FACULTY OF INFORMATION TECHNOLOGY | UNIVERSITY OF MORATUWA

ISSUE 08 | 2016 EDITION



CODE RUSH

INAUGURAL FACULTY CODING COMPETITION **EXTRA CURRICULAR PG 26**



VITUOI REALITY

WILL 2017 BE THE YEAR OF VIRTUAL REALITY? **FEATURE PG 15**



FIT CHRONICLE | 2016 EDITION

note from the EDITOIR IN CHIEF

Chronicle 2016 - A New Year with New Beginnings

As the year 2016 ends with its own stories and memories, we at Faculty of Information Technology have many more stories to share. This issue of FIT Chronicle marks the second successful compilation of the Faculty's achievements in academics and extra-curricular activities with an excitingly new outlook. On that note, I will make this an opportunity to thank my "superhero" editorial team for their magnanimous effort reflecting the immense success that it is.

As "Wisdom is All Wealth", the Faculty of Information Technology has taken numerous steps this year to enhance the academic and research recognition of the faculty to an international level. The first ever, International Conference for Information Technology Research was held this year with the participation of many foreign academics, opening new avenues for the research focused academics in the faculty. This issue of FIT Chronicle unveils many similar achievements the faculty accomplished in year 2016.

The Chronicle never stops at only narrating the story of FIT, but also unveils many talents of our outstanding undergraduates. Chronicle 2016 introduces a brand new featured article discussing "Virtual Reality" written by Yasas Sri Wickramasinghe, based on his vast experience dealing with this trending technology. Furthermore in this issue of FIT Chronicle, several final year undergraduates are given the opportunity to shed some light on their remarkable internship experiences in the industry for the benefit of the younger generations who would aspire to pursue similar pathways.

An undergraduate at FIT is always in search of new and trending technologies. To cater to our aspiring undergraduates, Shakeer Akmal, a new addition to the Chronicle family, is putting together a new "Tech Blog" on his latest technical findings, featuring "Docker" in this issue of the Chronicle. Same as the last year the student corner of the magazine is filled with breathtaking photography, poetic thoughts and mesmerizing sketches and paintings of FIT students.

On behalf of the entire editorial team, I am immensely thankful to Mrs. Sumudu Wijetunge and Ms. Thilini Weerasuriya for their invaluable guidance and keen interest in putting this issue together. Working on FIT Chronicle for the past two years, with such a supportive staff and an editorial team has been a delightful and a cherished experience. It is certain that the younger generations will continue the same success in the future issues to come.

Finally, I would like to give my best wishes to the succeeding editor-in-chief, Shakthi Weerasinghe in his journey to raise our identity as a faculty in the future issues of the FIT Chronicle. His contribution to the Chronicle so far has been exceptional and I am confident that the magazine would explore new horizons under his leadership. The journey ahead is a blank canvas and a masterpiece in the making. All you have to do use your skills, knowledge and experience to turn it into an inspirational work of art. Good luck!

Senuri Wijenayake

Editor-in-Chief







INTERNATIONAL CONFERENCE

ON INFORMATION TECHNOLOGY

RESEARCH 2016

The first International Conference on Information Technology Research organized by the Information Technology Research Unit (ITRU) was held at the Faculty premises on 15 and 16 December 2016. Under the main objective of the conference which was to provide a focal point to share latest research achievements and practical experiences in order to face problems of the present day knowledge society, the theme of the conference was "To Connect, Collaborate, Differentiate".

On the first day pre-conference workshops were conducted to enrich the knowledge of the participants regarding popular domains in computing. These included a workshop on "Intelligence Computing using Rough Set and Fuzzy Logic" by Prof Koichi Yamada and a workshop on "3D Imaging" by Prof Janaka Rajapakse.

Prof Ananda Jayawardane, Vice-Chancellor graced the ICITR 2016 as the chief guest. Eminent researchers, delegates from foreign universities, industry experts and students participated by sharing ideas in the area of Information Technology. The keynote address titled,

"Mining Satellite Images for Census Data Collection: A Study Using the Google Static Maps Service" was delivered by Prof Frans Coenen of the Department of Computer Science, University of Liverpool, UK. Invited speakers of the ICITR 2016 were Prof Yoshiki Mikami,



Executive Director, Vice President (International and Industry Relations) of Nagaoka University of Technology, Japan, Prof Koichi Yamada, Head, Department of Information and Management Systems Engineering of Nagaoka University of Technology of Japan, Prof Janaka Rajapakse, Associate Professor at the Graduate Institute of Animation and Film Art (formerly named Graduate Institute of Sound and Image Studies in Animation), Tainan National University of the Arts, Taiwan, Prof Chinthaka Premachandra, Image Processing and Robotics Lab, Department of Electronic Engineering, Graduate School of Engineering, Shibaura Institute of Technology, Tokyo, Prof Hiroharu Kawanaka, Associate Professor, Graduate School of Engineering, Mie University, Japan, Prof Kouji Hirata, Associate Professor in the Department of Electrical and Electronic Engineering, Kansai University, and Prof Tomotaka Kimura, Associate Professor in the Department of Electrical Engineering, Faculty of Engineering, Tokyo University of Science.

The main sponsors for ICITR 2016 were CodeGen and IFS. ICITR 2016 concluded with the Conference Banquet in the evening at Palm Beach Hotel, Mt Lavinia.





he International Symposium on IT for Sustainable Smart Cities – Cities to Smart Cities 2016, organized by the Faculty of Information Technology was held on 20th June 2016 at Hotel Taj Samudra.

The objective of the symposium was to initiate an intellectual discussion with experts in diverse sectors on transforming cities to smarter cities. The invited speakers of the symposium represented academics from local and international universities, government ministries and departments. Hon. Patali Champika Ranawaka, Minister of Megapolis and Western Development, Prof. RA Attalage, Deputy Vice Chancellor, University of Moratuwa, Mr. PM Karunaratne, Dean, Faculty of Information Technology, Prof. ML de Silva, Dean, Faculty of Architecture, Prof. KKCK Perera, Dean, Faculty of Engineering and Prof. Priyan Dias, Director/Research, University of Moratuwa, heads of departments and academic staff and invitees from the industry graced the occasion.

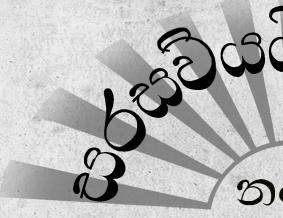


Sampath Bank PLC and Millennium IT were the Gold Sponsors for the event while Cambio Software Engineering, eBuilder, Holcim Lanka Ltd, Lanka Bell, and the Just In Time Group were the Silver Sponsors for the symposium. The Institute of Chartered Accountants of Sri Lanka was a banner sponsor. Mr. M.F.M. Firdhous, the conference chair welcomed the gathering and Mrs. T.C. Sandanayake, the Finance and Logistics Chair delivered the vote of thanks.

