for self-management usage particularised in psychological and social issues during the period of the Movement Control Order due to the Covid-19 pandemic. Nevertheless, there is great potential for the development of digital health interventions through the integration of persuasive technology and Islamic spiritual intervention to address various problems in the Muslim community including sexual behaviour problems among adolescents.

Keywords: captology; persuasive system design; sexual and reproductive health; Islamic psychospiritual; internet intervention.

STUDY OF PLA/FLAX FIBER FOR BOAT HULL USING FINITE ELEMENT ANALYSIS

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Abstract

The purpose of this research study the mechanical properties of PLA/Flax fiber used to produce Boat Hull using Finite Element Analysis and compared the properties of PLA/Flax fiber with the current materials used in industry. Flax fiber bio-composite as a replacement of fiberglass for the production of boat hull in marine industry and characterize it using finite element analysis and computational fluid dynamics. Cost factor also gives influence on the material selection of boat production. Wood become irrelevant in these day after the recognition of fiber-reinforced plastic. In nautical application especially boat hull production, fiberglass is the most common material that been chose. Unfortunately, fiberglass can lead to water pollution. When the fiberglass boat hull reaches their lifetime, the boat must be disposed Hence, PLA/Flax fiber bio-composite continues to emerging as low cost, lightweight and apparently environmentally superior alternatives to glass fibers in composites. In the marine industry, part boat hull craft are becoming obsolete and the disposal of fiberglass is a critical issue due to technical and economic problems. Hence, bio-composites can represent a powerful tool, replacing glass fibers as reinforcement inside the composite structures. Simulation using Solidwork has been done in modelling the Boat Hull and also applying the Finite Element Analysis. Result shows the the mechanical properties based on the materials applied to the Boat Hull.

Keywords: PLA/Flax bio-composite, Finite Element Analysis, Solidworks, Boat Hull

DESIGN OF 3D MOBILE APPLICATION PROTOTYPE TO AID TAJWEED LEARNING

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Abstract

According to some studies, accurate Tajweed articulation is low or moderate among people of all ages. If inaccurate recitations and mispronunciations occur this would change the accurate meaning of the word recited. Therefore, continuous studying Tajweed is essential in order to enable one to recite Al-Quran in proper order. However, the learning process is often tedious as there are many Tajweed rulings to remember, learn, apply and master. It is also time-consuming, making it difficult for adults, in particular, to commit to and maintain knowledge over a lengthy period of time. Therefore, the potential solution to this concurrent problem is to utilise the available technologies especially on the path towards achieving Society 5.0 whereby the potential to develop technologies to aid Tajweed learning is limitless with the main aim to provide a convenient method for adults to self-learn continuously. Additionally, one of the most advanced way of attracting learners to commit to self-learning is by enhancing Tajweed learning method with the 3D technology. Hence, in this paper, the conceptual design of the a mobile application prototype is proposed using ADDIE model where the development of the 3D elements act as the main attractive feature as well as a tool for Al-Quran readers to search for Mad Tajweed rulings. Selected verses from the Al-Quran will serve as the marker allowing the user to project the mobile application onto the marker at any time at their convenience when they've encountered difficulty to recite the selected verses. A brief analysis has been made whereby 70% of 107 of adult respondents from a survey has agreed that learning Tajweed is more attractive when there are 3D elements where the users can interact with it. This indicates that there is a possibility for greater development in this area.

Keyword: Design of 3D, Mobile Application Prototype, Tajweed learning

DESIGN ASPECT IN EDUCATION BUILDING FOCUSING ON HEARING IMPAIRED STUDENTS

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Abstract

Malaysia's capacity to stay economically competitive in the age of globalization is dependent on the capabilities of its workers. Malaysia's education laws and procedures must be altered to provide more education training to the country's handicapped people in order for them to find work. Malaysia's estimated 100,000 handicapped people require more concentrated measures to protect their rights (Kamarudin & Hussain, 2019). One of the subjects covered in special education is hearing impairment yet one of the contributing causes to learning difficulties is this condition. The right to economic and social security, the right to a reasonable quality of life, and the right to have their unique needs taken into account at all levels of economic and social planning are among these rights. To improve the quality of life for Malaysia's special needs population, a holistic and systematic strategy is required. The Education and Training for Special Needs Population Act should place a strong emphasis on making an education institution that is assessable and comfortable to special needs students like hearing impaired student. Until today there is no hearing-impaired institution that provide decent facility that fits their needs. Therefore, this study was conducted to study and to identify the design aspect in an education building for hearing impaired that can set out a positive impact to hearing impaired students. This study utilized the quantitative approach to gather data by giving out questionnaire with hearing impaired students.

Keywords: Education building, Educators, Hearing Impaired, Institution, Learning, Special Need

MODEST FASHION: DIGITAL SURFACE PATTERN FOR DIFFERENT BODY NEEDS

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Abstract

Islam does not forbid its followers to be fashionable in the form of clothing or accessories. Islam has permitted fashion admirers to adorn themselves and be beautiful but with a specific set of boundaries. The dress has been one of the necessities and the desire for perfect body figures, and it is ubiquitous across the world. Nowadays, the development of various media technologies, either in printing or electronics, has spread information about the product and changed the increasingly popular image of Islamic fashion. The variety of media has given space for Muslim women to want and try new styles. However, the fast lifestyle has created fast foods, which have affected the body size and shape of a human. One intangible approach to tackling apparel's different body shape requirements is placing the right size and pattern on a specific body type. Thus, this paper is on advising types of design patterns – acting as optical illusions – that can affect viewer perceptions of body size. The overall approach is to create patterns by manipulating the Jasmine flower in creating design patterns to aid viewers' perceptions of body size. The developed pattern using the Jasmin flower was tested on four different male and female body shapes. These body shapes were created using a 3-dimensional avatar approach, and the data collection was created with a moving avatar (3D models) walking while wearing the proposed pattern. The study uses a quantitative method of magnitude estimation to collect the data. The study confirms the idea of different placement of patterns in triggering the illusion of visual perception of body shapes.

Keywords: Textile, Design, Visual, Communication, Patterns.

STUDY OF POLYETHER ETHER KETONE (PEEK) FOR CAR WHEELS IN AUTOMOTIVE INDUSTRY USING FINITE ELEMENT ANALYSIS

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Abstract

The purpose of this research study was the mechanical properties of Polyether Ether Ketone (PEEK) used to produce car wheels using Finite Element Analysis and compared the properties of PEEK with the current materials used in automotive industry. This study was aimed to reduce a vehicle's weight and cost, which can significantly reduce fuel consumption and CO2 emissions. A lighter car consumes less fuel because it needs to overcome less inertia, reducing the power required to move the vehicle. Besides, a vehicle will not only be reduced in weight due to lighter material is used but, also have an ability to withstand force and lower deformation as good as a metal. Therefore, this research would be using PEEK as a material for the car wheel rim in replacing the current materials used in our automotive industry. By following the standard measurement ISO 9001 with the design from Bavarian Motor Works (BMW), the model would be created by using SolidWorks® software and the analysis of stress and displacement is determined by using the SolidWorks® simulation. Five different force were applied to the car wheel rim model by referring to current journal studies and the results of maximum stress and displacement were tabulated. Moreover, the results would be compared with other current materials used in automotive industry which are Steel, Aluminium Alloy and Magnesium Alloy.

Keywords: Polyether Ether Ketone, Finite Element Analysis, Solidworks, Car Wheels

I-ATTENDANCE: INTELLIGENT ATTENDANCE SYSTEM

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Abstract

Nowadays, the already existing attendance system is still at a poor level; there are institutions that are still using old attendance tracking methods like signing an attendance sheet, which is slow and time-consuming. It also lacks a security approach because it would be a fake sign for their friends and they would have the ability to lose the attendance sheet. This paper presents a method of taking class attendance using face as the biometrics. A smart and automatic attendance management system is being used to overcome this problem. However, with this system, authentication is a critical concern. Biometrics is commonly used to implement smart attendance systems. One of the biometric approaches for improving this system is face recognition. An intelligent attendance system is a mobile application that will be used for daily attendance for school organizations which consists of their students' details such as username and password. This application focuses on recording students' attendance. The objective of this application is to improve the current attendance system with more flexibility and efficiency.

Keywords: facial recognition, biometrics, mobile application.

THE POTENTIAL APPLICATION OF DIGITAL DOCUMENTATION FOR THE TRADITIONAL MALAY WOOD CARVING IN BALAIRUNG SERI, ISTANA BALAI BESAR

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Abstract

Traditional Malay Royal Palaces are remarkable architectural constructions in Malaysia that serve as an important and distinguishing emblem of the kings and royal families. Traditional Malay Royal Palaces are significant architectural legacies that serve as places of residence and administration. The most important space inside the traditional palace is the Balaiung Seri, also known as the main hall, which serves as a meeting place as well as a showcase for the royal throne. Unlike commoners' houses, the Balaiung Seri is frequently ornamented with decorative and intricate wood carving. This study aims to develop a greater knowledge of wall carving motifs discovered in Balaiung Seri, Istana Balai Besar, Kelantan, using the possibility of digital documentation technique application. A survey of the literature, a measured drawing, an interview with a well-known local woodcarver, and the creation of digital documentation using AutoCad and Sketch Up software were all part of the research process. The findings indicated that the wood carvings in Balaiung Seri depict the hierarchical example of the royalty to the commoners in the Malay society's quality way of life, particularly in terms of the relationship between royal and commoners that resemble the finest art and craftsmanship as the symbolization of the royal status compared to the commoners. This digital documentation will raise awareness for preserving legacy as well as educate people on traditional Malay woodcarving itself, notwithstanding any scenario such as the pandemic and physical access restrictions to the palace. The digital documentation of the intricate wood carving at Balaiung Seri potentially become the future references of the local aesthetic and skillful craftsmanship representing the status of the royalty.

Keywords: Palace, Architecture, Wood Carving, Digital, Balaiung Seri

DROWSINESS DETECTION AS A DRIVER ASSISTANT (DDAADA)

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Abstract

A Drowsiness Detection as a Driver Assistant (DDAADA) has been developed using the flutter framework and the machine learning kit's face detection API. The application uses a mobile camera that points directly towards the driver's face to determine whether the driver is exhausted. In such a case, when the driver is detected to be exhausted, they will be alerted using an indicating red box on the screen around them. The measurement of eye accuracy by using the information obtained from the value of the image to locate the margins of the face, thereby narrowing the area in which eyes may reside. Once the camera can detect the face, the eyes found by the camera are the horizontal averages of the eyes in the area. The eyes are detected by locating substantial intensity changes in the face, taking into consideration the fact that eye regions in the face display great intensity fluctuations. The eyes are situated at one point, and the probability of eye average between the intensity changes in the eye area is used to determine whether the eye is open or closed. If the eye of the driver closes below the average value of 0.6, the system will conclude that the driver is sleeping and it will be alert using an indicating red box on the person. The system is also able to detect the eyes if the driver wears spectacles.

Keywords: Driver Assistant, Eye Detection, Face Detection, Flutter, Intensity.

THE RELATIONSHIP BETWEEN THE POSITION OF WOMEN AND THE SPATIAL ORGANISATION OF THE PALACE

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Abstract

The traditional Malay palace architecture has several functions such as residence palace, ceremonial palace, summer palace, palace for the consort and more. The spaces provided for the dedicated palaces are most related to the activity systems of the occupants. This study aims to explicitly show the influences of women on the spatial organisation of two palaces as case studies. The methodology applied were field studies at Istana Pahlawan and Istana Sepahchendera, Kedah, Malaysia. The data were collected through observation, interviews, measured drawings, and literature reviews. The findings indicated that the position of women has a strong relationship with the spatial organisation of the palaces defined by the mother of the Sultan and the consort of the Sultan. The background of the women who inhabited the palaces also influenced the spatial organisation of both palaces. The significant spatial hierarchy elicited from both case studies was determined by the horizontal and vertical spaces of the palaces. The privacy of the women at both palaces was the core aspect in designing the spatial relationship and the circulation of the palaces whereby the Istana Pahlawan applied a horizontal spatial system while the Istana Sepahchendera utilized the vertical spatial system. The understanding of the relationship between the position of women and the spatial organisation of the palaces may contribute to the appreciation of women's involvement in the royal activity system and royal hierarchy. The respect for women and religious teaching are much correlated as both factors emphasise on privacy. The significant influence of women's positions on the spatial study of both palaces remains until today.

Keywords: Palace, Women, Architecture, Spatial Study, Privacy

THE POTENTIAL OF MIXED DYES OF MORUS NIGRA L.SP & SARGASSUM BINDERI SP. SP AS PHOTO-A LAYER IN SOLAR CELL DEVICE

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Abstract

The application of natural plant-derived dyes to replace ruthenium-based material as a photo-absorber in solar cell applications has been extensively studied and proven. Natural materials are the current choice for photo-absorber candidates due to several advantages such as low cost, abundant supply, sustainability, and environmental safety. Natural plant-derived dyes are known to contain natural compounds (e.g., carotenoids, chlorophyll, and anthocyanin) with electronic delocalization properties in extended π -orbital systems with an electronic transfer mechanism. To date, massive investigations have been performed to exploit this π -electronic system for further potential application of photo-absorbers in solar cells. Hence, the hybrid dyes from the mixture of *Morus nigra* L. (mulberry, M) and *Sargassum binderi* sp. (seaweed, S) were successfully prepared and several physical characterizations were carried out to analyse the photo-absorber (sensitizer) properties. The wavelengths of photo-absorbers were slightly reduced by adjusting the M: S ratios to 1:10, 3:1, and 30:1. With this new approach, the solar efficiency of the mixed dyes as a core point in modulating the electrical conductivity of the photo-absorber can be simply tuned. By implying two different extracted dyes to form mixed dyes, the solar efficiency was found to be increased and much higher with a higher ratio of M used. With the higher value of solar efficiency of 9.44×10^{-2} , the conductivity values of 3 M: 1 S. Overall results suggest that by adjusting the ratio mixture of mixed dyes solution, the photo-absorber properties and the solar efficiency values were different, and with a slight modification method, better electrical conductivity can be expected for solar cell application.

Keywords: conductivity, solar efficiency, natural dyes extracts, mixed dye, co-sensitizer

IMPLEMENTATION OF SCHOOL BUSES TRACKING SYSTEM USING MOBILE APPS

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Abstract

School bus services in Brunei Darussalam are not fully utilized by the local users. The main reasons are the existing system is does not provide efficient services. Factors such as no fixed schedule of time of arrival and departure, the condition of most existing school bus services are not conducive especially among the bus users. Therefore, the aims of this paper are to design a system using mobile apps that would provide information to minimize all these problems. Elements such as timing system, route, child parent tracking system and charges would be taken into consideration. A mobile apps will be developed that will assist school children and parents feel secured and comfortable especially in dealing with punctuality of time. The developed mobile application will be tested among a group of school children and parents to strengthen its' validity and reliability in terms of timing system, route, children parent tracking and the suitable charges. The expected outcome of this study is development of a simple mobile app system will assist school children and parents in tracking efficient school bus system. Future research will recommend a smarter application that will include artificial intelligence system that coordinate all the four elements as mention above.

Keywords

School bus, tracking system, mobile app

ROOM 3
THEME: EMERGING & EXISTING
TECHNOLOGY

DEVELOPMENT OF AN INTEGRATED WAQF REPORTING INDEX (IWRI) FOR MALAYSIAN WAQF INSTITUTIONS

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Abstract

The reporting system of waqf institutions in Malaysia needs to be given serious attention and updated in line with technological advances and changing trends in global accounting reporting practices. Traditional waqf reporting has proven to be less effective with various recurring problems, including unproductive asset management and mismanagement. In general, the lack of transparency in reporting is among the leading causes of the issues experienced by waqf institutions. In line with the integrated reporting framework currently practised globally, this study outlines the development of an integrated waqf reporting index for Malaysian waqf institutions. The article presents an inclusive examination of standards and literature on financial and non-financial capital disclosure of information to develop the IWR index. The final four categories and 36 items under consideration have been developed into an instrument, which is the proposed IWRI for assessing the commitment undertaken by waqf institutions in advancing the agenda of multi-capital and integrated reporting. The index has passed through the validity, reliability, and pilot test. This paper contributes to the development of an integrated waqf reporting index that may be most appropriate for waqf institutions to adopt in developing countries. It tackles the issues concerning best practices for waqf institutions regarding accountability and transparency. The study introduces the first multi-capital integrated reporting index designed for Malaysian waqf institutions. It could serve as the model for adoption by Malaysian waqf institutions in other developed and developing countries.

Keywords: disclosure index, integrated reporting, capital reporting, waqf

A MULTIPLE STAKEHOLDER PERSPECTIVE ON BLOCKCHAIN SOLUTION TO IMPROVE THE CURRENT WAQF MANAGEMENT SYSTEM

Norlaila Mazura binti Mohaiyadin

Abstract

Discussions on accountability and transparency challenges faced by waqf institutions in Malaysia have been widely published with limited discussions on the mechanism to overcome these challenges, especially with the use of technology. In Malaysia, the literature review in this field focused a lot on waqf management in the State Islamic Religious Councils (SIRCs), whereas less

emphasis was given to the waqf management system in public universities. Hence, this study aims to identify accountability and transparency challenges in the process of waqf management system and describe how blockchain technology can overcome those challenges in public universities of Malaysia using institutional theory with religious institutional logic. This study uses the qualitative research method that supports interpretive research philosophy through observations, related documents and interviews with various stakeholders of waqf administrators

in public universities such as waqf givers (Al-waqifs), waqf beneficiaries (Mauquf alaihi), regulators and system administrators in Malaysia. This study discovered six accountability and transparency challenges in the input, process and output of waqf management system with blockchain solutions using institutional theory with religious institutional logic. The theoretical contribution of this study covers the expansion of institutional theory with religious institutional logic in information system studies. Meanwhile, the practical contribution of this study includes the best practices for waqf administrators in public universities of Malaysia to improve existing processes in the waqf management system using blockchain technology. This study can be used

as a reference and extended to the other waqf institutions such as SIRCs, cooperatives and non government organisations by identifying accountability and transparency challenges as well as using blockchain technology to improve the existing waqf management processes.

Keywords: waqf in public universities, process, religious institutional logic, blockchain.

MODEL KONSEPTUAL REKA BENTUK PEMBELAJARAN MAYA DIPERIBADI BERDASARKAN TEKNIK PEMODELAN PENGGUNA

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Abstract

Elemen penting dalam pembelajaran maya ialah persekitaran dinamik iaitu diperibadikan mengikut strategi pembelajaran bagi meningkatkan penglibatan pembelajaran maya untuk jangka masa panjang. Pembelajaran maya berasaskan gamifikasi adalah salah satu penyelesaian inovatif baharu dalam pendidikan yang mengintegrasikan teori dan reka bentuk permainan ke dalam pengalaman pembelajaran maya bagi meningkatkan penglibatan dan pemikiran kreatif pelajar. Walaubagaimanapun, penglibatan pelajar dalam model ini hanya berlaku untuk jangka masa pendek. Ia tidak dapat mengubah tingkah laku pelajar supaya kekal untuk jangka masa panjang yang sekaligus boleh mengakibatkan dimensi sosial dan interaksi pelajar rendah. Antara faktor masalah tersebut ialah ketidakseimbangan antara persaingan dan kolaboratif, ketidakstabilan motivasi antara intrinsik dan ekstrinsik serta ketidakseimbangan antara elemen permainan dan kandungan yang mengakibatkan emosi bimbang semasa sesi pembelajaran secara maya. Oleh itu, kajian ini mencadangkan satu model konseptual berasaskan teknik pemodelan pengguna dengan mengintegrasikan dimensi sosial dan konsep interaksi serta strategi pembelajaran maya. Reka bentuk pembelajaran maya yang diperibadi berdasarkan teknik pemodelan pengguna ini dijangka dapat meningkatkan penglibatan pelajar untuk jangka masa panjang semasa sesi pembelajaran maya. Metodologi kajian ini berasaskan pengalaman pengguna (user experience. UX) melalui kajian awal dan analisis model gaya pembelajaran bagi mengenalpasti dimensi sosial, konsep interaksi strategi pembelajaran. Penghasilan model awal pembelajaran maya diperibadi dijangka dapat membantu penyelidikan ini seterusnya menghasilkan model akhir yang dapat mengubah tingkah laku pelajar dari segi emosi, motivasi dan kolaboratif sekaligus memberi kesan positif terhadap penglibatan pembelajaran maya dalam jangka masa yang panjang dengan memberi autonomi kepada pelajar memperibadi strategi pembelajaran berdasarkan dimensi sosial dan konsep interaksi.

