He beat cancer twice, became a top SP graduate, and helped fellow cancer sufferers.

PAGE 3

Poly education works for him

More than half of those who take top two spots in Singapore Polytechnic courses are from neighbourhood schools

PAGE 4

“Looking back, I now know that it was too immature and presumptuous of me to assume that a poly education was not the route I wanted.”

– Mr Steven Ong Kia Kian (left)

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REPORT: MAUREEN KOH
maureenk@sph.com.sg

He followed her heart, and pursued her passion for perfumery. Now she is a top graduate from SP.

PAGE 3

SP students win infocomm, Home Team and Public Service Commission scholarships, and many more…

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
More poly grads score places in law, medicine

Growing pool of such students make it to top courses in local varsities

By AMELIA TENG

MR JOSHUA Teo was rejected when he applied to study medicine at the National University of Singa-
apore (NUS) two years ago.
But the Temasek Polytechnic (TP) graduate tried again for a place this year and, to his surprise, he
was accepted. The 22-year-old, who studied bi-
medical informatics and engineering, is the first
from his polytechnic to get into the university's
Yong Loo Lin School of Medicine.

He is also among a growing pool of top polyte-
chnic graduates who have in recent years secured
spots in law and medicine. This comes as the poly-
technics are attracting brighter students with sin-
gle-digit O-level scores. About 40 per cent of those
who chose polytechnics qualified for junior college
(JC) last year.

Back in 2003, Mr Lavanasam Swaminathan, from
TP, made history by being the first polytechnic
graduate to be offered a place to read law at NUS.
In 2007, two students from Ngee Ann Polytechnic
– Mr Soong Jun Wei and Mr Ron Ng – became the
first polytechnic graduates to be accepted by NUS’
medical school.

A handful of polytechnic students have since
been given places each year in both degree courses,
which typically admit straight-A JC students.

But this year alone, NUS has already accepted
nearly 10 for medicine, and at least six for law. Of
course, they are still a tiny minority compared with
their JC peers in both programmes.

The medicine and law programmes at NUS ad-
mit 100 and over 200 students respectively a year.

Singapore's newest medical school at Nanyang
Technological University accepted its first polyte-
chnic graduate Basrel Chast, 31, from Singapore Pol-
ytechnic (SP), last year.

TP, which runs a law and management course, has
seen 19 students accepted by NUS' law faculty
since 2003. A student entered Singapore Manage-
ment University's law school last year.

And every year, 10 to 20 of TP's graduates study
law overseas. Course manager Looi Kwok Peng said
many of its students enter university courses in
business, and arts and social sciences, or become
teachers. "But slightly more of them are getting in-
to law locally now. Universities are trying to ex-
pand their pool of students," he noted.

The polytechnics estimate that at least 30 of
their graduates have pursued medicine locally or
abroad or are doing so. Dr Tan Tuan Lin, who over-
sees SP's biomedical science course, said more stu-
dents hope to become doctors: "Many get straight
As for O levels but they prefer the hands-on way."

A spokesman for NUS' medical school said it has
accepted a "small number of outstanding polytech-
nic graduates" every year, over the past few years.
There has been a "slight increase" in the number of
such grads being offered places, she noted, adding
that these students have been doing well in school.

This year, the most number of graduates from
SP – five – secured places.

"The admissions format that NUS introduced last
year is "good" for polytechnic students, Dr Tan
said. Instead of a panel interview and an essay test,
they go through stations, being interviewed and
tested on skills like teamwork and leadership.
"We train students to deal with challenging situa-
tions," he said. "They have a strong foundation, as
they have learnt what lab technicians do, and they
know signs and symptoms of diseases. Their intern-
ships are also done in clinics and hospitals."

SP graduate Raphael Ng, 20, who earned a place
in medicine at NUS, said the new admissions for-
mall shows "the university is now looking for not
just knowledge but also practical skills".

Ms Lim Xin Yan, 30, from Ngee Ann Polytech-
nic, who also has a place in NUS' medical school,
said: "I feel like these competitive courses are open-
ing up more to poly students. I'm excited to start
school. I've wanted to be a doctor for a long time."
First work, then varsity, says poly grad

In contrast, five local unis get 27,000 applications from poly grads this year

By AMELIA TENG

AFTER she left Singapore Polytechnic, a perfect score, many would have expected Mrs Tan Jialing to head straight for the university.

But the aeronautic engineering graduate, who topped her course, wants to first work at aircraft-engine makers such as Rolls-Royce for five years before deciding on university plans.

"I knew my decision is unusual, but then again my academic journey has been unusual," said Mrs Tan, who is in her four years older than her peers.

She finished sec 6 in his A-Level exams at Pioneer Junior College and opted to study at the university. After his national service, he then joined his father's pharmaceutical interest in acceptances, and went on to the medical school.

Mrs Tan also did intense chemistry and mathematics modules throughout her course.

She created many products like sunscreens, hair gels and soaps during practical lessons.

For two design thinking projects, where students made products based on users' needs, she created a rose fragrance and an anti-ageing moisturiser.

For her final year project, she and her teammates came up with a series of four scents inspired by the freesia, a flowering plant from Africa used in hand creams and shampoos.

They made four scents called Freesia Juice, Freesia Tea, Freesia Cordial and Freesia Milk. Each scent was made for use during a different part of the day.

Oxford internship

One of Miss Han’s highest points came when she and another course mate were selected to go to Oxford for an internship in September 2011.

She was there for 1½ months, working on an organic synthesis project at the university’s chemistry research laboratory.

She said: “I was excited and happy that we had the chance to go to Oxford. I had a lot of fun exploring the place and meeting new people.”

A lab to delight the senses

To design products like perfumes, Miss Han said she had to learn a whole new skillset.

Mrs Tan, who is currently reading for her doctorate in aeronautical engineering, said she had the confidence to go to Oxford because of the skills she picked up in her course.

"I’ve been able to showcase the course to the world, and it’s only the tip of the iceberg," she said.

S

UNSCREENS, hair gels and soaps. These were some of the things she concocted during her time at Singapore Polytechnic, while pursuing her diploma in perfumery.

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t was a course her parents weren’t keen on her doing, as they had wanted her to be a doctor.

But after getting a stint at the University of Oxford, and topping her course here, they are glad she had chosen her own path to success, and not try to be what they had wanted her to be.

Miss Alethea Joy Han Hui En, 20, is among the pioneer batch of students who will graduate this Wednesday from the poly’s diploma in perfumery and cosmetic science course.

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he got interested in scents when she was four and put rose petals into water in an attempt to make perfume.

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One of them was the perception her parents had about polytechnics.

Her father, Mr Han Kian Kwang, 55, the chief executive officer of Gurusoft, a supply chain management software company said he and his wife were initially not supportive of their daughter’s decision to go to a polytechnic.

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But I learnt to listen to my daughter and find out where her passion lay.”

Miss Han, a former Methodist Girls’ School student, said: “I was excited about school and I looked forward to learning things I liked.”

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Miss Han, a former Methodist Girls’ School student, said: “I was excited about school and I looked forward to learning things I liked.”
Poly student beats cancer to emerge a top grad

By AMELIA TENG

His excitement to start studying aeronautical engineering took a blow when Mr Dinesh Singaraju discovered that his cancer of the lymph nodes had returned.