The keynote speech was delivered by Prof. Sasanka Perera of the South Asian University, New Delhi, on "Towards a Sociology of Smart Cities: Deciphering the 'Un-smart' and the Rhetoric of Urban Planning" and the four technical sessions included speeches under the topics of Smart Water Management: The Key to a Smart Sustainable City, Waste Management in SMART Cities, Use of IT in Implementing System Automation, Energy Conservation and Reliability Improvements in Sri Lankan Power System, The importance of Disaster Risk Reduction in Building Disaster Resilient Coastal Cities, ICT for Energy Sustainability in Smart Cities, An Examination of the Temporal Impacts of Environmental Cues on Pedestrians' Feelings of Safety, Concept of Smart Cities: Some Considerations for Making Sri Lankan Cities 'Smart', IT in Transportation Planning: Effective use of Transport System Models. Prof. Anura Jayasumana of Colorado State University joined the symposium via a video presentation to share his expertise on the topic of "City to Smart City - Role of Internet of Things (IOT)".

The symposium was wrapped up with the hope that the symposium will be instrumental in gathering critical mass to make the concept of sustainable smart cities a reality and to make our country implement sustainable smart cities, enabling better quality of life to all citizens of Sri Lanka.





SARASAVIYAY



































he Sinhala and Hindu New Year is one of the most prominent traditional festivals that all Sri Lankans celebrate in the month of April. This event is unique than any other festival as it is celebrated by both Sinhalese and Tamils.

University of Moratuwa, where we all belong is comprised of sisters and brothers who belong to different ethnic groups such as Sinhala, Tamil, Muslim and Burgher. The wonderful event සාර්සාවියයි කොටුල්තදයි 2016, was organized by Faculty of Information Technology with the objective of strengthening the bond between students of different ethnic groups by involving everyone in the rituals and games of Sinhala and Tamil New Year celebrations.

Mr. PM Karunaratne, Dean of the Faculty of Information Technology and all the members of our FIT family including academic and non-academic staff and most importantly the undergraduates collaborated and put their valuable and immense effort to make this occasion a success.

The Awurudu dining table was rich with a wide variety of traditional food items such as milk rice, *kawum*, *kokis laddu* etc. and everyone was delighted by the deliciousness of those and the food vanished to nowhere within a few minutes after the opening.

The joy of the event was further increased by the singing and dancing items which were specially designed for the Awurudu Ceremony and presented by FIT family members.

Most of the traditional games that we can see at a traditional Awurudu ceremony could also be seen in our FIT awurudu ceremony. Some of the games we had in our FIT awurudu ceremony were Kamba adeema (tug-owar), andaya kiri kaweema, idikattata nula dameema, bambarawalalla, biththara alleema, kottapora etc. However, the traditional aliyata asa thabeema, had been modified as morata asa thabeema to suit the context of the University of Moratuwa. Everyone was highly enthusiastic to participate in the Awurudu games.

The සරසවියයි කොවුල්නදයි 2016, marked its successful completion while all the members of FIT family filled their hearts with the expectations of another upcoming සරසවියයි කොවුල්නදයි event in the next year.



ancing, Singing, Creating Portraits may not sound like the work of tech geeks, but the Faculty of Information Technology never failed to unveil the hidden talents of undergraduates both in academics and aesthetics. Marking a night, the FIT family proudly pronounced "INGENIUM 2016", the annual talent show of undergraduates striving to succeed in the world of computing. On 03rd November 2016, the stage of the Old Gymnasium of University of Moratuwa was filled with dancing and singing stars that made a splendid and striking night.

This night of glamor was organized by Batch 13 of Faculty of Information Technology under the assistance of ITFSU backed with the continuous support of every seed of the faculty. The talent show was not limited to undergraduates, but it also paved the way for both academic and non-academic staff members to get on stage. In making the magnificent night a success, the support given by the brotherhood of batches 12, 14 and 15 was immense.

Students and faculty staff members slipping into costumes, trying to spread a little cheer within the University premises was an approach that definitely entertained. It was pleasing to witness the students working together as one family irrespective of race, religion and gender.

Professional and career growth is undoubtedly the ultimate goal of every education institute. INGENIUM is a step kept forward by the Faculty of Information Technology to unearth the inborn talents of every individual in the FIT family, making it the playground of dancers, singers, actors and artists. INGENIUM resembles the success of the students aligning them with the vision of the faculty to build a complete personality in the mankind.

Talents of the FIT family members drove the audience speechless, making the night the topic of interest among every individual within the University premises, for couple of weeks.

The success of INGENIUM was brought up by the hard work, passion, enthusiasm, dedication and commitment of every faculty member. Behind all this work fabricates the foundation of the brotherhood of all batches in the faculty.

Every success story opens up doors for novices to follow. 'INGENIUM 2016' the prevalent event of FIT family said goodbye leaving traces for the next batch of young minds to open up doors for another extravaganza in future.













rs. Prabhashrini Dhanushika, Lecturer in the Department of Computational Mathematics, was invited by C.W.W. Kannangara Central College, Mathugama to conduct a special motivation programme for career guidance for the new batch of A/L students.

The program was conducted on 16th June 2016 at the school, and nearly 200 students were present. The programme aimed at guiding them through a correct career path and changing the ideas and attitudes of the students, so that they would be ready to face challenges in the future. The programme also featured motivational talks by Lahiru Manulanka

Munasinghe, student of the Faculty of Information Technology and K D Nilanka Sandaruwan, student of the Faculty of Engineering, which enriched the students' interest towards achieving greater success in their A/L examination.

Activities in the program which were designed to expose students to new interest areas and to improve their soft skills increased students' interest, enjoyment and engagement towards the program. At the end of session, feedback received from the students supported the value of such programs, which made students aware of the higher education opportunities and career path after A/L and which inspired them to achieve excellence in an area of interest.

The principal and staff of the school warmly welcomed the team and appreciated the program which was of great benefit to the A/L students. All the speakers at the program are past students of C.W.W. Kannangara Central College.



Global Project-Based

LEARNING WORKSHOP



lobal Project-Based Learning Workshop which was jointly organized by the Artificial Intelligence Laboratory of the Department of Computational Mathematics of the Faculty of Information Technology in collaboration with Shibaura Institute of Technology (SIT), Japan was held from 19 to 27 August at the Faculty Premises.