Kata Kunci: pembelajaran maya diperibadi, gamifikasi, pemodelan pengguna

PREDICTION OF MUSCLE FATIGUE AMONG HAJJ PILGRIMS USING MACHINE LEARNING PROCEDURE DURING 3D HAJJ SIMULATION

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Abstract

Hajj is one of the five pillars of Islam that must be fulfilled by every effort-able Muslim that meet the obligatory pilgrimage requirements. However, most of us tend to forget regarding our physical fitness before and during the journey. To perform Hajj, one's needs to be ready in terms of his or her total fitness. Hajj activities involve 70% physical activities and 30% spiritual worship. Electromyography (EMG) is an instrument used to measure muscle responses. In this study, the pilgrims were asked to do brisk walking for 8 weeks using a treadmill. The intensity of the exercises increases gradually from time to time. EMG is used to measure the muscle strength in order to prepare for Tawaf and Sa'i which range from 80 meters to 5.6 kilometres. The data collected using Atlys will be analysed using machine learning procedure to predict further muscle capabilities of the individual before he or she departs for Hajj. The training was conducted in a 3D stimulation studio to provide an artificial experience of actual Hajj and it is hoped this training can assist the pilgrims both physically and mentally during the actual Hajj rituals.

Keywords: Hajj, Machine Learning, Prediction, Muscle Fatigue, Electromyography.

IMPROVING ACCESSIBILITY TO BRUNEI ISLAMIC RESOURCES WITH FEDERATED SEARCH

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Abstract

Currently, Islamic Resources in Brunei are scattered in different libraries namely: Universiti Islam Sultan Sharif Ali (UNISSA) Library, Kolej Universiti Perguruan Ugama Seri Begawan (KUPUSB) Library, Pusat Dakwah Islamic Library, Brunei Public Islamic (Mufti State Department) Library and ITQSHHB (Tahfiz) Library. The problem of accessibility of these resources acts as a major obstacle for users to utilize them at an optimal level. Therefore, one of the aims of these paper is to investigate the issues in accessing the scattered resources. Hence a search engine/portal will be created to unite resources available from all Islamic Libraries in Brunei. This portal will be created using a Federated Search. Federated Search is chosen as it is open-source, and it will serve as a one-stop-center (similar to Google) to access Islamic Resources in Brunei. The limitation of this paper is that it focuses only printed resources (books) and libraries that are already equipped with a LMS (Library Management System). A Federated Search Framework will also be developed as a guideline for librarians to develop their own portal according to their needs. Both quantitative and qualitative research methodology will be used and the data collecting methods are interview, questionnaire and document analysis. A Focus Group will be conducted to verify the effectiveness of the portal. The outcomes of this study will also provide recommendations to make Islamic Resources more accessible and user-friendly.

Keywords: Islamic Resources Accessibility, Islamic Research, Islamic Library, Resource Discovery, Federated Search, Search Engine, Library Portal, Library Information Science.

DIGITAL TRANSFORMATION FOCUSING ON FACE RECOGNITION SYSTEM WITH TIME ATTENDANCE FUNCTION

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Abstract

The technology of face recognition in monitoring the personnel & student attendances is becoming popular and it assists in developing individual punctuality. This is in line with the teaching of Islam which emphasizes the importance of punctuality and time management. This study intends to develop a system which will capture individual face recognition as an instrument to verify the individual attendance based on arrival and leaving especially in work place or lecture room. For this study, a face recognition reader will be setup and all the individual who will be using this face recognition reader, shall be captured and registered in reader's database. The face reader needs to be run for a few days to enable the face recognition reader to be properly working to capture the face contour points. Once the reader is working, the administrator for this face recognition reader shall be able to download the attendance log from this reader. A comparative study between conventional methods of individual punctuality will be compared with the developed face recognition attendance system using 50 samples comprising of staff & student in a higher learning organisation. The expected outcomes of this study will show that the system enables individual to develop their punctuality and time management behaviour in a short time period. This system will be linked to the door access system and also integrated temperature sensor in future research.

Keywords: Digital Transformation, face recognition, time attendance function

ANALYZING BOOK BORROWING PATTERNS IN DEWAN BAHASA DAN PUSTAKA BRUNEI USING APRIORI ALGORITHM

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Abstract

This paper aims to find the associations between the books that have been borrowed in the Dewan Bahasa dan Pustaka's (DBP) libraries to determine the common borrowing behaviors in Brunei libraries through data mining. The concept of data mining is commonly associated with knowledge discovery, which refers to analyzing data from various perspectives and encapsulating it into practical information. One of the highly regarded techniques for data mining for library services is the association mining rule. Association rule mining is a method that seeks out commonly occurring patterns, correlations, or relationships in datasets from many types of databases, such as relational databases, transactional databases, and other types of repositories. The Apriori Algorithm is a well-known algorithm for performing frequent itemset searches with the association mining rule. The algorithm processes data of book borrowing transactions collected by the library and converts them into valuable information by using knowledge about the previously known frequent itemset. The book borrowing data is processed, cleaned, and transformed into a book transaction dataset as Apriori input. This paper uses two association rule mining metrics to determine the results' relationships: support and confidence. The results show that library users are more inclined toward borrowing Malay-titled books and academic past exam papers with a support value of around 0.5%. The top 5 rules are presented, sorted by their support values which reflect the likelihood of users borrowing academic past exam papers with an average confidence value of around 70%.

Keywords: Machine learning, data mining, book borrowing, library, association rule

DEVELOPMENT OF THE SMALL ROBOT FOR STEM PROJECT IN MALAYSIA

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Abstract

Science, Technology, Engineering and Math (STEM) is a government agenda to inculcate in Malaysian citizens since primary school level. Element such as robotics, electronics and mechanical implemented in the product are essential to achieve the STEM goals. Therefore, the objective of this study is to develop and introduce several robotic applications that can be used and execute in school. In order to ensure that the robot is functional, mechatronic field is required to be part in the product. Crawling robot, delivery robot, ball launcher robot and sorting robot are some examples in this paper. The technology such as 3D printer and laser cutting machine were helping to develop prototype easier for most common robot. Prior to that, concept generation and selections are crucial in designing any products followed by 3D modelling technique. Model digitalization by using SolidWorks software was assisted to visualize the product in virtual environment. The development flows were continued by produce it in physical products using rapid prototyping method. Finally, electronic integration with simple programming for microcontroller Arduino were completing the entire processes. The results show that the development of robot can be effortless when combining the technology knowledge with the technical skills. Thus, the knowledge of STEM itself is beneficial to initiate since primary school especially for the developing country.

Keywords: STEM, Robotic, Arduino, 3D Print

LEARNING BASED ON EDUCATIONAL DESIGN OF SURAH LUKMAN CURRICULUM USING AUGMENTED REALITY TECHNOLOGY IN DELIVERING DA'WAH

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Abstract

The shift of change over time in the field of technology especially in education is constantly changing to current wants and needs. In the curriculum module, surah Lukman talks about family education, especially children's education. Among the main essence of the curriculum in this chapter is to emphasize the concept of family education, especially the education of children. Applying reality and virtual learning methods, Augmented Reality (AR) is one of the technologies that also influences innovation and conforms to current characteristics as a support for learning activities. Thus, to address the problem in improving children's understanding in order to foster the formation of positive behaviours towards children, appropriate teaching approaches will also be implemented in delivering this proposed model. By applying augmented reality in the delivery of the narration of Surah Lukman has two modes, namely 'delivery' and 'learning' apart from spreading the message to children. By incorporating multimedia design technology through the augmented reality approach based on the moral learning module inspired by Surah Lukman, verses 12 to 19 with three values related to faith education, it indirectly supports religious values teaching through current technology. This paper are specifically highlight about Augmented Reality (AR) is a technology that allows user to interact with virtual and physical object while maintaining a sense of the real environment. The physical book (the real world) are augmented by enhancing the virtual item (2D models, animation, and audio) viewed through the AR Maya mobile device application.

Keywords: Augmented Reality, Mobile AR application, Educational Module based on Surah Lukman, Fun Learning Experience, Interactive Book

TRANSFORMATION OF TRADITIONAL FOLKLORE ANIMATION: THE FORMATION OF APPLICATION MODELS AND IMPACT ON TODAY'S SOCIETY

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Abstract

Folklore, a legacy passed down from generation to generation, was told orally and used as an entertainment medium that included its history and moral values. Transformation of Traditional Folklore Animation: The Formation of Application Models and Impact on Today's Society is a study that was conducted to analyze the adaptation process done by comparing the original story of the folklore with the folklore that has been adapted into animation and identifies the contribution of animated legend to the country and the younger generation. Puteri Saadong's story in animated video has been chosen as a case study. The study was carried out on Kelantanese who were 15 to 40 years old. A quantitative method has been used in this study by collecting data through an online questionnaire. The data has been analyzed using Statistical Package Social Science (SPSS) 25 software and expressed in tabular form.

Keywords: Animation, Folklore, Puteri Saadong, Society.

FITMIE: AN AR (AUGMENTED REALITY) MOBILE APPLICATION FITNESS TRAINING PROGRAM TO COMBAT OBESITY AMONG BRUNEI DARUSSALAM YOUTH

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Abstract

Being overweight or obese has become one of the major health crises in the modern world. According to WHO, obesity has affected a large number of people worldwide, with approximately 1.9 billion overweight and 650 million obese adults. Among the most common chronic diseases that are directly linked to obesity are type 2 diabetes mellitus and coronary heart diseases. Brunei is no exceptional to this world crisis. Obesity has increase in an alarming rate among the youth of Brunei Darussalam. Due to the increase rate of mortality and morbidity, multiple efforts from WHO and governments to raise awareness regarding the dangers of obesity. Multiple health intervention programs have been designed to increase physical activities and have been shown to strengthen physical health and reduce overweight. Considering the advantages of mobile technology and the internet, it is visible how they can be used to reach out to the population, raise awareness, and reduce morbidity. The majority of existing mobile fitness programs, however, are ineffective in terms of user engagement. Therefore, the objective of this research paper is to develop an AR fitness training mobile application and assess its effectiveness. The study will employ a mixed-method approach with 30 obese people taking part in survey questionnaires and 5 of these participants will take part in this study. A period of one month will be dedicated for the users to participate in the experiment. The findings of this paper are intended to support the justification of utilizing goal-setting theory (GST) and gamification to increase user engagement on mobile fitness apps, particularly among Bruneian youth. It also contributes to the body of knowledge on GST and gamification. By researching GST and gamification in mobile fitness apps on engagement context, we will be able to design an AR mobile application Fitness Training Programme. This training programme aims to promote a healthy and fit lifestyle among Brunei Darussalam's youth.

Keywords: AR and Mobile technology, Mobile application, Fitness Training Program, Obesity

BRAIN ACTIVITY AS A BIOMARKER OF COGNITIVE PROCESSING AND PHYSIOLOGICAL RESPONSES

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Abstract

Naturally, integration with the brain and peripheral nervous system is nurtured according to the theory of central fatigue. It focuses on the notion that cognitive performance is continuously manipulated in response to the interaction of numerous internal and external inputs. It is crucial to understand how humans manipulate their reasoning ability as a subconscious sensation, representing the underlying neural integrative processes with a complex system. Individual differences in intelligence leads to the individual capability to generally cope with challenging situations. In order to understand human cognition in a subjective manner, psychometric tests are the most commonly used tool. Various studies have investigated the relationship between human's cognitive scores with brain activity that represents the function of reasoning. The tests covered cognitive domains such as reasoning, processing speed, executive function, memory and spatial ability. Currently, the tools are extending towards using computerized and neural activity. Therefore, this study aims to understand the concept of brain activity as a biomarker of cognitive processing and physiological responses based on the various assessment tools.

Keywords: Brain Activity, Neural Activity, Cognitive, Biomarker, Assessment

ROOM 4
THEME: EMERGING & EXISTING
TECHNOLOGY

THE SYNTHESIS OF LEAD HALIDE PEROVSKITE USING TWO-STEP SEQUENTIAL DEPOSITION METHOD

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Abstract

Lead halide perovskite has captivated enormous attention due to its remarkable properties for various material applications. However, material stability has become a limitation to the extent that it leads to severe material degradation. Hence, the study on material stability was carried out by synthesizing lead halide perovskite (LHP) using a two-step sequential deposition method based on different time immersions. The stability was observed for a few days by characterization of the material by conducting analysis using X-ray Diffraction (XRD), Scanning Electron Microscopy (SEM), and Fourier Transform Infrared Spectroscopy (FTIR). XRD results highlighted the existence of an LHP peak at approximately 15° , which the ratio intensity of LHP over PbI_2 was calculated to determine the highest formation of perovskite among the sample. SEM images show the crystal grains of LHP formed on the substrate. For FTIR analysis, all functional groups represented in LHP, such as -OH and -NH bonds, were identified. From the conversion ratio of LHP/ PbI_2 , the degradation of LHP was believed to start after D3 based on the decreased value over days. Further, P30 displayed the least degradation among the series due to its lowest conversion ratio of 13.86%, followed by P50 and P10, with 17.89% and 28.57%, respectively. Moreover, it was found that 30 minutes is the optimum immersion time, based on the highest conversion ratio. In conclusion, better stability of LHP was obtained from 30 minutes of time immersion in methylammonium iodide solution, and LHP started to degrade after D3 at humidity ~50%. This study has highlighted the importance of optimum time for the reaction of perovskite formation using a two-step sequential deposition method and that formed LHP materials exhibit better stability compared to other methods. Further study is suggested to carry out to improve the stability of LHP in order to contribute better performance for gas.

Keywords: lead halide perovskite, two-step sequential deposition, stability, degradation

THE DEVELOPMENT OF ASSISTIVE INTELLIGENT SYSTEM FOR REPLACING TRADITIONAL CANE FOR BLIND PEOPLE

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Abstract

Nowadays, the use of technologies to assist people living with disabilities to perform their daily task has rapidly grown. These technologies have been slowly replacing conventional tool such as a traditional cane or using a dog to help blind people to perform their daily task. Current technologies introduced to eliminate the limitation and minimize the use of traditional method combination of several devices such as mobile phone and other sensors. In order to propose a better solution, the assistive device was proposed which developed using the combination of several technologies such as Arduino, Android application and several other components which all the technologies were combined and can operate in a single system. This assistive device works by providing an assistant for blind people by detecting and notifying if there is an obstacle in their path. This tool work with the ultrasonic sensor that use to measure the distance from the sensor to the obstacle using a sound wave. The sensor transmits the result to Arduino to perform functions that have been program. Furthermore, this assistive device can also work with the Android application, which Arduino will send the output to the application using Bluetooth connection. Android application will notify or alert the user if the user enters the danger zone. Besides, this tool provides the user-friendly design, which is simple and lightweight, and the development cost is low. In a nutshell, this device was developed to replace the traditional tools for blind people which this device can give better assistance and more effective usability.

Keywords: ultrasonic sensor, electronic travel aids, Arduino, assistive device, android application

VACCINATION CERTIFICATE ORIGINALITY CHECKER APPLICATION (VAC-CERT CHECKER)

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Abstract

Artificial Intelligence (AI) in Android development has become a popular and beneficial trend in our period. It has the potential to be a game-changer in the current global pandemic. Thanks to an Android application that incorporates AI, they can learn and interact similarly to humans. Deep learning is one of the AI aspects often employed in Android app development. Deep learning subfields such as image classification, on the other hand, are image classification subfields. This image classification has been utilized in various Android apps, including colour recognition, animal breed type detection, and so forth. However, this image classification does not occur when attempting to identify certain information in a photograph or identify the originality of the picture. Because of the ethics linked with this technology, some are still hesitant. This research attempts to assist individuals in identifying certain information from a concept to verify its authenticity, which may be helpful to various users such as store owners, police officers, and others.

Keywords: intelligence, android, image classification, originality, deep learning.

CURRENT SYSTEMATIC REVIEW SDN FOR APPLICATION LAYER DDOS DETECTION MECHANISMS BY USING DEEP LEARNING

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Abstract

The term "distributed denial of service," or "DDoS," refers to an assault in which one computer or system is subjected to a barrage of internet traffic coming from a large number of other computers, machines, or servers. Resulting in the server being inaccessible. This has an impact on website addresses that cannot be accessed. This attack causes a very large loss to a company which can reduce the level of user trust, reduce the company's reputation to the point of losing customers and losses due to long downtime. SDN is a technology that demonstrates effectively in measuring attacks on complex computer networks, flexible and can monitor the flow of data on the network. LDAP service is a cloud service that provides a simple and secure way to connect users with directory applications. Deep Learning approaches summarized for detecting Distributed Denial of Service (DDoS) attacks on application layer in Infrastructure as a Service (IaaS) networks, which is one of the types of cloud computing networks. This method, which is based on the architecture of an intrusion detection system, is referred to as Deep Learning-based techniques in the Long short-term memory (LSTM) algorithm. CICDDoS2019, the most recent dataset that was accessible to us, was the one that we utilised.

Keywords: SDN, CICDDoS2019, Deep Learning, LSTM, LDAP

HATE SPEECH AND OFFENSIVE LANGUAGE TWEETS CLASSIFICATION USING MACHINE LEARNING AND DEEP LEARNING

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Abstract

Hate speech and offensive language is common in social media in today's age of developing technology. The main objective of this study is to classify tweets from Twitter into whether they contain hate speech or abusive language. Although there have been studies on hate speech and offensive language detection on Malaysian social media, these previous studies use text that are written in English instead of Bahasa Melayu, the latter of which is the official language of Malaysia. Publicly available Bahasa Melayu data are not suitable to be used due to the inaccurate target variables, therefore, a data of Bahasa Indonesia tweets are used due to its similarity with Bahasa Melayu. Two machine learning models and four deep learning models are built to classify tweets that contain hate speech and offensive language. Another set of data is then collected using Twitter's API and is used for prediction using machine learning and deep learning models that have high F1 validation scores. This study found that logistic regression model and neural network with two hidden layers have the best performance, with the logistic regression model having the best performance with an F1-score of 88.54%.

