2012-13 THE World University Rankings

The 2012-2013 Times Higher Education World University Rankings judges world class universities across all of their core missions — teaching, research, knowledge transfer and international outlook. In the field of Engineering & Technology, NUS is ranked 1st in Asia and 12th Worldwide.

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THE Engineering & Technology Ranking 2012-2013.

Launch of the SeSaMe Centre

Sensor-enhanced Social Media (SeSaMe) Centre, launched on 16 July 2012, is a new International Research Centre hosted by the NUS Interactive and Digital Media Institute (IDMI). Co-headed by the CS Department colleague Prof Mohan Kankanhalli (who is also the NUS Associate Provost for Graduate Education) and Zhejiang University (ZJU), College of Computer Science Dean Prof Zhuang Yueting, the Centre will receive funding from the Media Development Authority (MDA) of Singapore S$10 million over five years. Assoc Prof Anthony Tung is the Deputy Director of SeSaMe along with Prof Chen Gang of ZJU.

The Centre (located at the I3 building) will focus on long-term fundamental research on sensor-enhanced social media that enable the linking of static and mobile cyber-physical environments over the Internet by the abstraction of sensing, processing, transport and presentation and to enable the design of social media applications on cyber-physical systems. One example project is the Social Media Surveillance System in which multiple surveillance cameras interact with the social community network to use all sources of information in order to provide better security. The centre hopes to enable many such transformative systems which can make social communities more intelligent.

The Centre since launch has more than 40 members comprised of leading researchers from NUS and ZJU, Post-docs and Students (PhD, Masters, and undergraduates). The Computer Science Department is playing a major role in SeSaMe with seven CS professors involved in the research efforts, along with three professors from the ECE Department.

In addition to the basic research, SeSaMe has started work with the China-based Internet firm NetEase. Besides NetEase, the Center is in the midst of discussions with another prominent Singapore-based high-tech company, which offers surveillance services & monitoring solutions. The collaboration agreement is expected to be signed soon. The Centre is in its early stage and it welcomes passionate researchers and students to join its exciting research efforts.

More information can be found at http://sesame.comp.nus.edu.sg/.

AWARDS & HONOURS

Prof Tan Chew Lim Elected Fellow of IAPR

Professor Tan Chew Lim has been elected a Fellow of the International Association for Pattern Recognition (IAPR). This prestigious award is only presented to the top 0.25% of the IAPR membership.

The honour was conferred on Prof Tan at the biennial International Conference on Pattern Recognition (ICPR2012) held in 11-15 Nov 2012 at Tsukuba, Japan. Prof. Tan’s nomination is “For Contribution to document analysis and services to the IAPR”.

Prof Tan’s contribution to document analysis can be seen in his many publications in top journals and conferences. He has been invited to serve as Associate Editor of the Internal Journal of Document Analysis and Recognition (IJDAR). Prof Tan also serves as a member of the IAPR Governing Board and was also the Founding President (2004–2008) and the Vice President (2008–present) of Pattern Recognition and Machine Intelligence Association (PREMIA) Singapore.
Assoc Prof Leong Tze Yun Elected Fellow of ACMI

Associate Professor Leong Tze Yun has been elected into the American College of Medical Informatics (ACMI) as an International Fellow. ACMI is a college of elected fellows who have made significant and sustained contributions to the field of biomedical informatics.

She was inducted at the Annual Dinner and Reception for New Fellows held in conjunction with the AMIA Annual Symposium in Chicago on 4 November 2012.

The Fellowship is awarded through a formal election process when Voting Fellows of the College judge nominees. Each year only 10-20 new Fellows are elected. The College was founded in 1984 when five pioneers in informatics decided to establish an honorific society to recognise expertise in biomedical Informatics. Today, there are nearly 300 Fellows.

Prof Leong’s research focuses on developing new modelling languages, inference methods, and machine learning solutions that support dynamic decision making in complex environments, under uncertainties, and with limited resources. Her work is mainly motivated by and tested in biomedical and health care settings ranging from understanding biological processes and systems, to improving patient care and analysing epidemiological policies and plans in various medical conditions.

