2nd International Conference on Information & Communication Technology

Kuala Lumpur
Malaysia

3 & 4 May 2018

Contents

Preface

The 2nd International Conference on Information & Communication Technology (ICICTM) will take place in Kuala Lumpur, Malaysia, jointly organized by Universiti Kuala Lumpur (UniKL) and Universiti Pertahanan Nasional Malaysia (UPNM). In recent years, information and communication technologies changed every aspect of our lives and societies. While ICT have contributed largely to the current IT advancement, it will also play a key role in new IT paradigms such as IoT and Big Data technologies and will be applied to various areas of the upcoming society including industry, business, politics, culture, medicine and so on. ICICTM is the most comprehensive conference focused on the various aspects of advances in information and communication technologies.

The main purpose of ICICTM 2018 is to improve our research by achieving the highest capability and encourage open discussions on new aspects of information and communication technologies. Moreover, it provides a platform for academics and professionals in information and communication technology to publish, present, exchange ideas, and establish professional networks. It is a forum for recent advances in specific disciplinary research, as well as on multidisciplinary studies.

Welcome Message from the Dean

I would like to personally welcome all delegates to the 2nd International Conference on Information and Communication Technology 2018 (ICICTM'18) held in the greater city of Kuala Lumpur. ICICTM'18 is the result of a strategic collaboration between two prestigious local universities; Universiti Kuala Lumpur via Malaysian Institute of Information Technology (UniKL MIIT) and Universiti Pertahanan Nasional Malaysia via the Faculty of Defence Science and Technology. I do hope this alliance will spur more fruitful collaborations in the future.

This year's conference will draw attendance from various academics and industry players not only from Malaysia but also abroad. The track layouts for the conference are among the key issues that are currently being researched and investigated by researchers. The tracks have drawn interest from the delegates to share their knowledge and expertise and to team up and expand the researches further. It is hoped that we would grab this opportunity to build and expand our networking internationally.

I wish all a productive presentation and hope that you shall seize the opportunity offered via ICICTM'18 to further expand and develop each potential research to the fullest. I trust that all our conference delegates will have a beautiful moment in Malaysia, the Melting Pot of Asia. Experience the warm hospitality offered by the multi-ethnic cultures of our people, enjoy the various tourist attractions and last but not least, don't forget to feast on our delectable, mouth-watering cuisines!

UniKL
UNIVERSITI
KUALA LUMPUR

Assoc Prof Dr Zalizah Awang Long
Dean
Universiti Kuala Lumpur
Malaysian Institute of Information Technology

Welcome Message from the Dean

It gives me great pleasure to welcome all of you to the 2nd International Conference on Information and Communication Technology, Malaysia 2018 (ICICTM'18). This conference is organized by the Faculty of Defence Science and Technology at UPNM in collaboration with the Malaysian Institute of Information Technology at UniKL.

As the 2nd ICICTM conference, I hope that there will be many to come. This conference brings participants from various academic institutions and industry, not only from Malaysia but also from abroad. It is indeed a golden opportunity for us to extend our knowledge in information and communication technology as well as maritime during the presentations and through the networking amongst the experts. I believe ICICTM will be a platform for researchers and industry players to share their knowledge in their own area of expertise.

As we know, economy of many countries is characterized by technology-driven movement, as such the focus on R&D and technological innovations are among the factors that determine economic and social development. These driving forces need to be encouraged and promoted through this kind of conference. We hope that ICICTM'18 can play its role in enriching the participants technological knowledge.

I would like to take this opportunity to express my gratitude to all delegates and sponsors for their full support, cooperation and contribution to the success of ICICTM'18. I also wish to thank the Organizing Committee and the Program Committee for their diligent work. To the participants, do take some time off to enjoy amazing Kuala Lumpur, with its blend of modern and tropical settings, friendly people and multi-cultural cuisines. Finally, I wish the participants a very fruitful and productive presentation and hopefully to see you some other time in the near future.

Prof Dr Hjh Fatimah binti Dato Ahmad
Dean
Universiti Pertahanan Nasional Malaysia
Faculty of Defence Science and Technology

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Keynote Speakers

Dr. Mohammed A. Al-Ghamdi (Umm Al-Qura University, Makkah, Kingdom of Saudi Arabia)
Prof Dr. Zaharin Yusoff , FASc, PhD, BCN, PJK (Sunway University, Malaysia)

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Programme Overview

DAY 1: 3 May , 2018 (Thursday)

Time	Information
9.00 am - 11.30 am	Oral Session ISE Convention Room (2304/05): Big Data
	Oral Session Room 2306: Artificial Intelligence
	Oral Session Room 2307A: New Media Technology
	Oral Session Room 2307B: Security & Privacy
11.30 am - 12.30 pm	**OPENING BY Vice Chancellor UPNM**
	KEYNOTE TALK: Applications of Big Data and IoT in Hajj and Umrah
	By Associate Professor Dr. Mohammed AlGhamdi
12.30 pm - 2.00 pm	Lunch Break
2.00 pm - 3.20 pm	Oral Session ISE Convention Room (2304/05): Big Data
	Oral Session Room 2306: Artificial Intelligence
	Oral Session Room 2307A: New Media Technology
	Oral Session Room 2307B: Security & Privacy
3.30 pm - 4.00 pm	Forum: IR 4.0 and its impact on our way of life
5.30 pm - 7.30 pm	Hi- Tea

DAY 2: 4 May , 2018 (Friday)

9.00 am - 11.30 am	Oral Session ISE Convention Room (2304/05): Big Data
	Oral Session Room 2306: Artificial Intelligence
	Oral Session Room 2307A: New Media Technology
	Oral Session Room 2307B: Security & Privacy
11.30 am - 12.30 pm	**Invited Speaker - Prof Dr. Zaharin Yusoff**
	(Sunway University, Malaysia)
	Title: Big Data, Big Knowledge
12.30 pm - 2.00 pm	Lunch Break

Parallel Sessions

Day 1 & Day 2

Parallel Sessions Day 1

9.00 am - 10.00 am

Oral Session ISE Convention Room (2304/05): Big Data

Session Chair: Assoc. Prof. Dr. Haidawati Mohamad Nasir (UniKL)

Development of Wireless Sensor Network (WSN) and Mobile Ad-Hoc Network (MANET) Communication for Military Operation and SAR (Search and Rescue) Operation
Presenter: Mohd Nazri Ismail (UPNM)

Data Analytics in the Utilization of ICTs for Disaster Preparedness Plan of HEIs Region 5
Presenter: Daniel Jr. Maligat (Camarines Norte State College)

The Effect of Internet of Things (IOT) Towards Social Science Student's Performance
Presenter: Farahwahida Mohd (UniKL)

10.30 am - 11.30 am

Oral Session ISE Convention Room (2304/05): Big Data

Session Chair: Prof. Madya. Dr. Mohd Nazri Ismail (UPNM)

A Data-Driven Architectural Framework for LGUs in Disaster Preparedness and Management System
Presenter: Rosemarie Bigueras (Camarines Norte State College)

The Effectiveness of Using Malay Affixes for Handling Unknown Words in Unsupervised HMM POS Tagger
Presenter: Hassan Mohamed (UPNM)

Android-based Parental Monitoring Apps
Presenter: Dalilah Abdullah (UniKL)

Parallel Sessions Day 1

2.00 pm - 3.20 pm

Oral Session ISE Convention Room (2304/05): Big Data

S**ession Chair:** Prof. Madya Dr. Mohd Afizi Mohd Shukran (UPNM)

An Active and Popular Facebook Page Equals Better Chances of Winning an Election? The 2013 Malaysian General Election Case
Presenter: Mohammad Adib Khairuddin (UPNM)

Forecasting Military Vehicle Spare Parts Requirement using Neural Networks followed by Application of Tacit Knowledge
Presenter: Mahendra K Sekaran Nair (UPNM)

Cloud Based Intrusion Detection Conceptual Model for IoT Objects
Presenter: Abdulaziz Saleh (UniKL)

Developing User Requirement's Handbook for Malaysian Military Observers Using Phenomenology Approach
Presenter: Wan Su Emi Yusnita Wan Yusof (UPNM)

Parallel Sessions Day 1

9.00 am - 10.00 am

Oral Session 2306: Artificial Intelligence

Session Chair: Prof. Suzaimah Ramli (UPNM)

Spike Response Function Weight and Delay Updating Strategy Using Delay Rules
Presenter: Abdullah H. Almasri (UniTAR)

Predicting User Navigation in an Online Newspaper Site Using Association Rules Mining and Markov Model
Presenter: Husna Sarirah Husin (UniKL)

Developing a Framework for Detecting Accident and Sending Alert Message Using Android Application
Presenter: Mohd Afizi Mohd Shukran (UPNM)

10.30 am - 11.30 am

Oral Session 2306: Artificial Intelligence

Session Chair: Dr. Mohd Nizam Husen (UniKL)

Shift worker Sleepiness Detection Using Likelihood Ratio-Based Score
Presenter: Rodney Petrus Balandong (UTP)

Scattered Particles Removal in Single Image for Technology of Hologram
Presenter: Muhamad Lazim Talib (UPNM)

Fusion of Active Appearance Model and Histogram of Oriented Gradient for Age Estimation
Presenter: Quan-Yan Chang (MMU)

Parallel Sessions Day 1

2.00 pm - 3.20 pm

Oral Session 2306: Artificial Intelligence

Session Chair: Dr. Shahrinaz Ismail (UniKL)

The Openings of Intelligent System in IT Governance: A Review Pointing the Institute of Higher Learning in Malaysia
Presenter: Amalia Mukhlas (UniKL)

Pigment Spots Detection on Iris Surface Applied Thresholding Method through HSV Colour Space
Presenter: Mustafa Man (UMT)

A Hybrid-structured Requirements Analysis Approach in SPL based on Collateral, KAOS and Feature Model
Presenter: Fazal Qudus Khan (UniKL)

Examine Data Capture of Exergames Using Kinect Sensor for Gameplay Analysis
Presenter: Muhammad Fairuz Abd Rauf (UPNM)