Keywords: machine learning, deep learning, hate speech, offensive language, Twitter

CURRENT SYSTEMATIC REVIEW ON MALWARE CLASSIFICATION AND DETECTION USING MACHINE LEARNING

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Abstract

Attacks from malicious software and intrusions into computer systems and networks are presumed to be extremely harmful, particularly to the data's privacy, integrity, and security. It is highly improbable that the likelihood of assaults and incursions of this kind will become less possible as the number of devices and equipment that may be connected to the internet and computer networks continues to grow. It is vital to have intelligent algorithms that are based on smart approaches such as machine learning algorithms in order to categorise and identify malware assaults. This is done to guarantee that the many distinct variations of malware attacks are not missed. In this work, we carry out an in-depth and methodical investigation into the most recent machine learning algorithms that have been created to categorise malware assaults. Additionally, the datasets that were utilised in the process of categorising the malware assaults and identifying the intrusion will be looked at, researched, and evaluated. The ability of methods based on an ensemble approach, such as Random Forest, Decision Tree, and XGBoost algorithms, to combat overfitting problems as well as anomalies and missing data has led to their widespread adoption in published works. This is evidenced by the observation that these algorithms are widely used.

Keywords: Intrusion Detection System (IDS), Ensemble learning, Botlot, Systematic Literature Review

DIGITAL TECHNOLOGY TRENDS IN ACCESSING E-RESOURCES IN UNIVERSITY LIBRARIES

Yuli Rohmiyati, Tengku Siti Meriam Tengku Wook, Noraidah Sahari

Abstract

The use of e-resources is still low due to technical, affective and emotional factors. whereas, e-resources are a basic need for students and lecturers to support learning and research as well as to increase University productivity. This study aims to determine the technological trends that users use when accessing electronic resources in university libraries. The research method used is a quantitative method by referring to the log data on the use of e-resources in the Diponegoro University library in Indonesia. The results of this study indicate that most users use Chrome as a navigation system with a desktop platform with Windows 10. The device that is most widely used by users is Samsung.

MANAJEMEN PENDIDIK DAN TENAGA KEPENDIDIKAN DI MADRASYAH TSANAWIYAH (MTS) NEGERI SAMARINDA

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Abstract

Manajemen pendidik dan tenaga kependidikan adalah aktivitas yang dilakukan mulai dari pendidik dan tenaga kependidikan itu masuk ke dalam lembaga pendidikan sampai akhirnya berhenti melalui proses perekrutan, pembinaan dan pengembangan, promosi dan mutasi, penilaian kinerja. Manajemen tenaga kependidikan (guru dan staf) mutlak harus diterapkan oleh kepala sekolah agar dapat mengoptimalkan kinerjanya. Penelitian ini bertujuan mendeskripsikan: 1) proses rekrutmen, 2) proses pembinaan dan pengembangan pendidik dan tenaga kependidikan di Madrasah Tsanawiyah (MTs.) Negeri Samarinda. Penelitian ini menggunakan pendekatan deskriptif kualitatif dengan metode studi kasus. Teknik pengumpulan data yaitu menggunakan observasi, wawancara dan dokumentasi. Hasil penelitian menunjukkan bahwa proses rekrutmen pendidik dan tenaga kependidikan di MTs. Negeri yakni diawali dari : 1) analisis kebutuhan pendidik dan tenaga kependidikan, 2) menentukan standar pendidik dan tenaga kependidikan yang diperlukan, 3) menyusun prosedur pendaftaran, 4) menyebarkan informasi (promosi) rekrutmen melalui media cetak dan non cetak (media sosial), 5) melakukan seleksi pengetahuan secara tertulis, 6) melakukan tes wawancara (untuk pendidik mampu menyusun perangkat pembelajaran, melakukan praktek mengajar, membaca Al Qur'an, dan bagi tenaga kependidikan tes ketrampilan membuat perangkat kearsipan dan membaca Al Qur'an). Proses pembinaan dan pengembangan pendidik dan tenaga kependidikan diawali dengan : 1) melakukan analisis besaran anggaran, 2) menentukan jenis kegiatan, 3) menentukan peserta pendidik dan tenaga kependidikan yang sesuai, 4) memberikan kesempatan untuk mengikuti pelatihan baik dari dinas setempat maupun secara Nasional, 5) mengadakan kajian rutin dan bacaan Al Qur'an.

Kata kunci : manajemen, pendidik, tenaga kependidikan

THE USE OF MOBILE AND VIRTUAL TECHNOLOGY IN ONLINE SHOPPING AS BUSINESS MARKETING TOOL IN BRUNEI DARUSSALAM

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Abstract

The continued advancement of virtual reality (VR) and mobile technologies has generated a huge potential in the online shopping sector. It not only serves as a convenient method for reaching out to an infinite number of clients to purchase on the online shopping platform, but it also serves as an excellent business promotion tool. The majority of businesses in Brunei utilize mobile technologies to market their products. Marketing strategies, on the other hand, are often in the form of 2D representations of products through either websites or mobile applications. The phenomenon of Industry Revolution 4.0 has compelled several companies and organizations from diverse sectors to adapt their operations and marketing strategies to make advantage of cutting-edge technology. Researchers argue that in order to accomplish a long-term goal of smarter and more sustainable corporate marketing employing VR technology in the IR 4.0 era, it is crucial to study if this technology can be used in online shopping. Therefore, the objective of this study is develop a VR mobile shopping platform and assess its effectiveness. The use of VR in mobile technology in online shopping creates another level of marketing strategies with the emergence of innovative technologies. The study will employ a mixed-method approach, with 30 business owners and marketer participants responding out online surveys while few of them will be chosen to attend experimental research as well as in-depth interview sessions. The purpose is to obtain an insight of their perceptions on the use of VR and mobile technologies as a business marketing tool. The findings from this study will then be used to develop a VR mobile technology online shopping platform that will assist to promote marketing in Brunei, which is in accordance with Brunei's 2035 strategy to increase its economic strategies and extend commercial prospects within Brunei Darussalam.

Keyword: Mobile computing, VR technology, Online Shopping, Business Marketing Tool

COMPARATIVE ANALYSIS BETWEEN WATER QUALITY IN ISLAM AND SCIENTIFIC MEASUREMENT USING A SELF-DEVELOPED REMOTELY OPERATED VEHICLE (ROV)

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Abstract

Aquaculture has been recognized as a sector that can assist to diversify the Brunei economy from relying on the oil and gas industry. Previous research has indicated that water quality in aquatic settings is a major limiting factor; thus, it is important to examine and determine the influencing elements that would harm them. However, traditional methods of assessing water quality are unsafe, expensive, labor-intensive; and the sampling measurements may not represent the overall aquaculture areas. Therefore, this paper presents the design of an innovative Remote Operated Vehicle (ROV) equipped with sensors to conduct in-situ measurement of the main water quality parameter. The main objective of this ROV is to increase the safety of humans working in difficult-to-access underwater in obtaining measurements with a probe or to collect samples and analyze them in a laboratory. Temperature, dissolved oxygen (DO), nitrate, ammonia, and pH of water are among the assessed parameters. The sensors attached to ROV will take measurements at 30 sample waypoints in existing aquaculture areas. The data gathered may also be utilized to interpret the spatial distribution of measurements in the aquaculture areas. This project is expected to increase the productivity of Brunei aquaculture industry in the new future.

Keywords: Aquaculture, ROV, water quality, in-site measurement

VIRTUAL REALITY TAWAF FOR FITNESS TRAINING OF HAJJ PILGRIM

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Abstract

Virtual Reality Fitness Training is a program to assist individuals in preparing for tawaf (one of the five obligatory or pillars of Hajj). The main purpose of the paper is to assess individual pilgrims' cardiorespiratory performance before performing hajj. Respondents must walk on a treadmill to simulate the seven circumambulations in Tawaf, utilizing the real virtual distance around the Kaabah. During the actual hajj, the shortest distance for seven (7) rounds around of Kaabah is about 4.9 km, while the longest distance (including over training) is approximately 8.4 km (80 meter every round, thus 640m for 8 rounds is 0.64 kilometer per round/0.7km X 8 rounds = 5.6km). This is quite a distance therefore the pilgrims must be physically and psychologically prepared to complete it successfully. Congestion, excessive temperature, food intake, insufficient sleep, and intense activities are all variables that lead to poor physiological and psychological performance. Thus, pilgrims are advised to be physically and psychologically fit before embarking on the hajj pilgrimage. Training in our 3D Tawaf simulation lab allows responders to improve their cardiorespiratory and psychological fitness. Their cardiorespiratory performance, as measured by maximum oxygen consumption (VO₂max) or an ECG reading. While, utilising a 3D Tawaf VR simulation, recuperation time will be monitored before and after training for a period of three months. In order to track their own fitness level, respondents must also complete their profile database. The training schedule includes three times per week of 1.1 to 8.4 km of brisk walking on a treadmill in 3D Tawaf VR simulation. Heart rate time after recovery of each session will be continually collected for a period of three months in order to estimate individual fitness level. Following the completion of the training session, a machine learning mechanism, especially the Artificial Neural Network (ANN), were used to estimate respondents' cardiorespiratory fitness. The findings of a pre-travel fitness evaluation on risk satisfaction related to cardiorespiratory performance obtained by a machine learning prediction algorithm procedure revealed four key patterns: very fit, fit, unfit, and very unfit. These patterns will assist in fitness adjustments, as well as hajj-focused education and pilgrim treatment concerns.

Keywords: Tawaf Virtual Reality, Fitness Training Program, Machine Learning

THE USE OF BLINK DETECTION IN ONLINE MEETING CLASSROOM

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Nik Siti Maryam Binti Nik Mohammed Rafani
Noor Nashima Binti Zainurin

Abstract

Eye-tracking is a field that studies human eye movement. One of the simplest eye movements to detect is blinking. Blink detection has been applied across a wide variety of platforms, including games, medical diagnostics, psychology, and market research. We adopt this concept and use it to the benefit of education. Amid the Covid-19 pandemic, virtual platform classes have surpassed physical lessons as the medium for teaching, as students have realised they can be mobile while still attending school. Teachers are having difficulty keeping track of their students' presence in the online meeting classroom as there is hardly any interaction or engagement between them and the students. With this new technology, named the Xpectre, an eye blinking detecting software embedded in virtual meeting platforms, teachers can live monitor their students' presence in class. The ratio of horizontal length to the vertical length of the hypothetical frame of the eyes is measured by Xpectre to estimate the blinking threshold. We deem a user is blinking if the blink ratio is greater than the threshold.

Keywords: Eye-tracking, blink, Covid-19, virtual platform, ratio

ROOM 5
THEME: TECHNOLOGY IN SOCIAL
SCIENCES

FACE VALIDITY OF THE ARABIC ALPHABETS WRITING ASSESSMENT INSTRUMENT FOR CHILDREN

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Abstract

Earlier, Arabic writing was only used to spread and understand Islam here in Malaysia. But nowadays, Arabic writing has become part of Malaysia's national curriculum under religion teaching subject. Previous studies showed that there are still a lot of students in school having difficulties to master Arabic especially in writing. These scenarios were claimed caused by poor teaching skill and also lack of proper assessment to assess and evaluate Arabic handwriting performance. Cursive element in the Arabic alphabet is one of the main factor that contributes to these learning difficulties compared to the roman handwriting. Hence, there is an urge to find a trustworthy instrument to assess Arabic handwriting especially among children in early childhood education. Therefore, this study aimed to test face validity towards a newly developed questionnaire for Arabic alphabets writing assessment. Face validity method was chosen to get the first layer of experts' review and evaluation on the items constructed in the assessment instrument. A questionnaire using 5-likert scales was distributed to 28 experts in Arabic handwriting at different levels of education. Results showed that most of the items in the questionnaire are valid to be used to assess children as all experts agreed on the items developed. These findings were the first pilot study to ensure that the basic structure in developing appropriate items in the instruments are good and could be used as a verification to support the validation of using this new instrument to assess children's Arabic handwriting performance. Future studies can use and refer to the assessment instrument to assess not only children's ability to write Arabic alphabets but also other alphabets too.

Keywords: early childhood, education, Arabic alphabets, writing assessment

KEMAHIRAN MOTOR HALUS KANAK-KANAK PRASEKOLAH DALAM PENULISAN AKSARA HIJAIYAH JAWI MELALUI KAEDAH KONVENSIONAL DAN TEKNOLOGI

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Abstract

Tahap kemahiran motor halus kanak-kanak prasekolah di Malaysia berada pada tahap sederhana manakala bagi tahap prestasi kemahiran menulis tulisan hijaiyah Jawi pula berada pada tahap rendah. Isu ini berlaku disebabkan oleh mereka kurang diberi pendedahan melakukan aktiviti – aktiviti literasi awal seperti melukis, mewarna, menggunting dan menulis bermula dari usia seawal sehari. Oleh itu, perkara ini mempengaruhi tahap prestasi pergerakan jari-jemari mengakibatkan sukar dilentur untuk melakukan aktiviti menulis terutama penulisan tulisan hijaiyah Jawi. Penulisan aksara hijaiyah Jawi dipilih kerana bentuk dan struktur aksara itu sendiri kompleks dan unik dibandingkan dengan tulisan Latin yang sering digunakan dalam aktiviti penulisan di sekolah untuk setiap mata pelajaran tetapi aksara hijaiyah Jawi hanya digunakan dalam penulisan pendidikan Islam bagi tahap prasekolah dalam mata pelajaran Jawi sahaja. Oleh yang demikian, untuk menangani isu ini serta meningkatkan tahap kemahiran motor halus kanak-kanak prasekolah maka pengkaji telah memilih dua kaedah yang sering diaplikasikan dalam dunia pendidikan iaitu menulis aksara hijaiyah Jawi menggunakan kaedah konvensional dan teknologi. Rentetan dari itu, tujuan penyelidikan ini dilakukan adalah kerana pengkaji ingin membandingkan tahap prestasi pergerakan motor halus kanak-kanak dari segi aspek ketepatan sahaja berdasarkan dari hasil penggunaan dua kaedah iaitu konvensional dan teknologi samaada terdapat perbezaan signifikan atau sebaliknya. Hasil dapatan kajian ini dapat memberi sumbangan kepada dunia pendidikan terutama guru-guru prasekolah untuk menggunakan pendekatan pembelajaran efektif bagi meningkatkan tahap kemahiran motor halus kanak-kanak prasekolah di Malaysia untuk menguasai tahap penguasaan yang baik berdasarkan dari standard prestasi mengikut Kurikulum Standard Prasekolah Kebangsaan (KSPK) dalam Dokumen Standard Kurikulum dan Pentaksiran (DSKP) pada masa hadapan dalam penulisan aksara hijaiyah Jawi bagi mata pelajaran pendidikan Islam. Selain itu, hasil dapatan kajian ini boleh membantu pengkaji-pengkaji lain untuk mendalami penyelidikan yang seterusnya dengan lebih terperinci.

Kata Kunci: Kemahiran motor halus, kanak-kanak, hijaiyah Jawi, konvensional, teknologi.

THE DEVELOPMENT OF ICT TOWARDS THE PREPARATION FOR THE VISION OF SMART NATION IN BRUNEI DARUSSALAM: AN ANALYSIS FROM THE PERSPECTIVE OF ISLAMIC DEVELOPMENT MANAGEMENT

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Abstract

The current trend of the globe is enduring the concept of Smart Nation to their home country. Therefore, in June 2020, the Government of Brunei Darussalam has introduced a Digital Economy Master Plan 2020–2025, aims to transform Brunei Darussalam into a Smart Nation. The introduction of Digital Economy Master Plan was an additional milestone for the nation to achieve in the future. The measure for such vision was a collective effort from all parties and consequential development in Information and Communications Technology (ICT) Industry for the past decades. From an early assessment of Digital Economy Master Plan, the establishment of Smart Nation would be driven by three major components, namely; (i) Digital Society; (ii) Digital Governance; and (iii) Digital Economy. There are other elements influencing the creation of smart nation such as the development of ICT infrastructure, ICT orientated policy, funding and investment, management and organization. It is crucial to analyze the ICT Development in order to assess the features, statistics and data available to supplement the idea of Smart Nation and also bring forward further improvements towards the ICT Industry to ensure the enhancement of ICT. Furthermore, this paper will discuss the concept of Smart Nation, and the narrative development in ICT, experienced by Brunei Darussalam. The research methodology is being conducted through literature reviews, statistics, data and case studies available on ICT management in public sector. This approach combines the methods of management and information technology and it is believed that it can improve the management of ICT to meet the needs of the country. The results obtained from this research are found to serve as a guide and assessors for the ICT management development where it is not solely based on managing ICT in public sector, but it can also be applied to private sectors and other fields through the lens of Islamic development management.

Keywords: Digital Economy Master-Plan, Islamic Development Management, Information and Communications Technology (ICT), Smart Nation, Policy

OBJECTIVE ACADEMIC SUPERVISION: A CHALLENGE IN IMPLEMENTATION IN SENIOR HIGH SCHOOL IN BORNEO, INDONESIA

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Abstract

This study aims to determine certain components that play an important role in achieving national education goals, namely academic supervision. Academic supervision is coaching or training process to human resources that exist in teachers as education implementers to be arranged refer to the goals that carried out by the education supervisor, namely the supervisor and the principal. The principal as a motivator must be able to provide efforts to improve and develop the potential of teachers. In order to achieve the teacher professionalism in carrying out their duties, supervisors need to optimize supervision where supervision will have a major influence in achieving better student learning outcomes. Supervisors need to support, encourage and assist teachers how teaching and learning process can be improved. However, in fact supervision somehow does not always go according to the plan, often occurs obstacles or problems during supervision implementation which is not objective. For instance, the implementation of supervision is only carried out to teachers who are considered qualified to represent the group, only carried out for junior teachers without involving senior teachers. Principals have many tasks to do, teachers do not want to enhance self-competence. Many supervisions do not meet the expected results because the supervision is not directly implemented by the principal. In addition, unclear or no supervision plan makes supervision implementation does not match with the objectives of the supervision itself. These challenges must continue to be studied to find solutions in order to achieve the expected educational standards. Thus, this supervision is intended to evaluate whether the implementation is meet to the plan or still needs to be improved, supported by coaching process such education and training as well as appropriate implementation and objective supervision to achieve high level quality education standard.

Keywords: academic supervision, principal, teacher professionalism, borneo

LONG SHORT – TERM MEMORY (LSTM) FOR FORECASTING FOREIGN TOURIST ARRIVALS

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Abstract

Currently, the tourism sector is a source of foreign exchange earnings, especially in the economic sector. Increasing foreign tourist arrivals is more important in supporting the economy than local tourists arrivals, especially in Indonesia. The development of tourism industry in Indonesia can be seen from the increase in tourist arrivals to Indonesia every year. Based on data obtained from Indonesian Central Bureau of Statistics (BPS) from 2006–2019, there has been an increase and decrease in number of tourist arrival. Along with the condition, the supply of various kinds of tourism products and service which are needed to support the industry, got to be adjusted to prevent financial losses. Unfortunately, tourism products are generally easily damaged, so it is necessary to forecast tourist arrivals. This study aims to forecast the arrival of foreign tourists to Indonesia using step by step sequence data with the LSTM model. Long Short Term Memory (LSTM) is a neural network development that can be used for time series data modeling. This method is suitable for sequential data such as tourist arrival data. LSTM is a development of RNN which is suitable for time series forecasting because LSTM contains a special unit called a memory block in a hidden layer that repeats itself. The forecasting architecture built is composed by 3 hidden layers of foreign tourist arrival to Indonesia. It shows the results of the RMSE evaluation of training data of 35653.62 and RMSE of test data of 21864.67. Based on this research, it can be concluded that LSTM is suitable to be used as a model to predict the arrival of foreign tourists in Indonesia.