She was also recently appointed as a board member of the United Nations University International Institute for Software Technology. The UNU-IIST is part of the academic and think-tank arm of the United Nations (UN). With the appointment, Prof. Leong will help advise on the Institute’s directions and projects, especially in health informatics for the UN.

Assoc Prof Ooi Wei Tsang and Dr Pavel Korshunov Won TOMCCAP Best Paper Award

Associate Professor Ooi Wei Tsang and Dr Pavel Korshunov have won the Association for Computing Machinery (ACM) Transactions on Multimedia Computing, Communications and Applications (TOMCCAP) Nicolas D. Georganas Best Paper Award for a paper they co-authored.

Titled “Video Quality for Face Detection, Recognition and Tracking”, the paper was recognised as the most significant published in 2011 by the journal’s readership. The paper, a first of its kind, details the study which tries to determine an objective quality threshold value for videos used in Automated Video Processing (AVP). It shows that AVP systems still work with reasonable accuracy even when the video quality is low from a human's perspective. This will help reduce costs for AVP systems without sacrificing accuracy, and enable increased scalability and processing speeds.

The award was presented to Prof Ooi and Dr Korshunov on 1 November 2012 at the 20th anniversary of the Association for Computing Machinery Multimedia Conference in Nara, Japan. They have also been invited to join the 2012 Editorial Board Meeting of TOMCCAP.

Dr Korshunov, who has since graduated with his PhD in April 2011, was Prof Ooi’s doctoral student when they co-wrote the paper.

PhD Student Won Best Ph.D. Forum Paper Award

Prabhu Natarajan, a CS PhD student who is jointly supervised by Profs Mohan Kankanhalli and Bryan Low, won the Best PhD Forum Paper Award at the 2012 International Conference on Distributed Smart Cameras, which was held in Hong Kong in October 2012. This award is decided by an independent jury based on the quality of the work, the presentation itself and the handling of questions during the PhD Forum presentation.

Prabhu’s PhD thesis develops a novel decision-theoretic framework for coordinating and controlling multiple active (i.e. Pan-Tilt-Zoom) cameras in surveillance. The core idea is on coordinating and controlling a bunch of cameras so that they can keep track of as many targets as possible. These targets could be humans or possibly could be vehicles. The existing camera control approaches have serious limitations in terms of scalability in number of targets. In the new approaches, the scalability in number of targets has been overcome by exploiting the structure and properties that are present in this surveillance problem.

NUS Team First in Shared Task on Grammatical Error Correction

A team from NUS led by Associate Professor Ng Hwee Tou and comprising his NGS PhD student Daniel Dahlmeier and CS Department research assistant Eric Ng emerged as the best performing team in the HOO (Helping Our Own) 2012 shared task. The goal of the shared task was to come up with innovative algorithms that can automatically correct errors involving determiner and preposition errors made by English language learners.

Fourteen teams from academia and industry, including well-known institutions like Cambridge University and the Educational Testing Service, participated in the shared task. The teams were given a set of student essays with error annotations to develop their algorithms. Afterwards, the teams were given a blind test set of essays without error annotations and their grammatical error correction algorithms need to automatically correct all determiner or preposition errors in the test essays.

Prabhu Natarajan (centre) with his supervisors Prof Mohan Kankanhalli (left) and Asst Prof Bryan Low.
The system submitted by the NUS team achieved the highest score for determiner correction, preposition correction, and the overall correction task among all 85 systems submitted by the fourteen teams. The good result was sweetened by the fact that the NUS team only submitted a single system, and it gave the best scores. The success in the shared task shows that the innovative natural language processing technology developed at NUS can have practical impact on real-world problems.