Parallel Sessions Day 1

9.00 am - 10.00 am

Oral Session 2307A: ***New Media Technology***

Session Chair: Dr. Mohammad Faizuddin Mohd Noor (UniKL)

An Insight on Mixed Reality for 3 Dimensional (3D) Geospatial Terrain in Enhancing the Situational Awareness Amongst Military Decision Makers'
Presenter: Norshahriah Abdul Wahab (UPNM)

Fingerprinting Smartphones Remotely via Sensors Data
Presenter: Ahmed Al-Haiqi (UNITEN)

Pilgrims' Acceptance of Using Augmented Reality Applications While Performing the Hajj
Presenter: Rasheed Mohammad Nassr (UniKL)

10.30 am - 11.30 am

Oral Session 2307A: ***New Media Technology***
Session Chair: Dr. Norshahriah Abdul Wahab (UPNM)

Two Cell Fault Models and Parasitic RC Test Method for Embedded SRAM
Presenter: Muddapu Parvathi
(BVRIT Hyderabad College of Engineering for Women)

Adopting IT Application in Lean Healthcare: A Case Study of Malaysian General Hospital
Presenter: Noor Widasuria Abu Bakar (UniKL)

Can Doctors Volunteering Online in Health Virtual Community Achieve Work-Family Balance?
Presenter: Mohamad Nor Norzaila (UUM)

Parallel Sessions Day 1

2.00 pm - 3.20 pm

Oral Session 2307A: ***New Media Technology***

Session Chair: Dr. Rizal Isa (UPNM)

Food Truck Application in Social Computing
Presenter: Bazilah A. Talip (UniKL)

The Effects of User's Role and User's Mood Toward Cyber Sickness Symptoms on Desktop Computer in Virtual Reality Environment
Presenter: Salyani Osman (UMT)

Mickey Mouse: Studying the Anthropomorphism Factors insides Walt Disney Animations
Presenter: Dahlan Ghani (UniKL)

Parallel Sessions Day 1

9.00 am - 10.00 am

Oral Session 2307B: ***Security & Privacy***

Session Chair: Assoc. Dr. Mohammad Adib Khairuddin (UPNM)

Protecting Online Privacy by Heightening Communication Path Using Different Hops Path Tor
Presenter: Amna Saad (UniKL)

The Potential Factors Influencing Awareness on Information Security in Phishing Attacks from Various Industries: A Systematic Literature Review (SLR).
Presenter: Ayman Asfoor (Jubail Industrial College, Saudi Arabia)

Performance Analysis of Different Audio Video Codecs for Wireless and Wired VoIP
Presenter: Mohd Nazri Ismail (UPNM)

10.30 am - 11.30 am

Oral Session 2307B: ***Security & Privacy***

Session Chair: Dr. Megat Farez Azril Zuhairi (UniKL)

A Model for "Mission Critical Multiple Clients and Single Server Operation for Failure Detection and Recovery System"
Presenter: Syahaneim Marzukhi (UPNM)

Honeypots and Honeynets: Concepts, Approaches, and Challenges
Presenter: Lawal Idris Bagiwa (Hassan Usman Katsina Polytechnic, Katsina, Nigeria)

Kansei Engineering Approach for Measuring Political Propaganda: A Case of Malaysia
Presenter: Mat Razali Noor Afiza (UPNM)

Parallel Sessions Day 1

2.00 pm - 3.20 pm

Oral Session 2307B: ***Security & Privacy***

Session Chair: Mr. Ahmed Al-Haiqi (Uniten)

Exploration of Factors that Influence Information Security Education
Presenter: Ahmed Gouni (UniKL)

Malware Analysis and Detection Approaches: Drive to Deep Learning in Analyzing Program's Execution Flow
Presenter: Salman Jan (UniKL)

Parallel Sessions Day 2

9.00 am - 10.00 am

Oral Session ISE Convention Room (2304/05): Big Data

Session Chair: Dr Abdullah AlMasri (UniTAR)

The Design of Promoting Building Energy Saver with Mobile Controller
Presenter: Nor Azliana Akmal Jamaludin (UPNM)

Simulation Technique of Steady-State Network Based on AODV Routing Protocol
Presenter: Ayanwuyi T. Kolade (UniKL)

A Learning Automata-based Algorithm for Solving Priority-based Target Coverage Problem in Directional Sensor Networks with Adjustable Sensing Ranges
Presenter: Mohd Norsyarizad Razali (UPNM)

10.30 am - 11.30 am

Oral Session ISE Convention Room (2304/05): Big Data

Session Chair: Dr. Muslihah Wook (UPNM)

Real-Time Water Quality Monitoring with Multi-Sensors
Presenter: Mohd Nizam Husen (UniKL)

Mobile Crowd Sensing Application for Noise Monitoring in Kuala Lumpur
Presenter: Rashid Zafar (UniKL)

Association Analysis of Cyberbullying on Social Media Using Apriori Algorithm
Presenter: Zuraini Zainol (UPNM)

Parallel Sessions Day 2

9.00 am - 10.00 am

Oral Session 2306: Artificial Intelligence

Session Chair: Prof. Madya. Dr. Suzaimah (UPNM)

Extended Design Science Research Methodology for Parallel Vision System
Presenter: Deshinta Dewi (UKM)

Metamodeling Approach for the Development of Geometrical Modelling Languages
Presenter: Vitaliy Mezhuyev (UMP)

Military Capability Sustenance: Providing Effective Supports Throughout Lifespan
Presenter: Hamzan Abd Jamil (UPNM)

10.30 am - 11.30 am

Oral Session 2306: Big Data

Session Chair: Rasheed Mohammad Nassr (UniKL)

Enhanced Network Performance in Wireless Virtualization Networks
Presenter: Md. Nazmus Saadat (UniKL)

Internet of Things (IoT) based Inventory Management Solution
Presenter: Tanzila Saba (Prince Sultan University)

Parallel Sessions Day 2

9.00 am - 10.00 am

Oral Session 2307A: Security & Privacy

Session Chair: Dr. Abdul Aziz Saleh Aborujilah (UniKL)

Dissemination Model for Critical Governments Information
Presenter: Najd Alosaimi and Sharifa Alghowinem (Prince Sultan University)

Vertical Handover Evaluation for Heterogeneous Networks
Presenter: Mohd Taha Ismail (UniKL)

Privacy and Security of Cloud Computing: A Comprehensive Review of Techniques and Challenges
Presenter: Marwan Adnan Darwish (UniKL)

10.30 am - 11.30 am

Oral Session 2307A: ***Security & Privacy***
Session Chair: Dr. Arniyanti (UPNM)

Confidentiality and Integrity of the Biometric Fingerprint Template Protection
Presenter: Taqiyah Khadijah Ghazali (UUM)

MANET – A used of ZigBee Technology for Human Intruder Detection
Presenter: Irma Syarlina (UniKL)

Parallel Sessions Day 2

9.00 am - 10.00 am

Oral Session 2307B: Special Issue of ICT for Maritime

Session Chair: Lt. Kdr. Dr. Mohd Norsyarizad Razali TLDM (B) (UPNM)

Quality Evaluation of Treated Ballast Seawater for Potential Reuse
Presenter: Siti Nur Muhamad (UPNM)

Technology Foresight in Modular Construction Shipbuilding industries: The Case of Malaysia's Shipyard
Presenter: Ahmad Alliff Anuar Mokhtar (UPNM)

The Processing of Nitrocellulose from Rhizophora, Palm Oil Bunches (EFB) and Kenaf Fibres as a Propellant Grade
Presenter: Mohd Najib Abdul Ghani Yolhamid (UPNM)

10.30 am - 11.30 am

Oral Session 2307B: ***Special Issue of ICT for Maritime***

Session Chair: Kdr Tang (UPNM)

Leader of Character Framework for Bachelor Degree in Maritime Technology Graduates
Presenter: Kept. Prof. Madya Zulkifly Mat Radzi (UPNM)

In-Situ Current Speed Measurement and Sediment Characteristics at UPNM Lake
Presenter: Ainul Husna Abdul Rahman (UPNM)

The Influence of RTK GNSS Antenna Heights on Multipath Error
Presenter: Siti Sarah Mohd Isnan (UPNM)

Parallel Sessions Day 2

10.30 am - 11.30 am

Oral Session 2307B: Security & Privacy

Session Chair: Dr. Mohammad Adib Khairuddin (UPNM)

Exploration of Factors that Influence Information Security Education
Presenter: Ahmed Gouni (UniKL)

Malware Analysis and Detection Approaches: Drive to Deep Learning in Analyzing Program's Execution Flow
Presenter: Salman Jan (UniKL)

Abstract

Author: Lawal Idris Bagiwa
Title: Honeypots and Honeynets: Concepts, Approaches, and Challenges
Affiliation: Hassan Usman Katsina Polytechnic, Katsina
Country: Nigeria
Abstract (Paper ID: 3)

The early users of the Internet did not spend much time thinking about whether or not their online activities presented a threat to the network or to their own data. Today, the Internet is a very different network compared to its beginnings. More people rely on the network for their personal, financial, and business needs. Information security is a growing concern today for organizations and individuals alike. This has led to growing interest in more aggressive forms of defense to supplement the existing methods. Some of these methods involve the use of honeyports or honeynets. Honeynet is a form of high-interaction honeypot. Its aim is to gather extensive information on threats. A honeynet is an architecture, the two critical requirements for this architecture are data control and data capture. This paper presents an overview of honeynets and highlights different kinds of honeynets, honeynets concepts and approaches to their implementation. This paper serves as a starting point for individuals and organizations who has no or little knowledge about these technologies and are interested in it.