Keywords: Tourism, Forecast, LSTM, Neural Network, Time Series

PEMBINAAN SISTEM MAKLUMAT PANGKALAN DATA SEJARAH PEPERANGAN ISLAM DI ZAMAN RASULULLAH SEBAGAI ALAT BANTU MENGAJAR DI SEKOLAH AGAMA

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Abstract

Di zaman era globalisasi yang giat membangun pesat, pembelajaran berasaskan komputer atau ICT (Information and Communication Technology - Teknologi Maklumat dan Komunikasi) merupakan medium terkini dalam menghasilkan bahan pembelajaran yang moden, interaktif serta inovatif dari guru kepada pelajar. Bahkan juga tidak dinafikan teknologi berasaskan komputer menjadi satu penyumbang ke arah pembangunan negara. Walaubagaimanapun, masalah keberkesanan ICT dalam subjek Ugama di Brunei masih berada di tahap kurang memuaskan. Oleh itu, objektif kajian ini adalah untuk membina satu sistem maklumat pangkalan data sebagai alat bantu mengajar yang mana sistem itu merangkumi isi pelajaran mengenai sejarah peperangan Islam di Zaman Rasulullah dengan menggunakan perisian Microsoft Access yang mana aplikasi ini amat bersesuaian untuk menyampaikan pengajaran guru dengan pencarian tajuk pelajaran peperangan Islam yang lebih mudah, ringkas dan secara langsung. Metode kajian yang digunakan adalah Quasi Eksperimen bagi melihat sejauh mana keberkesanan proses pengajaran guru itu dengan menilai markah pelajar-pelajar di dalam bilik darjah sebelum dan selepas menggunakan sistem maklumat pangkalan data tersebut. Manakala, ADDIE Model turut digunakan bagi pembinaan struktur sistem maklumat pangkalan data. Hasil daripada kajian itu nanti akan dapat memberi manfaat kepada guru khususnya yang mengajar Sejarah Islam bukan sahaja dapat menjejajahi ilmu komputer lebih mendalam akan tetapi sistem ini juga akan dapat memudahkan lagi proses pengajaran yang lebih mudah, ringkas dan senang hafal bagi para pelajar. Dalam konteks ICT di dalam bilik darjah, sistem maklumat pangkalan data boleh direalisasikan dengan kewujudan Internet dan di era teknologi terutamanya pembelajaran interaktif secara dalam talian yang boleh menyumbangkan kepada perkembangan sistem maklumat pangkalan data ini menjadi konsep proses pengajaran dan pembelajaran baharu.

Kata Kunci: Sistem Pangkalan Maklumat Data, Teknologi Maklumat, Alat Bantu Mengajar.

THE ROLE OF WOMEN PRINCIPAL LEADERSHIP IN IMPROVING THE WORK ETHIC OF JUNIOR HIGH SCHOOL TEACHERS IN INDONESIA

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Abstract

Women's participation is still underrepresented in the role of leadership in school management in Indonesia and is still underestimated. The issue of women's leadership is still a long discussion because society still assumes that leadership belongs only to men. The purpose of this study is to describe the leadership style chosen by female principals in improving the work ethic of teachers in schools. The author was inspired to explore the characteristics of the management pattern and leadership style of female principals in schools through a field study by interpreting the data from observations and interviews to penetrate the meaning frame of female principals, three vice principals, and eight teachers in the context of educational institutions. The author explores social phenomena at one locus, namely SJHS 5 Samarinda. The research method used was a case study by understanding phenomena related to other people's experiences about their world (phenomenology) by exploring local and specific cultural elements (ethnography) by utilizing focus group discussions. The leadership style of female principals could realize effective leadership because women have advantages in playing and creating the effectiveness of educational institutions, such as realizing school achievement, creating kinship relationships and being able to empower their members, and also emphasizing organizational structure by emphasizing teamwork, trust, flexibility and willingness to share information. The promotion of leadership positions in schools is based on work performance, not on special characteristics between women or men and there is an agreement to change leadership styles between men and women. We recommend that the leadership style of female principals can try in Senior High School.

Keywords: Women leadership, School management, The work ethic and Case Study

IMPLEMENTATION OF LIFE SKILLS LEARNING–BASED ENTREPRENEURSHIP THROUGH EXPERIENTIAL LEARNING

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Abstract

This study aims to determine the implementation of Life learning Entrepreneurship-Based Skills through Experiential Learning Methods. This research is qualitative research. The sample used is a principal, teachers, and students.. All students funding, starting from living expenses as long as students are in the dormitory until all education costs are covered fully by the Selamat Pagi Indonesia School Foundation. The lessons are apart from general learning such as other schools, there are also implementing entrepreneurship learning complete with a laboratory called the Transformer center which was established as a means of direct learning in applying the theories obtained in the classroom and outside the classroom so that students get a real experience that will eventually become a habit which is good for students. The results of the study can be concluded, namely: (1) Implementation of learning is divided into two parts, namely academic and non-academic learning. (2) The implementation of academic learning is carried out by the teacher according to the lesson schedule from 7.30 to 15.00 WIB. Meanwhile (3) the implementation of non-academic learning is carried out outside lesson hours, which start from 03:00 to 20:00, which is guided by Brothers who are alumni of the graduates of this school, through learning methods experiential learning that emphasizes entrepreneurship with programs self-development, financial planning, life skills in entrepreneurship laboratory (4) Results of learning Life Skills in the schools is able to make students have academic ability, have life skills, have soul entrepreneurial, independent, able to adapt to new things, able to use for others through the Experiential Learning method that has been students do at school and outside of school.

Keywords: Implementation of Learning, Life Skills, Entrepreneurship, Experiential Learning

MODELS THE COMPETITIVE UNIVERSITY GOVERNANCE : A CASE STUDY AT ISLAMIC MUHAMMADIYAH UNIVERSITY OF EAST BORNEO

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Abstract

Good university governance is expected to increase the public image which leads to promote credibility and public participation in the role of university. Some roles expected by society from universities are to give qualified education, develop research, transfer knowledge, culture and technology and promote economy within society. Continuous improvement enables university to always increase its quality to become highly competitive. This study aims to developing strategic models the competitive university governance at Muhammadiyah Islamic University of East Borneo. The quaitative approach with Case study type were used in this research. The data were collected through depth-interview, participation observation, and document study. The findings concerning the strategic model of the competitive university governance characteristics were interrelated, as follows : 1) Internal Quality Factors: the Personal Character Building by developing caring spirituality, awereness and total action in which all came from the conscience (honesty, responsibility, visionary, discipline, cooperation, just and caring. 2) External Quality Factors : the Quality Culture and IT-based organization by developing vision, mission and organizational character, excellent leadership, stake holdres, Good University Governance management, the national standard university, Quality assurance and creativity innovation. 3) Outcome : Achieving the University Index, achieving the university roles, the graduates competence and consumer satisfaction, hence achieving the competitive university.

Keyword : Models the Competitive University Governance, Internal Quality factors, and Eksternal quality Factors.

MANAGEMENT OF PRINCIPLES IN IMPROVING THE QUALITY OF TEACHERS IN SEKOLAH PENGGERAK IN THE CITY OF SAMARINDA

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Abstract

The purpose of this study is to describe the management of school principals in improving the quality of teachers in sekolah penggerak, which will specifically look at how the planning, organizing, mobilizing, and monitoring are carried out by principals in sekolah penggerak at every level, namely by looking at comparisons at each level. levels, namely Elementary School Level, Junior High School Level and High School Level which have been appointed as the driving school for Batch 1 in Samarinda City. This research uses a qualitative approach with a case study method, and the subject of this research is the principal. Data were collected by interview, observation, and documentation. With informants in each school consisting of three people, the principal as a key informant, then two other informants namely the Deputy Principal and the teacher. Data validity was obtained by using data triangulation, namely source triangulation and technical triangulation at each school level studied. The data analysis method used is interactive data analysis developed by Miles & Huberman which consists of data reduction, display, and verification or drawing conclusions. The results of this study are that the principal's management in improving the quality of teachers in driving schools at different levels has similarities.

PRINCIPAL'S LEADERSHIP PLANNING IN IMPROVING TEACHER'S PERFORMANCE AT JUNIOR HIGH SCHOOL IN SAMARINDA, EAST BORNEO

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Abstract

This article reports on research findings on principal leadership in improving teacher performance in junior high schools in Samarinda, East Kalimantan. The principal's leadership role in school organizations is very important for increasing productivity. The principal is a person or educational personnel who has a major role in achieving the success of the management of a school, while teachers in other positions play a major role in determining the success of the teaching and learning process. In carrying out his duties as a leader, one of the important tasks in increasing teacher productivity is the planning of the principal himself. This study will attempt to explore how a school principal carries out his role as a leader in planning to increase teacher productivity in schools. The research design used is qualitative. Collecting data using semi-structured interviews with principals and teachers as research informants. The results of the study indicate that the planning carried out by the principal has been running optimally, it is the principal who makes plans in an effort to increase teacher performance. The planning carried out by the principal runs systematically and the teachers feel the assistance of the principal in improving the quality of their learning. Follow-up planning is done by noting deficiencies during class observations, calling the teacher concerned personally, and discussing the results through teacher council meetings. Good principal planning will be able to accelerate the improvement of teacher performance, this will also have a positive impact on schools and students to get maximum results.

Keywords: principal's leadership, teacher's performance, junior high school, east borneo

ROOM 6
THEME: SOCIAL SCIENCES

TEACHER SATISFACTION, SELF-EFFICACY AFFECT ON TEACHER PERFORMANCE : AN EVIDENCE FROM A VOCATIONAL SCHOOL OF PHARMACEUTICAL STUDY PROGRAM EAST BORNEO, INDONESIA

Effect of Burnout and Teacher Satisfaction on Teacher Performance: Evidence from Vocational Schools in East Borneo

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Abstract

The purpose of this study was to analyze the effect of teacher satisfaction, self-efficacy on teacher performance in vocational high schools in East Kalimantan, Indonesia. This study uses a validated questionnaire on a sample of 157 teachers. The data collection technique used a questionnaire to obtain data on teacher satisfaction, self-efficacy, and teacher performance. Data analysis with instrument validation of the three variables, namely using Pearson correlation and reliability using Cronbach alpha, while for the approach using multiple linear regression analysis. The results of the study show that (1) teachers have a significant effect on teacher performance, which means that higher teacher satisfaction results in an increase in teacher performance, (2) self-efficacy has a significant effect on teacher performance, (3) teacher goals and teacher self-efficacy jointly affect teacher performance. significant on teacher performance. Results Based on the research, it can be concluded that the performance of teachers in the Pharmacy Study Program Vocational School can be improved by satisfaction and self-efficacy.

Keywords : Teacher Satisfaction, Self-Efficacy, Teacher Performance

THE ACADEMIC SUPERVISION FOR IMPROVING TEACHER PROFESSIONALISM: EMPIRICAL EVIDENCE FROM THE SECONDARY SCHOOL IN EAST BORNEO, INDONESIA

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Abstract

This article reports on the findings of a research project examining the academic supervision of principal in improving teacher professionalism in secondary schools in East Borneo, Indonesia. Academic supervision carried out by the principal is one of the factors that influence the improvement of the quality of education in schools. To realize the improvement in the quality of education, principals need to develop a supervision program to improve teacher professionalism. This study seeks to explore how principals as teacher supervisors improve the professionalism of their teachers. To realize this objective, the study adopted a qualitative research design. Data was collected by means of semi-structured interviews with principals and teachers at secondary schools in East Borneo. The research findings show that the supervision planning carried out by the principal has been running optimally, the principal is the one who makes the supervision plan. The technique of implementing academic supervision is carried out systematically and has a plan so that teachers feel the assistance of the principal in improving the quality of their learning. Follow-up on the results of supervision is carried out by recording deficiencies during class observations, calling the teacher concerned personally, and discussing the results through teacher council meetings. Academic supervision can help improve teacher professionalism which is beneficial for the school community. To find a balance between teacher professionalism and professional learning, the principal's academic supervision competence seems to need to be developed.

Keywords: academic supervision, principal, teacher professionalism, east borneo

STRATEGIC MANAGEMENT IN PLANNING TO IMPROVE THE QUALITY OF EDUCATION IN PRIVATE ISLAMIC ELEMENTARY SCHOOL SAMARINDA

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Abstract

This article reports the findings of a strategic management research project in planning for improving the quality of education in private Islamic elementary schools in Samarinda, strategic management is one of the factors that influence the improvement of the quality of education. To achieve this goal, this study adopted a qualitative research design. Data collection was carried out by conducting semi-structured interviews with principals and teachers at private Islamic elementary schools in Samarinda, research findings indicate that strategic management carried out by principals and teachers in private Islamic elementary schools in Samarinda has been running optimally starting from school program planning. , analyzing internal and external factors to the evaluation stage. Principals and teachers innovate in teaching activities, providing guidance, nurturing, facilitating, advising and being motivators that can overall improve the quality of student education. Programs that have been running well, especially those related to improving the quality of education, are still carried out by school principals and teachers and deficiencies encountered during program implementation are recorded and discussed through joint meetings. Strategic management helps principals and teachers know the opportunities and challenges that will be faced so that they can maximize them to achieve the desired goals.

Keyword : strategic management, planning, improving the quality of education

MANAGERIAL COMPETENCE OF PRINCIPALS IN IMPROVING THE EDUCATION QUALITY OF STATE VOCATIONAL HIGH SCHOOLS IN SAMARINDA CITY, INDONESIA

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Abstract

This article examines the experiences of urban high school principals who are known for their school achievement by highlighting the principals planning in improving the quality of education. This study explores the concept of principal planning in improving the quality of education which is defined as managerial competence. Based on the themes in the data, this article adds to the existing literature on managerial competence by putting forward the concept of planning for consideration. This research uses a qualitative approach with a case study method involving 3 key informants at the State Vocational High School in Samarinda City. Observation techniques, in-depth interviews, and documentation studies were used to collect data, then analyzed through the process of data reduction, data presentation, and drawing conclusions. The findings of this study reveal that the principal's managerial competence in planning for improving the quality of education has been implemented well, namely through the input, process, and output stages. At the input stage, the principal empowers teachers and education personnel according to their capacities and capabilities and empowers the potential of students. In the process stage, the principal develops the vision, mission, implements the program, manages school resources, provides assistance, facilitates interaction and communication, the principal also builds a commitment to improving the quality of education through supervision activities and the fulfillment of facilities and infrastructure to support learning activities in schools. Meanwhile, at the output stage, the principal always provides superior achievement coaching, because it is a motivation that can improve the quality of education in schools.

Keywords: managerial competencies, principals, planning, quality of education

EDUCATOR RECRUITMENT MANAGEMENT TO IMPROVE THE QUALITY OF PRIVATE ISLAMIC SCHOOL EDUCATION IN SAMARINDA CITY, INDONESIA

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Abstract

This study aims to: 1) analyze the educators recruitment management which includes planning, organizing, implementing and supervising; 2) obstacles and providing solutions by schools to the problem of recruiting educators at a private Islamic elementary school in Samarinda City, Indonesia. This study is case study approach method by interviewing the principal, vice principal and educator. Collecting data in this study using interview techniques and document studies. Data analysis uses the Miles and Huberman model which divides data analysis into three namely data reduction, data presentation, and drawing conclusions. Data validity testing techniques using data triangulation and method triangulation. The results showed that the management of the recruitment of educators at SD Islam Al Jawahir Samarinda began 1) planning the recruitment of educators including: analysis of needs, recruitment qualifications, and recruitments schedule. 2) Organizing the recruitment new educators at SD Islam Al Jawahir Samarinda by involving representatives of YAPPI Al Jawahir foundations, school principals, and some of senior teachers. 3) Implementation recruitment of educators at SD Islam Al Jawahir Samarinda which includes: announcements for recruitment of educators, administration selection, and calling candidates who pass administration selection to joins: interview, microteaching, psychotest, and Al-Qur'an reciting test. 4) announcements for applicants who passed the administration selection and test by telephone. 5) Supervision from the principal by being directly involved in the educators recruitment process. Then, the obstacles in educators recruitment management at SD Islam Al Jawahir Samarinda caused by applicants themselves who did not apply according to the qualifications required by the school and the applicant's home is quite far which will interfere with the quality of work later. The providing solution taken by SD Islam Al Jawahir's principal is enlist the help of existed educators while waiting for suitable applicants and informed the applicants before worked to come early.

Keywords: recruitment, management, educators.

THE ROLE OF THE PRINCIPAL AS A MANAGER IN IMPROVING THE QUALITY OF TEACHER PERFORMANCE AT SD NEGERI 012 SAMARINDA KOTA

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Abstract

This study aims to analyze the role of schools as managers in improving the quality of teacher performance at SD Negeri 012 Samarinda city. This research uses a qualitative approach with the type of case study research. This research was conducted at SD Negeri 012 Samarinda Kota, Samarinda City. Sources of data in this study is the type of primary data and secondary data. The sources of data in this study came from informants, namely the principal and 1 teacher at SD Negeri 012 Samarinda. Data collection techniques used in this study were observation, interviews and documentation. The analytical technique used in this study uses the steps of data collection, data reduction, data display, verification and confirmation of conclusions. The results showed that the principal's role as a manager in improving teacher performance at SD Negeri 012 Samarinda City went well. The principal carries out the role of manager, namely by carrying out management activities through direct actions ranging from time management, administrative management, management of school rules and regulations that involve elements of the school organization including teachers in making and making decisions. So that the teacher's performance module can increase because it is always involved and plays an active role in decision making by the principal. The implications based on the research findings show that the management ability of the principal is something that cannot be ordered and avoided in realizing good school management, especially in improving the quality of teacher performance. Thus, the principal must fix the obstacles in the implementation of his role as a manager so that improving the quality of teacher performance can run optimally.

Keywords: The role of the principal, principal management, teacher performance.

REIMAGINING MENTAL HEALTH PARADIGM FOR MUSLIM YOUTH WELL-BEING IN BRUNEI

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Abstract

Mental health and well-being are and have always been important parts of an individual's overall fitness. However, Brunei's school curriculum does not put enough emphasis on mental health education and the nation's current paradigm of mental health reflects this. Few studies (Ho, 2014, 2018, 2020) on the subject had been conducted in Brunei, therefore this study aim to analyse the public perceptions towards mental health and mental disorders and how these perceptions can affect youth well-being. In order to address the problems associated with the current paradigm, such as cultural and social constraints, it is imperative to assess Bruneian Muslim youth mental health and well-being, and these three major components: cognitive health, emotional health and behaviour health will be focused on. This study uses a survey in questionnaires format and content analysis of Islamic psychology and texts on human well-being. The findings of this study propose a way forward from an Islamic perspective to promote Muslim youth well-being in Brunei. Further research is needed to analyse the effectiveness of this conceptual model when employed in practise.

Keywords

Mental health, well-being, Muslim youth, Brunei

EVALUATION OF THE BUDGET ALLOCATION POLICY IN IMPROVING THE QUALITY OF HIGH SCHOOL AND VOCATIONAL HIGH SCHOOL EDUCATION IN KUTAI KARTANEGARA REGENCY IN 2020

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Abstract

This study aims to determine the implementation, constraints, and evaluation of education budget allocation policies for Senior High Schools and Vocational High Schools in the Kutai Kartanegara Regency. This research uses a descriptive analysis method with a qualitative research type. This research was conducted in 12 places, consisting of 5 high schools, 5 vocational high schools, and the provincial education office, as well as Commission IV of the Regional People's Representative Council of East Kalimantan Province. Sources of data in this study are primary and secondary data types. The research data came from informants, namely the Principal, Head of the Provincial Education Office, and the Chair of Commission IV of the Regional People's Representative Council of East Kalimantan Province. Data collection techniques used in this study were observation, interviews, and documentation. The analytical technique used in this study uses the steps of data collection, data reduction, data display, verification, and confirmation of conclusions. The results of the study indicate that the composition of the use of the budget at the Department of Education and Culture of East Kalimantan Province is greater for capital expenditures than service expenditures. The number of students is still used as a basis for planning and proposing schools to obtain the Regional School Operational Assistance (BOSDA) budget and has not used the priority scale for school needs.

