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Fake news!... That’s what you won’t find in this (or any other for that matter) edition of the SoCT newsletter. Since the release of our 2nd edition last year, we at Techie World have been busy doing our bit to combat fake news by fact checking every bit of information sent our way. You can thus rest assured that every article, update and news piece found within these pages has the TechieWorld guarantee of quality and authenticity. Article about Predictive Analysis... fact checked!... competition summaries... fact checked!! Information and news about alumni... fact checked!.

Once again, we would like to extend our heartiest and sincerest thank you to all the collaborators, this newsletter would not be viable without your contribution. Happy reading and please do drop us a message with your thoughts. We here at TechieWorld are obsessed with making this a better publication, thus your thoughts and feedback are most welcome.
On 9 February 2018, the Malaysia Digital Economy Corporation (MDEC), the lead public sector agency for driving the digital economy in Malaysia, announced two strategic initiatives under the MDEC Talent programme, Platform for Real Industry Driven Project Exchange (PRIDE), to strengthen Malaysia’s cybersecurity ecosystem.

The document exchange ceremony regarding this was held in APU campus on 9th February 2018. Three partnership agreements were signed by MDEC with the UK’s Protection Group International (PGI), the Asia Pacific University of Technology & Innovation (APU), and security solutions provider Tecforte.

**Asia Pacific University of Technology & Innovation (APU) and MDEC**
APU has been identified as strategic partner to host the UK Government Communications Headquarters (GCHQ) certified Security Operations Centre- Incident Responder (SOC-IR) as the first showcase of the Centre in academic institutions to encourage practical skills building and enhance students’ employability to the cybersecurity industry.

**APU and Tecforte**
This agreement between APU and security solutions provider Tecforte will support the development and provisioning of the Security Operation Center (SOC) platform and Operational SOP in academic environments.

A cyber training academy will be built at APU, which will be a replica of part of PGI’s UK Cyber Academy. It is aimed towards increasing the numbers of Malaysian cyber security professionals through training and certification, as well as act as a regional training centre, reskilling people and supporting programmes across the Asia-Pacific region.

Datuk Yasmin said these new initiatives were in line with national Digital Economy objectives and will enable the local cybersecurity services companies’ capabilities to expand to the ASEAN cybersecurity services market, which IDC estimates will be worth US $2.6B by 2021 (GAGR 22.28%). "This is a market driven continuous innovation strategy, focusing on collaboration between industry, academia and government, to deliver the relevant outcomes for Malaysia's Digital Economy journey. These moves will help to identify gaps and pilot critical skillset development within academia, and up-skill cybersecurity industry talent to produce high income professionals," concluded Datuk Yasmin.
Cyber Safety Awareness Talk at APIS

The Cyber Safety School Awareness Program was initiated by the Dean of FCET in October 2017. The first session was aimed at Year 10 and 11 of APIS students (teenagers aged 15-16 years old) and organised by Ms Supriya (Head of SOT), Mr Yogeswaran and Ms Yusnita. The awareness talk was entitled Social Media Safety. The content of the presentation was prepared with aim to give awareness on the statistics (facts), the rationale/reasoning, cyber risks and their roles and responsibilities in safeguarding themselves while using the social media.

Ms Supriya ended the session with a brief yet informative presentation about APU – our programmes, students, activities and environment that we belong.

Data Mining and Predictive Analytics with RapidMiner Workshop

On October 10 – October 13 2017, Ms. Tham Hoong Ching and Mr. Hasbullah Osman attended the Data Mining and Predictive Analytics with RapidMiner workshop organized by Quandatics, one of the partners in the initiative Enablement of Data Science with ASEAN Data Analytics eXchange (ADAX) in providing data science related training for candidate in Big Data area.

The training is highly practical and application focused exploring the possibilities of performing data mining and predictive analytics with RapidMiner. It is also part of the preparation and pre-requisite for the Analyst level certification exam.
can be applied to automate many manual processes.

This event was organized by ASEAN Academy of Engineering and Technology (AAET), Universiti Tunku Abdul Rahman (UTAR), Malaysian Industry-Government Group for High Technology (MIGHT) to promote interest among the community, especially school students in Science, Technology, Engineering and Mathematics (STEM).

