

Booklet

Research Center for

SOFTAM

Software Technology and Management

DECEMBER 2014



ABOUT SOFTAM

The Research Center for Software Technology and Management (Softam) is positioned to be in the research stream of the rapidly changing computing technology. Consisting of 14 research labs concentrating in various areas of computing research, Softam looked into the whole spectrum of research, beginning with ideas experimentation, creating the technology, deployment and studying the impact of the results in the real world.

Whether they are technical users, business users, young users or users with other special needs, at Softam users and users' experience are central to its research.

Softam is driven by three research groups and one research unit as follows:

- Programming and Software Technology Research Group led by Prof. Dr. Abdullah Mohd Zin
- Strategic Information Systems Research Group led by Assoc. Prof. Dr. Kamsuriah Ahmad
- Multimedia Software and Usability Research Group led by Assoc. Prof. Dr Nor Azan Mat Zin
- Service Science Research Unit led by Assoc. Prof. Dr. Muriati Mukhtar

Softam has more than 100 postgraduate students, and most of the research activities are funded by Malaysian Ministry of Higher Education, Ministry of Science, Technology and Innovation as well as the Research University Grant Scheme.

We believe that ideas should be welcomed, experimented and share.

This is described in our mission:

“To create software innovation and to discover a new knowledge as well as to be at a frontier of knowledge in the area of software technology and management through consultation, technology training and research steered by UKM philosophy”

Inspired by Softam vision:

“To be recognized as a center of excellence in software technology and management”

We strive hard to fulfill the following objectives:

- To provide facilities and infrastructure to carry out research in software technology and management
- To carry out research for the enrichment of knowledge in software technology and management
- To develop experts in the field of software technology and management through teaching and research.
- To manage the process of knowledge transfer through training and consultation.
- To develop various type of software technology that can aid in software development activity.
- To generate intellectual property in the area of software technology and management that has value for commercialization.
- To be a center of reference, training as well as technology transfer in the area of software technology and management in Malaysia.



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Agent Mediated E-Commerce & Service Science Research Lab

Laboratory Outline

Agent-based Technology could play a vital role in delivering the required levels of autonomy, customization and sophistication in the way e-commerce is conducted. We aim at developing agent-based framework, system architecture, economic model, business model, negotiation protocols, security protocols, and addressing legal and sharia compliant issues in e-commerce system.

Service Science was first introduced in 2004 and has attracted much attention both from academia and industries. With the advances in information and networking technologies, the capacity and the scope of services have been expanded beyond their traditional realm and require systematic and rigorous study.

Therefore, the Agent Mediated E-Commerce & Service Science Research welcome a wide range of students, from those two areas.

Principal Researchers

Assoc. Prof. Dr. Muriati Mukhtar (Leader)

Dr. Hazura Mohamed

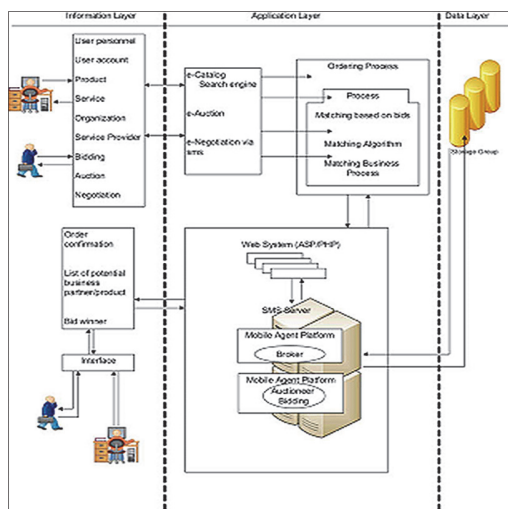
Dr. Nur Fazidah Elias

Dr. Ruzzakiah Jenal

Ms. Hairulliza Mohamad Judi

Ms. Norleyza Jailani

Ms. Siti Aishah Hanawi



Research Students

- Mohammed Abdualgader Alwi Al-Aaidroos, P62824. *A Holistic Framework and architecture for A Syariah Compliant Online Auction.*
- Hazlee @ Nik Hazlee Bin Nik Kasim, P64514. *Kajian Pengurusan Pengetahuan Pekerja Sektor Awam dalam Mencapai Objektif Pelan Transformasi Strategik Sesebuah Organisasi : Majlis Amanah Rakyat.*
- Wan Muhamad Noor Azam Bin Wan Ya, P65611. *Model Pembangunan Kemahiran Bentuk-T untuk Usahawan ICT.*
- Fadi A. T. Herzallah, P67912. *B2C E-Commerce Adoption and Its Effect on Organisational Performance.*
- Leila Moradi, P69608.
- Belal Najeh Abdullateef Al-Zubaidi, P72262. *Evaluation and Selection of Learning Management System Open Source Software Packages Using AHP and Topsis.*
- Ali Ratib A. Alawamreh, P59234. *The Evaluation of The Web Based Learning System for Gifted Students.*
- Hasnira Binti Md Lazim, P73049.
- Nor Aimuni Binti Md Rashid, P63370.