Keywords: Implementation, evaluation, allocation, and policy.

IMPLEMENTATION OF REGIONAL OPERATIONAL ASSISTANCE PROGRAMS WITH A SEMESTER CREDIT SYSTEMS DURING THE COVID 19 PANDEMIC AT BALIKPAPAN HIGH SCHOOL

Impact Of Regional Operational Assistance With Credit System During The Covid 19 Pandemic In Balikpapan High School

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Abstract

The Covid-19 pandemic has forced schools to allocate a special budget to meet school facilities and infrastructure. In particular, related to efforts to prevent the transmission of Covid-19 if face-to-face learning is limited. The Ministry of Education, Culture, Research, and Technology (Kemendikbud Ristek) seeks to ease the burden on schools in carrying out learning during the Covid-19 pandemic. Referring to these provisions, schools that carry out distance learning as well as schools that are running face-to-face are limited, can take advantage of School Operational Assistance. to meet the operational needs of schools during the Covid-19 pandemic in accordance with Permendikbud Number 6 of 2021. The policy on the use of school operational assistance is set to accommodate the financing needs needed by schools in the implementation of distance learning from home, both online and offline and Face-to-face Learning, either gradually or fully. With the school operational assistance fund policy, schools can implement a semester credit system in building more efficient learning. In the Regulation of the Minister of Education and Culture No. 158 of 2014 concerning the Implementation of the Semester Credit System in Primary and Secondary Education Article 1 states that the Semester Credit System, hereinafter referred to as SKS, is a form of education in which students agree on the amount of learning load to be followed and/or learning strategies each semester in the education unit according to talent, interests, and abilities/speed of learning. Education programs must fully use the 2013 Curriculum Structure and all relevant supporting tools. In implementing the SKS, the educational process is programmed so that each student can learn more efficiently so that the length of study can be less than 6 (six) semesters by completing mastery of each/all subjects.

Keywords : Kemendikbud Ristek, School Operational Assistance

ARTIFICIAL INTELLIGENCE IN THE JURISTIC COMPONENT OF THE ISLAMIC SYSTEM OF GOVERNANCE: A CONCEPTUAL DESIGN

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Abstract

Governance comes in many forms, such as monarchic government, corporate governance, health governance, etc. One essential component across these different forms is the implementation of processes and rules in achieving their objectives. In Abdul Aziz's Islamic System of Governance, the processes and rules are defined by the Sharī'ah, which he called the Juristic component. This component defines the parameters of Islamic actions, i.e., what can be done, how it must be done, and what cannot be done. Any actions must fall within the parameters of the Sharī'ah—they must be permissible according to the Sharī'ah. Usually, we refer to the mufti and scholars in ensuring the permissibility of our actions. However, there is a possibility to make the process more effective and efficient with the application of advanced technology such as Artificial Intelligence (AI). This technology has been applied to many areas, including legal. However, none of the past research can fully demonstrate the possibility of the AI-based Islamic Juristic system. Therefore, to demonstrate that prospect, this research explored the potential conceptual design of the AI-based Islamic Juristic system, where the system is designed with the adoption of Machine Learning (ML) approach in mind. The research employed the library research method to explore the seven components that construct an ML system: (1) the AI agent, (2) the agent's environment, (3) the input, (4) the output, (5) the algorithms, (6) the credibility, and (7) the data transformation. The current findings of this research show that the AI-based Islamic Juristic system is conceptually feasible.

Keywords: Islamic Governance, Islamic System of Governance, Governance, Artificial Intelligence, Machine Learning.

URGENT NEED OF EDUCATION IN TECHNOLOGY AS TO IMPROVE STUDENTS' COGNITIVE DEVELOPMENT

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Abstract

Today, global crises are new problems that have added to the problems of the past, which have affected human development and growth, and have revealed the weaknesses and shortcomings of education, as well as paved the way for new beneficial changes. One of the factors that has been considered to deal with educational problems in countries is educational technology. Educational technology provides tools and methods to educators and practitioners that equip them to overcome the issues and problems mentioned. The purpose of this study is to develop students' cognitive development in the current special circumstances. The general question of the research is the urgent need of educational in technology as to Improve Students' Cognitive Development. The statistical population of this study is 60 professors and experts in the fields of educational technology and educational psychology of Kharazmi University who used judgmental sampling method. The variables and their importance were identified and determined using the Delphi method. Findings of the study according to the consensus of 45 experts and based on priority show that teaching technology skills, information literacy, accurate scheduling of access to technological facilities, training on management software (time) to students, Creativity training in virtual environments is necessary for the cognitive development of the new generation.

Keywords: Cognitive Development, Technology, Education

ARTIFICIAL INTELLIGENCE DEPLOYMENT IN ISLAMIC SYSTEM OF GOVERNANCE: A LITERATURE REVIEW

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Abstract

The applications of Artificial Intelligence (AI) in our daily activities have helped us accomplish our tasks more effectively and efficiently. With the advancement of computing power and the internet, AI systems have been applied in many areas such as business, management, health, etc. This paper analysed the possibility of integrating AI into the Islamic System of Governance (ISG). This research utilised Abdul Aziz's ISG which provides a set of analytical frameworks for gearing relevant organisations towards achieving their objectives. The ISG was derived from the Prophetic Madinian Polity and thus, adopted elements of the polity. For instance, the ISG set the Maqāsid of the Sharī'ah as an organisation's strategic objectives and constructed the Islamic Governance operational framework with four components from elements of the polity: (1) Tauhid, (2) Juristic, (3) Values, and (4) Cultural. A comprehensive literature review was conducted to look into the integration of AI with this ISG. The research findings indicated that there is not much research conducted in this area. Therefore, we explore the potential of applying AI in the context of an ISG. Several researches have investigated the integration of AI into some of the ISG components like, the Juristic, Values, and Cultural, in other areas and contexts. However, none of them are completely suitable for the ISG context. Furthermore, none of the research was done as an integrated whole, thus, ignoring the relational dynamic between the components of ISG. Hence, a more comprehensive study is required to fill the gap in deploying AI with the ISG.

Keywords: Islamic Governance, Islamic System of Governance, Governance, Maqāsid as-Sharī'ah, Artificial Intelligence.

ROOM 7
THEME: SOCIAL SCIENCES

PARENTS' STRATEGY IN DEVELOPING CREATIVITY OF EARLY CHILDHOOD

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Abstract

This research is motivated by the importance of developing creativity in early childhood. Creativity is a very important thing to be nurtured in children from an early age because by being creative children can actualize themselves, where self-actualization is the highest level of basic needs in human life. Creativity is a manifestation of the individual that will allow it to be used to improve the quality of his life. Creativity can be developed anywhere, anytime, and under any conditions. The role of the family is inseparable in helping the development and growth of children, including in helping children develop creativity. The purpose of this study was to determine the strategy of parents in developing creativity in early childhood. This study uses a qualitative method with a qualitative descriptive approach. Data was collected through interviews with research subjects as many as 5 parents who have early childhood respondents. To check the validity of the data, triangulation techniques are used so that the research data obtained can be scientifically justified. The steps in the analysis of research data are reduction, data presentation, then drawing conclusions as an answer to the formulation of the problem. The results of this study indicate that parents play a role in the development of children's creativity. Several strategies are carried out by parents in developing creativity in children, namely building children's self-confidence through an attitude of acceptance and respect for children, providing opportunities for children to express and explore, providing sufficient time and space to play and do assignments, observe and support activities carried out by parents. children are interested in, establishing good cooperation with children, creating a pleasant home environment, and facilitating media (means) that can support the development of creative potential possessed by children.

Keywords: parent strategy, creativity development, early childhood

PENDIDIKAN SAHSIAH KANAK-KANAK PRASEKOLAH MELALUI PERMAINAN SERIUS: CABARAN PEMBANGUNAN APLIKASI

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Abstract

Kanak-kanak pada peringkat prasekolah menyerap begitu banyak maklumat dan belajar melalui persekitarannya. Pendidikan sahsiah memastikan pendedahan secukupnya untuk kanak-kanak bagi membentuk jati diri sebagai seorang Muslim dengan mempelajari adab dan akhlak dan mengenali teladan yang patut dicontohi. Sesuai dengan naluri kanak-kanak yang suka bermain, permainan serius mengetengahkan pendekatan yang menyepadukan elemen hiburan dan pembelajaran bagi meningkatkan minat dan keterlibatan dalam pendidikan. Walaubahagimanapun, sejauh mana elemen hiburan berkenaan seimbang dengan nilai pendidikan tanpa kanak-kanak terbeban dengan peranti dan terjerumus ketagihan permainan mengundang kebimbangan ibu bapa dan pendidik. Dalam konteks persekitaran dan prinsip agama pula, pembangunan permainan serius yang menepati pendidikan sahsiah masih belum difahami sepenuhnya. Kertas ini bertujuan untuk membincangkan cabaran pembangunan aplikasi pendidikan sahsiah permainan serius bagi kanak-kanak peringkat prasekolah. Perbincangan cabaran termasuk mengenal pasti kandungan pembelajaran dan persembahan permainan bersesuaian bagi tujuan pendidikan sahsiah dibuat berdasarkan kitaran pembangunan aplikasi melibatkan fasa perancangan, pembangunan, pengujian dan pelaksanaan. Bagi cabaran menyeimbangkan ciri permainan dan pembelajaran dalam satu aplikasi permainan, proses perancangan dan pembangunan memerlukan kerangka dan garis panduan reka bentuk yang membantu pasukan pembangunan permainan untuk memodelkan permainan pendidikan sahsiah secara berkesan. Kerangka pembangunan permainan serius turut menerapkan teori pembelajaran yang menyentuh elemen motivasi dan prestasi kanak-kanak prasekolah dalam pendidikan sahsiah. Perbincangan cabaran sepanjang proses perancangan dan pembangunan permainan mendorong kepada pemahaman yang lebih baik tentang bagaimana permainan serius menangani keperluan pendidikan sahsiah dalam konteks kehidupan nyata kanak-kanak prasekolah membantu pembangun untuk menghasilkan aplikasi permainan yang berkualiti.

Kata kunci: Cabaran pembangunan aplikasi, pendidikan sahsiah, kanak-kanak prasekolah, permainan serius.

LEARNING ISLAMIC VALUES THROUGH GAME FOR PRESCHOOL CHILDREN – INSTRUCTION DESIGN IN KHALIFAH KECIL

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Abstract

Khalifah Kecil presents a game learning application for preschool children to encourage them to acquire Islamic values and apply good habits in their everyday life. The project applies fun and entertaining strategy in learning and playing through games to deliver sahsiah education for Muslim preschool children. The application highlights Prophet teaching using hadith related to manners that suit the potential and ability of young children. The paper discusses the instruction design of the application that guides instructors and developers to integrate learning plans, game elements and media so children are able to achieve the learning objective. The study applies ASSURE model that highlights the design phase to emphasise the decision on appropriate instruction strategies and delivery medium to support the learning content. Merrills five instructional design principles recognise several instructional design theories to categorise the main key principles in producing efficient instruction that maximise learning. The design aims to match the learning content with the needs of preschool children. Therefore, the learning content applies problem-based scenario to engage children in real and everyday situations by narrating stories related to their relationship with family members such as mother and the importance of treating everyone kindly. Since knowledge gap appears to be common for these children, a small bridge might help them by discussing the prevailing concept before introducing new element. This game learning application focuses on preschool children aged in the range of four to six years. The gameplay and fun characters are appropriate to the abilities of the child at that age. Preschool children are at the stage where they can learn and explore many new things. Children already have the necessary cognitive and affective levels and can be developed slowly according to their potential to learn among the most important lessons in their lives.

Keywords: game, instruction design, preschool children, Islamic values education.

THE EFFECT OF THE CONSERVATION FOR SHOPHOUSES IN JALAN SULTAN, KUALA LUMPUR IN CONTRIBUTING TO THE LOCAL COMMUNITY ECONOMY

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Abstract

Jalan Sultan located in the heart of Kuala Lumpur was named by Sultan Abdul Samad in 1804-1898. There are many shophouse buildings in the area that need to be preserved and maintained. The old shophouse building has also been threatened with destruction due to development factors or the construction of the MRT, roads that are done near the shophouse building area. The objective of this study is to identify the history and development of shophouse buildings in Jalan Sultan, Kuala Lumpur. The researcher also wants to know the effect of maintaining the shop house building in Jalan Sultan, Kuala Lumpur and identify the recommendations that need to be done by those responsible in maintaining the shophouse building in Jalan Sultan, Kuala Lumpur. This is qualitative research that uses the interview method for research data. There are several respondents who have been identified. The results of the study found that the maintenance of shophouse buildings in Jalan Sultan, Kuala Lumpur contribute to the economy of the local community. Therefore, cooperation from all parties should be implemented in maintaining the design of the shop house.

Keywords: Building, conservation, economy, heritage, impact, shop house.

PLANNING STRATEGY OF SCHOOL BASED MANAGEMENT IN IMPLEMENTING ON THE JOB TRAINING OF VOCATIONAL SCHOOL

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Abstract

The purpose of this study was to know the planning strategy of School-Based Management in the On Job training (OJT) program at SMK. This research was conducted at Airlangga Health Vocational School. The method used in this study is a qualitative descriptive method. Sources of data come from interviews, field observations and documents. The results of this study showed that it was found that the planning of On the Job Training activities in SMK includes three parts: Pre-Activity, on activity and post activity. Pre-Activity included Preparations, they are: preparatory meetings, determination of OJT methods and systems, inventorying a list of prospective PKL places, determining time, making conditions for joining OJT, determining prospective participants, forming committee, determination of costs, renewal of Memorandum of Understanding (MoU) to OJT partners, meetings with parents of students. On activity included: 1) Planning: Competency mapping, determining the location of OJT, determining the time and period of time, mapping students, making supporting documents OJT (attendance list, daily journal, guidance book and identity badge), and debriefing activities. 2) Organizing: determination of the chairman of the committee, secretary, members, and supervising teachers. 3) Actuating: ensure the implementation is in accordance with the plan through a daily journal. 4) Controlling by Supervising some issues like Placement of students in the practice location according to competence; On the Job training implementation; Mentoring by OJT instructors/supervisors of partners; Monitoring of the implementation by supervising teachers. Post-activities in the form of: Making student reports, presentation of reports, and assessments. The constraint in planning activities is the limited number of OJT locations so that the OJT must be designed into 3 waves.

Keywords: e.g. School Based Management, Planning, On the Job Training.

CORAK GELOMBANG OTAK DALAM KALANGAN PENUNTUT TAHFIZ DI UNISSA MENGGUNAKAN ALAT ELECTROENCEPHALOGRAM (EEG)

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Abstract

Al-Quran adalah sebuah kitab yang diturunkan oleh Allah SWT supaya umat Islam memelihara dan menghafaznya. Amalan menghafaz Al-Quran adalah salah satu daripada aktiviti otak. Namun begitu seseorang individu sukar untuk mengetahui keupayaan otaknya. Oleh itu, kajian ini bertujuan untuk mengenalpasti keupayaan otak. Kajian ini terdiri tiga fasa, mengukur tahap IQ responden, menguji aktiviti otak dan mengenalpasti hubungkait antara ketiga-tiga elemen tersebut. Hasil kajian menunjukkan bahawa alat Electroencephalogram (EEG) telah berjaya mengesan perbezaan corak gelombang otak bagi aktiviti otak. Seterusnya ia akan memudahkan bagi mengkategorikan tahap-tahap kemampuan setiap responden yang terlibat dalam kajian ini.

Kata kunci: Gelombang otak, Tahfiz, Electroencephalogram (EEG).

IMPROVING TEACHER COMPETENCE THROUGH ACADEMIC SUPERVISION AT SMP IT A SALAM SAMARINDA

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Abstract

This study aims to analyze the improvement of teacher competence through academic supervision at SMPIT As-Salam Samarinda. This study uses a qualitative approach with descriptive research methods. This research was conducted at SMP IT As-Salam Samarinda. The data sources in this study are primary data and secondary data. Sources of data in this study came from informants, namely the principal and 3 teachers at SMP IT As-Salam Samarinda. Data collection techniques used in this study were observation, interviews, and documentation. The data analysis technique used in this research is data reduction, data presentation, and conclusion drawing. The results showed that the increase in teacher competence through academic supervision at SMP IT As-Salam Samarinda experienced a good increase. Academic supervision carried out by the principal as a supervisor to improve teacher competence has been carried out properly. So that the competence of teachers, especially in terms of academics is increasing. The obstacles faced in implementing the supervision of the principal are time, the number of guests who visit the school, there is no change from the teachers who have been supervised due to the age factor, and lastly, inadequate facilities and infrastructure.

Keywords: teacher competence, academic supervision, principal.

THE ROLE OF SCHOOL MANAGEMENT IN INCREASED ACCREDITATION EDUCATION UNIT

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Abstract

This study aims to determine the role of school management in improving the accreditation of Education Units and describe the participation of educators, education personnel, and school committees in the role of school management in increasing the accreditation of Education Units. This research was conducted at Budi Bakti Elementary School, Samarinda City. The approach used in this research is qualitative research with the case study method. The results showed that: (1) the role of school management went well. Planning in the direction of students, educators, education staff, and the curriculum is carried out towards the beginning of the school year, including objectives, activities, resources, time and place of implementation, and estimated operational costs. (2) The involvement or participation of educators and education personnel is quite a lot. Several programs that involve educators include being the PPDB committee, HR recruitment committee, providing input or ideas in curriculum planning, helping to receive criticism or suggestions from parents, and participating in circulating information through social networks (3) School Committees are actively involved in implementing School Management. The participation of the school committee includes being involved in school activities both as participants and as an activity committee together with the school. Apart from being involved in school activities, the committee also supervises or controls the process of educational activities. In addition, the committee holds meetings with the school by bringing various inputs or aspirations of parents in response to policies or technical implementation of the program that are deemed inappropriate. Implementing the role of school management and the participation of educators, education staff, and school committees can increase the accreditation of Education units.

Keywords: School Management, Accreditation, Education Unit.

INTERACTION THE EFFECT OF PRINCIPAL'S LEADERSHIP AND EDUCATION FINANCING ON PERFORMANCE OF JUNIOR HIGH SCHOOL TEACHER IN MAHAKAM EAST KALIMANTAN, INDONESIA

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Abstract

The principal plays a role in giving influence and change to the teacher. In their activities, teachers must prepare themselves to discipline to improve performance effectiveness and realize changes and school progress. Policies and regulations for managing education financing are needed as a reference for the implementation of school management carried out by principals and teachers in managing educational institutions and improving the quality of Education. This study aims to determine the effect of principal's leadership on teacher performance, education financing on teacher performance and the effect of principal leadership and education financing together on the performance of junior high school teachers in Mahakam Ulu Regency. This study is a quantitative study with a population of 128 and a sample of 104 teachers. Data collection techniques using the method of observation, questionnaires, and documentation. Data analysis used SPSS Statistics 21 with descriptive analysis and regression analysis. The results of this study indicate that: principal leadership has an effect on teacher performance by 38%; education financing has an effect on teacher performance by 55%; and principal leadership and education financing together affect teacher performance by 66%. The implication of this research is to improve the position of the principals in school leadership to implement education that is not too dependent on other parties. Thus, the principals have a very important role to improve the quality of the school. Therefore, revitalization of school principals is very necessary because they have a very strong influence on increasing teacher competence and performance to achieve quality schools.