“When I found out I had a relapse, it was difficult, but I think my family was more affected than me,” he said. “They gave me the motivation to go on.”

He started the polytechnic studies a year later because he had to go for five-night chemotherapy sessions. Yet, four years on, he is among the top 1% of Singapore Polytechnic’s top graduates, with a perfect grade point average of 4.0.

The 21-year-old has an offer from London’s prestigious Imperial College to study engineering, and yesterday received the Lee Kuan Yew Award at his polytechnic’s first graduation ceremony. The award is given to the top technology or computer-science polytechnic student.

“I really love travelling, flying and anything to do with aeropace,” said Mr Dinesh, whose cancer is now in remission. “So, though I qualified for junior college, I chose polytechnic because I knew what my passion was.”

His dream came true in his first year at the polytechnic when he stopped inside the cockpit of a SilkAir plane en route to Penang, which was made possible by the Make-A-Wish Foundation.

“The view of the pilot is so different from the pilot’s viewpoint. I wanted to know how every button in the cockpit works,” he said.

The younger of two sons, Mr Dinesh has set up a support group with 11 other cancer survivors to help young people battle the illness.

He wants to work in the defence industry, and is hoping for a scholarship from the Defence Science and Technology Agency to study overseas.

“I would like to go to Imperial College as that is the school for engineering,” he said.

Mr Dinesh is one of 5,400 students graduating over the next few days from Singapore Polytechnic, a torrid 60 this year.

Education Minister Heng Swee Keat, who was the guest of honour at the ceremony yesterday, said Singapore’s oldest polytechnic has led many developments, including restructuring the diploma curriculum, and running courses in engineering and maritime courses to meet industry needs.

He told reporters he would focus on post-secondary education in the next term of Parliament, and look “very carefully” at the recommendations of the Applied Study in Polytechnics and ITE Review committee.

“We have got to make our polytechnics and ITEs attractive options, and they will help our students build deep skills and build the right attitude in their work and in life,” he said. 

am@starpix.com.sg
Poly Student Works Towards His Hollywood Dreams

SP institutional medallist James Ng, from the Diploma in Visual Effects and Motion Graphics (DVEMG), went to Hollywood, USA for six months for the prestigious NDU-MDA Hollywood Attachment Programme, where he learned about the latest technologies used in the film industry.

Besides exploring their passion in a diploma course of their choice, SP students can also discover and grow their own hidden talents in the poly's CCA clubs! With more than 120 clubs for sports, art, music, community service and other special pursuits (e.g. beatboxing, debating, wushu), our students get every chance to develop themselves physically, mentally and emotionally.

I look forward to the club activities all the time. Music is my real passion.

The avid guitarist is a committee member with the SP Guitarist Club and has performed at many gigs in and outside school. In September, he performed at events organised by the Yellow Ribbon Project and the Children's Cancer Foundation.

"I look forward to the club activities all the time. Music is my real passion," said Raphael, who also uploads videos on his YouTube channel Sheamisen and formed a band named The Warrants with a fellow SP student.

After graduation, Raphael hopes to pursue a degree in dentistry.

He said: "Music is my real passion. After graduation, I hope to pursue a degree in dentistry. It's a good career option and I enjoy the interaction with people."
Avid gamers, Singapore Polytechnic students Goh Jin Qiang and Lam Ying Sheng told LINETTE HENG (linheng@sph.com.sg) that they naturally pursued their love for information technology and aced it.

He finds calling from gaming

When he was in Secondary 2, Mr Goh Jin Qiang and his classmates had a showdown at a multi-storey carpark near their school — for fun.

They got caught by plain clothes policemen and were let off with a warning.

For Mr Goh, 22, the episode marked the start of his gaming days. His mother would prefer that he spent hours on the computer at home instead of hanging out with bad company.

So the Normal Academic student played games like Maplestory and Dota for hours after school every day, barely scraping together a pass in school.

But these games also sparked a long-lasting interest in information technology. Mr Goh will graduate from the IT course as one of the top students, with a GPA of 3.90, at the end of the month.

A talk by the Institute of Technical Education (ITE) when he was in Secondary 5, had introduced him to the field.

Bored with textbooks, he was excited to hear of the hands-on lessons at the ITE.

“It is my style. I want to learn by doing something rather than just listening,” said Mr Goh.

He decided to channel his passion into information technology. Mr Goh faced objections from his elder sister and mother, who wanted him to continue and complete Secondary 6.

Some of my friends thought I was joking at first. But once I decide on something, I just go for it,” said Mr Goh.

With his O-level certificate, he qualified for a higher NITEC course and subsequently excelled in ITE.

After he discovered new IT-related interests such as web technology and animation — in which he excelled and won various competitions — Mr Goh’s gaming habit soared.

With a perfect GPA of 4.0 in ITE, he decided to further pursue his passion in polytechnic. He was encouraged to do so by ITE lecturer Martin Leong, who is happy with his student’s academic success.

Many young people are IT savvy and what they need is an avenue to explore purposeful opportunities to learn, hone their skills and look forward to progression,” said Mr Leong.

“And Jin Qiang has demonstrated that — he has shown determination and is able to excel.”

During his time in Singapore Polytechnic, Mr Goh also realised he had an interest in creating mobile applications (app). He is working on an app that will help people to monitor the elderly, who may be living alone.

He said he might want to become an educator in future, sharing his experience with his students.

“I feel that we will have a lot of chances in life. As long as I have faith in what I’m doing, it will lead me somewhere,” Mr Goh said.

Former rebel scores perfect GPA at poly

Twenty-year-old Lam Ying Sheng admits that he was a rebel without a cause during his secondary school days.

He failed most of his subjects, played truant and got into fist-fights regularly.

He spent almost 10 hours a day playing games like Warcraft and Maplestory, and met online friends who tried to get him involved in gang activities.

“I liked the feeling of rebelling against authority. It also helped that I was shrewd enough to escape unscathed all the time,” recalled Mr Lam.

But Mr Lam is a changed man now.

He will graduate from the Financial Informatics course at Singapore Polytechnic with a perfect GPA of 4.0. He is also an active volunteer and joins school activities.

He had a wake-up call in Secondary 4, when a tutor asked him point blank: “What is your purpose in life?”

After that, Mr Lam decided to change.

He said: “I started to see the purpose of things. I decided to try to understand what I was learning instead of just memorising.”

It worked. Mr Lam did well enough to qualify for his dream course in polytechnic, which involved both finances and information technology.

“My mum worked in a bank and she told me about the money to be earned.

“I was always interested in IT and it was my teenage fantasy to become a game designer and this was close.”

His three years in polytechnic changed him mentally and physically.

He used to be overweight — weighing 68kg standing at 160cm — in secondary school. He now weighs 58kg and his height is 168cm.

After an overseas volunteer trip in Laos, where he struggled to carry bags of rice uphill in a village, he realised that it was time to get fit.

NEW REGIME

He started to go to the gym, three times a week, for two hours each time.

“I used to drink two cans of carbonated drinks a day, but now I completely avoid soft drinks,” he said.

“I feel better about myself, and I’m more confident and alert. I feel sharper and it helps in my studies.”

Mr Lam was also part of the school’s outreach programme, where he met people from all walks of life.

His tutor from Secondary 4, Mrs Esther Tay, 45, was pleasantly surprised to hear about his change.

“He was a quiet boy and quite an introvert, but I could tell that he was rebellious,” she said.