Dr Gregory Duck Won Best Paper Award at ICLP 2012

Dr Gregory James Duck, a senior research fellow at NUS School of Computing, has received the Best Paper Award at the International Conference for Logic Programming (ICLP) 2012 for his paper on “SMCHR: Satisfiability Modulo Constraint Handling Rules”. Held in Budapest, Hungary from 4 to 8 September 2012, this year marks the 28th anniversary of the conference.

The paper was selected by the ICLP 2012 Program Committee and the award was presented to Dr Gregory Duck at the Conference Banquet on board the Europa Hajo as it cruised down the Danube River on the evening of 7 September 2012. He received the award from Prof Veronica Dahl, a member of the ICLP 2012 Program Committee and the banquet speaker.

His paper introduces Satisfiability Modulo Constraint Handling Rules (SMCHR) as a programming language which integrates Constraint Handling Rules (CHR) and a modern Boolean Satisfiability solver. The SMCHR system is an efficient, extensible theorem prover for any theory implementable in CHR. Some of the possible applications include program verification, program analysis, model checking, theorem proving, and constraint programming.

PhD Student Won Trainee Research Prize at RSNA 2012

Sharmili Roy, a CS PhD student supervised by Associate Professor Michael S. Brown, has won the Trainee Research Prize at the 98th Annual Meeting of the Radiological Society of North America (RSNA) 2012 held in Chicago. RSNA is one of the world’s most important annual event in medical imaging science, education and technology and is attended by approximately 60000 participants. Their abstract, titled “Automatic 3D Volume Extraction from 2D Annotations,” was one of the two abstracts selected for the prize out of the 264 Informatics abstracts published this year.

The primary aim of their work in this abstract is to enhance the way radiologists communicate volumetric observations to clinicians in their routine clinical practices. Radiologists often draw image-based annotations on medical exam images to denote regions of clinical significance. Most radiological workstations, however, do not allow three-dimensional volume annotations. They have developed an open-source software framework that automatically derives three-dimensional volumes from unstructured two-dimensional radiological annotations.

Their system can be used for enhancing some clinically important applications like three-dimensional exam visualization with volumetric data obtained from radiological annotations embedded in it and automatic exam summary generation based on radiological annotations.

NUS Student Team Won First Prize in Elsevier CodeForScience Competition

The CodeForScience series of competitions is a worldwide initiative by scientific publishing giant Elsevier to develop applications to help scholars and researchers better understand and utilize the scientific literature.

Elsevier chose Singapore as one of four international sites for the six-week competition, along with Turkey, India and USA (Boston). Led by Assoc Prof Kan Min-Yen, a team consisting of undergraduates Heng Low Wee and Eric Yulianto, and graduate students Chen Tao and Zhao Jin created the CitWeb application for the CodeForScience – Singapore competition. The CitWeb application analyzes citations in a scientific article to help researchers understand whether it refers to the cited paper positively or negatively and whether it refers to the paper in general or to a specific section of a paper. For their efforts, they won first prize and a cash award of 5000 SGD for leading the way in demonstrating the prototype of the next generation set of scholarly tools.
Asst Prof Ben Leong Serving on Facebook’s Faculty Thought Leader Council

Assistant Professor Ben Leong would be serving on Facebook’s Faculty Thought Leader Council. As part of the deal, he was also invited to bring 5 of our best undergraduates (all expenses paid) to Menlo Park in Jan 2013 to participate in a global Hackathon together with the best CS students in the world. Ben said “I will pick the best 5 students from CS3216/CS3217 and they will stand tall among their peers from the top schools worldwide.”

Assoc Prof Leong Hon Wai Serving on SCS Thought Leadership Committee

Associate Professor Leong Hon Wai would be serving on the Singapore Computer Society Thought Leadership Committee. This is a new committee and it is to offer ideas and inputs of what areas SCS should be focusing on and how to re-adapt her strategies to connect more effectively with stakeholders, IT professionals, members and the young tech-savvy generation.