Keywords: Principal Leadership, Education Financing, Teacher Performance

PRINCIPAL'S LEADERSHIP IN IMPROVING SCHOOL ACHIEVEMENT

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Abstract

This research emphasizes the formulation of the school's vision and mission, the process of socializing the school's vision and mission, the process of implementing the school's vision and mission, and the approach taken by the principal in implementing leadership to develop school progress. This study uses a qualitative method. Qualitative research intends to understand the phenomenon of behavior, action, and overall state of a research subject. At the same time, the type of research used is case study research. Using case studies is that this research method focuses on a unique case intensively and in detail. The uniqueness of this research is that a principal who has more than eight years of experience as a principal, and during his tenure, the principal has many academic and non-academic achievements. The results of this study are: (1) the vision and mission formulated by the principal involving all teachers, staff, school supervisors, and school committees; (2) the school's vision and mission are socialized and implemented by teachers, staff, and students; (3) the implementation of the vision and mission is carried out through teaching and learning activities.; (4) the approach to implementing the principal's leadership is done by setting an example for the school community; (5) The principal's leadership cooperates with external parties.

Keywords: leadership, vision, mission, school achievement

THE EFFECT OF THE EFFECTIVENESS OF PRINCIPAL'S LEADERSHIP ON THE WORK ACHIEVEMENT OF HIGH SCHOOL TEACHERS IN THE CITY OF SAMARINDA

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Abstract

This research emphasizes the formulation of the school's vision and mission, the process of socializing the school's vision and mission, the process of implementing the school's vision and mission, and the approach taken by the principal in implementing leadership in order to develop school progress. This study uses a qualitative method. Qualitative research is research that intends to understand the phenomenon of behavior, action, and overall state of a research subject. While the type of research used is case study research. The reason for using case studies is that this research method focuses on a unique case intensively and in detail. The uniqueness of this research is a principal who has more than 8 years of experience as a principal, and during his tenure, the principal has many academic and non-academic achievements. The results of this study are: (1) the vision and mission formulated by the principal involving all teachers, staff, school supervisors, and school committees; (2) the school's vision and mission are socialized and implemented by teachers, staff, and students; (3) the implementation of the vision and mission is carried out through teaching and learning activities.; (4) the approach to implementing the principal's leadership is done by setting an example for the school community; (5) The principal's leadership cooperates with external parties.

Keywords: leadership, vision, mission, school achievement

LEADERSHIP POLICY FOR IMPROVING LECTURER PERFORMANCE AT PRIVATE UNIVERSITY: A CASE STUDY IN EAST BORNEO

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Abstract

This article discusses the results of research on leadership policies to improve lecturer performance at private universities in East Borneo. The policies taken by university leaders are one of the factors to improve the quality of education at universities. This study seeks to explore how the policies of private university leaders improve the performance of their lecturers. To achieve this goal, this research uses a qualitative method with the type of case study. Data was collected through semi-structured interviews with the vice chancellor, dean and lecturers at a private university in East Borneo. The results of the study show that the policies taken by the leader are optimal, the leader already knows the structure that must be passed when determining policies related to improving lecturer performance. The leader analyzes the problem first, looks for the root of the problem and determines alternative solutions. Leaders involve staff and related parties in the process. Leaders also analyze current conditions and determine goals to be achieved in an effort to improve lecturer performance. The follow-up to the leadership policy is to encourage and motivate lecturers to implement the policy. Leaders through university institutions provide support for facilities, infrastructure and administrative facilities to improve lecturer performance. Trainings are held to improve the performance of lecturers. Leadership policies are very necessary in an effort to improve the performance of lecturers at universities, so it is very necessary to be developed and improved continuously.

Keywords: policy, leadership, lecturer performance

PRINCIPAL ACADEMIC SUPERVISION IN QUALITY IMPROVEMENT TEACHER AT ISLAMIC HIGH SCHOOL IN EAST KALIMANTAN

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Abstract

The purpose of the study was to describe the implementation of the Principal's Academic Supervision at SMP Muhammadiyah Balikpapan with a sub focus on planning, implementing, evaluating and following up on the results of the implementation of supervision as well as obstacles and solutions for the principal's academic supervision. The form of this research is descriptive qualitative research. The data collected is in the form of words and pictures. Collecting data using observation, interview and documentation techniques. The analytical technique used is descriptive qualitative analysis, describing and describing the data in a concise and simple systematic manner. The validity of the data findings was carried out by using source triangulation techniques. Informants in the study were principals and teachers. The results of the research on academic supervision planning, principals hold meetings with teachers, arrange schedules, prepare supervision instruments. Academic supervision is carried out in a family manner with individual supervision techniques, namely class observations and individual meetings. The principal informs the plan for the implementation of supervision to the teacher, observing the implementation of learning from opening to closing the lesson. The obstacle in carrying out academic supervision is that some teachers are not ready to be supervised. Learning tools are not complete, some teachers do not use teaching aids when teaching. The solution to overcome the obstacles is to provide an understanding of academic supervision to teachers. Evaluation and follow-up of the results of supervision is to analyze the results of supervision, make reports and hold meetings. To increase competence, teachers are included in MGMP activities or training activities. Based on the results of the study, the data processing obtained by the researchers implementing the academic supervision of the principal at SMP Muhammadiyah Balikpapan has been running but has not been implemented optimally.

Keywords: Academic Supervision, Principal

TEACHER RECRUITMENT TO IMPROVE THE QUALITY OF EDUCATION: A LATEST EMPIRICAL STUDY OF ELEMENTARY SCHOOL IN EAST BORNEO, INDONESIA

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Abstract

This study aims to describe the management of teacher recruitment as an effort to improve the quality of education carried out in elementary schools in East Borneo, Indonesia. This study uses a qualitative approach with a descriptive method. Collecting research data using a semi-structured interview technique with four participants. The management of teacher recruitment carried out in schools is one of the factors that influence the improvement of the quality of education. This study seeks to explore three important points, that is how to planning, actuating and controlling teacher recruitment have an impact on improving the quality of education in elementary schools. The results of the study indicate that the management of teacher recruitment in improving the quality of education has been implemented by maximizing the application of management functions consisting of planning, actuating and controlling. The management of teacher recruitment in this study involves elements of leadership, vice principals, teachers and staff. The implementation of the new teacher recruitment system through management prioritizes transparency, competence, morals, integrity, professionalism, accountability, and in accordance with government regulations regarding teachers. This system has a positive impact on the results of teacher recruitment by getting teachers according their needs and qualifications. If schools have quality teachers, it will also have an impact on the birth of students who excel. The birth of students who excel is the real of the quality of education in an institution that is strived to the maximum through good management.

Keywords: Management, Teacher Recruitment, Quality of Education, East Kalimantan

ISLAMIC ETHICAL PRACTICE IN INFORMATION DISSEMINATION AMONGST BRUNEI CITIZEN JOURNALISTS

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Abstract

Citizen journalism; the act of participation and involvement of the citizens in the journalism field has become predominant by the presence of social media such as Facebook and Instagram. Information is easily disseminated not only in the form of texts, but also in the form of photos and videos. In Brunei, the act of citizen journalism is more obvious in the comment sections of mainstream media's social media platforms as well as in individual's personal social media. More often, less accurate information is disseminated to most members of the public via social media with no verification, thus causing confusion and misunderstandings. The 'comment' section is mainly for the public to express their thoughts on public interests, but some comments delivered reflect the lack of akhlaq (manners) of the users. The purpose of this paper is to evaluate the Islamic ethical practice in information dissemination amongst Brunei citizen journalists, in the hope of providing a guideline for the generation to adhere to Islamic ethical conducts. In Islam, ethics are based on the Qur'an and the Sunnah (the Prophetic tradition), in which both etiquette (adab) and manners (akhlaq) are fundamental in shaping the character and actions of a Muslim (Malik, 2011). Verification, disseminating only the truth and justice are not only the standard journalism code of ethics but also the Islamic ethical practice that citizen journalists should abide when disseminating information (Steele, 2011). A purposive sampling with interviews, surveys and document analysis as instruments; the data received will also be verified by experts in the journalism field to increase the validity of the data. Expected outcome includes the presence of groups that simply overlook the Islamic ethical practice in their online acts as well as groups that may consider the ethical side of their citizen journalism behaviour.

Keywords: Islamic ethical practice, information dissemination, citizen journalist, Brunei citizen journalist

ROOM 8
THEME: TECHNOLOGY IN ISLAMIC
STUDIES

THE CHALLENGE OF IMPROVING AL-QURAN MEMORIZING FOR GRADUATES OF TAHFIZ STUDENTS IN THE TECHNOLOGICAL ERA

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Abstract

The rapid advancement of technology is being felt all around the world, and Malaysia is no different. However, because of the comfort and growth of technology, many Qur'an memorizers who have successfully finished the memorization of 30 juz have become a little drowsy and forgetful. This is evidenced by interviews with students in the fields of Tahfiz and Qiraat at the Kolej Universiti Islam Antarabangsa Selangor, Universiti Pendidikan Sultan Idris, and Universiti Sains Islam Malaysia, where 70% of candidates with the titles of hafiz and hafizah are less fluent in memorization. As a result, the purpose of this study is to examine the challenges faced by graduates of tahfiz institutions who have completed Quran memorization, as well as to identify differences in the environment of having to repeat memorization during and after the study session, and to identify information and tips that can be applied to all tahfiz alumni in an effort to solidify their memorization. An in-depth interview with some of the mutqin al-Quran memorizers who are satisfied with the performance of their al-Quran memorization, will be conducted. The study's findings will be able to examine the difficulties faced by hafiz and hafizah who have integrated with the outside environment. Furthermore, this research will be able to reveal differences in the environment of memorization revision during and after the study session. As a result, several answers, ideas, and in-depth discussions on repeating memorization will be explored so that hafiz and hafizah can utilize it as a reference.

Keywords: Technology, Quran memorization, challenges.

PERANAN MAQRAAH “ONLINE” DALAM PENGAJARAN ILMU QIRAAT

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Abstract

The rapid advancement of technology is being felt all around the world, and Malaysia is no different. However, because of the comfort and growth of technology, many Qur'an memorizers who have successfully finished the memorization of 30 juz have become a little drowsy and forgetful. This is evidenced by interviews with students in the fields of Tahfiz and Qiraat at the Kolej Universiti Islam Antarabangsa Selangor, Universiti Pendidikan Sultan Idris, and Universiti Sains Islam Malaysia, where 70% of candidates with the titles of hafiz and hafizah are less fluent in memorization. As a result, the purpose of this study is to examine the challenges faced by graduates of tahfiz institutions who have completed Quran memorization, as well as to identify differences in the environment of having to repeat memorization during and after the study session, and to identify information and tips that can be applied to all tahfiz alumni in an effort to solidify their memorization. An in-depth interview with some of the mutqin al-Quran memorizers who are satisfied with the performance of their al-Quran memorization, will be conducted. The study's findings will be able to examine the difficulties faced by hafiz and hafizah who have integrated with the outside environment. Furthermore, this research will be able to reveal differences in the environment of memorization revision during and after the study session. As a result, several answers, ideas, and in-depth discussions on repeating memorization will be explored so that hafiz and hafizah can utilize it as a reference.

Keywords: Technology, Quran memorization, challenges.

KAEDAH HAFAZAN APLIKASI DIGITAL AL-QURAN DI DALAM ANDROID: KAJIAN PENGGUNAAN KAEDAH FAHAM SIYAQ.

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Abstract

Pelbagai kaedah hafazan al-Quran telah dihasilkan untuk menjaga kemantapan hafalan supaya sentiasa kukuh di dalam ingatan. Salah satu kaedah yang berkesan ialah menggunakan kaedah faham Siyaq. Adapun kaedah ini merangkumi tujuh langkah penting sebelum memulakan hafalan yang meliputi kemahiran membaca, mendengar, mengingat dan memahami konteks ayat. Dengan kemajuan teknologi pada masa ini, banyak aplikasi digital hafazan al-Quran di dalam android telefon pintar telah diperkenalkan sebagai alternatif untuk membantu umat islam di dalam proses hafazan dan murojaah selain menggunakan mushaf al-Quran. Namun begitu, aplikasi yang mempunyai ciri-ciri dalam kaedah hafalan faham Siyaq belum banyak dibangunkan dan aplikasi dengan kaedah ini juga tidak mesra penggunaannya di kalangan masyarakat terutamanya para pelajar. Justeru, objektif kajian ini adalah untuk menganalisis dan memberikan pendedahan tentang isi kandungan yang ada pada aplikasi digital hafazan Siyaq di dalam android telefon pintar. Kajian ini dalam bentuk kajian kualitatif iaitu berkaitan aplikasi digital hafazan al-Quran dengan kaedah Siyaq yang dapat diakses melalui android telefon pintar. Hasil kajian ini antaranya mendapati bahawa ciri-ciri dalam aplikasi digital hafazan al-Quran dengan kaedah ini hanya merangkumi beberapa komponen dan menggunakan bahasa Arab sebagai bahasa penghantar. Oleh itu, diharapkan antara hasil kajian ini nanti dapat memberi panduan kepada masyarakat untuk menggunakan aplikasi hafazan Siyaq yang sesuai sebagai alat bantu pembelajaran dan seterusnya dapat memberikan idea baru untuk membina aplikasi digital hafazan al-Quran kaedah Siyaq di dalam bahasa Melayu dengan ilustrasi yang menarik agar pengguna lebih bermotivasi di dalam menghafal al-Quran.

Kata kunci: Kaedah hafazan, aplikasi digital al-Quran, Siyaq

DEVELOPMENT OF ISLAMIC TECHNOLOGICAL RESOURCEFUL SITES LOCATOR USING MOBILE APPLICATION

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Abstract

In Brunei, there are a lot of Islamic technological resourceful sites that can be visited. However, these sites are not being made known or promoted. These sites can be very resourceful in terms of knowledge development and also for research activities. Site such as Brunei Islamic Museum, Makam Sharif Ali, Islamic Library, moon sighting sites are among those that might attract visitors to visit not only for reference but also for hands-on experience. Therefore, the aim of this study is to identify all those Islamic technological resourceful sites in Brunei and further establish it to the public. Mobile application will be used to develop and locate these sites so that it can be easily accessible for users to find its' location. The details and descriptions of the chosen sites will also be installed for further reference with real images provided. It is expected that the application will further promote the sites and hopefully it will be better known to not only for Bruneians, but also globally. Historical information will help not only students, but also researchers to go in depth and made it well known. Recommendations for future research will enhance the development of the application using more advanced techniques.

Keywords: Islamic resourceful sites, locator application, mobile application.

MISUSE OF SOCIAL MEDIA APPERTAINING TO MAQASID AL-SHARIAH'S HIGHER OBJECTIVES

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Abstract

Social media and technology are the new reality in modern life. More than half of the world's population are active social media users (4.20 billion) and Brunei is not exempted from this. Brunei recorded a relatively high number of social media users at an average of 99 per cent. This resulted in various types of social media uses. In this day and age, the misuse of social media is becoming more and more prevalent. This misuse can be interpreted as a reflection of one's attitude and behaviours, which embodied one's values, beliefs and even faith. Thus, this research aims to examine the relationship between social media misuse with knowledge and understanding of the Maqasid al-Shariah's higher purposes. Using a quantitative approach, a questionnaire will be distributed to 254 Year 4 undergraduate students from 4 prominent higher education institutions in Brunei. The expected outcome is to find the core issues in social media misuse, as well as to suggest and recommend a solution for these misuses.

Keywords: Social Media Use, Social Media Misuse, Maqasid al-Shariah's higher purposes.

MEMBANGUNKAN KEPERLUAN MAQRA'AH DALAM TALIAN BERDASARKAN FAKTOR KUALITI PERKHIDMATAN DAN TEORI PENGURUSAN KUALITI TOTAL (TQM)

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Abstract

Permintaan tinggi pembelajaran dalam talian semasa Covid19 telah mempengaruhi tren semasa pengajaran dan pembelajaran al-Quran. Kewujudan Maqra'ah dalam talian di Timur Tengah telah menjadi satu inovasi baru pengajaran dan pembelajaran al-Quran. Namun, kedudukan geografi yang berbeza dan ketiadaan garis panduan khusus kelengkapan Maqra'ah bagi memenuhi cabaran semasa pembelajaran dalam talian memberi risiko tahap kepuasan rendah pelanggan Maqra'ah. Kajian rintis ini bertujuan meninjau cabaran semasa pembelajaran dalam talian dan faktor kualiti perkhidmatan pembelajaran dalam talian dan membangunkan senarai keperluan kualiti perkhidmatan Maqra'ah berdasarkan teori Pengurusan Kualiti Total (TQM). Kajian awal mendapati tiada mana-mana Maqra'ah yang telah dibangunkan berdasarkan teori TQM sepenuhnya. Kajian ini mengumpulkan dapatan kajian menggunakan metode kajian kepustakaan dan pengesahan pakar al-Quran. Dimensi SERVQUAL yang terdiri daripada kebolehppercayaan, jaminan, ketara, empati dan koresponsifan dan juga lapan teras TQM telah dikumpulkan menjadi matriks 5 baris x 8 lajur. Keperluan faktor perkhidmatan pembelajaran dalam talian berdasarkan kajian kepustakaan direkodkan dan dipadankan mengikut matriks SERVQUAL-TQM. Hasil kajian mendapati antara faktor kualiti perkhidmatan yang perlu dipertingkatkan bagi pembelajaran dalam talian terdiri daripada interaksi pengajar dan pelajar, teknologi audio dan visual, sistem penyimpanan rekod, maklumbalas pelanggan, dan keupayaan pelantar pembelajaran yang ketara dan boleh dipercayai. Dimensi kebolehppercayaan, ketara, koresponsifan dan jaminan merupakan faktor kualiti perkhidmatan berkekerapan tinggi yang telah dipadankan. Kajian ini turut mendapati bahawa kesemua prinsip TQM mempunyai sekurang-kurangnya satu dimensi SERVQUAL yang telah dipadankan. Senarai keperluan pembelajaran dalam talian ini berpotensi untuk diterapkan dalam membangunkan sistem pengurusan kualiti Maqra'ah yang mengutamakan kualiti perkhidmatan. Selari dengan perkembangan teknologi digital yang semakin mampan, penerapan kualiti perkhidmatan akan menjamin kestabilan pelantar Maqra'ah pada masa akan datang. Justeru, Maqra'ah berciri TQM ini dapat disasarkan sebagai pencetus kepada inovasi teknologi pembelajaran al-Quran pertama di Asia Tenggara.