The key objective of the workshop was to enhance skills of students to explore advancements in the field with a global view on collaborative robot technology and applications. The workshop facilitated only six students groups of two local and two foreign (Japanese) students. The programme was a good opportunity for the students to acquire new skills and knowledge in the field of robotics, and enhance their professional growth. workshop formally commenced with inauguration ceremony with the participation of Mr PM Karunaratne, Dean of the Faculty of Information Technology, Heads of the Departments and other academic staff members. Prof Asoka S Karunananda, Senior Professor in the Department of Computational Mathematics, Mr BH Sudantha, Senior Lecturer of the Department of Information Dr Sagara Sumathipala, Senior Technology, Lecturer of the Department of Computational Mathematics, Mr Tharindu Gamage, Lecturer of the Electrical Department of and Information Engineering of the Faculty of Engineering, University Ruhuna and Dr Chinthaka of Premachandra, Assistant Professor Department of Electronic Engineering of Shibaura Institute of Technology (SIT) were the resource persons of the workshop. On 25 August, a tour around the city of Galle was organized in order to entertain the foreign participants of the workshop. The coordinator of the workshop was Dr Sagara Sumathipala.

At the closing ceremony held to mark the conclusion of the workshop, Professor Ananda Jayawardane, Vice-Chancellor of the University of Moratuwa graced the occasion as Chief Guest. The workshop was concluded by the distribution of certificates to the participants by the Vice-Chancellor and also with the closing remarks delivered by the Vice-Chancellor and Dr Chinthaka Premachandra.

Academics from International Universities visit Faculty of Information Technology

Prof. Kaushik Dutta



ssociate Professor Kaushik Dutta of the University of South Florida (USF) visited the Faculty of Information Technology on 22 June and conducted an introductory session on "Postgraduate research opportunities at USF". Later, the speaker shared his research experiences and previous postgraduate projects carried out by his students related to Business Analytics and Big Data Analytics. Staff of the University of and Moratuwa, past students current students enthusiastically participated in this session. After the talk, Dr. Dutta had fruitful discussions with the academic staff of the University of Moratuwa regarding possible research collaborations, and with potential postgraduate students regarding postgraduate opportunities at USF. Furthermore, during Dr. Dutta's visit to the University, he had a discussion with the Steering Committee of the proposed Faculty of Business at the University of Moratuwa.

Dr. Kaushik Dutta graduated from Georgia Institute of Technology (USA) with a PhD in Management Information Systems in 2003. He also has a MS in Computer Science from the Indian Statistical Institute and a BS in Electrical Engineering from Jadavpur University in India. Dr. Dutta has 19 years of professional and research experience in the field of enterprise IT infrastructure, data analytics and big data systems. As an associate professor in the Department of Information Systems Decision Sciences of USF, Dr. Dutta's current research interest is Big Data Analytics.

Prof. Anura Jayasumana and Dr. Damith Ranasinghe





Prof Anura Jayasumana from the Colorado State University, USA and Dr Damith Ranasinghe from the University of Adelaide, Australia visited the Faculty of Information Technology on 5 October and carried out fruitful discussions with the academic staff of the Faculty of IT regarding possible research collaborations related to the Internet of Things (IoT).

Anura Jayasumana is a Professor of Electrical and Computer Engineering at Colorado State University (CSU), where he holds a joint appointment as Professor of Computer Science as well. He is a Distinguished Lecturer of the IEEE Communications Society (2014-2017). His current research interests are focused in the areas of Computer and Communication Networking, Performance Modeling, Network Protocols, Application of sensor networks and embedded systems, VLSI - Testing and Testable Design of Integrated Circuits.

Dr. Damith Ranasinghe is a Senior Lecturer at the University of Adelaide. He received a BE in Information Technology and Telecommunication Engineering from the University of Adelaide in 2002. After graduation he has worked in Auto-ID Labs at MIT, in the University of Cambridge and in the University of Adelaide, where he completed his PhD degree in Electrical and Electronic Engineering in 2007. His current research interests are focused in the areas of RFID technology, systems, and integration.











20 **MEETUP** 16

get-together of the staff of the Faculty of Information Technology and their family members was held on March 7, 2016 at Aqua Pearl Lake Resort in Panadura, with the objective of strengthening the relationship among the staff and their family members. The event included games for the children and the staff, followed by lunch and a musical event.











ACADEMIC NEWS OF FACULTY OF INFORMATION TECHNOLGY OF FACULTY OF BRIEF

Inauguration of Postgraduate Programmes of Faculty of Information Technology

MSc in Information Technology

The inauguration ceremony for the 10th intake of students to the MSc/PG Diploma in Information Technology was held on 22 October at the Faculty of Information Technology. This new batch consists of 44 students selected through an interview process. Mr SC Premaratne as the coordinator of the 10th intake welcomed the new students and gave an overview of the programme. Dr L Ranathunga, Head of the Department of IT, Mr DK Withanage, former Dean of the Faculty, and Mr BH Sudantha, Senior Lecturer, graced the occasion.

M.Sc. in Artificial Intelligence

The 9th intake of the M.Sc. in Artificial Intelligence, offered by The Department of Computational Mathematics commenced on 26th November 2016. The primary objective of this program is to impart the knowledge of theory and applications of modern Artificial Intelligence techniques to devise intelligent software solutions thereby ensuring multifaceted career paths for the candidates. The new intake consists of 14 selected students, representing several academic and professional institutes of the country.

PG Certificate in Data Analysis and Pattern Recognition

The Postgraduate Certificate Course in Data Analysis and Pattern Recognition, offered for the first time by the Department of Computational Mathematics, was inaugurated on 5th November 2016 at the Faculty premises. The primary objective of this Postgraduate Certificate is to impart the knowledge of theory and applications of modern Statistics and Machine Learning techniques to solve critical problems in the field of data science.

New Appointments



Dr. Sagara Sumathipala assumed duties on December 2015 in the Department of Computational Mathematics, Faculty of Technology Information as Senior Lecturer Grade II. He received his B.Sc. Degree in Computer Science and Technology from Sabaragamuwa University of Sri

Lanka in 2009, Master of Engineering degree from Nagaoka University of Technology in 2012. He also received his Doctor of Engineering degree from Nagaoka University of Technology in 2015. His main research interests include Machine Learning, Text Mining and Affective Engineering.

Academic Staff Achievements

PhD Completion



Dr MFM Firdhous, Senior Lecturer Grade I in the Department of Information Technology has been awarded the degree of Doctor of Philosophy from Universiti Utara Malaysia (UUM) with effect from 12th November 2016.