Authors: Siti Nur Muhamad, Mohamad Abu Ubaidah Amir Abu Zarim, Mohd Norsyarizad Razali, Nanthini Sridewi, Adenen Aziz, Sarah Isnan, Ainul Rahman, Afiqah Rosly, Roshamida A. J and Zulkifly M. R
Title: Quality Evaluation of Treated Ballast Seawater for Potential Reuse
Affiliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID: 4)

The International Convention for the Control and Management of Ships' Ballast Water and Sediments (BWM Convention) will commencing on 8 September 2017 after ratified by 51 States represent 35% of the global gross tonnage in September 2016. However, there is no value recovered for the treated ballast water as it simply discharged during de-ballasting. In order to evaluate value creation of treated ballast water, three seawater applications which are seawater toilet flushing, cooling tower and desalination was studied and compared with treated ballast seawater. An exploratory study was conducted in Singapore as a case study as this country is facing water scarcity issues and a busy port in the world which received more than 28 billion m3 of ballast water in 2015. Surprisingly the treatment technology between seawater toilet flushing and ballast water management has similarity. As both applications used screening and disinfection process and quality standard and analysis between treated ballast water with seawater applications found that seawater toilet flushing have the same quality parameter with treated ballast water. Thus, the treated ballast water can replace the raw seawater for seawater desalination. As such, with reduction of cost for screen unit, desalination water can exceed water production by NEWater in Singapore as the cost can recover the energy needed for desalination. It can conclude that treated ballast water has high recovery value and can be reused in seawater application.

Author: Mohd Nazri Ismail
Title: Development of Wireless Sensor Network (WSN) and Mobile Ad-Hoc Network (MANET) Communication for Military Operation and SAR (Search and Rescue) Operation
Affliation: Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 5)

The study investigates and develops components for implementing an effective military and SAR (Search & Rescue) acknowledge/information/communication in closed network architecture. Since military and SAR personnel are always on the move, the dissemination of knowledge/information/communication needs a mobile platform to accommodate mobility of people. The mobile and wireless network platform should be able to sustain the remoteness and seclusion of military operation areas. Communication is one of key problems of a military operation especially due to environmental constraints. This study proposes on establishing a future soldier and SAR communication device with mobile Wireless Sensor Network (WSN) and Mobile Ah-Hoc Network (MANET) to suit the infantry operations in the urban and rural areas. The operational areas are considered to restricted and challenging locations. Wireless sensor network (WSN) and Mobile Ah-Hoc Network (MANET) will become inexpensive and common over the next decade Thus, a thorough study is vital to develop the most suitable smart equipment and network requirements for Malaysia's military and SAR eco-system. Finally, this study has successfully developed new low cost device prototype using WSN and MANET approach for Military and SAR operation. This approach is able to transmit death and location status, movement location status, health monitoring status to the base station.

Authors: Hassan Mohamed, Nazlia Omar and Mohd Juzaiddin Ab Aziz
Title: The Effectiveness of using Malay Affixes for Handling Unknown Words in Unsupervised HMM POS Tagger
Affliation: Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 6)

The challenge in unsupervised Hidden Markov Model (HMM) training for a POS tagger is that the training depends on an untagged corpus; the only supervised data limiting possible tagging of words is a dictionary. A morpheme-based POS guessing algorithm has been introduced to assign unknown words' probable tags based on linguistically meaningful affixes. Therefore, the exact morphemes of prefixes, suffixes and circumfixes in the agglutinative Malay language is examined before giving tags to unknown words. The algorithm has been integrated into HMM tagger which uses HMM trained parameters for tagging new sentences. However, for unknown words their parameters are absent. Therefore, the algorithm applies two methods for assigning unknown words' emission to HMM tagger, first is based on uniform distribution of all possible tags; and second, is based on marginal proportionate distribution of tags. The effective method is proven to be using morpheme-based POS guessing with unknown word emissions substituted by a value proportionate to the marginal distribution of tags.

Author: Mohd Nazri Ismail
Title: Performance Analysis of Different Audio Video Codecs For Wireless and Wired VoIP
Affliation: Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 8)

This project thesis focuses on quality of voice and video performance in a wired as well as in a wireless network. The analysis was done by using a network management system (NMS) to monitor and capture the performance of different VoIP codecs in various use cases. Another important challenge is to define the best audio/video codec that can be used in an existing network to satisfy defined QoS parameters. We conclude on our findings that a separation between a wireless and wired environment wasn't reasonable, because the occurring differences of the QoS metrics were too small to measure with the used setup. During the testing of the different codecs the Speex codec reached the best result compared to the others. It can be said Speex is the codec with the least needed bandwidth utilization and therefore the outcome of the testing must be seen divided.

Authors: Mahendra K Sekaran Nair, Hassan Mohamed, Hamzan Abdul Jamil and Zulkifly Mat Radzi
Title: Forecasting Military Vehicle Spare Parts Requirement using Neural Networks followed by Application of Tacit Knowledge
Affliation:Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 9)

Spare parts forecasting can generally be divided into two approaches that are deterministic and stochastic. Deterministic forecasting is often predictable and often comes from production while stochastic forecasting is often adapted in areas of uncertainties. Even though there are many forecasting techniques available nowadays, the accuracy is often questionable as there may be possibilities of errors especially when it involves inconsistent lumpy demands. The aim of this paper is to look into existing theories with the intent proposal of an alternative method in adapting neural networking where demand patterns from the various external sources would be captured and use to provide an improved prediction method. Therefore, adapting this alternative method would increase the accuracy and confidence level compared to the existing forecasting techniques. This research would also include obtaining tacit knowledge in the purchasing process that often considered after obtaining the forecasted results prior to the purchase of spares.

Authors: Ahmad Alliff Anuar Mokhtar, Mohamad Abu Ubaidah Amir Abu Zarrim, Ainnur Hafizah Anuar Mokhtar and Halim Abdul Aziz

Title: Technology foresight in Modular Construction Shipbuilding Industries: The case of Malaysia's Shipyard

Affliation: Universiti Pertahanan Nasional Malaysia

Country:Malaysia

Abstract (Paper ID: 10)

The shipbuilding and ship repair industry in Malaysia involves designing, building and constructing, repairing and maintaining, converting and upgrading of vessels as well as marine equipment. It is getting larger and always evolve in line with the development of technology such as with the latest technology which is embedded in modular construction. Nowadays, the modular construction approach in shipbuilding is already known worldwide. However, adoption of this method in Malaysia is still minimal in term of scale and it is not comprehensive. The latest, Boustead Naval Shipyard (BNS) was entrusted to build 6 Littoral Combat Ship (LCS) for Royal Malaysian Navy (RMN) in BNS in Lumut, Malaysia. One of the advantages for this contract is the technology transfer which also includes the modular construction. The study is conducted using the qualitative and quantitative method. Qualitative data collection method that used in this study includes individual interviews, and observations to examine the perspective from the higher management level on how to assess modular construction shipbuilding and hence to examine the factors through implementation and the effectiveness towards Malaysia's shipyard of modular construction shipbuilding. For quantitative data collection method include various forms of surveys – online and form survey. Respondents are only from the higher management level. This data will be transformed into usable statistics using statistical software, Statistical Package for the Social Sciences (SPSS). Thus, this study is to analyze the technology and the viability in which to investigate of the existing business sustainability construction shipbuilding in Malaysia's Shipyard. The result can be used for the better understanding the modular construction and its impact on the production process in Malaysia, and also improve the technology and method of modular construction shipbuilding in Malaysian shipyard.

Authors: Hamzan Abd Jamil, Mahendra K Sekaran Nair, Muhamad Murad and Mohd Nazri Ismail

Title:Military Capability Sustenance: Providing Effective Supports Throughout Lifespan

Affliation:Universiti Pertahanan Nasional Malaysia

Country:Malaysia

Abstract (Paper ID: 11)

The primary focus of this study is to evaluate the implementation of ILS in the MAF and subsequently to develop solutions for further improvements. ILS is a disciplined management approach, involving all related entities, aimed at optimizing life-cycle costs (LCC) of systems, assets or equipment. ILS uses a structured analysis for supportability throughout the project lifespan to identify and improve supportability and availability, reduce LCC and other major cost drivers whilst products are operational in-service and supported accordingly. ILS discipline has been proven as the best practice in the development of logistics support which was initially introduced by United State Department of Defence (US DoD) and adapted by the United Kingdom, Australia, and others countries. In addition, with the advent of information and communication technology (ICT) has helped and facilitated the implementation of ILS. MAF had introduced the Integrated Logistics Support (ILS) concept in military service beginning the early 90's but the effect is still far to be seen, the concept is still in the form of theory and its implementation approach is still very vague. Implementation of ILS is both inefficient and ineffective when the assets cannot be sustained and operated according to specifications which eventually led to the low level of operational readiness.A

Authors: Rosemarie Bigueras, Jocelyn Torio and Thelma Palaoag
Title: A Data-Driven Architectural Framework for LGUs in Disaster Preparedness and Management System
Affliation:Camarines Norte State College
Country:Philippines
Abstract (Paper ID: 12)

Disaster preparedness and disaster management plan is one of the main concerns of the government to reduce the damage in human lives and economic loss. As a response, the researchers decided to develop a data-driven architectural framework for LGUs in Disaster Preparedness and Management System. The researchers used descriptive research method to obtain data and information in identifying the attributes needed in employing disaster preparedness and management plan for data mining processes. Qualitative research method was also used to develop the architectural framework to be designed from the identified attributes in disaster preparedness and management plan and to test the viability of the designed architectural framework in disaster preparedness and management system. Respondents of this study are the Municipal Disaster Risk Reduction Management Council (MDRRMC), Department of Agriculture (DA), Municipal Engineering Office (MEO), Municipal Social Welfare and Development (MSWD), and the Local Government Units (LGUs). Based on the assessment of the user (highest scale is 5), the developed architectural framework has weighted mean of 4.58 in terms of efficiency, effectiveness and impact which means that this will serve as a significant tool for decision making to help the LGUs to have a concrete, effective and efficient disaster preparedness and management plan based on their needs to reduce vulnerability in human lives, infrastructure and agriculture.

Authors: Daniel Jr. Maligat, Maria Charmy Arispe and Thelma Palaoag
Title: Data Analytics in the Utilization of ICTs for Disaster Preparedness Plan of HEIs Region 5
Affliation: Camarines Norte State College
Country: Philippines
Abstract (Paper ID: 13)

In light of natural and man-made disasters along HEIs of Region 5, great attention and effort must be directed towards the application of ICT for the purpose of disaster preparedness, mitigation, response, and recovery. The main aim of this study is to determine the utilization of ICTs in HEIs Bicol Region through data mining technique as basis for decision support for disaster preparedness planning. There is growing recognition on the need for a culture of communication that values proper information management and inclusive information sharing. A collaborative solution using data mining and ICT information retrieval techniques for HEIs disaster preparedness plan are fundamental to the success of ICT for DRM interventions and helps school communities better understand the current disaster situation and how the community is recovering. The research shows that the potential impact of ICT for DRM policies and measures need to take into consideration on HEIs environment, and ensure that interventions do not increase student's vulnerability to hazards. ICTs are indispensable tools and should be incorporated in strategies for disaster risk management of HEIs. Based on the results of this research, it was recommended that the school administration not only prepare, but review and revise as necessary the proposed comprehensive disaster preparedness plan for the school.