“My words were like bitter medicine and I never expected them to have a long lasting effect on him.”
**Summary of Malay article**

**Perseverance yields success**

During his days in Clementi Town Secondary School, Indra Faridzuan enjoyed art and the outdoors but did not fare well in his other subjects. However, the former Normal (Academic) student worked hard and, after his O levels, got into a course combining both his passions: the Diploma in Landscape Architecture (DLA).

Since then, he has excelled in studies and his CCAs, scoring an average GPA of 3.99 out of 4.00 and graduating with the Tan Kay Yong Gold Medal award.

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**Summary of Chinese article**

**He Overcame Game Addiction To Become Model Student**

Edward Ho was once so obsessed with online gaming that he fell behind in studies in secondary school, sometimes playing almost 10 hours a day. However, with discipline and encouragement from his teacher, he worked hard, graduating and applying to SP's Diploma in Banking and Financial Services.

After three years of focus and dedication, he graduates from SP with a GPA of 3.98 out of 4.00, and has received offers from the National University of Singapore and Nanyang Technological University to study business.
SINGAPORE Polytechnic (SP) biomedical science student Daniel Poh’s 10-week internship at Harvard University last year marked many personal firsts.

It was his first trip to the US and his first taste of life as a stem-cell researcher. The second-year student spent 12 hours almost every day heeding up in one of the labs at the Children’s Hospital Boston, part of the Harvard Medical School. He pored over petri dishes, read up on lab procedures and conducted experiments. When in doubt, he approached his mentor, Dr Jonathan Loh, who is an SP alumnus and research fellow at the hospital. PhD students or lab technicians for help, said the 21-year-old. “It was a truly eye-opening experience.”

He said that at the polytechnic, he has a curriculum to follow with a series of experiments, the results of which could be predicted. “But in the lab, I did not know what to expect from my experiments,” he said. “It was a lot of learning on my feet.”

Bright students like Mr Poh are benefitting from their polytechnics’ efforts to establish internships with top universities such as Harvard, Yale and Imperial College London.

There are more plans in the pipeline. A biomedical research programme based in the universities’ research facilities, where students work on projects under the guidance of professors and research fellows. Several of the existing internships are part of biomedical research programmes at the universities abroad. Students work on projects under the guidance of professors and research fellows.

However, some have students venturing into the industry. For example, students work in hospitals as part of Nan-yang Polytechnic’s clinical attachment programmes with the University of Pennsylvania and the University of Sydney. The polytechnic says they are setting up these internships to stretch their top students, some of whom could have secured spots in top-tier junior colleges (JC’s) with their O-level scores.

They also believe that internships at top overseas universities will give their students an edge when applying to universities for further studies.

Second-year SP biomedical science student Jaslyn Ng, 19, who had an O-level score of seven points and was selected for a Harvard internship last year, said: “I could have gone on to a top JC, but I was very clear I’m a poly’s specialised and hands-on education was what I wanted. And with opportunities like internships at Harvard, I feel I’m well prepared to achieve my dream of becoming a doctor.”

SP principal Tan Hang Cheng said: “We want to inculcate an interest in scientific research among our brighter students. These top universities are known for their research programmes and learning from renowned professors will stir their curiosity in research. Only a handful of students are selected for each of the internships each year. They must have sterling grades and impress their lecturers in interviews. And more of them could soon be on the way. SP’s School of Chemical and Life Sciences lecturer Dr Tan Eng Lee and Dr Loh, the Harvard research fellow, have set up internships at Harvard, Yale and Stanford. They are also in talks with another top American university.”

**By Amelia Tan**

Scan QR code for details on School of Chemical and Life Sciences diploma courses.
They did research work on anti-cancer drugs

It has always been his goal in life to help others and do his part for society.

Mr Fong Wejie (right), 19, a final-year student in Diploma in Applied Chemistry with Pharmaceutical Science at Singapore Polytechnic (SP), had the opportunity to put his academic knowledge to meaningful use during a six-week overseas internship in Germany in March with another of his classmates, Mr Desmond Seah (left), also 19. 

They served as lab assistants at the Institute of Organic Chemistry III, which is part of the University of Ulm. The duo were attached to a research team working on a project in collaboration with the renowned Max Planck Institute for Polymer Research, to find ways of improving drug delivery for anti-cancer drugs.

The Max Planck Institute is a research organisation in Germany known for producing several Nobel laureates.

"It was such an honour, to work for those top scientists and Nobel laureates. They taught us a lot about proper research work," said Mr Fong.

The pair were interviewed by their poly lecturers before being selected to go on the internship programme.

Before leaving for Germany, the duo re-read their notes from basic chemistry modules they had taken in their first two years at SP. They also went online to pick up basic German phrases to prepare for the trip.

The research team was under Professor Tanja Weil, director of the Institute of Organic Chemistry III.

Professor Weil said: "In general, Fong Wejie and Desmond Seah gave an excellent impression in both scientific and social aspects, showing exemplary performance and keen interest in the field of chemical biology during the course of attachment to the group."

The students were assigned a mentor, Mr David Ng, 28, a Singaporean currently working on his doctorate at the University of Ulm.

As lab assistants, Mr Fong and Mr Seah helped work on making anti-cancer drugs more effective against the disease. Through experiments, the drugs were modified so that they were more selective with cancerous tumours and worked better in the human body, detecting and attacking tumours more easily.

The SP students helped the researchers with the smaller experiments, such as testing the drugs against other bacteria.

"In the future, this might actually help a lot of sick people. We never thought we could actually get to help people, to really impact their lives," said Mr Seah.

Besides work, they also got to travel around Europe, from shopping in Munich to attending concerts in Vienna, Austria.

"Even though the internship ended in July, Mr Fong is still in close contact and working with the German research team," said Prof Weil.

He was offered to keep working with the Max Planck team while re-enrolling for classes at SP.

They got to enjoy a nine-day trip to Switzerland, soaking in the sights and checking out their best hotels.

But it was no vacation.

"Most hotels in Switzerland are family-owned and run on a smaller scale, which is the major difference from Singapore. But their hospitality skills were amazing and the hotels were run very efficiently."

-- Gan Shi Wei

Healthcare Scholarship Winners

A bumper crop of 13 School of Chemical and Life Sciences graduates received scholarships from Ministry of Health Holdings in 2013, which will finance their healthcare-related degree studies in places such as the National University of Singapore, the University of Missouri (Columbia), and the University of Queensland (Australia).

Showing Off Skills in Germany

Five SP students represented Singapore at WorldSkills 2013, an annual international competition that invites talented youths from around the world to compete in skills ranging from healthcare-giving to robotics, mechatronics and even cooking!

The School of Electrical and Electronic Engineering and School of Mechanical and Aeronautical Engineering students flew to Leipzig, Germany to compete in various engineering-related fields.

Trip to Switzerland an unforgettable experience

Most hotels in Switzerland are family-owned and run on a smaller scale, which is the major difference from Singapore. But their hospitality skills were amazing and the hotels were run very efficiently.

-- Gan Shi Wei

Visiting: Singapore Poly students Yap Chin Yee and Gan Shi Wei at Chapel Bridge in Lucerne, Switzerland.