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Best Paper Award



Mr. Shalinda Adikari, Lecturer (Probationary) in the Department of Information Technology won the best paper award for the paper "Temporal feature titled grouping based campaign optimization in real-time bidding digital advertising" at the Workshop on Information Technology and Systems (WITS) held in conjunction with the ICIS2016

conference in Dublin, Ireland from December 15 to 16. The authors of the paper are Shalinda Adikari, Kaushik Dutta from University of South Florida, USA and Jungpil Hahn from National University of Singapore (NUS), Singapore. This study was carried out by Mr. Adikari as part of his thesis research as a PhD candidate of NUS.

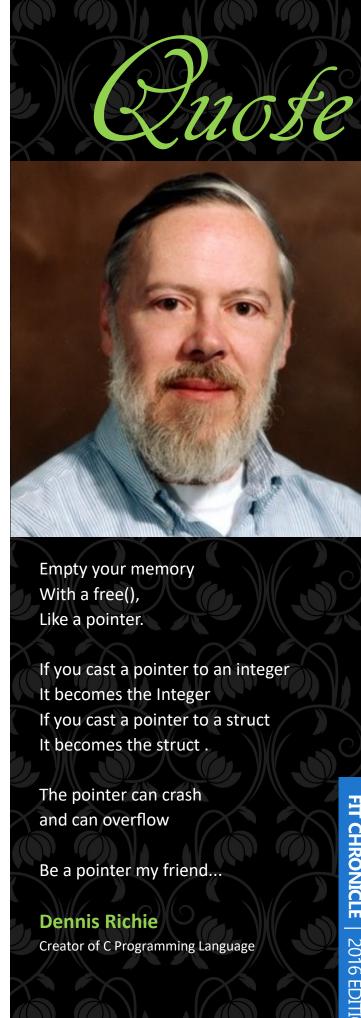
Winner at Toastmasters Speech **Contests**



Speech contests are an integral part of being a member of a Toastmasters Club. Competition begins club contests and winners continue competing through the Area, Division and District levels. Ms. Thilini Weerasuriya, Lecturer (Probationary) Department of Interdisciplinary Studies placed first in the Humorous

Speech Contest and Speech Evaluation Contest of the University of Moratuwa Toastmasters Club held on 14th September 2016.

Ms. Weerasuriya went on to win first place at both Area level contests on the 18th of September 2016, and was awarded the third place at the Speech Evaluation Contest of Division J, District 82 of Toastmasters International, held on the 1st of October 2016, at Colombo. Eight Toastmasters from corporate and community clubs competed in the division level contests, in front of an audience of around 200 Toastmasters.







Senarath, and SATK Senanayake were recognized for receiving the following awards: 1st Runner-up at Code4Good 2015 awarded by SLASSCOM, 2nd Runner-up at HackaDev 2015 awarded by UNDP, Champions at hackX 2k16 Inter-University Hackathon – 2016 awarded Department of Industrial Management, Kelaniya, 2nd Runner-up in the World Citizenship Category at Microsoft Imagine Cup 2016 Sri Lanka Competition, 1st Runner-up at TADHACK Sri Lanka 2016 – Telecom Application Developer Hackathon awarded by hSenid Mobile, and Gold Award in the Tertiary (Technology) Category at the National Best Quality ICT Awards 2016 awarded by BCS Sri Lanka Section

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decade ago, Virtual Reality (VR) was a concept which was mostly limited to fiction and Sci-Fi movies. But it has developed rapidly and today it has become a reality, Last year, there were several Virtual Reality and Augmented Reality (AR) based devices introduced and smartphone manufacturers enhanced their handsets to support VR enabled apps and wearable devices. Oculus Rift, HTC Vive, Samsung Gear VR, Google Daydream and PlayStation VR are some of the major market leaders who are researching and introducing VR enabled devices as consumer products.

It sounds similar but Virtual Reality differs from Augmented Reality with some unique characteristics. Virtual Reality is an artificial 3D environment and the user feels the surrounding in that 3D world, but no interactions occur with the real world. But Augmented Reality, is a blend of real world with the digital world and users can interact with both.

world objects.

However still general public uses these technologies as games or simulations but in industrial and manufacturing context, it is a very popular and commonly used tech stream to gain competitive advantage.





For an example, the world famous "Pokémon Go" game which was released in 2016 is an AR app. It uses mobile phone camera and augment 3D creatures on top of the real

How Jaguar Automobile Company is using Virtual Reality

Oculu

Jaguar is a company which is a hard-core believer in research & development processes and they are heavily using VR and AR for their engineering activities. Inside the "Jaguar Virtual Innovation Centre", they craft 3D models of their concept cars and convert into virtual models. They still do traditional photo sketches and CAD designing but use those materials for generating photo real 3D models as well. Earlier they had to physically develop a prototype of a

car and let car testers to drive it to check vehicle stability, agility, performance and practicality. But with this innovative technology, Jaguar lets testers to drive the concept cars virtually with the aid of head mounted wearables.



How Facebook will use VR in 2017

"People who are really serious about software should make their own hardware."

- Alan Kay, famous American scientist.

Virtual Reality for Education

With the VR enablement for education, lessons will be more interactive and informative. Students will get the opportunity to explore knowledge virtually by being anywhere at anytime. VR will not only substitute text materials into VR content, but also it will allow students to do practical even without going to a laboratory. Virtually implemented laboratories will allow them to interact with real world like objects and do the practical just by using a head mounted wearable device.

Tech Pro" is a research institute which conducted a survey in 2016 to find out the usage of Virtual Reality in business. They found that more than one third of a respondent company is using virtual reality and it is a significant usage compared to the consumer usage of VR in present day.

There is a saying in technology field that

"It is easier to predict what the world is going to be in 20 years from now, than predicting what the world is going to be in 3 years from now".

BETHEYEAR OF REALITY

VR is a combination of software applications and hardware devices. Mark Zuckerberg, the Founder of Facebook strongly believes that the VR will be the next social media platform and he purchased Oculus, the market leader in designing VR hardware devices. Zuckerberg is focusing on VR based social media approach which puts people first and gives the feeling of presence. In 2017, Facebook might let its users to meet each other virtually, travel and explore places together and share feelings and emotions with the aid of VR enabled devices.

It is obvious that Virtual Reality will be the next computing platform in future. The real question is, What Products, What Platforms and Who will appear in 2017 to leverage the technology towards it!