Assoc Prof Kan Min-Yen Organized Elsevier CodeForScience Competition

Associate Professor Kan Min-Yen has organized for a second time the Elsevier CodeForScience competition from August to September 2012, a 6-week programming contest to help develop scientific literature discovery applications on digital libraries. Singapore is the only country outside of the US that has hosted Elsevier’s competition for two years running. Last year, a team led by Associate Professor Ng Hwee Tou won the first prize. This year, Prof Kan led another NUS team, CitWeb, to win the first prize. Another NUS team also took the third place, with second place being taken by a team from NTU.

PhD Student, Zhang Ying, Awarded ACM-W Scholarship

Zhang Ying, a PhD student of Assoc Prof Roger Zimmermann, was selected to receive an ACM-W Scholarship for Attendance at Research Conferences to attend ACM Multimedia 2012. The ACM-W is the Association for Computing Machinery’s Women in Computing Group. Last calendar year, world-wide, there were only 30 recipients selected for this award for both intra-continental and intercontinental conference travel.

In her submission for the scholarship, Zhang Ying expressed that the ACM Multimedia conference is an excellent opportunity to engage with leading researchers, state-of-the-art technologies, and understand other interesting directions in the field of computer science. She highlights that pursuing a PhD is more than obtaining a degree; it is also to gain invaluable life experiences. As such, the need to look beyond work and be involved in the research community is crucial, especially for female students.

SoC Alumnus, Travis Ho, Won Industry Award

Touch Dimensions, a local game development start-up by NUS School of Computing alumnus Travis Ho, has won the Singapore Infocomm Technology Federation (SiTF) Gold Award in the Digital Media category for its critically acclaimed flagship game, Autumn Dynasty. The award was presented to Touch Dimensions at the SiTF 30th Anniversary Gala Dinner and Awards Ceremony, held on 30 August 2012 at the Marina Bay Sands Convention Centre.

Travis started developing Autumn Dynasty as a personal project for a competition while he was an undergraduate. He then co-founded Touch Dimensions with fellow game developer Jeffery Jiang so they could sell the game.

The annual SiTF Awards gives recognition to locally developed innovative ICT applications and solutions, with the award for Digital Media presented to any application software, hardware, or its combination that captivates the user.

Even before the game’s public release, Touch Dimensions’ flagship game had gained global recognition within the game developer’s community. In 2009, it won the Best Student Game Award at the Independent Games Festival in Shanghai and was one of the Microsoft Code 7 contest winners at the Professional Developers Conference in Los Angeles.

No stranger to the winners’ circle, Travis has also won many awards, even as an undergraduate in the School of Computing. This includes the Singapore Computer Society’s IT Youth Award.
in 2008 and the NUSS Medal for outstanding achievement when he graduated in 2011 with a BComp (Honours) in Computer Science.

NUS Team 3rd in ACM ICPC Regional 2012

NUS team Eternia, led by SoC Lecturer Dr. Steven Halim, earned 3rd place in the ACM International Collegiate Programming Contest (ICPC) Regionals in Jakarta on 17 October 2012. NUS School of Computing has sent several teams (consisting of three NUS students per team) to compete in the ACM ICPC Asia Regional every year. The winner (and occasionally, some high ranking teams) can advance to the prestigious ACM ICPC World Finals.

NUS have reasonably good ICPC records in recent years. NUS teams have advanced to ACM ICPC World Finals three times (2009, 2010, and 2012) in the past four years. This year, NUS sent teams to Jakarta, Indonesia in 16-17 October 2012 and Hat Yai, Thailand in 15-16 November 2012. In Jakarta, NUS team Eternia (Trinh Tuan Phuong, Harta Wijaya, and Nguyen Tan Sy Nguyen) clinched third place in the overall ranking. The 2013 ACM ICPC World Finals will be held in St Petersburg, Russia from 30 June to 4 July 2013.

In NUS, every year, top students are prepared for such programming contests via the module CS3233: “Competitive Programming” offered in Jan-Apr and go through ICPC trainings in Aug-Oct.