Current Research

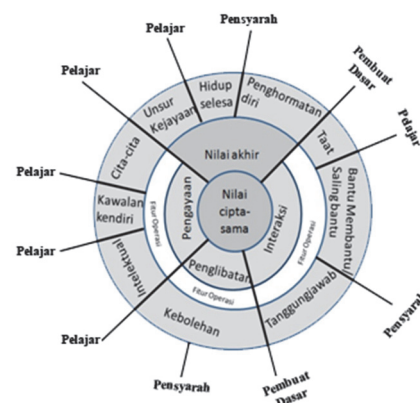
- Bidding Agent Algorithm Using Islamic Utility Function Based On The "Wustdo" Concept
- A comparative Study Toward the Use of Effective Travel Websites: Empirical Research in Malaysia and Indonesia
- Impact Study Assessment On Myren
- *Maklum Balas Berkesan Berasaskan Mantik Dominan Khidmat (service dominant logic) untuk Pengajaran-Pembelajaran Bermakna*
- *Pembangunan Program Lonjakan Penyelidikan, Penerbitan dan Pendidikan*

Location of Lab

Level 1, Block H, FTSM

Contact

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Cyber Security & Software Testing Research Lab

Laboratory Outline



In cyber security field, we explore three areas of research: cryptography, network security, security management and human aspect related to security. In cryptography, the works are further divided into two sub areas: cryptosystems and trusted computing. Whilst in digital forensic field, we interested in analysing image file, and improving the file carving technique.

Meanwhile, the software testing area covers the research related to testing using test cases, and software verification deal with research related to the use of formal methods.



Current Research

- Security Verification Framework For Mobile OS
- Aplikasi Penyimpanan dan Pengesahan Sijil Kelayakan Atas Talian Bersekuriti Tinggi
- Formal Verification of seMeja Interaction
- Spiking Neural P Systems to Enhance Intrusion Detection Systems for Network Security Management
- Aplikasi Konsep Scaffolding dalam Rekabentuk Antaramuka Alatan Pembangunan Pengaturcaraan di UKM
- Pemantapan Pengajaran dan Pembelajaran Untuk Kursus Analisa dan Rekabentuk Algoritma Dengan Peralatan Simulasi
- Pemantapan penggunaan peralatan simulasi melalui kajian kes untuk pengajaran dan pembelajaran berorientasikan pelajar untuk kursus analisa dan rekabentuk algoritma

Principal Researchers

Prof. Dr. Zarina Shukur (Leader)
Dr. Rossilawati Sulaiman
Dr. Ravie Chandren Muniandy
Dr. Zulkarnain Md Ali

Location of Lab

Level 3, Block H, FTSM

Contact

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Research Students

- Ainita Binti Ban, P37897. *Formal Verification of Voting Protocol.*
- Abdul Rahman Bin Mohamad Gobil, P40999. *Instructional Efficiency on Teaching Computer Programming: A Study in Pedagogy Approach.*
- Qais Saif Qassim, P51684. *Intrusion Detection and Prevention System for Information System Resources.*
- Nadeem N. I. Alherbawi, P61109. *Customized Data Carving with Feature Matching Extraction.*
- Nor `Afifah Binti Sabri, P63470. *Development of an Environment for Guided-Testing in Software Security Testing.*
- Zaireeda Binti Mohd Fauzee, P63471. *Development of an Environment for Automated Testing in Software Security Testing.*
- Mahdi Sahlabadi, P64620. *Formal Security and Performance Analysis of Distributed Software Architecture Based on Process Mining and Clour Petri Net Model.*
- Arash Ghazvini, P67491. *An Effective Training Program Framework for Cyber Security Awareness in Healthcare Organizations : Acomputer Game Based Training Approach in HUKM.*
- Abdo Ali Abdullah Al-Wosabi, P72745. *Tampering Detection Model for Embedded System Software on The Digital Scale Device.*
- Hanif Mohaddes Deylami, P73058. *Malware Dynamic Behavior Detection Based on Fuzzy Logic Rules, DNA Sequence Alignment, and Data Mining Techniques.*
- Rufai Kazeem Idowu, P63472. *An Intrusion-Detection System for Network Security Management.*
- Nader Abdel Karim Ibrahim Salameh, P73062.
- Muhammad Azwan Bin Ibrahim, P78191.
- Norasma Binti Ahmad Rajuddin, P54822.
- Sameer Abdulbaqi Shaher Hasan, P70531. *Paper-Based Document Authentication Model Based on Private Key Infrastructure.*
- Ahmed Hussain Ali, P72284. *Audio in Audio Steganography.*



Information Systems Research Lab

Laboratory Outline

We carry out research related to Information Systems management and development and Socio-technical issues surrounding them to support business process and solve business problems in various domains including healthcare, education and the public sector.

Major Research Area

Information Systems/ Health Informatics

- Evaluation, Adoption and Diffusion, Development
- Management
 - » Business/IT alignment/fit
 - » Project Management
 - » Business Process Management
 - » IT governance
- Cybernetics: Viable System Model

Collaborative Research: National Heart Institute, Ministry of Health

Current Research

- Sistem Ramuan Makanan Halal Berasaskan, HEJIM.
- A Model for Business-IT Alignment in Malaysian Public Universities.
- Data Quality And Error Management In Health Information Systems: A Rigorous And Lean Approach To Evaluation.
- A Semantic Approach to Collaborative Tagging in Medical Blogs.
- The evaluation application of ontology based health information systems in Malaysian clinical practices

Principal Researchers

Assoc. Prof. Dr. Maryati Mohd Yusof (Leader)