Kata kunci: Maqra'ah, Al-Quran, SERVQUAL, Pengurusan Kualiti Total TQM, Kualiti perkhidmatan

KAJIAN TERHADAP NASKHAH-NASKHAH DIGITAL MUSHAF QIRA'AH IMAM ABU JAAFAR

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Abstract

Yazid bin al-Qa'qa' al-Makhzumi al-Madani atau dikenali dengan panggilan Abu Jaafar adalah merupakan imam qiraat yang ke lapan mengikut urutan qiraat sepuluh yang mutawatir. Sebagaimana mushaf yang masyhur dalam kalangan masyarakat Islam iaitu mushaf dengan qiraat 'Asim dari riwayat Hafs, terdapat juga mushaf dengan qiraat Abu Jaafar. Ramai masyarakat Islam khususnya di Brunei Darussalam masih kurang mengetahui kewujudan mushaf qiraat Abu Jaafar mahupun mushaf qiraat lainnya. Ini disebabkan mushaf qiraat tersebut tidak tersebar di negara ini kerana masyarakat di negara ini hanya membaca dengan riwayat Hafs sahaja. Oleh itu, teknologi pada masa ini telah memudahkan kita khususnya penuntut-penuntut yang sedang mendalami ilmu Qiraat untuk mendapatkan salinan mushaf qiraat Abu Jaafar ataupun qiraat lainnya dalam bentuk digital. Fokus utama kajian ini adalah untuk mengkaji naskhah-naskhah digital mushaf qiraat Abu Jaafar dari sudut penulisan lafaz (rasm) dan tanda-tanda baca (dhabt) di dalam al-Quran yang diguna pakai dalam mushaf tersebut. Maka dari itu tujuan kajian ini adalah untuk memberikan pendedahan kepada masyarakat tentang mushaf qiraat Abu Jaafar. Metode kajian ini berbentuk deskriptif kualitatif yang berdasarkan analisis dokumen dan perbandingan. Antara dapatan kajian menunjukkan bahawa dalam mushaf digital qiraat Abu Jaafar tidak terdapat perubahan dari sudut penulisan lafaz (masih mengikut kaedah penulisan mushaf Uthmani), manakala dari sudut tanda pula adalah mengikut kepada bacaan qiraat Abu Jaafar.

LEGAL EFFECTS OF CENTRAL BANK DIGITAL CURRENCY (CBDC)

Dr Hakimah Yaacob
Dr Adli Yaacob

Abstract

Many central banks have started in-depth discussions on the appropriateness and feasibility of issuing such currency. Despite its own merits on the Central Bank Digital Currency (CBDC), there is yet any acceptable concept to define and categorise the CBDC. Most guidance is provided by the International Monetary Fund (IMF) and the Bank of International Settlement (BIS). However, there are several legal issues pending settlements. This paper seeks to answer the legal questions, on the legal foundations of CBDC monetary law, including account-based or token-based, taxation, etc. This paper utilizes international documents standards of IMF and BIS as well as journals and several legislations. The study has led to several legal issues and effects on the users and may trigger an issue of 'too centralized and controlled' under one systemic hand. This study also may prove other centralization agendas globally.

Keywords: Central Bank Digital Currency (CBDC), legal effects, One World Currency, legal issues.

DESIGN ONLINE APPLICATION FOR PROMOTION OF CASH WAQF IN BRUNEI DARUSSALAM

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Abstract

Every year, the prospects for Islamic financial technology in Brunei Darussalam are growing, with smartphone users favoring online transactions to make donations for charity or payment for business purposes among adults. In relation to the development of financial technology, waqf is constantly evolving and remains the fundamental part of Islamic social finance platforms to make donations. Therefore, it is important to design and develop an online waqf mobile application to facilitate an easy and quick donation procedure, as well as to raise awareness and knowledge of waqf. In Brunei Darussalam, the collection of waqf is still being practiced using conventional method where cash is being given physically. However, in this digital era practices of waqf can be accessed through digital application. The main problem in the mind of society is that the practices of waqf are only for religious purposes such as building of mosques, equipment and electrical appliances to be equipped in religious ways. In fact, when a Muslim contributes a cash waqf it is used for the development of the economy, community development and religion. Mobile application is one of the medium for waqf accessibility. Therefore, this study aims to design and develop mobile application for promotion of cash waqf in Brunei. The development process will consider ideas from experts through interviews, gathering documents and attending workshops. The expected outcomes of this study may provide a system that can be used by consumers to donate their cash for waqf purposes. Recommendations for future research, a more advanced digital system can be developed that will provide rooms for other kinds of waqf such as equipment, buildings, lands and others.

SUMBANGAN TEKNOLOGI DALAM MEMELIHARA MANUSKRIP AL-QURAN: ILMU QIRAAT DALAM MANUSKRIP AL-QURAN TOPKAPI, TURKI

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Abstract

Ilmu Qiraat adalah ilmu yang membincangkan mengenai cara-cara melafazkan Al-Quran serta perbezaan bacaannya, samada bacaan tersebut disepakati atau diperselisihkan kesahihannya dengan berpandukan imam-imam yang diakui sanadnya sehingga sampai kepada Rasulullah S.A.W. Peredaran masa yang begitu pesat menjadikan kita untuk terus maju ke hadapan di mana teknologi sangat memberi kepentingan dalam kehidupan seharian kita. Justeru, manuskrip Al-Quran yang terdapat di muzium Topkapi, Turki itu mempunyai keunikan tersendiri yang mana di dalam kajian ini akan memperkenalkan sebahagian perbezaan qiraat yang terdapat di dalamnya. Ramai dalam kalangan masyarakat khususnya di Brunei Darussalam masih tidak tahu bahawa Al-Quran yang ditulis pada zaman Khalifah Uthmaniyyah itu adalah dengan pelbagai qiraat. Tujuan kajian ini diungkayahkan adalah untuk memberi pendedahan kepada masyarakat tentang ilmu qiraat yang terdapat dalam mushaf Uthmaniyyah. Kajian ini berbentuk kualitatif dengan menggunakan kaedah analisis dokumen, rujukan pakar serta perbandingan kajian lepas. Antara hasil kajian mendapati bahawa manuskrip mushaf topkapi menepati ciri qiraat yang ada di dalam mushaf-mushaf Uthmaniyyah. Begitu juga kajian ini mendapati bahawa teknologi berperanan penting dalam memelihara manuskrip-manuskrip al-Quran yang tertua.

Kata Kunci: Ilmu Qiraat, Manuskrip Mushaf Tertua, Teknologi.

SUMBANGAN TEKNOLOGI DALAM MEMELIHARA MANUSKRIP AL-QURAN : KAJIAN TERHADAP MANUSKRIP AL-QURAN TOPKAPI, TURKI.

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Abstract

Melalui sejarah manuskrip Al-Quran telah membuktikan ketulenan teks Al-Quran. Teknologi pada masa kini dapat membantu untuk mengkaji manuskrip Al-Quran di seluruh dunia dengan mudah. Antara manuskrip tertua di dunia yang masih tersimpan dengan rapi adalah manuskrip Al-Quran di muzium Topkapi, Turki. Namun ramai dalam kalangan masyarakat Islam khususnya di Brunei Darussalam masih kurang mengetahui sejarah manuskrip Al-Quran. Fokus utama kajian ini adalah untuk menyelusuri sejarah manuskrip Al-Quran Topkapi, Turki. Kajian ini dibuat bagi mendedahkan kepada masyarakat tentang kepentingan sejarah manuskrip Al-Quran. Kajian ini berbentuk kualitatif dengan menggunakan kaedah analisis dokumen dan merujuk kajian lepas. Antara dapatan kajian menunjukkan bahawa teks Al-Quran yang ada pada tangan umat Islam pada masa kini tidak berubah dan kekal tulen walaupun telah berusia lebih seribu tahun.

Kata Kunci: Manuskrip Al-Quran, Teknologi, Topkapi Turki

NUTRACEUTICAL BASED ON THE QUR'AN AND SUNNAH

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Abstract

The world is witnessing a return to what is natural, both environmentally and back to fitrah, our innate nature. This does not apply to food, and cosmetic sector only, but also the health and nutraceutical sectors. One of the evidence is the fastest growing sectors in the global personal care market and nutraceutical market as dictated by consumer lifestyle and awareness. This article aims to explore on the preventive medicine contained in nutraceutical concept based on the Qur'an and Sunah. This study used document analysis and semi structured interviews on primary and secondary documents as methodological approach. This study found that Arab-Islamic medicine or Greco-Arab refers to medicine developed in the Golden Age of the Islamic Civilization. In the thirteenth and fourteenth centuries, Greco-Arab medicine was disseminated to Europe again from Arab capitals such as Cordoba and Baghdad. 'Prophetic Medicine' although popular amongst the masses of Muslims because of its doctrinal and theological contents was considered by most Muslim historians and physicians as distinct from scientific and analytical Islamic Medicine. Medicine of the Prophet is a combination of religious and scientific medical information, providing advice and guidance on the two aims of medicine. First the preservation of health and second the restoration of health based on the Quranic guidance and the Prophetic traditions.

Keywords: Halal Nutraceutical products, The Quran and the Sunnah, Better Life, Medicine of the Prophet, The Miracle of Tahneek, honey, olive oil, and black seeds.

ISLAMIC NOTIONS OF OPTIMISATION: ACHIEVING THE MAQASID SHARI'AH THROUGH INTEGRATED PETROLEUM PRODUCTION SYSTEMS OPTIMISATION

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Abstract

The act of 'Optimisation' is central to the maximisation of benefit at the least cost of harm. The conception of the idea of Optimisation today, neglects its theological roots. Even though the very being in an 'optimised state' may easily be regarded as mere 'nice-to-have' or not a minimum requirement for many situations, a closer examination of its concepts reveal that it is a deeply Islamic injunction, one that is representative of the idea of Ihsan. This article will explore the act of Optimisation from an Islamic perspective and argues that an 'Optimisation Mentality' is one that is congruent to Islamic thought deeply embedded ingrained and demonstrated within the Qur'an and Sunnah. Using the case study of petroleum production system, a risk-benefit analysis is performed for each component of the integrated production system with value drivers related to the Maqasid Syari'ah identified and a framework for optimisation of petroleum systems is presented. It is shown that to achieve maximum value, an integrated philosophy of optimisation of the operating envelopes for oil reservoirs, wells, pipelines and processing surface facilities up to the point of sales for any given production system needs to be carried out. Integrative optimisation reviews also promote continuous improvement and innovative idea generation through constructive challenging and re-assessment of operating limits and design basis. Maximisation of production rates do not necessarily result in maximum system value. Practitioners need to achieve optimum production rates whilst at the same time minimising the risks and harms to life, progeny, wealth and environment. For any nation or state whose revenue depends on the sales of hydrocarbons, this philosophy of optimisation when deeply ingrained in its practitioners is a core acumen that will bring it one step closer to ensuring a wholistic promotion and preservation of the objectives of the Shari'ah.

Keywords: e.g. Optimisation, Petroleum, Integrated Production Systems, etc.

MAQASID SHARIAH OVERVIEW ON CRYPTOCURRENCY: ISSUES AND CHALLENGES

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Abstract

Blockchain and cryptocurrency are two identical terms that emerging developed in the financial sector. These terminologies place financial technology or Fintech as one of the essential fundamentals in financial sectors. Fintech services via cryptocurrency can also help people manage the financial risk that comes with security in financing and banking activities. Apart from making financial services conducted with in-trend technology, the services also must adhere to the rulings in Islamic finance. Maqasid Shariah is the utmost guideline in which portraying good governance by institutionalizing Shariah teachings in all economics and financial intermediaries. This paper discussed the importance of Shariah's overview in cryptocurrency dealings. As the objectives of Shariah, the Maqasid Shariah is needed to ensure the implementation and the application of cryptocurrency is fulfilling the Shariah requirements. This study invited some overviews on cryptocurrency and aimed at producing highlights of the cryptocurrency application. Literature's worldview and review generate a new insightful overview of the cryptocurrency application to make sure the justice and mutual agreement in the cryptocurrency operations.

Keywords: Cryptocurrency, Maqasid Shariah, Overview, Islamic Finance

DIGITALIZATION IN ZAKAT MANAGEMENT: THE ANALYSIS OF MALAYSIAN MUZAKI'S PREFERENCE FOR DIGITAL ZAKAT PAYMENT METHOD

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Abstract

The study seeks to determine the level of Malaysian muzaki preference in determining the method of Zakat payment in the IR 4.0 era, in which Muzaki, as the person obligated to pay Zakat, no longer needs to physically go to pay zakat. In other words, muzaki may pay zakat digitally using a variety of online channels supplied by the zakat authorities in Malaysia such as SnapNPay, Zakat On Touch, GoPayZ, and others, issued by the State Islamic Religious Council and other designated zakat institutions to collect zakat (also known as Amil). Malaysia, being one of the most Muslim-majority nations, has one of the biggest numbers of zakat payers. Traditionally, zakat payments are made via designated Amil and zakat institutions in each state. However, the IR 4.0 era has brought the use of digital platforms closer for zakat payers. The primary objective is to encourage zakat payers to fulfil their religious obligation. As Pandemic Covid-19 entered the era, this zakat payment channel became more popular among Malaysians. This is less demonstrated in prior research; consequently, the purpose of this study is to determine if Malaysian muzaki prefer digital zakat payment methods or continue to use traditional ways. This is descriptive research that used frequency distribution analysis, cross tabulation, logit, multi-nominal logit, and qualitative description. The research's population is Malaysian zakat payers. According to the study findings, the digital zakat payment method has been successfully implemented and has become a favoured way among zakat payers. Furthermore, it was discovered that the variables of zakat knowledge, degree of assurance, and level of satisfaction had a substantial influence on muzaki zakat payment preferences. The recommendation is that policymakers should often encourage the usage of digital zakat so that more people are aware of the digital zakat payment option.

Keywords: Zakat Payers' Preference, Malaysian Muzaki, Digital Zakat

DETERMINANTS OF DIGITAL ZAKAT PAYMENTS DURING COVID-19 PANDEMIC: A MALAYSIAN EXPERIENCE

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Abstract

Pandemic Covid-19 is not just a phenomenon that alters consumer behaviour in business environment, but it also influences zakat payers' intention and decision to opt for online transactions. With limited focus on this aspect from the previous research, the purpose of this research is to identify the determinants that impact Malaysians' intention to pay zakat using online platforms. The extended unified theory of acceptance and use of technology was employed as the theoretical foundation for this research, and zakat literacy was added to the model's core components (i. e. performance expectancy, effort expectancy, facilitating condition and social influence). Primary data was acquired via an online survey of 320 Malaysian Muslims who paid zakat through different online platforms, and it was analysed using structural equation modelling as the empirical technique. According to the results, performance expectation, effort expectancy, facilitating condition, and zakat literacy all have a significant impact on the intention to utilise an online platform to pay zakat in Malaysia. In this research, however, social effect is found to be insignificant on the intention to use an online platform to pay zakat. This study recommend that zakat institutions should ensure that their system makes it simple for individuals to pay zakat online, since ease of access is the most critical element affecting people's willingness to pay zakat online. In addition, they must also improve the efficiency and efficacy of the payment system, as well as the quality of the organisational and technological infrastructures, and work with other zakat stakeholders to improve zakat literacy.

Keywords: Digital Zakat, UTAUT, Behavioral intention, Zakat in Malaysia, Zakat literacy

FINTECH LAWS IN REGULATORY LANDSCAPE OF BRUNEI DARUSSALAM: ISSUES & CHALLENGES

Dr Hakimah Yaacob
Dr Adli Yaacob

Abstract

Fintech and Blockchain evolutions have changed the global landscape of regulations and policies. The robust growth of technology does not come with swift regulatory changes. This includes reviewing and adapting regulatory requirements or procedures that may unintentionally inhibit innovation or render them non-viable due to lacuna in the law. This article is an attempt to analyze the prospective legal enablers of fintech laws in Brunei. The issues raised in the article warrant considerable merit of lawmakers' attention. The article concludes with several suggestions and recommendations. The paper employs library research with main references to the policy papers, acts and legislation. Where necessary, the paper makes reference to other countries for comparative purposes. The paper includes several suggestions and recommendations for the authority's consideration. The findings suggest that despite the existing enabling provisions in Brunei, there is a need for comprehensive regulations for fintech due to excessive big data and other liabilities involved.

Keywords: fintech laws, regulatory framework, Brunei, Issues.

ROOM 9
THEME: PURE SCIENCES/ISLAMIC
STUDIES

SUMBANGAN TEKNOLOGI DALAM MEMELIHARA MANUSKRIP AL-QURAN:KAJIAN TERHADAP KAEDAH EJAAN MANUSKRIP AL-QURAN TOPKAPI, TURKI

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Abstract

Kaedah ejaan al-Quran dikenali sebagai Rasm Al-Quran. Kaedah ini telah diperkenalkan oleh Uthman bin Affan dalam pembukuan mushaf di zaman pemerintahan. Melalui teknologi pada masa kini, dengan mudah kita dapat memanfaatkan manuskrip al-Quran Topkapi, Turki yang di anggarkan berumur lebih daripada seribu tahun. Kajian ini akan dapat memberi gambaran tentang kaedah ejaan yang digunakan pada awal penulisan mushaf. Terdapat dalam kalangan masyarakat islam yang masih terkeliru dengan kaedah ejaan yang digunakan dalam penulisan mushaf. Kajian ini bertujuan untuk memperkenalkan kepada masyarakat khususnya di negara Brunei Darussalam kaedah ejaan al-Quran asal yang masih digunakan hingga ke hari ini bagi mengelakkan kekeliruan dalam pembacaan al-Quran. Kajian ini berbentuk kualitatif dengan menggunakan kaedah analisis dokumen dan perbandingan. Hasil kajian menunjukkan kaedah ejaan al-Quran mempunyai enam ciri utama begitu juga menunjukkan bahawa mushaf masa kini masih menggunakan kaedah yang sama.

Kata Kunci: Kaedah ejaan, Teknologi, Topkapi Turki

HOW ACCOUNTING AS A TECHNOLOGY INFLUENCE THE RECONSTRUCTION OF CAPITALS ACCUMULATION AMONG ISLAMIC FAMILY BUSINESS?

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Abstract

The study explains the influence of accounting as a technology in reconstruction of capitals accumulation among the Muslim family business in Malaysia. The researcher draws upon Bourdieu's notions of capital and concept of accountability to frame the study and finally explained the ways of accounting as a technology was infused in this reconstruction process. The paper demonstrates that accountability has sparked in the process of capitals accumulation among the family business entity and their resulting accountability ramifications were discussed at the family business entity in the form of social capital, cultural capital, economic capital and symbolic capital. The study adopts an extended case study approach utilising multiple data collection methods. Single family business was purposively selected based on the current phenomena on the capitals accumulation among Muslim family business. The results, though highly case-specific, indicate that accounting through accountability has become a powerful conduit for the reconstruction of capitals accumulation process. Meanwhile, Islamic teaching and accountability has framed the way of the case family business to reconstruct the capitals accumulation in the family business entity. With this study's result, it is expected that there may be a discussion on a way of accounting as a technology influence the reconstruction of capitals accumulation in other different business types and comparison with other different countries.

Keywords: accounting, accountability, Bourdieu, capital, family business, technology.

WEB-BASED QUIZ: TOOL FOR IMPROVING STUDENT'S UNDERSTANDING ON ISLAMIC BANKING & FINANCE COURSE

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Abstract

The COVID 19 shutdown caused a widespread shift in instructional activities from on-site to remote, resulting in a variety of negative implications. The educational activities are not exempted from these transitions, which then forced traditional education to switch to e-learning using various accessible educational platforms to minimise the spread of the virus. Web-based or online quizzes can be an engaging learning tool and effective means of maximising the learning and performance of the students. A survey of 233 students from a university in Malaysia showed significant findings on the use of web-based or online quizzes in learning Islamic banking and finance course. The findings of the study stated that the majority of the students perceived that web-based or online quizzes helped to improve their interest in online classes, particularly in Islamic banking and finance courses. A further recommendation of this study may investigate the effectiveness of the web-based or online quizzes application in the final examination of the students.