SoC Alumnus Led Team to Win Oracle ThinkQuest International Competition 2012

By Low Jin Kiat (SoC alumnus)

The Oracle ThinkQuest International Competition is a competition that engages students to solve problems using their critical thinking, communication and technology skills. In 2012, I mentored a group of Singapore Polytechnic current and graduate students in the competition. The team comprises of 4 members, Nicholas Toh Zuan Jie, Jason Sim Meng Kiat, Kenneth Ho Chee Chong, and Chua Sihao.

The team came in 2nd under the Application Development 18-22 age category and we received a sponsored trip to USA San Francisco for ThinkQuest Live, a 5-day event comprising an education exchange with other winners, workshops with Oracle top executives and an awards dinner.

Besides Jason, who is currently studying in NUS SoC, the other 3 students have all secured places in SoC and are expected to start school after their National Service. As an alumnus and educator, I am glad that all of them will continue to pursue their studies in NUS. NUS was the institution whereby I had the opportunity to cultivate my passion in IT and be taught by wonderful lecturers who imparted both knowledge and values. My thesis supervisor, Assoc Prof Ng Hwee Tou, for one, had taught me the importance of perseverance and putting in extra hard work in order to succeed when I was doing my thesis and submitting papers to international conferences. Today I highlight the same values to my students and encourage them that things are possible with determination and hard work.

I am glad to have taught and mentored this excellent group of students, whom I feel will next greatly benefit from the excellent quality education that I had previously received from my alma mater in their next phase of education.

Computing for Voluntary Welfare Organisations (CVWO)—Serving to Make an Impact

Computing for Voluntary Welfare Organisations (CVWO) is a initiative founded by Asst Prof Ben Leong and spearheaded by undergraduates from the National University of Singapore School of Computing. The mission is to build IT systems that help our partner VWOs serve the community more effectively. The following are quotes from Jonathan Low, a student project lead of two of the 2012 CVWO projects:

“Working in CVWO is unlike any experience I have ever had. While I have volunteered with various organisations previously, nothing I have ever done then had quite the same impact as the project I did with CVWO. In CVWO, we build IT systems for Voluntary Welfare Organisations (VWOs) to improve their productivity and operations.”

“Knowing that my contributions will make a long term difference for others makes my CVWO experience a very meaningful one.”

“The greatest challenge in building systems in CVWO, and possibly with other IT systems, is usually not on technical issues. Rather, it is a problem of managing people and their expectations, as well as communicating clearly with them.”

“At times, the work can feel unexciting and mundane. There is no instant gratification. Given the nature and complexity of the projects, it can take a very long time before one sees the fruits of one’s labour. As a matter of fact, summer is long gone but we are still toiling away to finish up with the Fei Yue project. Why? Because it’s worth it, not just for us, but for others and, that matters.”
When Music, IT, and Medicine Meet

By Assoc Prof Wang Ye

From Napster to YouTube and iTunes, music has always been a major driving force of Internet technologies. A huge amount of music content is now accessible to the public. Organizing and categorizing this content to support an effective recommendation system has become a significant challenge. The primary goal of our lab is to develop new technologies to address this challenge in the field of healthcare. We seek to harness the synergy of sound and music computing (SMC), mobile computing, and cloud computing technologies to promote healthy lifestyles and to facilitate disease prevention, diagnosis, and treatment in both developed countries and resource-poor developing countries. Funded with a research grant from A*Star in Singapore and CIMIT in Boston, we have started a collaborative research project between the SMC lab at National University of Singapore and the Music, Neuroimaging, and Stroke Recovery Lab at Beth Israel Deaconess Medical Center (BIDMC) / Harvard Medical School. We are developing a cloud-based, smartphone-mediated therapy delivery system that uses music to enhance limb function and speech production in neurologically impaired patients. Our focus is to develop high-tech, low-cost solutions that (1) facilitate recovery in patients with post-stroke speech and motor impairments, (2) improve gait and mobility and reduce fall risk in patients with Parkinson’s disease (PD), thereby increasing the quality of life (QoL) for both patients and caregivers. We have developed a prototype called iOS-based Rhythmic Auditory Cueing Evaluation (iRACE). Currently, clinical trial of iRACE is ongoing at BIDMC and is expected to begin at Singapore General Hospital in 2013.