Dr. Dian Indrayani Jambari

Ms. Hana Yasmein Ishak



Research Students

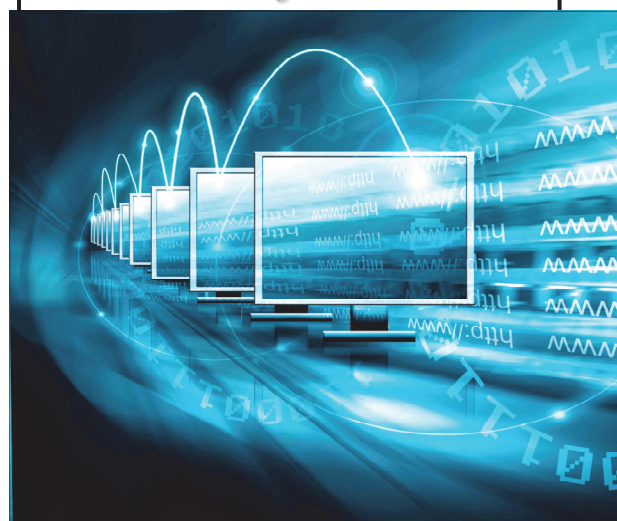
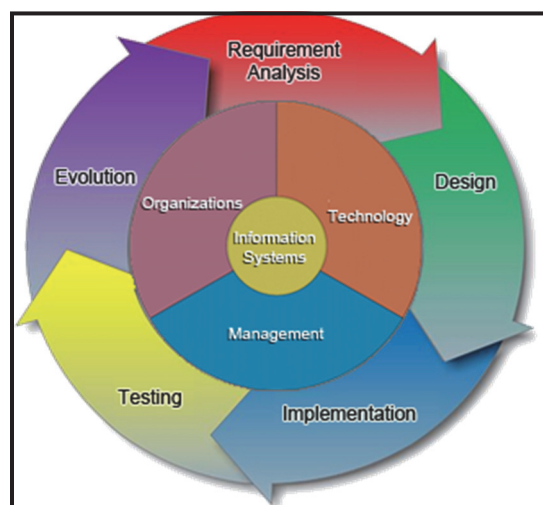
- Rohayati Binti Ramli, P47871. *Decision Support System (DSS) in ICT Strategic Planning (ISP) : A Case Study MOHR.*
- Wan Hassan Basri Bin Wan Ismail, P72267.
- Esmadi Abu Bin Abu Seman, P58745.
- Rosida Binti Ab Razak, P63459. *A Framework for it Governance Best Practices in Public Sector.*
- Siti Istianah Binti Mahdzur, P65603. *Faktor Sistem Maklumat Berintegrasi di Peringkat Organisasi: Ke Arah Pelaksanaan Kelestarian Sistem Maklumat Sektor Awam.*
- Nur Zuria Haryani Binti Zakaria, P67402. *Penilaian dan Pensijilan Produk Perisian Berasaskan Pengguna.*

Location of lab

Level 3, Block H, FTSM

Contact

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Distributed & Platform Technology Research Lab

Laboratory Outline

The emergence of grid and cloud computing has made distributed computing technology a hot research topic. It is well known that cloud has become a disruptive innovation which has transformed the way software is viewed. At DPTL we explore research opportunities ranging from parallel algorithms, cloud services for High Performance Computing (HPC), mobile-cloud applications, trusted computing and security issues in cloud.

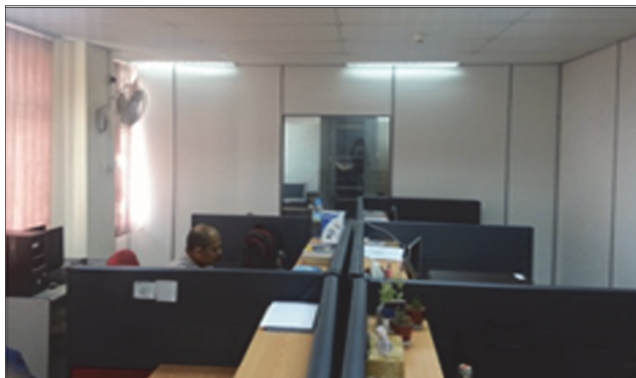
We are keen in providing HPC solutions for Engineering problems, Bioinformatics and Big Data analytics. Members of DPTL also aim to develop distributed solution frameworks and models for various research areas and SMEs. We also keen in trusted computing platform and security issues in cloud. One of our main goals in research is to utilize as many open source tools and libraries as possible.

Major Research Interest

- High performance computing, Parallel and distributed algorithms, Computational Science
- Mobile-cloud technology, Cloud services for Big Data, Open source tools for distributed computing, Performance model for parallel computation on WAN, Trusted computing, Security on cloud

Computing Resources

- Servers
 - » CPU: Intel Xeon® E5620 @2.4 GHz, RAM: 64 GB, HD: 1 TB, NIC: 2 Gigabit, 8 cores.
 - » CPU: Intel Xeon® E5620 @2.4 GHz, RAM: 128 GB, HD: 12 TB, NIC: 2 Gigabit, 8 cores
- Cluster
 - » 16 nodes: CPU: Intel Core™ i3 M390 @2.67 GHz, RAM: 4 GB, HDD: 500 GB, NIC: Realtek Express Gigabit
- Lab PCs
 - » 200 nodes: AMD Athlon™ 64 X 2 Dual Core 5600 + CPU @ 2.91GHz, Intel(R) Core™ 2 Duo / Pentium Dual Core and Intel(R) Core™ 2, Quad + CPU Q8300 @ 2.50GHz, RAM: 1GB-4GB, HDD: 200GB-400GB



Research Students

- Mahathir Rahmany, P54322.
- Shakeabubakor Alkhansa Alawi B, P59447. *Conceptual Framework to Improve Productivity of Research Student using Mobile Cloud Computing.*
- Reza Naghizadeh Majid, P62476. *On The Computational Performance of The Quadratic and Cubic Lucas Based Cryptosystem.*
- Marwan Ibrahim Ahmad Alshar`E, P50008. *Comparison on Secure Data and Secure Data Transition: Toward More Trusted Computing*
- Hussein Abd Alhaleem Hussein Alhroot, P50019. *Software Reverse Engineering.*
- Nur Husna Binti Azizul, P72258
- Ahamed Lebbe Sayeth Saabith, P68509.
- Kashif Abbasi, P75141.
- Mostafa Ghane, P75457.
- Ghassan Muslim Hassan Al-Saddi, P78330.