Article By

Yasas Sri Wickramasinghe

HACKATHON FIT HACKATHON

udging from the past, hackathon victories are not a new thing for the faculty of IT. Like past years, 2016 saw the FIT students triumph at several competitions and win numerous awards and accolades.

Victory at Imagine Cup, one of the well known global competitions hosted by Microsoft, has always been within the faculty. 2016 was nothing less than that with the 2nd Runners Up trophy for the World Citizenship category at the National Finals being secured by the SAS Ninjas team comprising of Thuan Shaffer, Tharindu Senanayake, Ramindu Senarath and Supun Priyadarshana; all from Batch 12.



SAS Ninjas' "iWRAP", a mobile based smart optic wearable piece of tech took them to a number of victories in 2016, including 1st Runners Up at TAD Hack, organized by hSenid Mobile held on the 15th and 16th of October, Champions at the Inter-University Hackathon - HackX 2k16, organized by the University of Kelaniya on the 23rd and 24th of September and 2nd Runners Up at CIMA Launch Pad held on the 26th of November. In addition to these, SAS Ninjas went on to become the 2nd Runners Up at "Code Ultimatum 2016 – Game of Codes" organized by Dialog Ideamart, held on the 19th and 20th of November with their solution of a Universal Switch called "IOT Wand".

The well known "Ms. USE" product of SAS Ninjas, the IOT solution racked up a few awards in 2016 with the inclusion of Chandima Gunawardena and Viraj Warnakulasinghe as a part of the SAS Ninjas team. The first award came on the 14th of October from the



Tertiary (Technology) Category of the "National Best Quality ICT Awards (NBQSA)" where the team was recognized as a Gold Award Winner in the respective category. The E-Swabhimani award ceremony held on the 31st of October saw the team obtain a Special Merit award for the "Inclusion and Empowerment" category as well.

The highest of achievements is when SAS Ninjas was nominated for the "Asia-Pacific Info-Comm Tech Alliance Awards 2016 (APICTA)". Among 16 other countries, only two Universities represented Sri Lanka and SAS Ninjas managed to make the FIT name shine in an international level by obtaining a Merit Award out of the 16 that were awarded on the 5th of December.





IN TRANSPORTATION ENGINEERING INNOVATIONS

Innovations Competition on Transportation Engineering was the first competition organized by the Transportation Engineering division of Department of Civil Engineer in University of Moratuwa in connection to the Conference and Symposium celebrating their 15th anniversary of inception, was held on the 23rd of August at the Kingsbury Hotel, Colombo.

Team Insight 5.0, from Faculty of Information Technology comprising of Shakthi Weerasinghe, Aeshana

Udadeniya, Nisal Waduge, Randilu Zoysa and Nilushika Gamage competed in the open category of the competition which saw 15 innovative engineering products of the finalists, aimed at improving efficiency, safety and reducing cost, so to achieve sustainable means of future transportation.

The team introduced a smart integrated system to remotely monitor Highway Traffic enabling real time tracking, law enforcement and emergency response. The concept based on IoT, supporting multiple platforms was adjudged the best innovation and awarded the Championship of the competition for its versatility and reliable technology at low cost especially to ensure safety of a present day transportation mode.



Students of Faculty of Information Technology once again proved to be the specialists in IoT technologies as the team CodeX secured the 1st Runner Up at the HackIntra 2016, the annual 12-hour Inter University Hackathon organized by the Information and Communication Society of Vavuniya Campus of University of Jaffna. iCare, a smart-watch which monitors and detects, hazardous health conditions of a patient supported by a mobile application that connects care takers so to improve responsiveness. The system suggested a potential network that would centralize all health care systems expanding the potential to constantly keep in track of health of an entire population.

Kasun Chinthka, Shakthi Weerasinghe, Dinusha Harankahawa, Raskshitha Rodrigo and Tharindu Jayathilaka comprised the team CodeX at the competition which was held at the Vavuniya.





FIT STUDENTS EXCEL AT SLUG 2016





he Sri Lankan University Games, most famously known as SLUG, comes around only every 3 years and to participate and represent your university at, is one of the highest honors a sportsman/sportswoman achieves in their undergraduate sports career. The 12th edition of SLUG was hosted by the University of Wayamba throughout the 1st half of September in 2016 and saw the University of Moratuwa take victory in several disciplines.

The rugger team comprising of Dinuka Hettiarachchi, Ishara Bandara and Thisun Matheesha from Batch 12 of the Faculty of IT, made history by being the only team to become rugger champions for 4 consecutive times.

Janitha Hapuarachchi, a proud member of the FIT family from Batch 12 managed to rack up 3 medals at this year's SLUG in the men's swimming category. Emerging 1st at the 200m breaststroke, 2nd at the 50m breaststroke and 2nd at the 100m breaststroke he was able to deliver a true performance expected from the vice captain of the Moratuwa Swimming team.



The hockey team of UOM that comprised of Batch 12's Thilina Desilva also made their mark at this year's SLUG by being the 1st Runners up at men's hockey while Damith Wijetunge and Anushka Eranga, both from batch 12 showed their talent at the men's table tennis event by securing the 2nd Runners up trophy.

The hockey team of the University which includes Thilina Desilva a Batch 12 student of the faculty has been able to show their dominance in the sport this year, by being the Champions of the "Pera 7's" Hockey Tournament which was held on the 9th of July and Joint Champions of the "Mora 7's" Hockey Tournament which was held on the 18th of November. The title of champions at "Kelani 6's" Hockey Tournament that was held on the 9th of November, just eluded the mora team where they settled for runner's up.

The mora netball team could be easily mistaken as an IT faculty netball team due to the sheer number of FIT girls playing under the mora name. Captained and Vice captained by Krishani Kaluaggala and Hansika Embuldeniya, both from Batch 12, the mora team includes several other players from the faculty - Yashoda Weeratunga and Ashirwada Dayarathna from Batch 13, Janakee M. P., Dinesha Srimali and Malki Boteju from Batch 14 and Thiruni Jayasiriwardana and Udeshika Dissanayake from Batch 15. The first victory for the girls in 2016 was at the "Aris Talenta" netball tournament organized by SLIIT on the 18th of June, while the proudest moment for the faculty was when the FIT lead team secured the Championship title at the Colombo District Netball Tournament (B Division) on the 8th of October.