Photo: Yap Chin Yee
She’s training for a life at sea

REPORT: ANDRE JOSEPH THIENG
ajtheng@sph.com.sg

N a sea of men, female student Baby Tan aims to make her mark. Miss Tan, 19, loves sailing and is one of very few women in this line.

In her diploma in nautical studies course at Singapore Polytechnic, where she is in her final year of the three-year programme, there are only five female students in the cohort of 60.

She chose the course partly because she was inspired by her cousin, who took the same course years ago and regaled her with tales of her experiences at sea.

It was also partly a pragmatic decision. She said: “As Singapore is a maritime hub, I knew there would be plenty of opportunities for me to pursue a career in this field after my studies.”

Little did she know that she would come to enjoy the course so much. As part of the course, she has learnt skills such as navigation, passage planning and how to react to various situations which may occur on board ships.

The highlight of the course was two six-month internships which she spent on board a 260m-long container vessel with some 30 crew members.

The first internship saw her visit ports in Myanmar and Malaysia. The second took her halfway round the world to South America, where she visited countries like Argentina, Brazil and Uruguay.

Both times, she was away from home for months, with hardly any access to a phone or the Internet.

The male-centric nature of the industry was even more evident during her time at sea. On the first ship, she was the only female crew member and on the second, she had one female course mate.

But aside from minor inconveniences, such as having to return to her own room to change, being in the minority was no problem for Miss Tan.

She said: “While there will still be some crew members who have second thoughts about having women on board, I am confident that women can be trained to be as equally competent as their male counterparts.”

Miss Tan lives with her father, who is a school bus driver, and two siblings in a four-room flat in Ang Mo Kio. While her father was initially reluctant to allow her to pursue the course due to the long periods spent at sea, he is now supportive after seeing Miss Tan enjoy what she is doing.

Cyclones

Spending much time at sea has given Miss Tan the opportunity to realise that there are many things here that she is grateful for.

Citing one example, she said: “We sometimes encounter bad weather such as cyclones while at sea, and I’m glad that we don’t have such natural phenomenon here.”

Recounting how some uniquely Singapore traits are evident even while at sea, she said: “Singaporean crew members have a habit of wearing flip-flops, though they should be wearing safety boots while on board the ship!”

Her enthusiasm for sailing has rubbed off on her sister, who is now taking the same course at Singapore Polytechnic. She said: “I’m proud that she decided to take up the course. She knows that our cousin and I are here to guide her.”

Scan QR code for more details on Singapore Maritime Academy diploma courses.

Cruise attachment beats studying in class

Diploma in Hotel and Leisure Facilities Management (DHLFM) students interned with Star Cruises Singapore, where they had memorable and enriching stints on cruises while applying marketing and event management skills learnt in class.

SUMMARY OF CHINESE ARTICLE

游轮实习比课本精彩

毕业就职维京海路，是不少人向往的理想路径。而眼前的太平洋就是有机会实现梦想的地方，体验“真船”工作方式。

来自新加坡理工学院的郑德勤（19 岁），今年 3 月去参加学校安排的观星营地，开始实习。在过去的近一个学期，他在那里住了一个礼拜，每天都要到船上去工作，甚至要起床去船长的房间报到。

他回忆说：“就像轮船上的生活一样，每天都有不同的任务和活动。我对这个工作很感兴趣，希望以后有机会去真正的船上实习。”

而他的小伙伴们则对这个为期数月的实习非常期待。郑德勤说：“我想去真正的船上工作，也想看看海上的生活到底是怎样的。”

用他的话来说，这学期的实习会让他有机会去真正的轮船上工作，甚至有可能会去真正的船上工作，这对他来说是一个难得的机会。

在海上的生活，郑德勤说，他会去真正的船上工作，也会去真正的船上参观，去了解真正的轮船工作。

邮轮实习比课本精彩

第一页

在去正式的实习之前，郑德勤就去邮轮上实习过。“在真正的船上实习，我看到了真正的轮船，也看到了真正的轮船工作。”

他笑着说：“我会去真正的船上工作，也会去真正的船上参观，去了解真正的轮船工作。”

邮轮实习比课本精彩

他还会去真正的船上工作，也会去真正的船上参观，去了解真正的轮船工作。
Authentic Learning 11

Singapore Poly launches record label

Its first album will feature alumni of its music and

telecommunication diploma programme

Editions Abdul Hadi

Music Correspondent

Wong Ng Yeh dreams of making it as a Mandopop

vidéaste SORTIE du tai du

region. The 20-year-old bade

musician is one step closer to

his dream after winning the

album under the name Weekend.

The school has started its own record

label, SPEARe (SINGapore Poly
telecommunication album label).

Run by staff and students from its

diploma in Music and Audio

technology course, the label has

recent graduate from the

label, is one of its first signings.

The budding musician, who performs

under the stage name Yeh, says: "When

I was offered a chance to release my

songs under SPEARe, I immediately said

yes. It is a dream come true for me.

I am showing my gratitude to my lecturers and

consumers for helping me with this music."

She will perform live at The Coliseum Resorts World Sentosa today in a concert

to mark the label’s launch.

The label’s first release, Weekend, will be a compilation album that features

original tunes from Wong and three other acts made up of fellow course

graduates: pop rock outfit Versienta Street, experimental indie band form spirits and

pop singer-songwriter Deliverance.

The eight-track albums will be sold as digital songs at US$0.99 (S$1.30) per track

through iTunes from Monday, and the label plans to release it as a CD in the

future.

Course head Michael Spear says the label

is an "educational initiative", a way

for the students to integrate the different

skills that they learn in the course, from

music composition to audio production.

It is the idea that they will work with

the staff to try and make everything come

out of the project together."

Describing her music as a mix of "club

rock, hip-hop, classical and orchestral rock", Wong, who started learning the

vocals at the age of five, is keen on making

the new album as a stepping stone to her

music industry.

"Studying in the school gave me the

natural education," she says. "I’m not

not learning about composing music and

telecommunication technology but also how music is

packaged and sold.

And while she is used to backing up

other artists as a vocalist at concerts,

being an artist on the record label has

made her more confident as a solo act.

"I’m more comfortable now being

upfront and presenting my own band of

backing musicians."

The five musicians from Versienta Street,

who are all either 20 or 21, formed the

band as an ad-hoc outfit to play at a

welcome party for former students who had just

enrolled in the course.

Since their formation in March 2013,

the band have been actively playing at the

school and venues such as the Esplanade,

deciding and sharing a show monthly.

Supported by Nigeli Peh, 20, "We had

under SPEARe is a big help, because they

take care of a lot of the practical side

when it comes to recording and releasing

our songs, which was a fun on making

music and performing."

Like Wong and the other acts, Versienta Street will release their own five-song EP

under SPEARe soon.

Mr Spear says that the record label is

funded by the course department,

although he declines to reveal the initial

investment, it is not a money-making

venture, he says.

Proceeds from song sales will be used for

the label’s iceberg expenses. While he
does not rule out selling acts not affiliated to the polytechnic, he says the

label will focus on courses and alumni.

"In that way, SPEARe is a little bit

more of a commercial label with other record labels. It’s not a commercial

enterprise."