Data Science Fresh Graduate Initiative Talks by ADAX and MDEC

On November 14th, 2017, APCA hosted an initiative talk by MDEC and ADAX, government agencies that enable businesses, governments, academia and professionals to rapidly adopt Data Analytics as a tool to empower decision making and innovation. The two part talk by Sharala Axryd, CEO of ADAX and Dr. Amin Jula, Senior Data Scientist of ADAX were primarily concerned with introducing the audience to the role of a Data Scientist. It was a well received session for APU students, during which they were familiarised with the role and responsibility of a data scientist whilst also getting the opportunity to network with the key people from the industry.
IBM Watson IoT Train-The-Trainer Workshop

On November 13th, 2017, CREDIT hosted a full-day workshop on IBM Watson IoT at APU. The workshop was part of an ongoing collaboration between the University and IBM. The agenda began with an overview of Bluemix (IBM Cloud platform) and IBM’s academic initiatives programme. Participants then learnt to create IoT and Watson services based applications.

IBM Internet of Things Platform on Bluemix provides a framework for both the easily connection of devices to the Bluemix Cloud environment, as well as their management. IBM provides a visual development environment named Node-RED where various devices can be wired together visually, combined with other services on Bluemix, and also with many publicly available APIs to create interesting applications (That’s where you come in!!).

Enterprise Data Science (EDS) Course

As part of our aim to continually hone the skills and expertise of the faculty, 3 APU lecturers have attended the 42-day Enterprise Data Science course at ADAX from 24 Aug 2017 – 29 Dec 2017. The course is a fast-paced practical introduction to the interdisciplinary field of data science, which is the study of how to use computer science, statistics, and a scientific mindset to extract knowledge from data.

In order to complete the course participants are required to study a data-related problem in their professional field or in a related field they are interested in for the final project. The participants need to acquire a real-world data set, form a hypothesis, clean, parse, and apply modeling techniques and data analysis principles to ultimately create a predictive model. Its not just the students who have been stressing with projects!!!
Thirty APU students visited the Huawei Customer Solution Innovation & Integration Experience Center (CSIC) on 6th December 2017. This visit opened up the doors for IT students to learn more about current trends and latest development in the mobile telecommunication field. Huawei Channel Manager, Mr. Eric Yue Khang Beng showed the students the 17 sections of the 13,000-square feet center, which is Huawei’s second ICT hub in Malaysia since 2015. During the three hours visit students were briefed about the firm’s cloud storage technology, various IoT solutions, smart cities implementations, and its cooperation with other sectors to bring convenience to customers.

40 APU students visited TokioMarine Life Insurance on 16 January 2017 (Tuesday). This visit provided IT students with the opportunity to learn more about current trends and the latest technology solutions for insurance. The half day visit enabled the students to widen their perspective towards the insurance industry and the opportunities for possible future careers.
On 2 February 2018, two experts from Bannari Amman Institute of Technology, India presented a talk on data analytics and deep learning to undergraduate and master students.

Prof. Dr. P. Thangaraj, provided students with an introduction to data analytics, as well as the opportunity for the audience to apply some of the concepts covered to facilitate better decision making. A second speaker, Prof. Dr. C. Palanisamy, presented a talk on deep learning applications and their capabilities in handling multidimensional data space.

School of Computing & Technology in collaboration with APU Careers Centre recently organized a career motivational talk through its industrial partner goSMAC. The aim of the talk was to highlight key geeky factors to accelerate the career life of APU students. Key takeaways from the talk focused on highlighting main characteristics associated with geeks along with lessons from the world’s richest geek.

Students participating in the career talk remained passionately engaged through a live mobile app based quiz-taking place in parallel with the talk on main areas highlighted by it. The presenter was able to draw attention of students towards learning as a most effective tool for earning. The talk ended with the popular quote of Bon Jovi, Success is falling nine times and get up ten.
Arm is the world’s leading semi-conductor IP company, defining the pervasive computing shaping today’s connected world with their device architecture and technology empowered 100 billion devices all around the world. Arm technology transform live from smartphones to supercomputers, from medical instruments to agricultural sensors, and from base stations to servers.