Current Research

- A Novel Plant Root-Based Evolutionary Algorithm To Solve Mobile Cloud Computing Workflow Scheduling Problem.
- Exploring Data Streams Association Rules Mining On Clouds
- Enhancing Secure Files Distribution Based on Digital Watermarking with Public Key Cryptosystems
- Developing a Problem-Based Visual Aspect-Oriented Programming Environment for Novice Programmers

Principal Researchers

Dr. Elankovan Sundararajan (Leader)
 Prof. Dr. Abdullah Mohd Zin
 Dr. Mohd Rosmadi Mokhtar

Related Keywords

Distributed Technologies, High Performance Computing, Trusted Computing Platform

Location of

Level 2, Block D, FTSM.

Lab Contact

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Advanced Software Methodology & Programming Education Research Lab

Laboratory Outline

This laboratory focuses on developing new and advanced software development methodologies. We also carry out researches and activities related to teaching and learning of programming.

Research Focus

- Advance software development technologies
 - » Object-oriented methodology
 - » Aspect-oriented methodology
 - » Open source methodology
 - » Block-based methodology
 - » Service oriented methodology
 - » Agile methodology
- Programming Education Technology
 - » Programming education services on the cloud
 - » Tangible programming tools
 - » Programming aptitude/understanding
 - » Teaching/learning and assessment techniques
 - » Teaching/learning and assessment tools
 - » Competitive programming

Current Research

- Pembangunan Program Lonjakan Penyelidikan dan Penyerbitan Kumpulan Pengaturcaraan.
- Ensemble Mobile Platform For Innovative Digital Economy Environment - The Design And Implementation Of The BeeOS
- Modeling Tools to Support Membrane Computing Formalism for Network Applications
- A Framework For An Innovative Self-Managed Fuzzy Logic Risk-Based Intrusion Detection And Prevention System Strategy Risk-Based IDPS Strategy

Research Students

- Ashraf G. H. Jaradat, P36170. *Best Effort Resolution Model for Imperfect Management using Probabilistic Network Digital Object Approach.*
- Afiza Binti Ismail, P41011. *Developing Learning Software for Children with Learning Disabilities Through Block-Based Development Approach.*
- Rokiah Binti Bahari, P43883. *Block-Based Software Development: Designing The Interactive Environment.*
- Elly Johana Binti Johan, P61095. *An-Integrated Approach to Improving Object Oriented Programming Assignments for Mediocre Students.*
- Rabab Alayham Abbas, P46476. *Impact of Natural Disasters in Southeast Asia on Malaysian Computer Networks.*
- Noor Mazlina Binti Mahmod, P63047. *A Layered Approach for Open Source Health Application Development in Developing Countries: A Study on GNU Health.*
- Ali Maroosi, P64621. *Improvement Simulation of Membrane Computing Models on GPU.*
- Syahanim Binti Mohd Salleh, P59317. *Aplikasi Konsep Perancah dalam Pembelajaran Pengaturcaraan Di UKM.*
- Seyedmostafa Safavi, P65590. *Permission-Based Privacy Framework using Pseudo Data Technique in Android Environment.*
- Naeimeh Elkhani, P72752. *Implementing Membrane Computing in Feature Selection and Classification of Microarray Data in Parallel Environment*
- Aws Abed Alraheem Magableh, P47984. *Comprehensive Aspectual UML Approach to Support Aspects Programming.*

Principal Researchers

Prof. Dr. Abdullah Mohd Zin (Leader)

Dr. Noorazeen Mohd Ali

Ms. Rodziah Latih

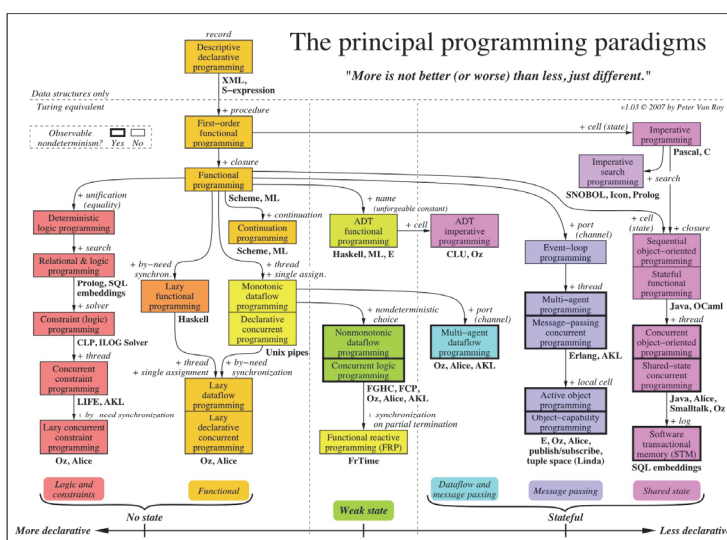
Ms. Marini Abu Bakar

Location of Lab

Level 1, Block H, FTSM

Contact

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Learning Technology & HCI Research Lab

Laboratory Outline

The laboratory is to contribute to development of new knowledge and new solutions in learning technology in correlation with the users. The approach is interdisciplinary, and it draws upon learning theory and participatory methods from technology, information and HCI design. Research in this lab is based on the concept of user-driven innovation in order to bring user mental model and behaviour into design.