LIAHNE ZAOBAO | 18 DECEMBER 2013

Digital animation exchange between SP and Japan

SP's School of Digital Media and Infocomm Technology had a recent exchange programme

with the Nihon Manga Geijutsu Gakuin (a manga and voice-acting school) from Japan. The exchange allowed the students to share and learn about digital animation from their Japanese counterparts.
Fresh ideas for food centres of the future

NEA gets poly students to redesign, rethink ways to tackle current issues

By JANICE TAI

THE STRAITS TIMES | 1 NOVEMBER 2013

The final-year Singapore Polytechnic Aeronautical Engineering student received his junior pilot's licence from the Singapore Youth Flying Club in 2012 and is, literally, a high-flyer.

Jonathan chose the polytechnic route after scoring six points for his L1R4 because of his love for “anything that can fly”. It was at the Robotics Club at Swiss Cottage Secondary School where he discovered flying and projectiles.

“I went for the open house and spoke to seniors who told me about SP’s reputation in engineering, “ said Jonathan. He opted for the Direct Polytechnic Admission and was also offered a scholarship by the polytechnic.

Under the Singapore Polytechnic Outstanding Talent (Spot) programme, Jonathan benefited from a leadership training camp to Telunas, Indonesia. He also said future hawkers centres should maximise space and foster interaction with others.

Some SUGGESTIONS

- Chairs are retrievable and can be stored when not in use. This allows street vendors to access the table and use up space for customers to walk or form queues.
- Inspired by the standing stalls in Japan, the standing stalls in the centre of hawkers centres will allow more patrons to have a quick bite and converse with others.
- To recycle cans, students come up with a food trolley that is able to future drink cans on the spot.
- Tables which have “detachable” top panels and hooks beneath them for keys to hang their bags and indicate that the tables are taken.

For 19-year-old Singapore Polytechnic (SP) scholar Jonathan Liew, the sensation of flying a plane can be summed up in a word: Shiok.

The model student, who has a GPA of 3.9, enjoys his lessons, which gives him an understanding of the workings of a plane. But nothing beats the real thing, he insists.

“When you are in the sky, there is a vast amount of space. I love the sense of freedom and motion,” said Jonathan, who plans to be a pilot and hopes to get a Singapore Armed Forces scholarship.

“Polytechnic prepares me for life in future and allows me time to chase my passion,” he said.
S’pore team pushes on in solar car race

Students head for finish line beyond Aussie outback

By JONATHAN PEARLMAN
FOR THE STRAITS TIMES IN SYDNEY

FIVE days and 2,185km into his 3,000km sunpowered odyssey across the Australian outback, Mr Jayson Ang did not seem bothered by the lack of sleep or a daily diet of cereal and instant noodles.

Nor did he mind sleeping by the roadside or fending off a stray donkey attacking his camp.

Instead his main concern, along with his 23 fellow students and teachers from Singapore Polytechnic (SP), has been to follow the movement of the sun – and to frantically squeeze as much energy out of it as he and his teammates can.

"Everything is about the sun," Mr Ang told The Straits Times. "We have to catch every single bit of it.

Since Sunday, Mr Ang and his teammates have been making their way from the top of Australia to the bottom to support a space-age looking one-person car, named SunSpec 3, that runs on nothing but solar power.

Two students and two staff are registered to drive the car, while the rest of the team helps with navigation, maintenance and logistics. The team expects to finish the race, called the World Solar Challenge, in Adelaide today or tomorrow.

They are at least a day behind the winner, the Dutch team Nuon, from the Delft University of Technology, which won the race yesterday. A total of 40 cars from 22 countries competed.

Speaking by phone from Coober Pedy, a small opal-mining town, Mr Ang said poor weather kept the car at about 65kmh instead of the hoped-for 85kmh.

The 200kg car is fitted with 516 pieces of solar cells which can absorb 23 per cent of the sun’s rays. On Wednesday, the car briefly hit 95kmh and overtook a few competitors.

As time goes by, I believe people will build solar cars for commercial purposes," said Mr Ang. "We can travel so far without using a single bit of fuel. It can help to save the earth."

The race is held every two years and aims to push the quest for designs that can one day be put to widespread use. The cars race between 8am and up to 5.17pm and do all they can to capture and store solar energy.

This time, cars were required to have four wheels rather than three, which added wind resistance and weight.

The winning Dutch car had an average speed of 90.71kmh and took 33 hours to finish.

"We predict every second of the race," a Nuon spokesman told reporters after the race. That includes calculating weather, energy use and top speed to arrive at the finish line at the precise moment when the battery is empty.

The Singaporean team did not seem to mind the prospect of finishing near the back of the pack.

"So far, so good," Mr Ang said. "It was pretty exciting camping in the middle of nowhere. It is very hot in the day and cold at night and the roads can be straight and never-ending."

Mr Steven Chew, a staff member from SP’s School of Electrical and Electronic Engineering, said the students had not merely learnt about engineering but also about coping with pressure and life in the middle of nowhere.

"You can see a lot of the students really growing up," he told The Straits Times.

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Convenience in a cup

Entrepreneurs: Mr Leon Thor, 20 and Mr Lee Zhen Yang, 19, both pursuing a Diploma in Information Technology.

Mr Joen Citroen, 19, and Mr Joel Chiam, 21, both pursuing a Diploma in Business Administration.

Business name: Empro Ideas LLP

Nature of business: Suckies brand of bean curd pudding in a cup

Start date: June 2012

Start-up cost: $2,000

Turnover: Five-figure sales

Number of employees: Eight part-time salesgirls

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These four Singapore Polytechnic (SP) students who aspire to be businessmen, took up a year-long entrepreneurship programme and are now seeing their dreams turn into reality.

Third-year students Mr Leon Thor, 20, Mr Lee Zhen Yang, 19, Mr Alwin Citroen, 19, and Mr Joel Chiam, 21, who had to pitch a business idea for their entrepreneurship option project, came up with the idea of serving bean curd in a cup to be consumed through a straw.

Said Mr Lee: "We realised that a lot of stalls were selling bean curd pudding and we wanted to explore different ways of consuming it.

Having it in a cup and using a straw to consume it is convenient and suits the busy lifestyle of Singaporeans."

The team put the concepts and skills they learnt in class, such as financial and marketing knowledge, to use in setting up their business in June, and officially launched their bean-curd-in-a-cup called Suckies on July 16, at one of the food courts on campus.

And Suckies has become the drink of choice among SP students. The novel way of eating (or drinking) the bean curd, coupled with delectable flavours, such as caramel and vanilla, have proven to be a success.

The team hopes to offer their product to the public next. They plan to rent a shop and sell Suckies at a shopping mall.

Said Mr Lee: "As a school project, we are happy that it has exceeded the requirements that we needed for our final-year project."

"But at the business level, there are still a lot of things we have to learn – like building up our brand name and getting the public to like our product."
Learning and applying business acumen

The Diploma in Business Administration (DBA) develops the spirit of enterprise in its students. Those taking the Entrepreneurship Option in DBA have several avenues for exploring business set-up and management. For instance, an annual SP entrepreneurship bazaar showcases student food, fashion and other retail enterprises funded by the students’ own personal savings. Another avenue is SPELL, SP’s Entrepreneurship Living Lab, located at Changi Airport. This fashion apparel store provides business students an authentic environment for retail management and customer service.

Diploma in International Business grad Noor Loic Bh Satar has been offered places in NUS and NTU to read business, with a scholarship.

Andre Neo from the Diploma in Accountancy will be studying accountancy at NTU with the Nanyang Scholarship.