Authors: Ayman Asfoor and Fiza Abdul Rahim
Title:The Potential Factors Influencing Awareness On Information Security In Phishing Attacks From Various Industries: A systematic Literature Review (SLR).
Affliation: Jubail Industrial College
Country: Saudi Arabia
Abstract (Paper ID: 14)

Phishing attack is one of the techniques used by attacker to get private information from Internet banking customers. This study will systematically analyse published research exploring factors that influencing awareness on information security in phishing attacks. A total of 30 articles were used in our review and successfully identified eight compatibility factors as being either directly or indirectly related to awareness of phishing attacks. The factors are security concerns, security awareness, user competence, computer literacy, gender, and years of PC usage. Moreover, studies have also identified the important role played by motivation. In this way, one could group factors relating to awareness of phishing attacks in three major groups including Personality Traits, Motivation and Individual Differences. This review may be significance in providing useful information on how to understand users' susceptibility and vulnerability to phishing scams online.

Author: Husna Sarirah Husin
Title:Predicting User Navigation in an Online Newspaper Site Using Association Rules Mining and Markov Model
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 15)

This paper discusses an approach to predict Web pages from an online newspaper using association rules mining and Markov model decision process. We use a set of Web server logs from an online newspaper, process the logs using Web usage mining methodology, generate transaction files for association mining and predict the web pages using Markov decision model process. We found that users are reading articles from the same section and since majority of users only read one page in a session, it is hard to find associated news articles in a same session. However, the association between section pages are legit and can be used to model the Markov chain for the navigation.

Authors: Mohd Najib Abdul Ghani Yolhamid, Farizha Ibrahim, Mohamad Abu Ubaidah Amir Abu Zarim, Rushdan Ibrahim, Sharmiza Adnan and Muhd Zu Azhan Yahya
Title:The Processing of Nitrocellulose from Rhizophora, Palm Oil Bunches (EFB) and Kenaf Fibres as a Propellant Grade
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID: 16)

Nitrocellulose based powders are extensively in military application used as propellant in bullets, shells, and various missiles for tube munitions. In this study, Rhizophora, Palm Oil Bunches- Empty Fruit Bunches (EFB) and kenaf fibres were used as raw materials to produce nitrocellulose suitable for replace gunpowder. All raw materials are converted to dissolving pulps before nitrocelluloses are synthesized. The characteristics of both dissolving pulps and nitrocelluloses are determined. The result shows that the nitrocellulose from Rhizophora, Palm Oil Bunches- Empty Fruit Bunches (EFB) and kenaf have a tendency as propellant.

Authors: Najd Alosaimi and Sharifa Alghowinem
Title: Dissemination Model for Critical Governments Information
Affliation: Prince Sultan University
Country: Saudi Arabia
Abstract (Paper ID: 18)

Sharing information would not only raise awareness and increase knowledge, but could also save lives. Occasionally, governments need to provide critical information to citizens accurately and in a timely manner. There are different information dissemination channels such as: Television, Radio, SMS and Social Media. However, these channels have several limitations. A dissemination approach is needed that intelligently target specific citizens with critical information that concern them from trusted sources on time. In this research, we propose a dissemination model that addresses these issues and utilizes the needed features. Comparing several dissemination architectures, the proposed model is an enhanced architecture designed based on publish/subscribe. The study proposed a novel idea of information dissemination by integrating many trusted sources in a unified source that can be accessed by the stakeholders at any time. The study would be a building block for an official information dissemination system in Saudi Arabia.

Authors:Norshahriah Abdul Wahab and Norsyuhada Narjun
Title:A Insight on Mixed Reality for 3 Dimensional (3D) Geospatial Terrain in Enhancing the Situational Awareness Amongst Military Decision Makers'
Affliation: Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 19)

Terrain map especially in 3 Dimensional (3D) object will enhance the visibility of decision makers' specifically on the physical features of an area which highlight the locations or geospatial topography; shape of mountains, valleys, network streams, river banks and the locations of man-made features such as trails, roads, towns, boundaries and physical buildings. These such informations will enhance the situational awareness amongst military decision makers' in order for them to move or locate any decided strategies such as the scenario of army and supplies along a paved road than across a series of brush-covered hills and valleys. Furthermore, there are difficulties on descrig the map terrain using the piece of paper with the limitation of image visualization. Taking these points, the development of 3D Geospatial Terrain will be helpful in terms of situational awareness (SA) and interaction amongst military decision makers' besides eliciting the limitation of visualization. This research will study the nature of military decision making and the capabilities of mixed technology in virtual reality and hologram in order to enhance the effectiveness of situational awareness (SA) amongst decision makers' and the human-system interaction during the brainstorming of Course of Actions (COAs) parameters. The crux of this research is to provide an effective and efficient ways of comprehending the 3D Geospatial Map Terrain while applying the technology of mixed reality in the process of military decision
making.

Authors: Mat Razali Noor Afiza and Md Saad Nurjannatul Jannah Aqilah
Title: Kansei Engineering Approach for Measuring Political Propaganda: A Case of Malaysia
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID: 21)

Propaganda is mainly designed to influence people's mental state on new ideas which is crucially used for political agenda. Back in 1950s, people used mass media to propagate propaganda. Nowadays, the usage of social media as a tool for political propaganda agenda either by the politician or the supporters are creating a game diverge in electoral campaign. This phenomenon is occurring in all over the world including Malaysia. Kansei Engineering (KE) is an approach that unites people's mental state which is rapidly used for analyzing their emotion and sentiment. It has been proven that people who rich in Kansei is rich in emotions and sentiment, adaptive, warm and responsive. Unfortunately, little effort has been paid to use the approach for measuring Malaysians' emotions on political propaganda in various social media platforms. For this reason, KE incorporating with partial least squares structural equation modeling (PLS-SEM) is used to measure and analyze the level of Malaysians' emotions regarding political propaganda via social media. The proposed technique could be used as a basis to build a framework for hinder the diffusion of negative political propaganda in the social media settings particularly in Malaysia.

Authors: Dahlan Ghani and Siti Aishah Mokhtar Mokhtar
Title: Mickey Mouse: Studying the Anthropomorphism Factors Insides Walt Disney Animations
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 22)

Anthropomorphism is a non-human characters who have human characteristics, whether they happen to be animals, plants, or anything that is not an organism. Anthropomorphism the showing or treating of animals, and objects as if they are human in appearance, character, or behavior. Personification is the related attribution of human form and characteristics to abstract concepts such as nations, emotions and natural forces like seasons and the weather. For example one of the Walt Disney's films is Mickey Mouse. The purpose of this research is to study the Anthropomorphism Factor Insides Walt Disney Animations which is Mickey Mouse.

Authors: Zulkifly Mat Radzi, Siti Sarah Mohd Isnan, Tang Jut Weng, Nur Afiqah Rosly and Ainul Husna Abdul Rahman

Title: Leader of Character Framework for Bachelor Degree in Maritime Technology Graduates

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 23)

The current employability of Bachelor Degree in Maritime Technology graduates needs to be improved to meet the requirements of stakeholders such as Royal Malaysian Navy, maritime agencies and industries. Hence, the curriculum of this degree needs to be reviewed to produce the right graduate to serve the maritime agencies and industries. All UPNM students will be assessed on six attributes as Leaders of Character which include: a graduate officer, commissioned officer, sports person, imam, master in self-defence, and lastly an officer and a gentleman or lady. The graduate officer assessment is based on academic performance reflected in his/her CGPA to be above 2.7. The naval cadet officer assessment is based on the successful completion of training to be commissioned into Royal Malaysian Navy. To be a sports person, a student must register in at least one sport in the co-curriculum courses. The spiritual leader assessment for a Muslim to an imam and to read sermon during Friday prayers whereas a Non-Muslim will learn to pray and worship in his/her religion. Self-defence will be assessed through self-defence courses such as taekwondo or other arts of self-defence. An officer and a gentleman or lady is assessed by observing on the attitudes, ethics, morals, courtesy, positive values, determination, behaviour and lastly discipline. The assessments are reported through radar plots, which include six attributes in the LoC. The academic advisor which is also the student's lecturer will act as the assessor for the LoC. The Bachelor Degree in Maritime Technology graduate who acquires all the six attributes will be awarded with a Diploma in LoC as an added value in their degree for their future employment.

Authors: Zuraini Zainol, Sharyar Wani, Puteri N.E. Nohuddin, Wan Muhamad Umarullah Noormanshah and Syahaneim Marzukhi

Title: Association Analysis of Cyberbullying on Social Media Using Apriori Algorithm

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 24)

With the phenomenal increase in use of Social Networking Service (SNS) and mobile technology, the consequences of cyberbullying have become an epidemic. More than 80% youth use cell phones making them extremely vulnerable to the abuse and one in three young people have been found victims of this problem. There are many different methods of detection cyberbullying behaviour patterns however rarely any focuses on analysis based on association especially in Malay language. Learning and detecting using association is a natural communication phenomenon that can help to identify abusive content from the hidden corpora, which often goes unnoticed. Association helps to identify trends, rules and patterns of the bullies and detects abusive content considering whole sets rather than focusing on single instances. The current work focuses on detection of cyberbullying instances by association analysis using the Apriori Algorithm. It mainly focuses on detecting bullying and aggressive behaviour on Twitter. Over 80 different patterns with high confidence levels were detected that can be successfully implemented for the detection process. The high confidence levels are indicative of the efficiency of association analysis for cyberbully detection in SNS.