APU collaboration with Iconix on Arm IoT technology enables students from APU to enrich their knowledge in IoT as well as technology development and innovation. APU is the pioneer institution in Malaysia adopting the Arm IoT technology into teaching syllabus. With this collaboration, APU benefiting with:

- Enablement of Arm IoT technology resources for education use where IoT starter kit, software development tools and teaching material is sponsored by Iconix and Arm
- Technical support from Iconix in teaching and syllabus integration of Arm IoT technology
- Talent cultivation as well as industry driven cross disciplinary innovation and development thru the Arm IoT Connected Community
- Academia-industry collaboration for leading edge research and development with the Arm IoT Connected Community
- Participation in various Arm IoT related activities such as technical talk, training workshop and innovation challenge organised by Iconix

Through this collaboration, more talents with knowledge on Arm IoT technology and solution development would be cultivated. This will contribute to the National IoT Roadmap in making Malaysia a regional IoT hub as well as being part of the global trend is deploying 50 billion IoT solution nodes around the globe.
Web Defacement

Today the web has become a vital component of our society. An abundance of businesses worldwide rely on the web for their daily operations. In fact, a business’s website is its public face. Any attack that affects the data integrity and availability of website resources may seriously damage the trust and reputation of the company and compromise its relationship with its users. Defacement of a website thus is a significant and major threat to an organization developing an online presence. Unfortunately, incidents of this sort are common: 1,419,203 website defacements were archived by the Zone-H in 2010, and the number of such attacks is constantly increasing.

Many defacers alter a website as a kind of electronic graffiti, however, once savvy hackers manage to break into the website information and identity theft can occur. Therefore website defacement is a tremendously important issue that should warrant as much focus on security as any other area of Information Technology. To mitigate such widespread attacks detection approach is proposed. Once defacement is promptly detected, it allows reacting as soon as the alert has been received and hence to limit the damage that it causes to the organization and to its customers.

There exist several systems for automatic detection of web defacement. Examples of such systems are WebAgain, Catbird, G-Server, Web Alarm, Tripwire, and UV Uptime. These monitoring tools are based on essentially the same idea: remote Web sites' integrity is checked, broadly speaking, by re-computing the hash checksum or digital signature and comparing it with the stored one. However, in this approach the site administrator must provide a valid baseline for the comparison and keep it constantly updated. Fulfilling this requirement may be difficult because most of today’s web resources are highly dynamic. In order to ease update process,
some monitoring tools provide an option where the site administrator may select only static portions of a web page to be analyzed. This creates the possibility of not detecting unauthorized changes. Moreover, some of the currently available solutions addressing automatic detection of web defacements require installation on the organization site, which might not be affordable.

The detection process can be improved by checking a web resource periodically and alert the website owner of any changes through short message service (SMS) and email. This method could be feasible for a large number of organizations that really rely on the web site for their daily operations as well as an individual who has a domain to guard the website from cracker. This could provide better robustness and more efficient as no physical monitoring needed to detect on web defacement. Web defacement detection can be based on anomaly detection approach where the contents and appearance of many remote web pages are observed, and each of them is compared against their corresponding profiles. If something unusual is detected by the system (web resources do not match with the profile) an alert will be raised.
Big data technologies revolutionize the way insurance companies collect, process, analyze and manage data. With the increase in efficiency big data technologies provide it is not surprising that they have proliferated across various sectors of insurance industry such as risk assessment, customer analytics, product development, marketing analytics, claims analysis, underwriting analysis, fraud detection and reinsurance. Telematics is a common example where big data analytics is being implemented and is transforming the way auto insurers price the premiums of individual drivers.

Certain life insurance organizations still rely on the conventional actuarial formulas to predict mortality rates and premiums of life policies. Life insurance companies have recently started carrying out predictive analytics to improve their business efficacy, but there still a lack of extensive research on how predictive analytics can enrich the life insurance domain. Researchers have concentrated on data mining techniques to detect frauds among insurance firms, which is a crucial issue due to the companies facing great losses.