Research Focus

- Interfaces for collaborative, Persuasive, engagement, effective learning
- Design rules for interfaces
- Accessibility Model
- Digital library usability model
- Mobile learning user interface
- Culture-centered User Interface
- Usable annotation tools
- Multimedia Information Retrieval

Research Students

- Yuhanis Binti Omar, P47874. *Kajian Futuristik Portal Pendidikan Menyeluruh untuk Sekolah di Malaysia.*
- Shafinah Binti Kamarudin, P56204. *Pemodelan Sistem Pakar Mudah Alih untuk Pengurusan Penyakit bagi Tanaman Lada Hitam.*
- Zaihosnita Binti Hood, P58725. *Model of Pen Based User Interface to Support Active Reading Activities*
- Nor Aziah Binti Daud, P58734. *Pembelajaran Berasaskan Web bagi Pendidikan Islam Menggunakan Reka-bentuk Persuasif (Persuasif-Pbw)*
- Maizatul Aminah Binti Ibrahim, P63464. *Colour Impression Classification for Multimedia Design.*
- Asnida Binti Abu Bakar, P68465. *User Engagement Model for E-Learning in Public Sector.*
- Nur Rahmah Binti Zulkifli, P68519.
- Firas Layth Khaleel, P69617. *Gamification-Based Learning Framework for Programming Language.*
- Nur Amlia Binti Abd Majid, P69961. *Metrik Gangguan Rantaian Bekalan Industri Kecil dan Sederhana Melalui Pendekatan Taguchi-Kelabu.*
- Nur Amlia Binti Abd Majid, P69961. *Metrik Gangguan Rantaian Bekalan Industri Kecil dan Sederhana Melalui Pendekatan Taguchi-Kelabu.*
- Nor Hidayah Binti Hussain, P75144. *Rangka Kerja Teknik Gerakan Sentuhan Sistem Interaksi Multimodal untuk Kanak-Kanak.*
- Salwa Shakir Baawi Albu Rghaf, P78424.
- Zaid Haron Musa Jawasreh, P78529.

Current Research

- *Peningkatan Kualiti Projek bagi Program Multimedia melalui Repositori Objek Pembelajaran Boleh Guna Semula (Reusable Learning Object)*
- *Inovasi dalam Aplikasi Pembelajaran Berpusatkan Pelajar bagi Kursus Pengenalan Kepada Teknologi Maklumat Di FTSM*
- *Teknik Panorama Realiti Maya (PRM) Jenis Kubus dalam Persekitaran Muzium Maya, Tengku Siti Meriam Binti Tengku Wook*
- *Project Leader. Researcher's Annotation Classification Framework*
- *Reka bentuk Antara Muka Multimodal Adaptif Perpustakaan Digital-Berpusatkan Pelajar*
- *Modul Kursus Ibadah Haji Secara*

Location of Lab

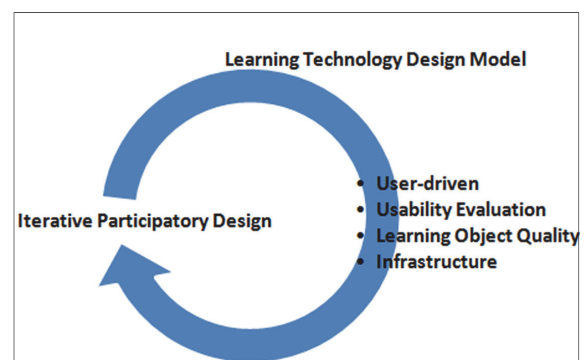
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Contact

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Principal Researchers

Assoc. Prof. Dr Noraidah Sahari @ Ashaari (Leader)
 Dr. Amirah Ismail
 Dr. Siti Fadzilah Mat Noor
 Dr. Tengku Siti Meriam Tengku Wook
 Dr. Yuzita Yaacob



Network & Communication Technology Research Lab

Laboratory Outline



We aim to be a leader in networking and we welcome students who desire to learn more about Networking, Information Technology, and Computer Science. At NCT lab we carry out research that are related to network such as IPv6, network installation, monitoring, and performance. We are also doing research on Virtual Lab and Mobile Ad Hoc Network (MANET). Other than that, we are actively doing research in android based mobile applications. Basically, two techniques that we used in this lab are simulation and testbed. Most of the researchers in NCT are using simulation tools such as MATLAB, OMNET, NS-2, OPNET, and Qualnet.



Research Students

- Faisal Elhadi M.Abdalla, P53575. *A Novel Adaptive on Demand Routing Protocol for Manets.*
- Saad Mohamed M.Adam, P53577.
- Nurul Halimatul Asmak Binti Ismail, P56218. *Slowpan Routing Protocol for Monitoring Greening Technology.*
- Bara Tariq Sharef, P62457. *A Computational Intelligence Prediction-Based Protocol for Vehicular Ad-Hoc Network.*
- Amjed Sid Ahmed Mohamed Sid Ahmed, P72755. *Enhancing Security for IPV6 Neighbor Discovery Protocol using Digital Signature.*
- Chin Chee Yoon, P76450
- Asrul Nizam Bin Asat, P76460.

Related Keywords

Networking, mobile application, IPV6

Location of Lab

Level 1, Block H, FTSM.