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IT SIXES, a landmark event annually organized by the Student Union of the Faculty of Information Technology (ITFSU), University of Moratuwa, took a brand new appearance this year, changing the game forever. The efforts of the FIT family including the undergraduates, academic and non-academic staff members united as one, were clearly reflected as FIT SIXES manifested as one of the most successful events in the faculty calendar for the year 2016. It has been no secret that the entire IT faculty -both students and staff alike- and industry giants, await FIT SIXES to bond over a good game of cricket. It is a friendly six-a-side cricket tournament, annually organized to strengthen the rapport between the IT faculty and the industry pioneers. The event marked a significant day for the IT faculty and the University of Moratuwa alike when cricket, Sri Lanka's most loved sport came into play, bringing together the past, present and the future of the industry, powering them with competitive energy.

This year's FIT SIXES rebranded the persona of any

The Cricket Fiesta, continued for the rest of the day with nearly 50 matches been played in five different pitches. The competitiveness between teams kept increasing, as they were winning their way towards the trophy inch by inch. Batch 12 Women's Team, the defending champions of the Women's tournament and the Batch 13 Women's Team got through to the much awaited final game to compete for the title "FIT SIXES 2016 - Women's championship". The Batch 12 Team emerged victorious after a very spirited game of cricket, making history as the first team ever to win the "Women's Championship" for three consecutive years at FIT SIXES.

The intensity of the game kept increasing as the FIT Staff and the Batch 13 teams emerged as undefeated finalists, after numerous rounds of quality cricket, to claim for the "FIT Sixes 2016 - Men's Championship" trophy. Excitement was building up towards the most awaited final game of cricket, where the Batch 13 team played a game of true Sri Lankan cricket, striking boundary after boundary, with sixes flying over the stadium and singles and doubles

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university cricket carnival all over again! The carnival agenda started off at 9.00 a.m. on 22nd of October 2016, amidst a slight drizzle. A lavishly decorated oil lamp was lit by Dr. Lochandaka Ranathunga, Head of Department – IT, Mrs. Dilini Kulawansa – Senior Lecturer, Mrs. Thanuja Sandanayake – Senior Lecturer, several representatives from the ITFSU and industry representatives, celebrating the beginning of an action-packed day.

As the tournament started, the excitement of quality cricket overtook the day, with papare music and roaring cheers by students complementing each boundary made by the players. Among the many other entertaining activities organized by the committee this year, face painting, the Augmented Reality photo booth, the Bouncy Castle, food and beverage stalls and the non-stop DJ music, ensured that all participants were enjoying the carnival to their hearts' content.

FIT SIXES has always had only one simple intention in mind. That is to bring the cream of the IT industry together with the IT faculty undergraduates, the future of the industry, to strengthen the bond between the two parties. Making new friends and reinforcing the old relationships have proved to be easing the transition of past graduates from the university to the industry. This event undoubtedly gave a good opportunity for the undergraduates to bond with the industry pioneers, showcase their multiple talents and reinforce the idea of the faculty graduates having well balanced personalities.

a rare

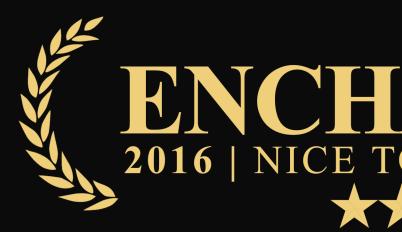
sight to see, against the yet to be defeated FIT Staff team. Amidst the roaring cheers from the undergraduates and the industry representatives alike, the Batch 13 team emerged triumphant, bringing the FIT SIXES Championship trophy back to the faculty, after an admirable game of cricket.

FIT SIXES 2016, underiably the best of its kind the faculty has seen so far, concluded with a glorious after party with neon lights and fire decorations, like the university has never seen before. Non-stop DJ music thumped in the air accompanied by fireworks adorning the night sky, while undergraduates from all faculties and industry pioneers joined together, to celebrate the truly remarkable day.









NCHANTÈ 2016, the Fresher's Welcome 2016, kicked off in grand style with the remarkable efforts of the 14th batch of the faculty with the continuous guidance of the staff members and the Information Technology Student Union in order to welcome the 15th batch to the FIT family.

It was an evening of pageantry, drama and music to give us all the perfect getaway from the academic life. The event took place on the 25th of November 2016 from 6.00 pm onwards at the university ground premises with the participation of the Deputy Vice Chancellor Prof. R.A. Attalage, Dean of the IT Faculty Mr. P.M.Karunarathne, along with the academic and non-academic staff members. Nearly 500 students including the fresh undergraduates of batch 15, the students of batch 14 and representatives from other senior batches attended the event.

It was an enormous enchantment by which the invitees were drawn into a magical extravaganza where the excitement augmented to a joyful high from the beginning.

The university ground was transformed into the mythical land of enchantment, complete with artistic castles and knights





(sure, they had a little bit of cardboard wrapped around them, but gallant nevertheless) by whom the invitees were led into the castle with their ample honour and protection. The event began with the arrival of the prestigious invitees, lighting the occasion and was followed with an amazing song performed by the deputy vice chancellor of the university. The indistinctly lighted evening was graced with innumerable talents of both batch 14 and 15, which included dramas and musical performances.

The event was organized with one aim in mind which was to make each "fresher" of the newest batch feel like an integral part of the FIT family and to prepare them to take on the challenges that lay ahead. Fresher's night was all about making the best start to the new academic year and the time to create everlasting relationships with each other. The event is an indication of union among the students.

The event concluded with a DJ round. Fresher's Welcome 2016 was definitely a night to remember and a remarkable milestone in the history of the Faculty of Information Technology.



INTEGS OUTREACH

Inspiring the next generation



NTECS Outreach is not a new event for the Faculty of Information Technology. Having started in 2015, the undergraduates of the faculty have visited 7 schools around the island with the hope of inspiring school children to aspire to become better individuals in life. 2016 saw the members of INTECS take two journeys, one to Kitulgala and the other to Kurunegala.

Kitulgala is quite famous around the country as a go to destination for whitewater rafting. But just off the A7, unknown to many is Kalyani Maha Vidyalaya. Upon the request of one of the past academic members Mr. Sandun, the Outreach team visited the school on the 8th of July 2016. With the small nature of the school, the Outreach team was able to inspire the students of grades 6 upwards with interactive sessions that convey the importance of academics in life and how to overcome challenges that are faced by school children. Academic sessions were also conducted for the Advanced Level and Ordinary Level Information & Communication Technology (ICT) students as a helping hand for the upcoming examinations at that time.