Manulife insurance company in Canada was the first to offer insurance to HIV suffering applicants through analyzing survival rates. Analytics help in the underwriting process to offer the right premiums for the right risk to avoid adverse selection. Predictive analytics has been used by Property and Casualty (P&C) insurers for over 20 years, primarily for scoring disability claims on the probability of recovery. Predictive analytics approach in life insurance deals with modeling mortality rates of applicants to improve underwriting decisions and profitability of the business.
Risk profiles of individual applicants are thoroughly analyzed by underwriters, especially in the life insurance business. The job of the underwriter is to make sure the risks are evaluated, and premiums as accurately as possible to sustain the smooth running of the business. Risk classification is a common term used among insurance companies, which involves grouping customers according to their estimated level of risks, determined from their historical data.

For decades life insurance firms have been relying on the traditional mortality tables and actuarial formulas to estimate life expectancy and devise underwriting rules. However, the conventional techniques are time-consuming, usually taking over a month and costly operation. Hence, it is essential to find ways to make the underwriting process faster and more economical. Predictive analytics have proven to be useful in streamlining the underwriting process and improve decision-making.
Trying to keep track of the various competitions in which SoCT students have participated is exhaustive business, nevertheless you can rely on your trusty Techie World editors to aggregate and summarise some of the events that have taken place of the past few months.

### Cyber Heroes Competition 2017

The Cyber Heroes Competition 2017, held over the 4th and 5th of December, is cyber security competition in which are responsible ensuring the safety and integrity of the cyber realm. The competition requires teams to utilise appropriate defence mechanisms and measures in the face of various threats. Two teams from APU faced off against 18 teams from other local universities at the Fakulti Teknologi & Sains Maklumat, UKM in early December 2017. Spread over two days, the competition was a test of students’ endurance, as well as their cyber security skills! At the end of the event APU teams finished a highly respectable 3rd and 4th overall, pocketing RM3000 and RM2000 in winning, respectively. Credit must be given to team mentors Dr Meisam Eslahi, Mr Yogeswaran Nathan and Ms Yusnita Yusof for their continual guidance and support. Well done all!

### Industry-University Challenge 2017

The Industry-University Challenge 2017 competition is organized by CREST and Intel Malaysia to challenge the best talents in Malaysia to build the city of tomorrow with IOT. The competition attracts some of the best talents from the university teams and Intel teams in Malaysia. Out of all the submissions, a total of 25 teams were selected for semi-final, from which 10 teams subsequently advanced to the final. The semi-final and final were held at Setia Spice Convention Center at Penang, between the 14 – 15 December 2017.

CREDIT members successfully bagged Second Prize with the development of flood mitigation system. The team developed state-of-the art IOT platform with advanced communication network, which stood out from compared to other participants.
Chat Box Hackathon with Nettium

Recently, in collaboration with Nettium Sdn Bhd, the APU Careers Centre organized a 24-hour hackathon at APIIT. 14 teams of APU students comprising 4 students in each team participated in the event, in which they were required to create a Chat Bot that enables automated HR Interactions based on various scenarios.

The event received support from Nettium and Cannii Recruitment, as Mr Lam Mun Chong, CEO of Nettium Sdn Bhd and Ms. Bianca Burke, Founder of CEO Cannii Recruitment graced the occasion as guests of honour.

Over 24 hours, students had the opportunity to experience of what it is like to be a programmer who works around the clock. Team “Avocado and Milk” from School of Computing & Technology, comprising Alex Ngoi Weng Keet, Zhang Yu Hao, Dickson Pang Yee Sheng and Kho Zhi Yuen bagged the Champion award, followed by team “Rubberduckies” made by up Marshella Lourdes Hopman, Chen Yoon Sean, Vong Yong Song and Lo Chi Gou. 2 teams tied at the 2nd Runner Up position, namely team “HaveFun” that consisted of Ng Chun Yien, Lim Chan Hao, Tan Li Feng and Lee Tien Sern as well as team “ARCH” comprising Lee Kah Kin, Ivan Tham Jun Hoe, Look Jun Ming and Lim Yu Zhe.

We would like to record our highest congratulations to all teams who successfully clinched the top 3 positions; and we look forward to have the Hackathon as an annual affair, to train students’ ability in the field of programming and software engineering.
**Competition Summary**

APU team won 2nd prize in The Great Lab Grand Design Challenge 2017

The Great Lab Grand Design Challenge was held at Institut Farmaseutikal & Nutraseutikal Malaysia, Pulau Pinang on 14th - 15th November 2017. There are 51 teams from 16 high schools and 12 universities competed for the top 3 innovative project awards under high school & university tracks in the 2017 TGL Grand Design Challenge. Our students successfully won the 2nd prize with their proposed project “System for Olden Netizens (S.O.N)”.