Contact

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Current Research

- Optimizing Spectrum Assignment in Wireless Communications Through Dynamic Spectrum Allocation in Malaysia
- A Computational Intelligence Routing Protocol for Vehicular Ad Hoc Network
- A New QoS Routing Mechanism for Mobile Ad Hoc Wireless Network
- Makmal Elektronik Atas Talian (MEaT)
- Quality of Service: Multicasting in Mobile Ad Hoc Networks
- Adaptive Generic Algorithm Position-Based Routing Protocol For Mobile ad Hoc Network

Principal Researchers

Assoc. Prof. Dr. Rosilah Hassan (Leader)

Dr. Raed Ali Helal Alsaqour

Dr. Nor Effendy Othman

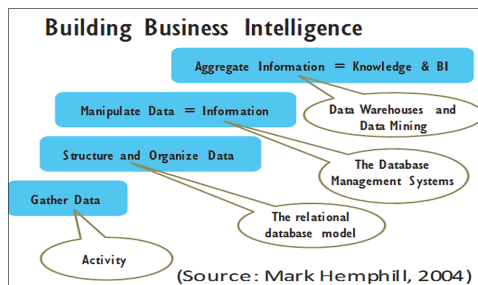


Database Research Lab

Laboratory Outline

Database Research Laboratory focuses on both fundamental and advanced technologies in the database research area. The research projects are supported by the research grants which are principally conducted by the members as well as postgraduate research students (PhD and Master).

Mainly, the research is focusing on analyzing various types of data, where each one of these data come with its own concepts, semantics, data formats, and access methods. Now, most organizations are flooded with ever-growing heterogeneous data of all types: structured, semi structured and unstructured data. With these new sources, new types and the increased speed of data are thus contributing to the trend of Big Data.



Major Research Fields

- Database Technology and XML
- Database Constraints
- Schema and Data Integration
- Data and Process Modelling
- Business Intelligence
- Query Processing and Optimization
- Data Models
- Big Data
- Data Management
- Data Warehouse

Current Research

- Informatic Governance For Strategic Decision Making
- Schema Matching Using Lexical And Structural Similarity In Heterogeneous Schema Integration
- Architecture and Modelling of Environmental Quarry System Based on Integrated Data Object and Big Data Analytics
- *Inovasi dalam Aplikasi Pembelajaran Berpusatkan Pelajar bagi Kursus Pengenalan Kepada Teknologi Maklumat di FTSM*
- *Mysta: A Cloud-Based Business Process HUB, ETP, Ibrahim Mohamed*
- *A New SDLC Methodology Based on Islamic Concept of Human Development Life Cycle*

- Heterogenous Data Integration for Business Analytics in Big Data Using Clustering Techniques, ERGS, Kamsuriah Ahmad, 2013
- Development of Meta-Metric Evaluation Model Based on User Centricity Approach for Medical Application Systems, Uni-Indystri, Jamaiah Yahaya, 2013

Research Students

- Norizam Idris, P49997. *Pengudangan Data di Sektor Awam Malaysia Model Pengurusan Kualiti Sumber Data.*
- Said Mohammad Ahmad Altafat, P56198. *A Method for Solving Naming Conlicts using Lexical Domain for Schema Integration.*
- Omar (Mohammad Ali) Abdullah Al-Qudah, P56770. *Cultural Technology Acceptance Model to Enhance Arabic E-Commerce Website.*
- Nur Hani Zulkifli Abai, P65170. *Requirement Engineering Framework for Integration of Performance Management System with Business Intelligence Analytics.*
- Amjad Faisal Ali Qtaish, P68516. *Model Mapping Approach for Storing and Quering XML Documents using Relational Database.*
- Zaiha Nadiah Zainal Abidin, P69607. *Pembangunan Model Pengukuran dan Pengindeksan Penuaan Perisian.*
- Leila Moradi, P69608.
- Zubaidah Binti Bukhari, P72285. *Development of Meta-Metric Evaluation Model Based on User Centricity Approach for Medical Application System.*
- Komeil Raisian, P77886.
- Basel M. M. Alshaikhdeeb, P78195.
- Ayman Hussein Saleh Al Madani, P78526.
- Mohamad Arqam Bin Mohammad, P75823.

Principal Researchers

Assoc. Prof. Dr. Kamsuriah Ahmad (Leader)

Assoc. Prof. Dr. Jamaiah Jahaya

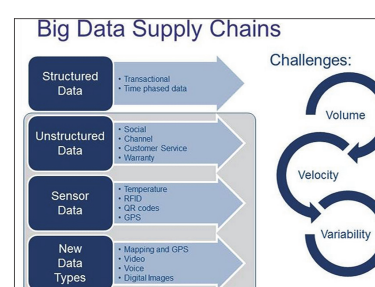
Dr. Ibrahim Mohamed

Contact

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Location of Lab

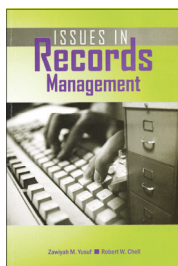
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Information Management Research Lab

Laboratory Outline

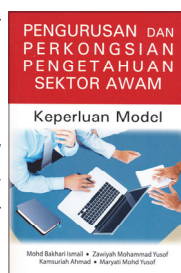
The Information Management (IM) Laboratory is one of the initiative of the SOFTAM Research Centre to support research, research training and teaching in records, information and knowledge management.



Records, information management and knowledge management is a broad concept that address the full range of processes by which the organisation deploys information and knowledge. These involve the creation, acquisition, dissemination, use and preservation of records, information and knowledge in the organisation. The laboratory aims to support and strengthen research and education in the scientific areas of records, information and knowledge management. More specifically, the main targets of the laboratory are:

- Research and development of new methods and innovative applications in the framework of records, information and knowledge management
- The development of research infrastructure
- The participation in national funded research projects
- Educational activities at a graduate level
- Application and services such as: database production; organisation of documentation and information service; design of data and knowledge-based information systems; design of information retrieval systems; applications in the areas of electronic government, health, cultural heritage, e-commerce.