October 6th and 7th was the date of the 2nd Outreach for the year 2016 titled INTECS Outreach Kurunegala. The Outreach team visited Rajasinghe Maha Vidyalaya, Ruwanwella and Mahawa Vijayabha National School. Being one of the largest outreaches conducted so far, the level of success was measured by the enormous amount of feedback that was received from the students of the two schools. The level of hospitality received from both schools is worth mentioning since the academic staff and the students alike, were very much eager for the arrival of the undergraduates of the Moratuwa University. With the

experience gained over numerous Outreach programs done, the team was able to make the academic sessions more effective for the students by focusing on the pain points that the Advanced Level ICT students face. In addition, the motivational sessions were more targeted towards reaching academic excellence and encouraging students to put their maximum efforts to ensure their place at a state university.

The impact that the Outreach program makes on the school going children, in motivating them to become better citizens of this country is significant. The future of the Outreach program sees a collaboration with fit2school in providing the school children with quality study material to help them tackle the G.C.E Examinations.









IT CodeRush 2016, the inaugural annual coding competition of the faculty of information technology was successfully held on the 23rd of April 2016. The event was organized by the Information Technology Society (INTECS) in collaboration with Hackerrank. The Gold Sponsor and Silver Sponsor were MillenniumIT Software (Pvt) Ltd, and Virtusa (Pvt) Ltd while the Bronze Sponsors of the event were Crowderia (Pvt) Ltd, e-Builder and Zone 24x7.

The 12-hour coding competition saw the participation of 150 students in 50 different teams, coming together to compete in the domain of problem solving and algorithms. Prior to the actual event, CodeRush Playground - a practise competition, was opened to all the participants to brush up their coding skills, from the 15th to the 22nd of April. The winner of this practise round was Tharindu Ranaweera from Batch 14.

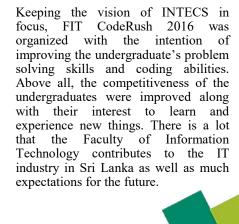
CODE}

RUSH

2016



The winners who walked away with a handsome 20,000 LKR cheque was team "Wolfpack" comprising of Tharindu Ranaweera, Rakshitha Rodrigo and Aeshana Shalindra from Batch 14. 1st Runners up who walked away with 15,000 LKR was the team "RathuAscot" comprising of Thisun Matheesha, Ishara Abeysekara and Ishara Bandara from Batch 12. Team "Antimatter" which included Kasun Weerakoon, Sameera Wickramasekara and Navoda Sithal of Batch 12 walked away with 10,000 LKR as the 2nd Runners up.





Interning at 99X Technology has been a dream of mine from the moment I entered the Faculty of IT at University of Moratuwa. The time for our internships finally came, and Yes!! I got into my dream company! Initially, I thought the internship was only going to be about learning how our academic knowledge could be put to use in real life projects, but I could not have been more wrong.

By Xians For Xians

To start off with, 99X Technology was never a "company", but a "family". There is no hierarchy and basically, everybody can strike a polite conversation with just about anyone else. And in no time, I was a part of the big family! The most unique feature of 99X Technology is the culture. From day one, I saw that people display immense team spirit and unity that keeps everyone together undivided.

Team Spirit

I was assigned to work as a front end developer in Team Aqua Dynamics, a complex client project to develop a full blown ERP system. The technology stack mainly comprised of a Ruby on Rails backend, MongoDB for data management and Angular for the front end. The application was still in development stage and there were four of usthis meant that I got to experience everything from UI designing to development to system testing.

I even actually got the opportunity to apply the Scrum theories I learnt at university lectures in my project - planning, grooming, poker, demos, retrospective, reviews and so on, all under a certified Scrum Master!

In no time, I was comfortable with Angular and was researching ways to create a Docker image to ease, setting up the backend development environment of the project. Knowing I was fond of writing, my teammates even urged me to start blogging and share my experiences with my friends outside.

Initiatives and Having Fun!

My internship was all about improving myself to become a complete individual. The initiatives at 99X Technology played a significant role in giving me a total experience. I joined a couple of initiatives such as CSR, University Relations, Social Media, UX Capacity Building and CCC/Meetups.

Today, I walk out of 99X Technology as an "Xian" - the



BY SENURI WIJENAYAKE

internship at 99XT is nothing ordinary. 99X Technology is where I got to know my true self. Thank you 99X Technology and all the Xians for making my internship a truly memorable experience.



INTERNSHIP LASE EXPERINCES LASE AND LAS





BY YASHODHA LIYANAGE

ello, there! I'm Yashoda Liyanage currently reading for the degree; BSc in IT and Management at Faculty of Information Technology (IT) at University of Moratuwa. As I stepped into Level 3, I decided to work as a Business Analyst (BA) in the field of IT. Having said that, getting selected for Sampath Bank for the internship was like a dream coming true, and of course one of my biggest achievements. So here I am, sharing my internship experience with you.

It has been a great opportunity to complete the internship program for six months at one of the leading banks in Sri Lanka, Sampath Bank PLC. Five other members including myself were selected for the internship program for 2016, at the Department of IT Systems Development. During the first couple of weeks of the internship period, the entire department encouraged us to get to know each other, and as a result it was quite comfortable to work with them till the end. The majority of the staff were in their early 30's so that the atmosphere was naturally active and cheerful. One thing that the members highlighted at the beginning, impressed me till the end; "This isn't an office, though we work inside cubicles. This is our home, so do not hesitate to peep."

Adapting to the working culture

In a nutshell, a BA's role at Sampath Bank is to get the client's requirement as it is, negotiate the feasibility of materializing their requirements and handling documentation of a project. Since I was working in many

projects at a time, I had the opportunity of visiting other departments and get their requirements. I must say, it is quite important in the lexicon of business analysis, because you need to think in different angles and that thinking will be harnessed as you work with every stakeholder.

Being an all-rounder is my utmost motivation. Sampath Bank helped me out in polishing my knowledge of coding which is very important when you come up with solutions as a BA. They conducted several training sessions on Java, .NET and Quality Assurance which included quite more than what we usually learn at the university. And of course, learning only isn't enough. I had the opportunity to practice what I have learnt in multiple projects at the bank as well.

Other experiences

One of the unforgettable and delighting experiences that I came across during the internship period is "Sampath Tharu"; the talent show organized by the management once every 4 years. I was fortunate to join the bank at that time, as "Sampath Tharu" was the biggest event of the bank-calendar for 2016! The members from the entire banking network participated for this event and each item was evaluated by a distinguished panel of judges. The department's identity for this event has been built up throughout the past years by the comedy dramas that they have performed. I was selected to play one of the leading roles; an old, hot-tempered lady! As our drama was selected from the auditions, the whole team was trained by popular teledrama actors in Sri Lanka, until the big event. Months of planning and hours of rehearsals, made the audience at 'Nelum Pokuna' rolling in the aisles and the contribution which all the trainees put forward for this event was highly appreciated by the management.