According to research, there are top three problems among the elderly that comes with age, heart diseases, dementia and depression. Therefore the team developed S.O.N, an AI bot personal assistant that can perform actions and responses based on user’s voice input. The objective of this project is to help the elderly patient to improve its illness’s condition by performing activities catered to dementia’s patients’ needs such as curating routines, chit-chating, reminding them of event and medicine intake, as well as keeping the elderly’s mind and body active by proposing trivias and training their brains each day.
Competition Summary

Double Winning at Hack@10 organized by UNITEN

Congratulations to APU students who competed in Hack@10 on 3rd of March 2018 at College of Computer Science and Information Technology (CSIT) UNITEN, Kajang.

Hack@10 is a security competition to search new security talents among the competing students and to reward those who have successfully demonstrated their Cyber Security knowledge and skills.

APU Forensics & Cybersecurity Research Centre (FSec) Student Section sent 1 mixed-university team (APU and Taylor’s University) and 2 APU teams consist of students from FCET:

1. hashcow: Choong Chih Xien (APU), Alexandr Sukhamera (APU) and Nicholas Ian Nonis (Taylor's University)
2. Cmonster: Rueben Ng Yuan Jiun, Pea Jia Ying and Lee Liang Foong (Full APU)
3. Leviathan: Teng Chee Yuen, Barath a/l Siva Kumar and Imran Esack Dawoodjee (Full APU)

These teams were supported by Yusnita Yusof, Nor Azlina Abd Rahman and Yogeswaran A/L Nathan from the Network, Security and Forensic (NSF) academic group under the School of Technology, Faculty of Computing, Engineering & Technology (FCET) and who also members of FSec.

After an intense 6-hour competition, two of our teams, hashcow and Leviathan won as the Champion & 2nd Runner Up! They received cash prizes of RM3000 and RM1000, respectively. Cmonster managed to be at 10th place, sharing the same score with 4 other teams (7th - 10th places). All our teams were among the Top 10!

Congrats to APU teams, UNITEN hack@10 organizers and all other participating universities for job well done!
Sometimes it’s easy to lose sight of our end goal, what with the pressure of deadlines, assignments and exams. We therefore tend to forget that university life is but a means to end, and that end is a successful career in our chosen field. As a remainder of what can be achieved with sound education Techie World caught up with two SoCT graduates to find out what they learnt during their time at APU and what they have been up to since graduation.

Alumnus Nicholas Chan

APU has shaped Nicholas Chan’s life in more than one way. Emerging as a graduate in 1998 equipped with a Diploma in Software Engineering, Nicholas carved out a career in logistics before returning to the University to complete a degree in business a few years later. Wading back into industry yet again, Nicholas returned to APU once again this time as a lecturer which ultimately served to set the direction of his career. It is at this point the Nicholas decided his future lay in teaching and he has subsequently gone on to set up his own successful consultancy firm. Nicholas credits APU with equipping him with a strong work ethic, as well as facilitating an understanding of the professionalism required to carve out a successful career. His association with APU however does not end there, it is whilst working at the University that he met his future wife!

These days Nicholas runs his own consulting firm, Yellowshorts Consulting, which provides tailor made corporate training to the likes of Prudential, HP Enterprise, OCBC and Sumitomo Mitsui Bank.

Alumnus Chai Mun Wai

Having graduated with a First Class honours in Computing and Information Systems, Chai Mun Wai has held a number of senior positions throughout his career. He is currently Service Delivery Director at global information services provider Experian, having previously held the senior roles at AmBank Group and Shell IT International, to name but a selected few from his impressive CV.

Mun Wai credits his success to the life skills he developed at APIIT/APU and in particular the professionalism which the University instilled into him (although hard work and a First Class honours degree played its part too!). His experience as a technical assistant whilst at university introduced him to service IT service delivery, something which went on to shape the direction of his career. Mun Wai has found memories of his university days and is a firm advocate of self development throughout one’s life.