Authors: Mohd Afizi Mohd Shukran, Mohd Nazri Ismail, Muhammad Naim Abdullah, Mohd Rizal Mohd Isa, Mohammad Adib Khairuddin and Kamaruzaman Maskat

Title: Developing a Framework for Detecting Accident and Sending Alert Message Using Android Application

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 25)

Accident detection systems help reduce fatalities stemming from car accidents by decreasing the response time of emergency responders. This paper focuses on development a framework for detecting accident and sending alert message using android application. The proposed framework developed in order to produce the android application or system with three main functional components which are detecting the occurrence of the crash, detecting the location of the crash and sending the alert message. These three components are interdependent on each other by the flow of the system.

Authors: Ainul Husna Abdul Rahman, Wan Baderul Hisan Wan Muda, Nur Afiqah Rosly, Mohd Azzeri Md Naiem, Siti Sarah Mohd Isnan, Adenen Shuhada Abdul Aziz, Siti Nur Muhamad, Mohd Arif Ahmad and Mohamad Abu Ubaidah Amir Abu Zarim

Title: In-Situ Current Speed Measurement and Sediment Characteristics at UPNM Lake

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 27)

This paper focuses on a hydrographic survey conducted at Universiti Pertahanan Nasional Malaysia (UPNM) Lake. The aim is to measure the current speed and sediment characteristics due to the limitation of information and references regarding on UPNM Lake. The hydrographic survey conducted is essential as it is the first survey carried out and indirectly outlines and provides details of the lake for future applications. All the information from the survey is prominent seeing that UPNM Lake is constantly used for either research activities, fishing activities, recreational activities by students and as a training ground for military cadets. The outcome gathered from this research is an analysis of data for in-situ current speed and direction at 26 designated locations in the lake area and also sediment characteristics. For that reason, the study of this water body either in physical or chemical aspect is performed to derive a better understanding of the composition of the lake for safety functionality.

Authors: Rodney Petrus Balandong and Mohamad Naufal Mohamad Saad
Title:S hift worker Sleepiness Detection Using Likelihood Ratio-Based Score
Affliation: Universiti Teknologi Petronas
Country: Malaysia
Abstract (Paper ID: 28)

Sleepiness is a causal factor in the round the clock industry. In this paper, we show that even though simple subjective sleepiness assessment thresholding is easy to compute, we showed that the proposed Likelihood Ratio-Based Score is more robust in distinguishing the alert and sleepy sample.

Authors:Rasheed Mohammad Nassr, Abdulaziz Aborujilah, Hassan Mohammed Almalki and Shahrulniza Musa
Title: Pilgrims' Acceptance of Using Augmented Reality Applications While Performing the Hajj
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 29)

The majority of pilgrims do not speak Arabic and may encounter difficulties performing Hajj in terms of appropriate procedures and places due to their unfamiliarity. Most pilgrims are there for the first time. Researchers and practitioners have sought to develop mobile-based applications to assist pilgrims in various tasks such as finding their way and avoid becoming lost, and to perform Hajj procedures properly based on guides on their mobiles. Among the developed applications, a few are based on augmented reality. Many remain in the research phase. However, the problem with many augmented-based applications developed for Hajj is the lack of user acceptance investigation before implementation. This study found that the applications developed for Hajj practices based on augmented reality lacked user acceptance test. This study proposes a model for user acceptance for mobile augmented reality applications developed for Hajj. It found that pilgrims' motivations to use this type of application were ease of use and enjoyment, with little focus on its utility. This result is interpreted as meaning that the participants have yet to appreciate the utility of mobile augmented applications.

Authors: Nor Azliana Akmal Jamaludin, Arniyati Ahmad, Zuraini Zainol, Muhammad Rahimi Abdul Aziz and Nor Fatimah Awang
Title: The Design of Promoting Building Energy Saver with Mobile Controller
Affliation: Universiti Pertahanan Nasional Malaysia
Country:Malaysia
Abstract (Paper ID: 32)

With advancement of Automation technology, life is getting simpler and easier in all aspects. In today's world Automatic systems are being preferred over manual system. With the rapid increase in the number of users of internet over the past decade has made Internet a part and parcel of life, and Internet of Things (IoT) is the latest and emerging internet technology. IoT is a growing network of everyday object-from industrial machine to consumer goods that can share information and complete tasks while you are busy with other activities. Wireless Smart Building System using IoT is a system that uses computers or mobile devices to control basic building functions and features automatically through internet from anywhere around the world, an automated building is sometimes called a smart building. It is meant to save the electric power and human energy. The building automation system differs from other

system by allowing users to operate the system from anywhere around the world through the internet connection. In this study, we present a Smart Building System using Arduino that employs the integration of cloud networking, wireless communication which provides users with remote control of various lights, fans, and appliances within their building and storing the data in the cloud. The system will automatically change on the basis of sensors' data. This system is designed to be low cost and expandable allowing a variety of devices to be controlled. This paper shares the architecture designs and development methodology of the system.

Authors: Muhamad Lazim Talib, Mohammad Faidzul Nasrudin, Siti Norul Huda Sheikh Abdullah and Norshahriah Wahab

Title: Scattered Particles Removal in Single Image for Technology of Hologram

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 33)

Scene image captured by vision devices usually occluded by scattered atmospheric particles. The quality of image usually corrupted by this problem. Recent researches usually do the image enhancement and recovery method to solve the problem. Doing image enhancement usually eliminate some potential scene information accidently. Previous researchers did the recovery methods to remain the potential information physically. They did veil estimation, depth transmission estimation and reflectance layer estimation to remove the scattered particles. By doing this, image may contain unreliable value added in veil estimation and transmission. So that the scene of image structure was disturbed. This research did the potential illumination estimation that influence the scattered particles occurred in the image. Result of the experiment proved that this method to reliable value to remove in the image was remained by Structure Similarity Index Matrix (SSIM).

Author: Syahaneim Marzukhi

Title: A Model for "Mission Critical Multiple Clients and Single Server Operation for Failure Detection and Recovery System"

Affliation: Universiti Pertahanan Nasional Malaysia

Country: Malaysia

Abstract (Paper ID: 34)

This paper proposes a model for "Mission Critical Multiple Clients and Single Server Operation for Failure Detection and Recovery System". The proposed model is based on SAPE model with few amendments that consists of five phases: 1) Establish Connection 2) Sense 3) Analyse 4) Plan and 5) Execute. The proposed model is implemented using "Mission Critical Multiple Clients and Single Server System for Failure Detection and Recovery" to simulate various types of failure. In order to test the system, four sets of experiments are conducted: 1) Interval timer between server and clients, 2) Disrupt Client, 3) Disrupt Server, and 4) Disrupt Network. Findings show the system is successfully executed; the system is able to detect and recover from various types of failure as long as there is incoming data between the clients and the server. In future, it is suggested that the system should include the following module: 1) flexible adjustment of default interval timer between clients and server, 2) introduce multiple clients and multiple server, and 3) add more simulation of failures. This enhancement is needed to ensure the system can sustain its capability in detecting and recovering any mission critical operations.

Authors: Dr Farahwahida Mohd and Norsila Shamsuddin
Title: The Effect of Internet of Things (IOT) Towards Social Sciences Student's Performance
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 35)

This study is to evaluate the effect of IoT towards social sciences student's class performance. This is to measure whether IoT contribute to their performance or not. It is found that the students that use IoT as their learning styles perform well in class with the average CGPA of 3.33. There is a significant effect of IoT towards social sciences student's performance (p-value = 0.0812) at 10% level of significant. Furthermore, competency in using IT devices such as smart phones, tablet, wi-fi dongle and etc is an advantage in this new era of technology and very significant towards the students' performance (p-value = 0.000). Followed by awareness of the usage of IoT (p-value = 0.011), importance of the devices in contributing good performance (p-value = 0.015) and last but not least usefulness of IoT also have significant effect towards performance. All variables are significant at 5% level of significant. Therefore, we can conclude that IoT does give significant effect towards these Social Sciences Students' performance in all of their activities in the university.

Authors: Amna Saad, Ahmad Roshidi Amran and Awang Mohamed Fadli Awang Ismail
Title: Protecting Online Privacy by Heightening Communication Path Using Different Hops Path Tor
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 36)

The vulnerabilities within the internet cause an unauthorized person to hack and steal our private data and spot our location within the cyber world. Some people do not think this as an issue. They would be more upset if the link is down, the connection is slow or when the link is intermittent. Hence, without their knowledge, their wellbeing is being monitored by an unknown person or group. The information gained can later be used against their personal interests. Others are very concerned about this matter. They want to protect their privacy and identity in the cyber world. We proposed a solution to curb these activities by providing extra layers of internet
connectivity protection, in order to create anonymous communication on demand. In this project, we develop two, three and six hops security of the Tor wireless router on a Raspberry Pi 3. The client can choose to use, either hardware-based 3-hops path standard security Tor or software-based security Tor custom for 2-hops and 6-hops paths via application software rebuilding using MSYS2 and MNGW tool. Our result shows that there in no significant performance different in term of the connections response time regardless of the number of the Tor path lengths.

Authors: Abdulaziz Saleh, Rasheed Mohammad Nassr and Abdul Rauf Johari
Title: Cloud Based Intrusion Detection Conceptual Model For IoT Objects
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 37)

IoT is a new paradigm that integrates the physical objects with the internet. Many of vehicles, home appliances, human health and environmental monitoring and other objects might be connected to each other through the IoT network with the ability to sense and exchanging data with each other. in addition to many benefits, IoT brings new challenges related to security issues. Intrusion Detection Systems (IDS) is widely used to monitor and secure networks. However, applying IDS in IoT environment is facing several challenges due to its characteristics such as constrained-resource and standards and protocols. so, this paper presents a proposed model which integrate IoT IDS with cloud services that might decrees the computing resources demanded to apply IDS in IoT platform and visualize its output and show it in more understandable manner. Initial experiments have been conducted to test the possibility of applying SNORT IDS in IoT environment. The results were very encouraging to use SNORT to detect the intrusion in IoT environment. applicability of using SNORT IDS in IoT network.