Keywords: COVID-19, Islamic banking and finance, online learning, online quiz, web-based quiz

PENDEKATAN DAKWAH MENGGUNAKAN TEKNOLOGI DIGITAL DALAM PEMULIHAN KEROHANIAN DAN AKHLAK GENERASI TIRAI BESI: SUATU SOROTAN LITERATUR

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Abstract

Kemunculan teknologi pintar telah mengubah rutin kehidupan harian manusia di bawah satu sentuhan. Pertumbuhan digital dalam talian dan kandungan multimedia yang semakin pesat telah membolehkan penghasilan pendigitalan manuskrip yang bercetak seperti penerbitan Dakwah agar penyebarannya lebih cepat dan berkesan. Dakwah dalam berbagai bentuk telah menzahirkan imej Islam sebagai agama universal tidak hanya tertumpu pada Timur Tengah sahaja. Ini membuktikan bahawa Dakwah Islamiah diterima dengan mudah dan cepat di seluruh dunia. Penyebaran dakwah yang dilakukan tanpa mengenal penat dan lelah juga atas daya usaha para pendakwah itu sendiri. Bertitik tolak daripada itu, satu rancangan pemulihan kerohanian dan akhlak telah dibangunkan untuk membimbing mereka agar kembali semula ke jalan yang diredhai Allah Ta'âlâ dan memulakan kehidupan baru di bawah bimbingan ajaran Islam yang sempurna serta mengikut Sunnah Nabi Muhammad ﷺ 'Alaihi Wasallam, meskipun melalui teknologi digital. Justeru itu, artikel ini akan meninjau bentuk pemulihan kerohanian dan akhlak serta kaedah digitalisasi Dakwah yang diaplikasikan di institusi-institusi pemulihan sebagai pendekatan baru. Kajian ini berbentuk kualitatif dengan menggunakan metod penelitian bersistematik. Hasil dari kajian ini mendapati bahawa kepentingan sokongan sosial melalui khidmat dakwah secara kreatif dalam pemulihan terbukti berkesan dan sebagai usaha untuk mempertingkatkan kualiti kerohanian generasi tirai besi yang beriman dan bertaqwa serta berketerampilan menurut acuan al-Quran dan as-Sunnah.

Kata Kunci: Pendekatan Dakwah; Dakwah berasaskan Teknologi Digital; Pemulihan Kerohanian dan Akhlak.

BUILDING LAYOUT PROMOTING PHYSICAL ACTIVITY THROUGH ACTIVE DESIGN

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Abstract

According to the World Health Organization (WHO), lifestyle influences 60 percent of factors affecting individual health and quality of life. Millions of people live unhealthy lifestyles that include terrible eating habits, lack of physical activity, poor body posture, and a disrupted biological clock, all of which contribute to lifestyle diseases. Environmental design has proven to be an important factor in enhancing public health in the past. Obesity and its linked disorders are one of the most serious and widespread epidemics of our day, and architects, urban designers, and planners may work together to combat it. As a result, just as designers are increasingly adopting green architecture as a goal for environmental sustainability, they should think about how their designs might affect public health and wellness. One of the approaches that the architectural sector must follow is Active Design. It is a notion to design cities and buildings for environmental sustainability, which can motivate people to exercise more. This isn't about pushing us to go to the gym and work out more; rather, it's about providing residents a better workout via the way we engage with our surroundings on a regular basis. A few countries have released their own Active Design Guidelines in order to promote the use of this method in building design. Although the active design principles have not yet been published in Asia, the active design methodology has been used and adapted in building design, whether in a residential or commercial setting. The purpose of this study is to examine, evaluate and review the building layout design in Malaysian Architecture in relation with the active design sustainable approach based on the literature and guidelines which can influence physical activities and health among Malaysian.

Keywords: Active Design Guidelines, public health, sustainable, wellness.

ASSESSING EFFECTS OF ACUPRESSURE ON CALCIUM, SODIUM AND POTASSIUM IONS IN DELAYING MUSCLE FATIGUE BY ELECTROMYOGRAPHY

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Abstract

Abstract—this study aims to assess the effectiveness of acupressure on calcium, sodium and potassium ions in delaying muscle fatigue by Electromyography. Excessive exercise promotes muscle fatigue that affects neurophysiology and psychology. Acupressure is a traditional Chinese medicine (TCM) practice that involves treating blocked energy, or qi, by applying manual pressure to specific points on the body. Acupressure reacted as effective an interventional strategy to be one of the complementary alternative medicine that could promote high muscle performance. Design: The thirty subjects randomly divided to two groups, (1) fifteen subjects was received an intervention by acupressure; and (2) fifteen subjects as control group by kneading massage technique. Setting: The study was conducted in the Antartica Laboratory, School of Biomedical Engineering and Health Science, Universiti Teknologi Malaysia, Skudai, Johor. The intervention group was received an acupressure acupoint located at LI 4 (Union Valley) in the webbing where the index finger and LI 11 (Crooked Pond) are at the top of the elbow crease on the edge of the point and were applied for 15 – 30 seconds per attempt in 2 – 3 minutes to the brachioradialis muscle of the right arm. On the other hand, the control group were attempt with kneading massage technique for 2 – 3 minutes after completing the exercises. The results were shown significant differences in the mean of muscle fatigue by Electromyography before and after intervention of acupressure with the value of median frequency is 0.614 Millivolt (Mv) and 0.901 Millivolt (Mv). The significant differences were also changes on calcium, sodium and potassium ions level was increased about 0.01 mmol/l to 0.08 mmol/l. Finally, the results showed that acupressure affected the calcium, sodium, and potassium ion levels in delaying muscular fatigue, and the consequences were validated by electromyography.

Keywords: Acupressure, Calcium, Sodium and Potassium Ions, Muscle Fatigue, Electromyography

ANALYSIS OF OPTIMIZATION METHODS IN NEURAL NETWORK FOR DEEP LEARNING MEDICAL IMAGE CLASSIFICATION

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Abstract

The use of deep learning for medical image segmentation is ubiquitous. A suitable optimization method is important to ensure the efficiency of model. In this paper, we implemented a collection of optimization methods and investigated the performance of these methods on magnetic resonance (MR) images. Specifically, state-of-art U-net was adopted for medical image classification task. During the model development, stochastic gradient descent (SDG), ADAGRAD, SGD with Nesterov and Classical Momentum and ADAM were employed. Then, the classification accuracy was computed. Based on the evaluation, ADAM has demonstrated the best optimization since the accuracy is higher for linear regression problem and softmax classifier problem. In future work, the performance of different optimization methods will be assessed for medical image segmentation task.

Keywords: Medical Image Segmentation, Deep Learning, Optimization, Convolutional Neural Network.

USING GREEN DATA MODELLING OF QUARRY ENVIRONMENT FOR STEM EDUCATION TO ENHANCE OPEN DATA READINESS IN AN INNOVATIVE DIGITAL ECONOMY

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Abstract

Pollution from quarrying activities is one of the environmental issues in Malaysia. One alternative to control this issue is to increase knowledge and awareness among society and younger people. This research attempts to establish how the sustainability of green environmental data components can be deployed to children in learning STEM subjects. The environment data objects have been identified as particles, vibrations and noise, and their relationships need to be modelled into the form of big data architecture. The aim is to develop the Environmental Education Learning System (EELS). This research has contributed to the development of a model for the learning quarry industrial impact on the environment or PRINK model. Besides, the integration of simulation and visualisation of the environment and the 5E instructional model was proposed, developed, and further validated in collaboration with the Malaysia Ministry of Education. The model allows sharing with a knowledge discovery through environment objects to produce a new integrated data object that emphasises on green modelling towards green environment data analytics. It has a great impact on the sustainability, and green quarry environment for the quarry industry. To complete the model, an educational learning system (or EELS) was developed and evaluated in collaboration with two secondary schools in Selangor involving 30 pupils. As a result of the evaluation, it has been proved that by using and exploring the EELS software, the knowledge and awareness about quarry activities and their impact on the environment and society among the respondents have shown increased. The EELS is useful to assist environmental issues and will improve the understanding of the quality of life, and healthy living and sustain the green environment for future generations through STEM education. The PRINK model developed in this study was verified by experts and validated through the development of the EELS prototype that applies real data consisting of dust, vibration, and noise from the quarry activities. The environment data was collected in quarries in Perak and Langkawi Island, Kedah which collaborated with the Department of Mineral Geoscience Malaysia. In the current Covid-19 pandemic, students' involvement directly in public and controlled areas such as quarries and mines in groups must comply with strict Standard Operating Procedures (SOP). Therefore, physical presence is highly discouraged until the pandemic ends and till the learning and teaching process become to normal as before. These current obstacles may disrupt the smoothness of the face-to-face learning process to see for themselves various natural phenomena. To continue learning effectively regarding environmental disruption by mining activities in quarries, the EELS system proposed provides the best solution. Using the EELS system students can appreciate activities at the quarries and mines through the phenomenal simulation provided. Dust pollution, vibration, and noise from the explosive process in the quarries can be felt and seen by students using the EELS system. In the PRINK model, the environment data and repository were used during the teaching and learning activity where students may have a possibility and chance to elaborate their understanding of knowledge and concepts through the application of new situations on environment data. To understand the quarry environment and situation, the real environment data are used and applied. The quarrying activity is chosen because it involves various scenarios which related to everyday life and across levels of local, regional, and global and has a certain level of impact on the life quality. This research has successfully developed a sustainable green environmental model for learning STEM subjects. The model will promote a green culture among the young generation in their pursuit of a successful future and excellent living. The model also supports achieving the mission of shared prosperity as promoted by the government by 1) A new and original PRINK Model – An integrated model for educational and learning quarry industrial impact on the environment and, 2) the EELS the Educational Environmental Learning System. The usefulness of collaborating with the industries enables us to systematically include and share the real-life experiences with students and the community. Furthermore, to improve the understanding of the quality of life, healthy living and sustain the green environment for future generations through STEM education. This study simulated natural process outcomes by integrating environmental data objects and green environmental data using specific input parameters. They are easily accessible, handled, and shared with various user groups, besides the critical scientific data. The proposed EELS tool enables users to manipulate and discover the complex and realistic green environmental data involved in quarrying scenarios. The high school students were chosen to participate in the validation activity, and they approved the usability of the prototype and thus validated the proposed model. In addition, this study has shown an increase in motivation levels for the students in STEM subjects after using the EELS prototype system. Also, it has a significant impact on the Government, schools, teachers, and students, fulfilling the government's desire to enhance learning through the latest technology. The fusion of recommended technologies (vision and motion technologies used) in the study can build active students in STEM to meet innovative needs and readiness, and thus to adopt open data for the country in various aspects of the digital economy environment.

CHALLENGES IN QUALITY OF EDUCATION IN HEIS OF PAKISTAN

Zohaib Hassan Sain

Abstract

Purpose: The purpose of this study is based on exploratory research to identify “Challenges in Quality of Education in HEIs of Pakistan”. In this research Curriculum, Less training institutions, Corruption in education, Teacher’s behavior and less research work are independent variables and Quality of Education is dependent variable. Questionnaire will be as a tool for collecting data in this survey and source of data will be primary.

Methodology: Exploratory research approach is used to achieve the objectives of the study. In this regard primary data was collected from a sample of 100 students using close-ended questionnaire. Then the data was analyzed through exploratory factor analysis to test the hypothesis and present the student’s perceptions. Five point likert scale was used to measure the responses against variables under study.

Findings: From the last few years, Pakistan is facing a lot of challenges in education sector such as curriculum, less training institutions, corruption in education, teacher’s behavior, less research work. Old methods of teaching are common in many HEIs due to which students want to get rid of their studies. Emerging issues in education sector are less training institutions and trend towards research work which is essential to follow for the growth and strength of any economy.

Originality/value: The purpose of our research is to identify the major challenges in educational sector in Pakistan which the educational sector is suffering from last few years. In future, we will research on the solution of these problems. To increase the literacy rate, the Govt. of Pakistan has announced that the education is compulsory for sixteen years old for every citizen. This attempt will play an important role in the development of Pakistan.

Keywords: Curriculum, Corruption, Teacher’s Behavior, Research Work.

DESIGNING A COMMUNAL SPACE OF OFFICE BUILDING WITH BIOPHILIC DESIGN CONSIDERATION IN MALAYSIA. CASE STUDY: D7 SENTUL EAST

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Abstract

Designing a space in such a manner that it fosters a connection to the natural world is known as "biophilic design". It's now possible to look at the positive effects and long-term consequences of biophilic design on human health, happiness and in this context research context, working experience. Today, the use of biophilic design may be seen in a variety of environments. It is the goal of this study to examine how biophilic design elements and attributes can be implemented in communal spaces of an office building in Malaysia's tropical climate, and to observe how the occupants of the building perceive the effects of biophilic design on them, as well as the possible identification of a preferred biophilic design in Malaysia's tropical climate context. This study will focus on D7 Sentul East office building at Kuala Lumpur with known biophilic design implementation in its design. There is a clear preference for the visual connection with nature attribute, but in Malaysia, there is also a preference for the access to thermal and airflow as well as the outlook, which may be related to the local climatic setting highlighted in the results.

Keywords: Biophilic design, office building, communal space, tropical climate, work experience, perception.

ANALISIS KEPERLUAN PEMBANGUNAN APLIKASI MUDAH ALIH SMART DOA BAGI PENGAJARAN DAN PEMBELAJARAN DOA PILIHAN MURID PRASEKOLAH

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Abstract

Analisis keperluan adalah salah satu asas kepada pembangunan dan reka bentuk sesuatu aplikasi mudah alih bagi menentukan bahan yang dibina dapat memenuhi keperluan pengguna yang disasarkan. Kajian ini dibuat untuk menilai keperluan serta ciri-ciri aplikasi pembelajaran mudah alih yang diperlukan bagi pengajaran dan pembelajaran Akhlak bagi tajuk doa pilihan murid prasekolah. Doa pilihan merupakan salah satu tajuk yang terkandung di dalam Kurikulum Standard Prasekolah Kebangsaan (KSPK) di bawah mata pelajaran Pendidikan Islam yang perlu diajar kepada murid prasekolah. Kajian pembangunan aplikasi mudah alih Smart Doa ini dijalankan berdasarkan Model Hannafin dan Peck. Kajian ini menggunakan pendekatan kuantitatif melalui kaedah soal selidik. Sampel di dalam kajian ini terdiri daripada Guru Pendidikan Islam (GPI) yang mengajar mata pelajaran Pendidikan Islam prasekolah di sekolah-sekolah dalam Bahagian Serian, Sarawak, Malaysia. Instrumen kajian ini ialah Soal Selidik Analisis Keperluan Aplikasi Mudah Alih Smart Doa. Data kajian ini dianalisis secara statistik deskriptif iaitu frekuensi, peratus, nilai min dan sisihan piawai. Hasil dapatan kajian analisis keperluan ini menggambarkan bahawa aplikasi mudah alih Smart Doa mempunyai potensi untuk dibangunkan dan skor tahap intrepetasi min yang berada pada tahap yang tinggi. Aplikasi mudah alih ini bakal menjadikan suasana pengajaran dan pembelajaran menjadi lebih aktif, interaktif, inovatif dan tidak membosankan. Dapatan kajian juga menunjukkan ciri-ciri yang perlu dipertimbangkan dalam proses membangunkan aplikasi mudah alih ini. Proses kesahan daripada pakar dalam menambahbaik borang soal selidik telah membantu pengkaji dalam menyediakan input yang bermanfaat di dalam kandungan aplikasi mudah alih Smart Doa. Hasil daripada analisis keperluan ini digunakan sepenuhnya oleh pengkaji bagi proses membangunkan aplikasi mudah alih Smart Doa dalam fasa kedua iaitu fasa reka bentuk. Diharapkan aplikasi mudah alih Smart Doa ini mampu membantu guru dalam kepelbagaian bahan dan seterusnya menambahbaik proses pengajaran dan pembelajaran bagi tajuk doa pilihan.

Kata kunci: e Analisis Keperluan, Aplikasi Mudah Alih, Smart Doa, Pengajaran dan pembelajaran Akhlak Prasekolah, Doa Pilihan, Kurikulum Standard Prasekolah Kebangsaan (KSPK), Guru Pendidikan Islam, Model Hannafin dan Peck.

PENGAJARAN DAN PEMBELAJARAN KURSUS USUL FIQH SECARA DALAM TALIAN DI UNIVERSITI ISLAM SULTAN SHARIF ALI

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Abstract

Pandemik Covid-19 yang melanda dunia mengubah lanskap pelaksanaan bidang pendidikan tidak kira di peringkat rendah, menengah mahupun institusi pengajian tinggi. Kaedah pengajaran dan pembelajaran (PdP) secara bersemuka dalam bilik kuliah telah beralih sepenuhnya kepada dalam talian. Ini merupakan suatu pengalaman pertama yang mencabar bagi pelajar dan juga tenaga pengajar yang belum pernah menggunakan kaedah ini. Justeru, kajian ini bertujuan untuk mengenal pasti aspek positif dan cabaran yang dihadapi oleh pelajar sepanjang pelaksanaan PdP secara dalam talian. Bagi tujuan pengumpulan data, borang soal selidik secara dalam talian telah diedarkan kepada pelajar yang mengikuti kursus Usul Fiqh dan seramai 47 responden telah menjawab borang soal selidik tersebut. Hasil kajian mendapati 98% pelajar bersetuju PdP dalam talian boleh menjimatkan masa dan kos perbelanjaan minyak kereta selain daripada mudah mendapatkan nota atau slides kuliah. Manakala 79% responden bersetuju cabaran utama mereka adalah tiada capaian internet atau capaian internet terhad dan kos internet yang tinggi.

Kata Kunci: pengajaran dan pembelajaran (PdP), Usul Fiqh, Universiti Islam Sultan Sharif Ali

WAKAF MASJID TERBIAR (MAHJUR) DI NEGARA BRUNEI DARUSSALAM: SATU ANALISIS AWAL DAN HUKUM MENGENAINYA

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Abstract

Masjid adalah merupakan satu tempat ibadat bagi orang-orang Islam dalam melaksanakan amal ibadat sembahyang dan ibadat-ibadat yang lain seperti bertadarus al-Qur'an, mendalami ilmu agama dan sebagainya. Seperti di negara-negara yang lain, isu masjid terbiar (mahjur) memang berlaku termasuklah di Negara Brunei Darussalam sendiri. Dalam kertas kerja ini, diterangkan mengenai sejarah, jumlah masjid terbiar (mahjur) dan hukum yang berkaitan mengenainya berdasarkan kepada Fatwa Mufti Kerajaan. Metodologi Kajian yang dijalankan dalam penyelidikan ini adalah secara kualitatif iaitu temu bual secara berstruktur di tujuh buah tempat, tiga daripadanya adalah terletak di daerah Brunei Muara dan empat lagi berada di daerah Tutong. Hasil analisis awal mendapati, faktor kewujudan masjid, surau dan balai ibadat terbiar tersebut adalah disebabkan terbinanya masjid baru yang lebih besar untuk menampung jemaah yang semakin bertambah dan sebahagiannya lagi disebabkan oleh faktor keselamatan (tidak lagi selamat untuk digunakan).

Kata Kunci: Sejarah Masjid Terbiar (Mahjur), Satu Tinjauan, Hukum Mengenainya.

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