Research in records, information and knowledge management is driven by a very practical and very common problem revolving around information overload, unorganized and undermanaged information.



The IM laboratory conducts both basic and applied research in support of concepts, methodologies and software tools for the management of records, information and knowledge. Much of our research centres around Model-semantic models, conceptual models, ontologies, models of intentional actors and the relationship between them. In order to achieve the aforementioned goals, the laboratory promotes collaboration with higher education establishments and research institutes, as well as research groups in Malaysia and abroad.

Principal Researchers

Prof. Dr. Zawiyah Mohammad Yusof (Leader)

Ms. Umi Asma' Mokhtar

Ms. Hazilah Mohd Amin

Location of lab

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Contact

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Research Students

- Azhar Bin Abd Aziz, P42868. *Ethical Behavior among The Computer Science Undergraduate in Universities in Malaysia.*
- Abdallah Saleh Ali Shatat, P52706. *The Relationship Between User Engagement and Business Intelligence Sys. (BIS) Quality and It's Effect on THB BIS Effectiveness in Jordanian Ba.*
- Umi Asma' Bt. Mokhtar, P52864. *Functional Model for Classification: The Records Management Approach.*
- Muatamed A Hajer, P54332. *Model for Self Confidence and Self-Efficacy Building in Iraqis Small and Medium Enterprises Business Process Reengineering Approach.*
- (Muhmmad Islam) Mahmoud Mustafa Nofal, P54877. *An Investing of The Intelligence System, Customer Relationship Management and Performance among Telecommunication Companies in Jordan.*
- Muslihah Binti Wook, P63469. *Intelligent Knowledge Management for Malaysian Armed Forces (MAF) .*
- Mohd Norhadi Bin Muda, P65612. *Knowledge Sharing Initiative Towards Repository Development an Politeknik Premier : Requirement to Model.*
- Waleed Mohammed Ibrahim Al Khofani, P67834.
- Mohammad Abdel Qader Marei Bany Baker, P68174. *Factors Influencing Knowledge Sharing in Successful Enterprise Resource Planning System Implementation in Small and Medium Sized Enterprise in Jordan and Development of A Model.*
- Muaadh Shaif Mohammed Mukred, P70516. *Records Management Initiative Framework for Supporting Decision Making Process in Higher Professional Education of Yemen.*
- Ahmad Rizal Bin Adnan, P76458
- Ahmad Azman Bin Mohamad Ramli, P76462.
- Azlan Long Bin Abdullah, P78197.

Current Research

- *Menghakupaya Governans Informatik Bagi Mempertingkatkan Kualiti Perkhidmatan Sektor Awam.*



Games Research Lab

Laboratory Outline

We carry out research related to digital game; game development method, games design, game interface and game system framework in addition to animation, simulation and Virtual Reality applications in multimedia information systems.

Research Focus

- Game design which include natural user interface games, edutainment and serious games design and evaluation, game development methods, culture in game interface design, game design for cognitive rehabilitation and character recognition for feedback engine in serious game.
- Multimedia Applications/systems which include the study of design and application of animation; virtual reality; simulation, and usability of multimedia systems.

Principal Researchers

Assoc. Prof. Dr Nor Azan Mat Zin (Leader)

Dr. Zurina Muda

Ms. Zuraidah Abdullah

Current Research

- Design and Usability Evaluation of Multimedia Systems
- New Game-Based Technique For Measuring And Visualising The Effectiveness Of Computer-Aided Language And Speech Therapy (CLST)
- Medical Image Annotations Model Based On Spatial Semantic Algorithms And Image Processing Technique
- *Memperkasa Projek Tahun Akhir Melalui Pertandingan Itouch*
- Web Medical Problem-Based Learning System
- *Pendekatan Hibrid (Persidangan Video) dalam Peman-tauan Projek Berkumpulan Secara Berkesan bagi Pro-gram Multimedia*
- Mukim Bukit Serampang Community Management Por-tal and ICT Literacy Programme for Mukim Bukit Seram-pang Community
- Spatial Semantic Features Extraction Framework and Ontology Approach to Enhance Image Retrieval Perfor-mance
- Enhanced Ontological Descriptions of Image Content Based on Spatial Relationships Features

Location of lab

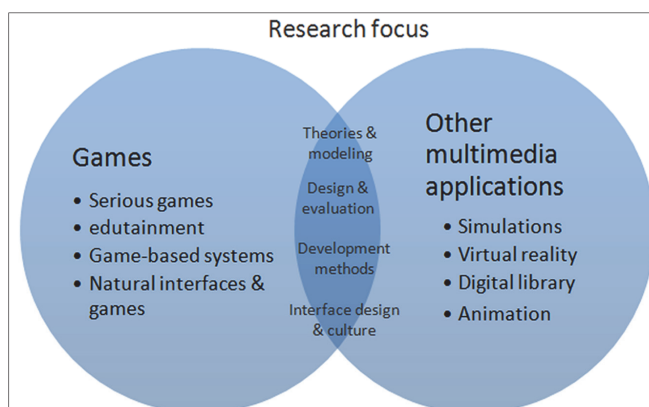
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Research Students