Authors: Quan-Yan Chang, Thian-Song Ong and Siew-Chin Chong
Title: Fusion of Active Appearance Model and Histogram of Oriented Gradient for Age Estimation
Affliation: Multimedia University
Country: Malaysia
Abstract (Paper ID: 38)

In recent years, automated age estimation through face images has attracted the interest among the research due to its variety applications in law enforcement, human computer interaction etc. This paper presents the fusion of Active Appearances Model (AAM) with Histogram of Oriented Gradients (HOG) to form the face descriptors for automatic age estimation. AAM and HOG are known to be reliable feature extraction techniques for shape and texture images. The weaknesses of both are minimized and the strengths of both are utilized in the proposed method for better age estimation model. The proposed method is evaluated using two benchmarked age estimation datasets and promising results is generated.

Authors: Ahmed Gouni, Amna Saad and Siti Haryani Shaikh Ali
Title: Exploration of Factors that Influence Information Security Education
Affilitiation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 39)

The improvement of knowledge is very important in information security domain. due to its positive effect on users' information security education. It is acknowledged that security education is playing a vital role to mitigate the risk of information security incidents and breaches that faced by users through their ordinary life. Although several approaches have been proposed in information security education, yet these threats continue to increase. To assist the effort of information security education, this research explores the effective factors that have been used in the approaches of information security education, investigates the gaps, and hence, proposes new factors that can help to developing an effective approach to information security education.

Authors: Wan Su Emi Yusnita Wan Yusof, Omar Zakaria and Zuraini Zainol
Title: Developing User Requirement's Handbook for Malaysian Military Observers Using Phenomenology Approach
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID: 40)

This paper attempts to show that application of phenomenology approach in developing the user requirement's handbook. This is the first study to document these phenomena in military used to gain their experiences for situational awareness. Therefore, the methodological approach taken in this study is a phenomenology approach. This paper will focus on Moustakas's approach because it has systematic steps started from identifying the phenomenon study until come out with the final output. Furthermore, this paper also aimed to show how the output obtained from this phenomenology approach, so the findings should make an important contribution to the field of peacekeeping. The final output is the result of data analysis procedure and guidelines for bringing together the textual and structural descriptions into appropriate table and will be apply for generating as a user requirement handbook.

Authors: Amalia Mukhlas, Delina Mei Yin Beh and Aishah Ahmad
Title:The Openings of Intelligent System in IT Governance: A Review Pointing the Institute of Higher Learning in Malaysia
Affliation:Universiti Kuala Lumpur
Country:Malaysia
Abstract (Paper ID: 42)

Background: The established governance of IT in higher learning institution is necessary for institution to address the key issues successfully. Objectives: This study initiates to investigate existing research of Information Technology Governance (ITG) focusing Institute of Higher Learning (IHL) in Malaysia. The research aims to discover the up-to-date tabulation of intelligent system research covered by ITG domain and to identify the structure of investigation conducted by researchers in the area of study, to identify the outcome produced by conducted study as well as recommend potential investigation to be performed in future. Method: The investigation performed through a systematic review on literature to response the research questions. Results: The outcome indicate there are openings of area to be research involving intelligent system in ITG domain and intelligent system for decision-making to support ITG in IHL. The qualitative approach found to be the method use for information collection. The approach of multiple case studies and scientific result to support future method is recommend. Conclusion: Our contribution in this paper is to produce the review and mapping of studies in order to identify research areas that has been covered besides identifying for recommendation and potential investigation to be explored in future. The significance of our findings is essential for the jump-start research of intelligent system in ITG focusing the IHL in Malaysia.

Authors: Mustafa Man, Mohamad Faizal Ab Jabal, Mohd Shafry Mohd Rahim and Suhardi Hamid
Title: Pigment Spots Detection on Iris Surface applied Thresholding Method through HSV Colour Space
Affliation: Universiti Malaysia Terengganu
Country: Malaysia
Abstract (Paper ID: 45)

The existence of pigment spots on the iris surface is a normal occurrence in the ophthalmology field. The increment size of the pigment spots is indicated to the eye disease. Therefore, an automatic pigment spot detection has been proposed in order to detect the pigment spots on the iris surface. The main challenge to detect the pigment spots is the type of feature that needs to be used for detection is unknown. Based on the standard features applied for detection purposes, most of the features, such as shape, edges and vector, are not applicable. This situation occurs because the physical form of the pigment spots on the iris surface are dynamic. There is no specific shape, position and size to validate such spots. Hence, colour is the best feature possible to be applied, because the colour of the pigment spots is moderately consistent. However, the intensity of the threshold value that needs to be detect are varies. Several threshold intensity values that have been used by other researchers were not successful in detecting the pigment spots. Henceforth, new threshold intensity values have been proposed in this paper. The proposed values have been implemented into the threshold approach. The approach has been applied through on the HSV colour space. The result shows that the proposed values of the threshold intensity are more accurate to detect the pigment spots on the iris surface. The results, which have been validated and the percentage from the standard metric tabulated in order to evaluate the performance of the approach with the proposed values of the colour intensity, have been recorded as follows (FAR) 0%, 1.33% and 4%, (FRR) 80%, 73.33%, and 70.67%, (DR) 20%, 25.33% and 25.33%. The main finding from the study shows that the proposed threshold intensity values is more accurate to detect the pigment spots compared with the values that were previously proposed by other researchers.

Authors: Salman Jan, Shahrulniza Musa and Toqeer Ali
Title: Malware Analysis and Detection Approaches: Drive to Deep Learning in Analyzing Program's Execution Flow
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID: 47)

The growing number of malware attacks poses serious threats to private data and to the expensive computing resources. To detect malware and their associated families, anti-malware companies rely on signatures which indeed include regular expressions and strings. The recent malware attacks in the last few years including the resurgence of ransomware have proven that signature-based methods are error-prone and can be easily evaded by intelligent malware programs. This paper reviews traditional and state-of-the-art models developed for malware analysis and detection. According to our observation the classification of malware and their behavior facilitates in provision of basic insights for the researchers working in the domain of malware analysis. At the end we present the conception of using Deep Convolutional Generated Adversarial Networks(DCGAN)in the area of malware detection as the DCGANs are the latest approach in Deep learning that effectively deals adversarial examples.

Authors: Fazal Qudus Khan, Shahrulniza Musa, Georgios Tsaramirsis and Sohail Khan
Title:A Hybrid-Structured Requirements Analysis Approach in SPL Based on Collateral, KAOS and Feature Model
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:48)

Software product lines (SPL) can speed up the production of software through the auto-generation of products and related subproducts, reducing the need for developer involvement. There are some proposals for defining the requirements for SPL, but they do not propose any method for identifying the eco-systems required for a successful life cycle of the generated product. In this research we propose the use of MEASUR Collateral Analysis for the purpose of identification of all the environmental systems and KAOS goal modeling linked with a feature model for ensuring that the features are aligned with the goals and objectives of the focal system. The proposed approach is demonstrated with a case study.

Authors: Bazilah A. Talip and Norhaidah Abu Haris
Title: Food Truck Application in Social Computing
Affliation: Universiti Kuala Lumpur
Country:Malaysia
Abstract (Paper ID:49)

Background: Food truck phenomenon is an emerging enterprise business that has changed people perception on particular kind of street food services. This paper discussed on the influences of social computing in food truck business. Social computing is a computational system that allows contributions from both humans and computers, which can improve daily activities. Social computing enables the user to collect social information from ubiquitous environments to provide social services in web technology and mobile technology environments. The use of social computing has a significant impact on food truck business to facilitates engagement between the organisation and customers. Objective: The aim of this project is to investigate the impact of the implementation of social computing in food truck industry. Methods: This project has developed a food truck application prototype to demonstrate the key elements in implementing social computing. Results: The outcomes of this project has showed that the comation of web technology and mobile technology applications can increase the food truck visibility and improve customer relationship. Significance: The study has shed some light on how social computing could be implement in a strategic manner in the food truck business to improve service delivery. The findings can assist food truck associations to better understand and provide for this emerging channel of social computing for food truck owners and customers.

Authors: Noor Widasuria Abu Bakar, Pavan Kumar Jatavalabhulla, Shahrulniza Musa and Abdul Hadi Mohamad
Title: Adopting IT Application in Lean Healthcare: A Case Study of Malaysian General Hospital
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:54)

Lean is a quality improvement methodology that can identify and eliminate waste from processes. While the methodology is widely implemented in manufacturing and automotive, it is also applicable in other area such as service industry of healthcare. Institutions who concern with health, such as the hospital generally involve with complex and long business process on daily basis. Consequently, this encourages exhaustive process chain, which is unreliable, cost ineffective and resource wastage. Moreover, the chain may lead to medication error or error in medication delivery. Although the lean methodology is widely used in healthcare, there is limited empirical evidence in resolving such issues, particularly focusing on specimen handling in a real hospital environment. This paper focuses on the implementation of systematic method of lean into a healthcare institution in Malaysia to decrease patient wait times and to have better inventory control. The adoption of lean is achieved by implementing an efficient barcode system for specimen handling to pursue better management, which will lead to cost reduction and allow the hospital to offer good quality healthcare service. The study confirms that the lean systematic method is significantly improved actions and processes. The finding is also applicable to lead to a general patient satisfaction by adding values to the existing process, but shorten some unnecessary actions.

Authors: Ayanwuyi T. Kolade, Megat F. Zuhairi, Longzheng Cai, Irma S. Che Alias and Md. Nazmus Saadat
Title: Simulation Technique of Steady-State Network Based on AODV Routing Protocol
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:56)

Wireless network refers to any characteristic of a computer network that does not depend on line connectors or physical connections. One of the outstanding characteristic of wireless Mobile Ad hoc Network (MANET) that is significantly different compared to the traditional wired networks is mobility. A user i.e. typically represented by a mobile station or nodes can freely move, whilst being connected to the network. Generally, MANET is a collection of wireless mobile nodes that possess the ability to intercommunicate with one another without any predefined infrastructure or centralized administration support [1]. They are self-organized, autonomous and decentralized multi-hop wireless system of mobile nodes [2]. As such, a reliable MANET routing protocol is needed to enable data to be propagated multi-hops. An example of such routing protocol is Ad hoc On Demand Distance Vector (AODV). Using AODV as the basis of this work, this research paper discusses the best approach to conduct simulation experiment particularly for discrete-event based simulator such as Network Simulator. The underlying principle in MANET simulation is to ensure results are as credible to the empirical experiment. Therefore, iteration of experiment is essential to determine the final result. Much research work also fails to identify the existence of transient phase in simulation work. Failure to address the issue may cause inconsistent result. In addition, a validation methodology based on comparison method is also presented. Although such technique is fairly common, it is one of the most effective method to assess the reliability of the simulation tool.