Weining Ng from the Diploma in Human Resource Management with Psychology will be reading business at NUS.
Ordering Food The Tech Way

SP students from the Diploma in Digital Media developed the Etizal menu and food-ordering service, which aims to help alleviate the manpower crunch faced by restaurants in Singapore. The app was developed after gathering feedback from restaurant operators and their customers.
Robotic arm for stroke patients

Engineering students from S’pore Poly score with final-year project

“There are medical devices in the market that target the wrist or the elbow, but there are few devices that can do all three – extension and flexion of the wrist and elbow, and supination and pronation of the arm.”
– Mechanical engineering student Jo-Ern Yeo

A NEW robotic arm can help stroke patients do these things: Lift their elbows and wrists up and down, and turn their forearms – movements necessary to pick up a cup, use a fork or spoon, or comb their hair.

Singapore Polytechnic’s (SP) third-year engineering students, who came up with the arm, said this is the difference between their invention and those in the market.

“There are medical devices in the market that target the wrist or the elbow, but there are few devices that can do all three – extension and flexion of the wrist and elbow, and supination and pronation of the arm,” mechanical engineering student Jo-Ern Yeo, 21, told The New Paper.

The final-year project is a collaboration involving six electrical and electronic engineering students and five of their mechanical engineering colleagues.

The idea to develop a better robotic brace came from one of the team members whose relative had suffered a stroke eight years ago.

Student Ho Qian Ci, 20, said: “When my aunt’s husband got a stroke, he was forced to take three cleaning jobs to support my three cousins. The family was stressed financially and mentally,” he said.

Such a device would help a stroke patient recover faster, student Chia Wen Feng, 19, said. “It’s like a car, made from carbon fibre – light enough to be carried home or from ward to ward,” he said.

The students spent about nine months from March to December last year developing the prototype, working with three therapists from St Andrew’s Community Hospital (SAHC), where they observed the movements of stroke patients and took measurements of their arms.

One of the challenges was to come up with a prototype that was ergonomic and modelled after the human arm.

SAHC’s inpatient therapy services manager, Ms Anna Lee, said the therapists highlighted to the students the potential problems patients may have when using the brace and how they could fine tune its movement, and any safety issues that needed to be considered.

Between April and October last year, the students made six prototype changes before settling on their final product.

Their efforts seem to have paid off. Said SAHC’s Ms Lee: “This lightweight arm brace definitely can help to restore a weakened arm due to stroke injury. Its ability to provide passive range can facilitate a weakened arm to experience normal if not a functional range of movement.”

The next stage is to apply for grants, refine the design, embark on clinical trials and approach companies to produce the brace, said Dr Lee Kim Kheng, senior lecturer of SP’s School of Mechanical and Aeronautical Engineering.

He said: “We hope it will be used in community hospitals with the option for patients to rent the device.”

The students estimate that the robotic arm can be sold for less than $2,000 and that some patients might want to buy it for home use.

Mr Gibson Chan, senior rehabilitation manager of St Luke’s Hospital, said the invention would be an “extra help” and cut down the time taken for such devices to become available in Singapore.

He said: “Some products have been on the market for 10 years, but only arrived here two or three years ago. They are usually available in the US first, then Europe, and then, after sometime, in China and Asia.

“This has usually to do with intellectual property rights. The students’ invention can help bridge this gap, and more people can benefit from using the device.”

Mr Ken Koh, 28, the managing director of Talententrepreneur Hub, an entrepreneurship consultancy, said that SP could link up with existing players in the market.

“There are established distribution channels in place, competitors with vested interest,” he said.

The students should leverage on this, work with them, find out what else influences purchasing decisions by clinics or hospitals, instead of going against company A or B, because what (the students) have done is to have improved on an existing device.”

The robotic arm brace is one of the 87 engineering projects on display at SP’s Engineering Show.

The show, which ends next Tuesday, is open to the public on Saturday.
Train in cyber warfare at S’pore Poly
School launches academy to offer courses from Jan

By AMELIA TENG

INFORMATION technology professionals who want to be trained in cybersecurity can soon do so at Singapore Polytechnic – the first local institute of higher learning that will offer such courses.

The move comes in the wake of a recent spate of attacks on Singapore websites since mid-October.

The school yesterday launched the Cyber Security Academy, which will conduct courses starting in January next year.

The academy will initially provide two cybersecurity courses taught by trainers from IT firm Ixia, which specialises in security. The polytechnic lecturers will also teach courses in future.

Cost details are being finalised.

The courses will be held in the school’s Cyber Wargame Centre, a facility launched earlier this year which can simulate cyberattacks.

This is the first time the centre, which is used by the school’s infocomm security diploma students, is open to working adults.

The centre is equipped to handle large-scale simultaneous cyberattacks involving up to 7.5 million users. At the facility, organisations of various sizes can test how resilient their IT systems are against such attacks.

The need to train more experts in cybersecurity has assumed greater urgency, following recent cyberattacks on a number of websites including those of the Istana and the Prime Minister’s Office.

Recent events in Singapore and the world have heightened awareness of cybersecurity threats and prompted many organisations to revisit their attitudes towards cybersecurity,” said Ms Jacqueline Poh, managing director of Infocomm Development Authority of Singapore, who was the guest of honour at the launch.

The setting up of the academy is in line with the National Cyber Security Masterplan launched in July, she said. There are also plans to offer infocomm security courses and degree programmes and more scholarships to encourage students to specialise in cybersecurity, she added.

Mr Naveen Bhat, vice-president of Ixia in Asia-Pacific said organisations that arm their networks with firewalls and other defence systems fulfill only “a rudimentary network security checklist”.

This approach overlooks the more important role played by humans and this is where the academy can play a key part in training professionals in network security, he added.

The polytechnic will also partner infosecurity provider e-Cop and ST Electronics to roll out more courses next year.

SP’s engineering innovations are showcased every year at the SP Engineering Show during the school’s Open House in January. There, students display creative technologies they’ve worked on such as portable solar energy generators, robots with voice-recognition and speech capabilities, advanced water purifying filters (article below) and various assistive tools that help to rehabilitate the injured or the elderly.

This exhibition allows members of the public and industry professionals to learn more about the skills and portfolios of our engineering students.

S’pore Poly students help analyse needs of Android tablet users

By AMELIA TENG

THREE Singapore Polytechnic (SP) students are helping with research on what people around the world want out of their Android tablets.

A group of them have been working with telco StarHub to find out what consumers are saying online about products sold with the telco's services.

“This is believed to be the first tie-up with a company for polytechnic students here undergoing training in social media analytics, a rapidly growing area in the IT industry,” a National University of Singapore professor told The Straits Times last month.

Last month, the polytechnic opened the Social Media Listening Centre to train more than 480 business IT students in social media analysis. Nanyang Poly has a similar centre that opened in 2011.

Students at SP – the first to try their hand at a real-life project – spent last month trawling the Web for comments and views, using software developed by online business intelligence firm Brandtology.

They covered thousands of websites – including local and international forums, magazines and blogs – and read through even more Twitter and Facebook posts, to find out which products using StarHub services were most popular.

Three popular tablets emerged from their analysis: Samsung’s Galaxy Note 10.1 2014, Google Nexus 7 2013 and Sony Xperia Tablet Z.

They also came up with three types of consumers likely to use these tablets.

For instance, those who preferred the Galaxy Note 10.1 used it for note-taking, while Nexus 7 users were likely to watch movies and play games on it.