- Siti Zaharah Binti Mohid, P45072. *Pembelajaran Ber-bantuan Komputer / Multimedia untuk Pelajar Pendi-dikan Khas Berasaskan Animasi 2D.*
- Ratna Zuarni Ramli, P51442. *Factoring Culture as Main Role in Designing Digital Game Based Learning.*
- Mercy Trinovianti Binti Mulyadi, P52866.
- Siti Rosni Bt. Mohamad Yusoff, P53572. *Rekabentuk Sistem Pengurusan Pembelajaran Kolaborasi Penge-tahuan (Ekolaborasi).*
- Mohammed A.S. Ghazal, P54875. *Brain Adaptive Web Based Educational System.*
- Norizan Mat Diah, P58737. *Alat Permainan Menulis Asas Jawi.*
- Mohd Nizam Saad, P63463. *The Extraction of Spatial Relationship Features for Lung Lesion Location in Chest X-Ray Images*
- Khairul Bariah Binti Ahmad, P67731. *Model Intervensi Ketidak Patuhan dalam A.L.L.*
- Mohana A/P Muniandy, P69964. *Using Natural User Interface (NUI)'S Speech-Based Interface in Participa-tory Computer Game to Facilitate Speech Therapy for Children.*
- Liew Tze Wei, P70515. *Facial Expressions of Effective Virtual Agents in Virtual Learning Environment.*
- Qurratu`Aini Adibah Binti Ahmad Fazil, P53597.



Strategic Planning & Management Research Lab

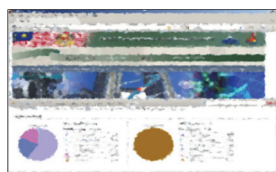
Laboratory Outline

The Strategic Planning and Management (SPM) Laboratory supports research and education activities concerning information/software systems as a strategic tool to achieve organisational vision and mission.

The laboratory aims to produce high quality research outputs that focus on strategic and tactical management theories in solving practical ICT problems and challenges. This includes the formulation of ICT strategies in developing and maintaining systems, abstraction of systems design and assessment of ICT products. The research covers both theoretical and empirical perspectives.

Current Research Projects

- ICT strategic planning
- Software development
 - » Requirements engineering
 - » High level design
 - System architecture, user interface design
- E-Government
- Software management
 - » Software certification
 - » Change management
 - » Project management
 - » Risk management
- E-Commerce



Research Students

- Mashal Kasem Sulieman Alqudah, P51448. *Prioritizing Agile Methods in The Development of Large-Scale Software Products: A Framework of Selecting Agile Method.*
- Adnan Mukred Mohammed Abdulrab, P52676. *The Impact of Information Culture on Adoption of HIS in Yemen as A Case Study.*
- Saleh Sulaiman Affash Alqatan, P54865. *The Acceptance and Adaption of Mobile Commerce of Jordan.*
- Fares Anwar Salem Hasan, P57047. *Toward Achieving A Comprehensive Requirement: A Framework to Improve Common Understanding among Stakeholders During.*
- Marfizah Binti Abdul Rahman, P58727. *Model Analisis Impak Perubahan Sistem Berasaskan Penilaian Risiko*
- Rami Hasan Ahmad Al-Ta`Ani, P58731. *A Systematic Requirement Prioritization Model for Agile Development: The Adoption of 6S Approach.*
- Noliza Binti Saidin, P62474. *Multicultural Interface Design Framework for Malaysian E-Government Service.*
- Nor Hazwani Binti Nordin, P72283. *Internationalization Model of Interface Design for University Website*
- Zainul Akramin B Mohd Drus, P75143. *The Implementation Plan and Evaluation of Knowledge Management Framework Healthcare Setting: Case Study Drug Rehabilitation Center.*

Research Project

- *Rangka Kerja Interoperabiliti sistem Kerajaan Elektronik: Kajian Kes Sistem Maklumat UKM*
- *A Suite of Risk Metrics for Software Requirements Change Impact Analysis*
- *Aplikasi Konsep Scaffolding dalam Rekabentuk Antaramuka Alatan Pembangunan Pengaturcaraan di UKM,*
- *Penggunaan Kaedah Kes dalam Pengajaran Kejuruteraan Perisian: Pembangunan Kes dan Penilaian Keberkesanan*
- *A Multi-Criteria Risk Assessment Model for Requirements Change*
- *A Systematic Requirements Prioritisation Process Model for Agile Development: The Adoption of 6S Approach.,*
- *Multicultural Interface Design Framework for Malaysian E-Government Services Based on Culture Centred Design (CCD) Approach*

Principal Researchers

Assoc. Prof. Dr. Rozilawati Razali (Leader)

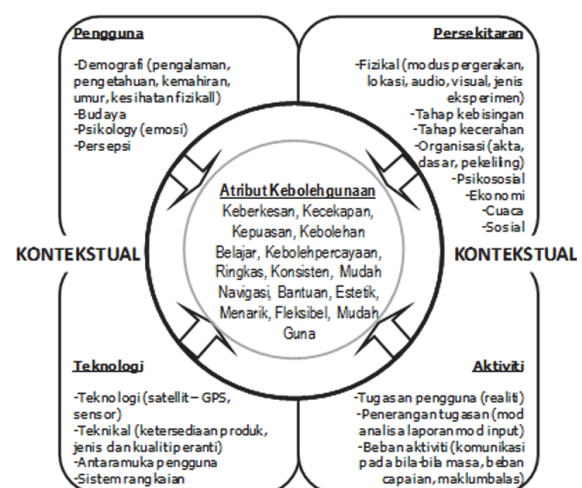
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Location of Lab

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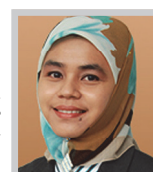
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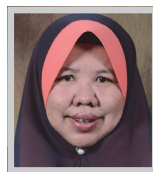
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