Authors: Muhammad Fairuz Abd Rauf, Suziyanti Marjudi, Mohd Fahmi Mohamad Amran, Nur Amlya Abd Majid, Zuraidy Adnan and Syahirah Ismail
Title: Examine Data Capture of Exergames using Kinect Sensor for Gameplay Analysis
Affliation: Universiti Selangor
Country: Malaysia
Abstract (Paper ID:57)

This project aims to examine Exergames and its data capturing ability. The project tackles on how Exergames' tools are utilized and emphasize Kinect as the best Exergames tools to capture data. The research team developed a prototype application that can collect user information and display the result of their game play. All test conducted are using personal computer and the Kinect sensor. The results should be able to validate that Exergames can gather data and post development can convert those data into useful information for use in specific fields or for use to cater specific users. The result should prove that Kinect-based Exergames can capture useful data and the data can be utilized to maximize Exergames' potential as a new data capture technology alongside other data capture technologies.

Authors: Deshinta Dewi and Elankovan Sundararajan
Title: Extended Design Science Research Methodology for Parallel Vision System
Affliation: Faculty of Information Science and Technology, Universiti Kebangsaan Malaysia, Bangi, Selangor
Country: Malaysia
Abstract (Paper ID:58)

Vision system implements image processing in its design and development. The process involves series of static and dynamic images that are received from a real-time environment. The vision system produces an important outcome in term of object features that are meant for observation, for example, object location, identity, orientation and others. The previous research in image processing has incorporated a test-driven agile simulation as a research methodology. However, the research methodology for vision system remains lack of attention. This paper investigates the possibility of the Design Science Research Methodology (DSRM) for vision system application. First, the vision system framework that involves image processing is presented. Second, qualitative content analysis to find a match between vision and DSRM components is demonstrated. Third, investigation on the parallelization of the vision system is reviewed and finally, the extension of DRSM to accommodate parallelization is exposed. The selected case study in this paper involves a vision system for autonomous robot whereby a parallelization is employed to accelerate computation. The analysis shows that the customized DSRM match with the parallel vision system development stages. The customized DRSM will assist the vision engineers to design vision system efficiently.

Author: Mohammad Adib Khairuddin

Title: An Active and Popular Facebook Page Equals Better Chances of Winning an Election? The 2013 Malaysian General Election Case
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID:59)

Social media is becoming a significant platform for election campaigning allowing for both communication and interaction between candidates and the public. However, most research points to social media being used mainly for broadcasting of information, and there is a need to test whether the interactive features are being used and are influencing election results. With the ability of researchers to download and collect masses of raw data from various social media such as Twitter and Facebook, the research into social media is now becoming more quantitative. With traditional media completely owned and controlled by the government, while the internet is free and uncensored, the use of social media in Malaysia has exploded over the past few years, with a corresponding use of this medium in campaigning, leading to researches attributing this to the rise of a viable opposition. In this paper we study passive interaction using data captured directly from the 2013 Malaysian General Election candidates' Facebook Pages (FP), and show that the success of a candidate who is active and popular on Facebook rises to 77% when compared to the 38% general success rate of all candidates.

Authors: Mohd Taha Ismail, Hassan Dao, Megat F. Zuhairi and Muhammad Azmin Mohamed Ghazali
Title:Vertical Handover Evaluation for Heterogeneous Networks
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:60)

This study is to simulate a handover in heterogeneous network using MATLAB. The simulation comprises of three different networks that overlap between each other and a UE will be moving across the networks. In mobile telecommunication, mobility management in heterogeneous networks will require a vertical handover in order to utilise different mobile technologies. To achieve a seamless handover between the systems, IEEE 802.21 is set to support algorithm enabling seamless handover in heterogeneous network. Handover failures and unnecessary handoff may be provoked in many situations which causing a problem in seamless handoff. Thus, the algorithm is tested to minimize handover failures and unnecessary handoff. The controlled environment and a comprehensive analysis that covers the signal strength are evaluated.

Authors: Mohd Norsyarizad Razali and Shaharuddin Salleh
Title: A Learning Automata-based Algorithm for Solving Priority-based Target Coverage Problem in Directional Sensor Networks with Adjustable Sensing Ranges.
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID:61)

One daunting problem linked with DSNs is the surveillance of a set of targets in a given area and hence maximization of the network lifetime. This is explained by the limitation in the sensing angle and battery power of directional sensors. This problem gets more difficult when the targets are shown to have different coverage requirements and the sensors have multiple sensing ranges. In the present study, this problem is referred to as Priority-based Target Coverage with Adjustable Sensing Ranges (PTCASR). As sensors are normally densely deployed, allocating the sensors into several cover sets and then activating them successively (known as scheduling technique) stand out a promising solution to this problem. In this paper, we propose a learning automata-based scheduling algorithm to solve the problem. Several simulations were conducted to evaluate the performance of the proposed algorithm, in terms of extending the network lifetime.

Authors: Irma Syarlina Hj Che Ilias and Mohammad Khairy Azmi
Title: MANET – A used of ZigBee Technology for Human Intruder Detection
Affliation: Universiti Kuala Lumpur - UniKL MIIT
Country: Malaysia
Abstract (Paper ID:62)

A mobile ad hoc network (MANET) is a continuously self-configuring, infrastructure-less network of mobile devices connected without wires. MANET is relatively a new technology which people can use it to eradicate missing hardware in computer lab issues. MANET can help to control of the large or small of scale area of the activity and to effectively disrupt the intrusion activity. By using MANET it can help us to know the location where there is the activity happen which then we can prevent the activity earlier. This study is on developing a prototype using ZigBee Technology to detect intruder that trying to steal hardware in the laboratory room.

Authors: Mohd Nizam Husen, Roslan Ismail and Robiah Hamzah
Title: Real-Time Water Quality Monitoring with Multi-Sensors
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:63)

Water quality monitoring plays an important role in human well-being, environmental preservation and sustainability. This paper presents the study that has been carried out on the design and development of water quality monitoring with the purpose of notifying the user with real-time and online water quality information based on important parameters through a web-based dashboard. The sensors are able to measure the parameters of water quality, such as turbidity, pH, temperature, and the level of the water. The sensors are implemented with signal conditioning circuits and connected to a microcontroller which processes and analyses data. Audio and coloured lightings alert are triggered when any water quality parameter reaches unsafe levels. A Wi-Fi transmitter module sends the data to the receiving node over long distance range and displays the output in real-time. The results demonstrate that

multi-parametric, long-distance and online monitoring for water quality information can be accurately acquired and displayed in real-time by using this monitoring system.

Authors: Mohamad Nor Norzaila, Mohd Yusof Shafiz and Othman Nafishah
Title: Can Doctors Volunteering Online In Health Virtual Community Achieve Work-Family Balance?
Affliation: Universiti Utara Malaysia
Country: Malaysia
Abstract (Paper ID:64)

Online volunteering is one of the most evident examples of how information communication technology has influenced volunteerism. Volunteering online is prevalent for its flexibility in terms of time and place, allowing individuals to volunteer at any time or any space that they desire. While the technologies may increase flexibility for doctors volunteering online to respond to their work or family, somehow it also allows the online volunteering work to spill over into work or home life, blur the boundaries between work and family domains, hence increases work-family conflict. This study attempt to develop a conceptual framework associated with the potential of achieving work and family balance among doctors volunteering online in health virtual community. The proposed framework is guided by the work-family Border theory to provide a broader understanding of how the embracement of Internet technology for volunteering affects the negotiation of work-family boundaries. The paper described the important concept in online volunteering and work-family balance, and then reviews the border theory that provides the perspectives in which work-family balance embrace other important domain such as online volunteering.

Author: Muddapu Parvathi
Title: Two Cell Fault Models and Parasitic RC Test Method for Embedded SRAM
Affliation: BVRIT Hyderabad College of Engineering for Women
Country: India
Abstract (Paper ID:66)

The existing research on two cell memory faults was not adequate to identify the current technology prone defects. The gaps in the invention of test methods and fault models in related to two-cell SRAM is lead to the development of new test techniques, that are presented in this paper. The cell size reduction in present day technologies will give effect on bit line and coupling capacitance, due to capacitive nature through coupling, each cell will get influence of its neighboring cells, prone to the faulty behavior. In addition, parasitic node capacitance and faulty node voltage of a defective node can induce serious parasitic effects on the electrical behavior of SRAMs. This paper is focused on analysis of characterization of two-cell fault models using bridge or short as defect model in the electrical environment and further evaluates the necessary conditions to induce worst-case coupling effects. The proposed method guarantees detecting all two-cell faults in the presence of capacitive coupling and worst-case neighborhood data for any possible open or short defect.

Authors: Rashid Zafar, Megat F. Zuhairi, Eiad Yafi, Hassan Dao and Hilmi Mohd Salleh
Title: Mobile Crowd Sensing Application for Noise Monitoring in Kuala Lumpur
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:67)

Mobile Crowd Sensing (MCS) technology enables mobile devices, such as smart-phones or other android-based devices that are equipped with embedded sensors to gather relevant data for research work. Typically, the MCS application field ranges from online social-media monitoring, transportation system monitoring, atmosphere monitoring and etc. The inherent attributes of MCS applications is the ability of the system to monitor and collect data over a huge geographical area. Generally, the planners of MCS select participants based upon the scope of survey or the type of data to be acquired. Consequently, based on user's movement behavior and location, the MCS application running on the background is able to discreetly collects data from the proximate areas. In principle, this research work highlights the development of MCS application, using the noise parameter as input. The research work shows the feasibility of MCS for data gathering. However, it is essential that data obtained from smartphone's sensor i.e. microphone is properly processed. Basically, the MCS application is designed to be able to interact with the sensor components within the smartphone. Data is collected and has to be periodically uploaded to the server, where analytical operation is undertaken to produce meaningful information. In principle, the MCS application is able to provide viable noise data in many different areas in Kuala Lumpur. The main benefit that the MCS application can offer is the ability to provide continuous data collection with minimal resource needed.