First-year student Chan Weng Wah, 23, one of three students involved in the research, said: “It was a great opportunity to work with real companies like StarHub. It helps us learn what kind of insights are useful for their decision-making process.

“If not, we would just assume what companies want. ”

The school’s next two projects are due to start this year, which seven other students will be part of.

By working together, we found that we could crowdsource online conversations to provide useful user reviews on StarHub products and services,” he said.

Mr Darren Choo, StarHub’s assistant vice-president of social customer relationship management, said Singapore Polytechnic has access to social media monitoring tools which can analyse trends based on social media sentiments.

“By working together, we found that we could crowdsource online conversations to provide useful user reviews on StarHub products and services,” he said.

Mr Choo added that StarHub is open to partnerships with other organisations.

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Wanted: Views on new Orchard library

Four design prototypes on display for facility which is set to open in 2014

By PEARL LEE

Unlike libraries in the heartland, the new one in Orchard Road wants to draw users including those seeking to escape from shopping leagues for a while.

Hence, in the run-up to the opening of Library@orchard, slated for the first quarter of 2014, the National Library Board (NLB) is seeking public feedback on what facilities it should offer.

The Orchard, which is tied-up with Singapore Polytechnic (SP) to develop the library, launched four design prototypes each with a different concept.

They will be displayed at the Central Public Library in the National Library building till Jan 9. The public is encouraged to give views on the prototypes, called ‘Friends Gallery’, Memory Rock, The Cocoon and The Book Tree.

They were developed after the NLB-SP team conducted interviews in March and April with more than 100 people who frequented Orchard Road, to find out their reading and shopping habits.

They included students, working professionals and the elderly. Mr Carlos Li, a lecturer at the polytechnic’s School of Architecture and Built Environment, said most interviewees wanted to be engaged meaningfully in the New library. “Some wanted a more meaningful way to while away time,” he added, referring to shoppers who often have minutes to spare while waiting for friends to arrive.

The team summarised the findings into three key themes – to engage and discover, to be engaged, and to escape. These themes were incorporated into the designs of the four prototypes.

The Cocoon, for example, showcases the theme of escapism in a spacious single-seater pod which provides users with privacy. Ambient lighting and music within the pod can be adjusted to enhance the reading experience.

Library@orchard will be at Orchard Gateway. The mall, located between Orchard Central and JEM, will be set up in the second half of next year.

Senior manager Gernove Lieu, in his 30s, with his son Gabriel On (hepengfan), 2nd, and Ethan On, seven, trying out The Cocoon, one of four design prototypes for the new Library@orchard.

THE STRAITS TIMES | 19 DECEMBER 2012

Letting ads fly

A monocopter that can display graphics and messages using LED lights on its spinning rotor has been created by a Diploma in Aerospace Electronics (DASE) alumnus. Mr Pheh Ying Hong created it while awaiting his enrolment into the Singapore University of Technology and Design. A commercialised version of the monocopter is predicted to be available on the market next year.

Summary of Chinese article

让广告高飞

单翼直升机升级版产品最快明年中出炉，预计可成为新颖的飞行广告板。

23岁的张英鸿去年7月开始构思，做了一款可以遥控飞行的机器，参加今年3月的“新加坡神奇飞行大赛”。他在这个年中直升飞机（monocopter）的镂空上，装上“InfLED”灯组，通过数个颜色的转换，呈现不同图案和字样。虽然只有一个机翼，但因为转动得快，最后可看到完整图案。

虽然成功获得季军，但彭英鸿希望继续参赛，提升产品的性能，并着手进行更多试验。

“目前可以考虑的是在软件上放置信息和图样的，我希望它能支持无线网络功能，具备卫星导航系统，并让用户通过手机app应用管理输入信息等，就可即时反馈新信息。”

只能支持持续五六分钟飞行的电池也有待改良，它也可能提升成为双翼。“升级新产品最快明年中出炉，预计可成为新颖的飞行广告板。”

在新加坡国立大学新加坡工程学院电子系（EE）修读电子工程系，张英鸿曾担任第20届“新加坡神奇飞行大赛”的裁判。

直而言，他于2008年在新加坡国立大学电子系修读主修电子工程，并在新加坡国立大学电子系（EE）修读电子工程系，作为第20届“新加坡神奇飞行大赛”的裁判。

他原本在新加坡国立大学电子系修读电子工程系，作为第20届“新加坡神奇飞行大赛”的裁判。他近日还在新加坡国立大学电子系修读电子工程系，作为第20届“新加坡神奇飞行大赛”的裁判。他近日还在新加坡国立大学电子系修读电子工程系，作为第20届“新加坡神奇飞行大赛”的裁判。“新加坡神奇飞行大赛”是新加坡国立大学电子系（EE）主办的一项电子工程系比赛。
S’pore Poly builds quick-change simulator

By Derrick Ho

It may not be the same as fixing up a supersonic jet, but having a hand in building a flight simulator from scratch was something beyond aircraft engineer Tan Jun Heng’s wildest dreams.

The simulator is not a regular one. Housed at the Singapore Polytechnic (SP) campus in Dover Road, it is believed to be the first full-motion simulator with an interchangeable cockpit built by an institute of higher learning.

The $500,000 machine, which measures 3m by 3.4m and is 3.5m tall, can be fitted with the cockpit of an F16 fighter jet, a Boeing 737 plane or an F1 racing car in under 10 minutes each.

Back in 2009, Mr Tan, now 30, was part of the first of three batches of SP students selected to work on the project as part of their diploma’s final year course.

His team of five was tasked to design and build the simulator’s dome. They also had to create a special forklift system that would help move the cockpits in it.

The team members, who were all pursuing a diploma in aeronautical engineering, were given nine months to complete the project, but they completed it in just under seven.

At the same time, another 12 students – some also studying aeronautical engineering, others avionics and computer programming – were putting together the F16 cockpit, the graphics and the imaging system of the simulator.

For Mr Tan, who had flunked his N-levels and spent four years at the Institute of Technical Education, the project was a major stepping stone in helping him to fulfil his ambition of joining the aerospace industry.

“I’ve always dreamt of flying on a Concorde, but as I have no money to do so and it is out of service, why not get a job to repair other planes,” said Mr Tan, who now works at ST Aerospace and is aiming to become a licensed aircraft engineer.

In 2010, the second batch of SP students added the Boeing 737 cockpit and a force feedback system, which is a response mechanism that causes the control column to simulate turbulence. A year later, the third batch of SP students built the cockpit for the F1 car.

Despite the simulator’s plus points, it is not the same as the professionally made ones which are used to train pilots or drivers, and it was never intended to be. For one thing, it does not have every single instrument panel found in the real cockpits. Also, the motion it simulates is only an approximation. Commercial simulators rely on proprietary data collected from actual test flights, which the school does not have access to.

Instead, the simulator is for training the crew looking after the vehicles, said Mr Liew Hui Sing, who is course chair at SP’s school of mechanical and aeronautical engineering, and the man behind the project.

“We’re not training or certifying pilots or drivers, but teaching engineers how to apply what they have learnt and how systems can be built and integrated,” he explained. An interchangeable system helps save space as the two other cockpits can be stacked on a custom rack when they are not in use.

Already, the school has been commissioned to build two interconnected simulators that will be placed side-by-side for interactive combat simulation. It declined to reveal further details.