Medical Modelling Research Can Save Life!

By Assoc Prof Leow Wee Kheng

Medical modelling concerns the 3D modelling and analysis of human anatomical bodies for medical applications. Various methods have been developed for applications such as diagnosis, quantitative analysis, treatment planning, surgery planning and simulation, and computer-assisted surgery. In contrast to 3D modelling for, say, computer animation and games, modelling for medical applications must be physically accurate and yet computationally efficient. In surgery planning, for instance, the simulation results must be not only physically reliable, but accurate specific to the patient involved. Otherwise, the simulation results would be useless for the patient and the surgeon. And yet, the computational simulation has to be sufficiently efficient, as the patient is lying on the bed, sometimes critically, waiting for treatment to be performed. So, there is no time to waste! We know very well in Computer Science that accuracy and efficiency are two criteria that often do not go well together. That’s the big challenge!

Medical modelling research is essentially a multi-disciplinary research, bringing computational tools and algorithms in areas such as Computer Vision, Computer Graphics and Computational Geometry to bear on medical applications. Sometimes, it also involves Physics and Mechanical Engineering, for instance in physically accurate modelling of soft tissues’ response to external and internal forces for cardiovascular (i.e. of the blood vessels of the heart) surgery simulation.

There seems to be quite a lot of materials to learn in medical modelling research. Indeed, there is. So, medical modelling research is not for the faint-of-the-heart. Then, why do we still carry on? Why not choose something simpler to work on? Didn’t we say that medical modelling research can save life? It might be yours or mine that we are saving in the future! That’s the ultimate driving motivation!

Simulation of a cardiovascular surgery called arterial switch operation. (Left) Before surgery. (Right) After surgery.

Computer Animation Research

By Asst Prof Yin Kangkang

Advanced Computer Animation technologies such as performance capture demonstrated in the record-breaking movie Avatar has captured the imagination of millions of people around the globe. However, it took several years, thousands of artists and programmers, and a budget around $300 million to make it. I am interested in technologies that can dramatically reduce the cost, effort, and time involved in producing character animations for movies and games. For example, our recent work on physics-based character animation titled “Terrain Runner: Control, Parameterization, Composition, and Planning for Highly Dynamic Motions” published at Siggraph Asia held in Singapore November 2012 demonstrates the first complete and automatic motion control system that starts from a single motion example clip per skill all the way to controllable dynamic avatars that are able to accomplish parkour-style fast terrain crossing.

Human motion is also increasingly used in games and virtual/augmented reality applications today. In a collaborative project with EON Reality, we have developed a virtual try-on system using a single Microsoft Kinect sensor. This system provides innovative and interactive 3D retail solution, and was officially launched on 12 April 2012 at Raffles City mall, one of Singapore's
Noise-Robust Speech Recognition Research
By Asst Prof Sim Khe Chai

The number of voice-enabled apps, such as voice search, speech-to-speech translation and virtual personal assistant, increases with the proliferation of modern mobile devices such as the smartphones and tablets. Automatic Speech Recognition (ASR) is an essential component for these voice-enabled apps. Despite its long history of research and development, ASR is still quite vulnerable when operating in an adverse acoustic environment.

One of the major challenges of noise-robust speech recognition is how to reliably compensate the acoustic models trained on clean speech data so that they can perform well on noisy speech. My research team has developed a trajectory-based model compensation framework that can serve as the foundation for existing compensation methods by offering a better model for the dynamics (temporal correlations) in the acoustic signals. Trajectory-based compensation can achieve about 10% relative word error rate reduction compared to existing state-of-the-art techniques.