Authors: Salyani Osman, Cong Hoang Le, Suzana Basaruddin, Rohaya Abu Hassan and Ratna Zuarni Ramli
Title: The Effects Of User's Role And User's Mood Toward Cyber Sickness Symptoms On Desktop Computer In Virtual Reality Environment
Affliation: Universiti Selangor
Country: Malaysia
Abstract (Paper ID:68)

Virtual reality is a promising technology in which shows rapid growth within recent years. In some virtual reality practicality cases, users perceive symptoms that are similar to motion sickness. This symptom occurs due to cyber sickness or simulation sickness. Apparently, there are many factors that can cause/contribute to cyber sickness. This study will focus on user's role and user's mood factors. The objectives of this research are to examine the user's role and user's mood effects towards cyber sickness symptoms and the interaction between both factors toward cyber sickness symptoms. A set of data were collected by using simulated sickness and arousal scale questionnaire and the result shows that user's role and user's mood have effect on cyber sickness, meanwhile, there is no interaction effect between user's role and user's mood towards cyber sickness. This research outcomes contributed to awareness of the cyber sickness among computer users in accordance to develop better virtual reality system in future.

Authors: Dalilah Abdullah, Muzaffar Mohamed and Herny Ramadhani Husny Hamid

Title: Android-based Parental Monitoring Apps

Affliation: Universiti Kuala Lumpur

Country: Malaysia

Abstract (Paper ID:70)

Nowadays the usage of handheld devices in a young generation were constantly increasing. Handheld devices had been involved in high profiles cases that involved children, therefore strict monitoring of children's devices usage are required for safety risks. This project is to develop Stealth-based Android Parental Monitoring App to help parent monitor their child's mobile activity silently. The mobile usage behavior can be analyze and then parents can plan for proactive measures to deal with the problem. This application was developed based on client server application, where Android based application is developed for client side and web application is developed on the server-side. Authentication process is required to activate the application, as only authenticated user can manage the application and at the same time, the application will run stealthily, invisible from the users. Pattern Lock and password method were used for authentication process. For the purpose of stealth process, "secret door" technique, where developer will disable an application component; this technique will have the effect of removing an application shortcut from any Launcher. The application at android based will be able to log the location, message log, call log, network log, and device information. The collected data will be uploaded to a web server to be reviewed through the internet-enabled devices. The functionality testing were done on both Android Based client side application and web application server side web application. For client side application eight test cases were developed: Android Authentication Module, Android device registration module, Android logging module, Android uploading module, Android system cleaner module, Android stealth hide/reveal icon module, Android stealth launch application via dialer module and Android protection module. For each test case, the result is indicated as pass. For Server Side Web application, four test cases were developed; Web Application Registration Module, Web Application Authentication Module, Web Application Monitoring Module and Web Application Disconnect Device Module. For each test case, the result is indicated as pass. Android Based Parental Monitoring Apps has been successfully developed and meet the development objective to collect Android critical data including network log, call log, device information log, incoming or outgoing SMS and Call logs in stealth and synchronized it to the server where it can be used as digital evidence if necessary. The result of this project is hoped to benefits the society by providing a better monitoring technique for the concerned parent via implementing an alternate way on how to continuously collect and monitor their children/teen mobile activity.

Author: Ahmed Al-Haiqi

Title: Fingerprinting Smartphones Remotely via Sensors Data

Affliation: UNITEN Country: Malaysia

Abstract (Paper ID:71)

Remote fingerprinting of physical devices has already been shown to be feasible, using tiny deviations in the clock frequencies of fingerprinted machines. Both TCP and ICMP timestamps provided the basis for clock skew estimations. In the context of the emerging urban-sensing paradigm, we note the potential availability of logged sensors data, typically comprising timestamps, and probably labelled with external time reference information. This observation leads to the possible exploit of that new timestamps source to identify individual mobile nodes, and compromise participating users' privacy. Our experiments verify this conclusion, confirming the earlier results published on the same line of research, and pull the attention to a privacy breach that could be mounted remotely, offline and in non-real time, on logs of sensors data with necessary time reference labels.

Authors: Vitaliy Mezhuyev, Vladimir Lavrik, Ravi Samikannu and Yurii Gunchenko
Title: Metamodeling Approach for the Development of Geometrical Modelling Languages
Affliation: UMP
Country: Malaysia
Abstract (Paper ID:72)

Paper discusses possibilities of the metamodelling to improve computer-based methods of geometrical modelling. The meta-metamodel for the development of the geometrical modelling languages is proposed. It is defined as a formal system, which includes set of geometrical metatypes, grammar and operations. The grammar rules are expressed as logical formulas, setting constraints on the geometric structure of a model. An additional system of relations for constructing the grammatical rules of geometrical languages is proposed. It is shown that use of the metamodeling makes the process of geometrical design more effective.

Author: Md. Nazmus Saadat
Title: Enhanced Network Performance in Wireless Virtualization Networks
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:73)

Wireless Virtualization Networks (WVN) is emerging in research community for the spectrum management and efficiency reasons with the shared wireless radio resources like radio frequency (RF) and its infrastructure. The main idea is slicing and sharing it amongst the participating service providers. In this paper, we propose radio resource allocation (RRA) mechanism in settings of WVN to enhance overall network efficiency in next generation networks. The idea considers of course wireless channel quality of the requesting and existing nodes like along with multiple essential and significant factors during decision cycle in response to every allocation request. For simplicity at this stage of research, we categorized user types into higher and lower priority users and implemented our solutions which can be adjusted in later stage. Here, we consider network performance by use of simulation and show that our proposed system outperforms existing works. This would benefit both mobile network operators (MNO) and wireless service providers (WSP) in the WVN environment.

Authors: Marwan Adnan Darwish, Eiad Yafi, Abdullah H. Almasri and Megat F Zuhairi
Title: Privacy and Security of Cloud Computing:
A Comprehensive Review of Techniques and Challenges
Affliation: Universiti Kuala Lumpur
Country: Malaysia
Abstract (Paper ID:74)

The use of cloud computing is rapidly increasing in various range of services and it is seen on trend to revolutionize the way the IT companies doing businesses. The recent advances of mobile, social media companies and online businesses have given rise to success and propagation of cloud environment. However, when outsourcing the data to a third party, major challenges cloud-computing model jeopardizes are privacy and security issues and threats on data security and reliability. These threats constitute on data breaches, loss of control, unauthorized uses at the different layers of the cloud models and these issues hinder the adoption of cloud and slow down acceptance in many sectors in IT. In this review we present and summarize some major articles in cloud computing and its multiple layers with

a focus on security and privacy problems (such as integrity, confidentiality and data privacy). We also intend to review some approaches related to identity cloud management, cryptography and steganography techniques in cloud computing.

Authors: Abdullah H. Almasri, Shahnorbanun Sahran and Eiad Yafi
Title: Spike Response Function Weight and Delay Updating Strategy Using Delay Rules
Affliation: UNITAR International University
Country:Malaysia
Abstract (Paper ID:75)

Spike Response Function (SRF) plays an important role in the temporal coding Spiking Neural Network (SNN) as it has a significant role to determine when the neuron should fire. This paper studies the important role of the SRF in the SNN learning stability. It proposes a novel method to find out the rules to update delay for each class to make SRF stable, and then using these rules to update delay and weight simultaneously at the SNN learning rule. This method updates the delay depending on the local result to make SRF stable. The main issue of this paper is to put forward the idea that weight and delay parameters could and need to be updated simultaneously to make both SRF and SNN stable during the learning process. The delay rules strategy which have been found could be used for pattern recognition application which use SNN. The limitation of this work is that; getting the updating delay rules depends on a sample data from each class and the way of selecting the rules.

Authors:Tanzila Saba, Dania M.Faez Dakhel and Leen R Obeissi
Title: Internet of Things (IoT) based Inventory Management Solution
Affliation: Prince Sultan University
Country: Saudi Arabia
Abstract (Paper ID:77)

Inventory management process is vital for retail businesses to remain in market and cut the losses. Recently, Internet of things technology has been deployed in the field of inventory management. Internet of Things is the technology in which sensors are embedded in things making them capable of transferring information via the network. In this research study we propose an inventory management solution based on the IoT concept. We start with observing the current approach of inventory management and briefly state its drawbacks. Then we propose our solution with the help of BPM model. Further, we analyze our solution in terms of time requirements. From simulation results it's evident that the solution will be of great benefit for all retail business willing to adapt it.

Authors: Siti Sarah Mohd Isnan, Hardy Azmir Anuar, Wan Baderul Hisan Wan Muda, Mohamad Abu Ubaidah Amir Abu Zarim, Mohd Norsyarizad Razali, Mohd Azzeri Md Naiem, Mohd Arif Ahmad, Zulkifly Mat Radzi, Nur Afiqah Rosly, Ainul Husna Abdul Rahman, Adenen Shuhada Abdul Aziz and Siti Nur Muhamad
Title: The Influence of RTK GNSS Antenna Heights on Multipath Error
Affliation: Universiti Pertahanan Nasional Malaysia
Country: Malaysia
Abstract (Paper ID:78)

Hydrographic surveying is essential for providing safe navigation and route suggestion to the vessels. Since GNSS has evolved throughout the decade, it has become a fundamental equipment to do a survey. Real Time Kinematic (RTK) GNSS is one of the GNSS technology, which is able to compute the position in real time and produce centimetre accuracy. However, this GNSS equipment is susceptible to multipath error causing error in positioning computation. This project attempts to investigate how different antenna heights will affect the positioning accuracy and size of multipath error on RTK GNSS. Various types of analysis have been done in order to determine whether different antenna heights will affect the positional accuracy and size of multipath error. The result shows that different antenna heights affect the positional accuracy and size of the multipath error and this will provide basic guides in order to carry out hydrographic survey. Conclusion and future research also has been made in order to guide researchers in conducting future projects.