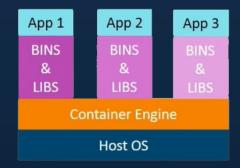
And why not the frequent lunch-outs! Believe me, as you walk out of the bank, you have not only gained knowledge and experiences, but also weight!

Well, it wasn't easy at all to say our good-byes, yet they emphasized one final thing, "work hard & play harder". Thank you, Sampath Bank for a great and undoubtedly a memorable internship program!

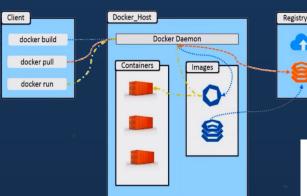


he tech sector is abuzz with talk of cloud infrastructure. One of the more interesting start-ups is Docker, an ultralightweight containerization app that's brimming with potential....

The new tech craze Docker is a containerization platform which packages your application and all its dependencies together in the form of containers so as to ensure that your application works seamlessly in any environment, be it development or test or production. In other words Docker is a tool designed to make it easier to create, deploy, and run applications by using containers. And the most important part comes now, Docker is open source. Anyone of you can contribute to Docker and extend it to meet your own needs if you need additional features that aren't available out of the box.



The containerization technique used by Docker is my favourite. Containerization is a technique of doing virtualization to the operating system level. Unlike virtualization, where virtual machines run on physical hardware via an intermediation layer, containers do not have any guest OS and it runs on the host kernel which makes Docker lightweight. Containers allow you to package up an application with all of the parts it needs, such as libraries and other dependencies, and ship it all out as one package.



Using Docker containers you can set up many instances of many software that can run in one container or can run in different containers which can interact with one another by just running a few commands.

Now let's see how these containers are created. Docker containers are created by using Docker images. An image can be related to an executable file, and can be called as the building blocks of a container. These images are created with a BUILD command and these read only templates are used to create containers by using RUN command. Containers are instances of the images that, behold the entire package that is needed to run the application.

These Docker images are stored in a storage component called Docker registry which can either be a public repository or a private repository. Docker Hub is Docker's very own cloud repository.

Having a Docker registry enables you to control where your images are being stored and integrate image storage with your in-house development work flow. This is how Dockers registry works.

That's all for this edition. I'll be bringing you some more important facts about the handy software Docker in the upcoming editions. Hope to see you soon...





CORNER



Amitabh Bachchan Harshani Chathurika (Batch 15)

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Shakya Rathnaike

(Batch 13)

















Over the Coloured Horizon | Yasas Sri Wickramasinghe











Beauty of Sri Lanka | Shakthi Weerasinghe

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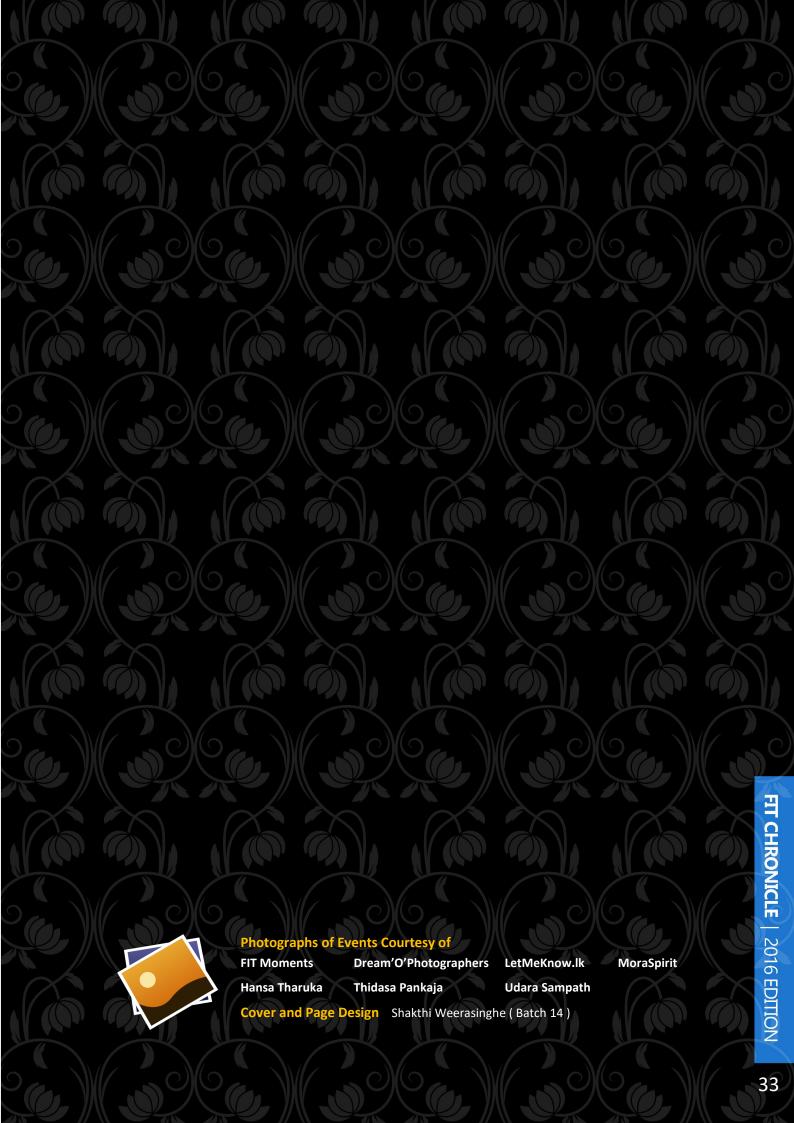
රහසින් කිව්වා ඇසුණා - " සතුට " කදුල ගෙන ආවේ !

අඩුව දමා ඇද්ද කිසිම හිත මෙළකක් නැති මිනිසෙක් !!! සියුම් සැතින් කපාපු හැටි නැතිදෝ කුස ඔත් දරුවෙක් ??? සැත වැදිලා වෙන් වුණු අත් හිරි වැටිලා නෑ දැනුමක් ගලන ලෙයින් පෙඟවී ඇත රිදෙනව මගෙ මුළු ඇඟමත් !!!

" ආසාවෙන් " ඉපදී ඇති ජීවිතයෙන් වන්දි ගෙවන ගබ්සා කළ කළල හදෙන් ආදරයෙන් ඉල්ලනෙමි " සයත් පුරා වැතිරෙන කළ දෙන්නම හොඳ පරිස්සමින් ... ඇති වූවොත් ජීවිතයක් රැක ගනු මැන ආදරයෙන් !!! "

Shakya Rathnaike

(Batch 13)





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