Nevertheless, there is only so much one can do to improve the performance of ASR in noisy environment by relying on acoustic signals alone. Multimodal input methods are commonly used to improve the robustness by introducing redundancies with multiple input streams. Along this direction, we have also developed Haptic Voice Recognition (HVR), an innovative multimodal input framework specifically designed for modern portable devices that combines both voice and touch inputs. The goal of HVR is to enable reliable and efficient offline speech recognition, where touch inputs are augmented to standard ASR system to reduce the recognition computation and improve the recognition accuracy. A probabilistic framework has been developed to tightly integrate multiple touch-based and voice-based inference models. Empirical studies show that by using the initial letters of each word as redundant cues, HVR offers more than 50% relative improvement to recognition accuracy and more than twice the speedup in recognition time compared to conventional ASR.

CS1101S Sumobot Contest
By Assoc Prof Martin Henz

The Sumobot Contest is an annual CS1101S tradition. As in previous years, the freshmen of CS1101S honed their robot programming skills over the midterm break in the past semester and got their Lego Mindstorms robots ready for the one-on-one combat tournament, held in the SR1 Foyer on October 22.

Robotics using Lego Mindstorms was introduced into the first semester modules of the School of Computing by Dr Terence Sim in AY2003/2004. The module was CS1101 and the programming language was Java. Terence introduced robotics into the Scheme-based module CS1101S in AY2004/5, using a compiler from a sublanguage of Scheme to Java, written by his TA Razvan Voicu.

The Sumobot tournament format, developed by Dr Ben Leong and his assistants from AY2007/8 to AY2011/2, is reminiscent of the FIFA World Cup format, with an initial round of group games followed by a knock-out tournament. In each game, the two contestant robots are placed on a sumo ring (dohyo), and then run the software programmed by the students autonomously, without remote control. The team whose robot manages to push the opponents’ robot off the dohyo wins that game.

As a result of switching the module’s programming language from Scheme to JavaScript, this year’s CS1101S team, led by Associate Professor Martin Henz, developed a JavaScript-to-Java compiler to enable the students to program their robots. The compiler supports the JavaScript sublanguage “JediScript Week 8” covered by the lectures up to the competition. As far as they can tell, this is the first time ever that Lego Mindstorms robots are programmed in JavaScript!

After many exciting games, the team Upgraded Hamburger (Lok Weng Seng, Tay Chun Mei, Matthew Saw and Eugene Lim) emerged as the winner, beating the team Chocolate Force in the final. Like every year, the robot beauty contest, won also by Upgraded Hamburger, provided welcome relief from some tense moments.

CS3216 Software Development for Evolving Platforms
By Dr Colin Tan

CS3216 Software Development for Evolving Platforms is a product development course that was developed in 2007 by Dr Ben Leong, inspired by Randy Pausch’s “The Last Lecture”. In AY2012/13 this course was handed over to Dr Colin Tan.

Close to 60 Students from all over NUS applied to read this
course. Due to resource constraints and the very high workloads involved in this course, the teaching staff hand-picked 35 of the best students from amongst all the applicants. The students attend workshops taught by the teaching staff and invited talks by industry professionals and start-up CEOs to hone their skills. The students organize themselves into teams of 4 and complete a very large web-based project. To do well in this course students must demonstrate meaningful use-cases for their products, and must work with their intended end-users to ensure that their final products provide an excellent user experience.

Notable products from CS3216: (clockwise from top-left) Intraix, Splinkit, Mini Monocle and Hush.

CS4213 Game Development

By Assoc Prof Farzam Farbiz and Anand Bhojan

The course provides an opportunity for the students to experience various phases of game development primarily focusing on game design, game physics, artificial intelligence and world simulation. The students have proposed game concept (open ended), designed and developed complete games in a small group of three members in each group using Unity3D platform. Some notable games are shown below. A complete list of all games and link to download the game is available at http://arivu.d2.comp.nus.edu.sg/.

Notable games from CS4213: (clockwise from top) Peripheral Chaos, CHARRRRRRGEE!!, and TheElite6.