Said Mr Tan: “There is nothing more satisfying than when you see crew members of people when they come out from the simulator, because they are smiling so widely.”

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Inside the $500,000 machine

Images are projected by two wide-angle simulator projectors with image blending and distortion capabilities.

Images are projected onto an arc-shaped screen that provides a 140-degree field of view. The user sits at a distance of approximately 1.8m from the centre of the screen for the best experience.

A 3.1 speaker system provides the sound effects for a realistic experience. Users can also wear a headset, from which they can receive instructions from the simulator operators outside.

The interchangeable vehicle chassis is mounted and locked down onto the dome by four quick-release toggle clamps.

The four-aided simulator dome is made from an aluminum alloy to ensure the structure is lightweight but sturdy.

The F1 car cockpit chassis has an aluminum-alloy structure with a fibreglass skin. The base of the chassis is constructed such that a special forklift can easily exchange the F1 car cockpit chassis for an F16 or Boeing 737 cockpit chassis within minutes.

Three pairs of electrical ball linear ball screw actuators at the dome’s base help create the realistic motion of the simulator. They work together to allow the dome to move with six degrees of freedom – forward, backwards, up, down, left and right. In all, they can hold a one-tonne load.

Watch the video

www.straitstimes.com
Is the F1 simulator more realistic than a racing game? TECH WATCH puts it to the test

Download a QR code reader app on your smartphone and scan this code for more information.
Poly students make life easier for villagers
SP team designs machine to save time and effort for women making tapioca crackers

By AMELIA TENG

YOGJAKARTA (Indonesia) – Squeezing water from strips of tapioca is harder than it sounds, but a group of Singapore Polytechnic (SP) students have made life easier for some Indonesian village women by cracking the problem.

It took them less than 10 days to design a machine that does the job in half the time and with less effort.

Usually, it takes two people up to three hours to squeeze out water manually from the strips when making tapioca crackers, a popular snack which a group of 30 women from Polengan village in the southern Indonesian district of Magelang sell for side income.

Now all they need to do is put the strip in the machine, and turn its handles.

So far, SP Polytechnic third-year diploma student Muhd Shazly, 23, the experience was a break from typical school projects.

“I’ve learnt theory in school, but I’ve never seen what’s next – and this was it, the application part,” said second-year digital media and information technology student Shazly.

He is one of 23 students on the polytechnic’s Learning Express – a new programme in which students put what they learn into practice.

It is part of the conceive-design-implement-operate (CDIO) framework which was conceived by the Massachusetts Institute of Technology in the late 1990s, and implemented by SP in 2004.

The Learning Express’ inaugural run this month was held in Yogyakarta, where the polytechnic also signed a memorandum of understanding with the University of Muhammadiyah Yogyakarta and the University of Muhammadiyah Surakarta to train 70 faculty in the CDIO method.

The training, led by about six academic staff from SP, consists of a two-year series of workshops which started last month.

Of the 70 staff, 12 will also be trained to teach the system to another 100 participants from other institutions.

The training programme is funded by a $453,780 grant from the Temasek Foundation, the philanthropic arm of Temasek Holdings, and another $146,250 from the two Indonesian universities.

SP’s Learning Express projects serve as a demonstration to the Indonesian faculty there of the CDIO method in action.

In groups of about seven, they spent 10 days in three villages in Yogyakarta, getting to know the local and their needs. They worked together with their peers from countries like Indonesia, Japan and Vietnam to come up with solutions to meet challenges that villagers face.

In the village of Garak, in the Kasihan district, for example, students helped villagers develop an eco-tourism business model.

By AMELIA TENG

Singapore Poly students design floating toilet
SP Diploma in Chemical Engineering (DCHE) students designed a floating toilet system that can help villagers in flood-prone regions to maintain hygiene and sanitation when floods submerge their normal, ground-level toilets.
Govt to fund volunteer youth corps

By ELGIN TOH

A VOLUNTEER youth corps will be set up to help spur the young to make a bigger difference to Singapore.

It is for those keen on community service and will be established and funded by the Government.

Prime Minister Lee Hsien Loong, in announcing the move yesterday, urged young people to step up: ‘You are our future. You are idealistic, full of energy and passion. Go forth, change Singapore, change the world, for the better.’

The new body will expand opportunities for community service in Singapore for young people, especially students from the Institute of Technical Education, polytechnics and universities. They may receive funding to start projects and, if necessary, be given time off from school to work full-time on community projects.

Grants will also be available for those who continue to be involved in the projects after graduation.

Young Singaporeans will receive guidance from mentors and be matched to areas where the community’s needs are especially critical.

‘When I was leaving, a 10-year-old boy, Galchen, cried,’ said the 19-year-old, who was in Nepal for two weeks.

‘What I learnt was: the kids there don’t have the best things but were very contented. Singaporeans should learn to appreciate better what we have.’

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300 needy students get free eye tests, specs

ABOUT 300 students from low-income families in Singapore are getting free eye tests and spectacles.

Lens-maker Essilor, which launched its philanthropic arm Essilor Vision Foundation (Singapore) yesterday, is working with groups here to conduct four days of eye tests for a group of needy primary and secondary school students. Those who need glasses can pick them up next month.

The students were chosen by the student group Singapore Indian Development Association (SInda), which organised the eye exams with the foundation, NIPS International School, consulting firm Bridgeable and Singapore Polytechnic.

Essilor’s chairman and chief executive Hubert Sagnieres said the group hopes to raise awareness among parents about the importance of eye exams for children.

He said: ‘If they don’t see well, they can’t learn in school, they may have bad grades and they could have a poor life.’

Around 3,000 eye tests are conducted in Singapore each year, said the group. The foundation is planning to conduct tests for 100 children.

He said: ‘We are trying to raise awareness among parents about the importance of eye exams for children.’

SINGAPORE Poly student Kimberly Lee, 15, conducting an eye test on Deba Ramakrishnan, 15. (ST PHOTO: ONG WE JIN)

300 needy students get free eye tests, specs

My business administration course provided me with skill sets such as accounting and marketing.

When he was a second-year business administration student at Singapore Polytechnic, Mr Keith Tan and his team won an enterprise competition in which they helped design a greenhouse, promoted mushroom cultivation and built a computer laboratory for a village in India.

And the win inspired Mr Tan, 24, to become a social entrepreneur.

After completing national service and just before entering university, he founded a company called StartNow with a friend from secondary school.

Mr Tan said his company aims to promote volunteering in Singapore by creating software that provides non-governmental organisations with a platform to connect with their volunteers.

Currently a second-year political science student at the National University of Singapore, Mr Tan is proud that his company earned an estimated six-figure revenue this year.

Mr Tan said the skills he picked up in polytechnic played an important role in his startup.

‘I was part of the Entrepreneurship Concentration programme in polytechnic, which sparked his desire to be an entrepreneur. ’

‘My business administration course provided me with skill sets such as accounting and marketing.’

In the last two years, his company received $50,000 in funding from Spring Singapore and won a total of $55,000 in seed money from various competitions, including the Singapore International Foundation’s Young Social Entrepreneurs Programme.

‘The social entrepreneurship scene is becoming increasingly energetic. It is a business and profit is still the bottom-line, but something meaningful is created with the money made,’ he said.

ENTREPRENEUR: Mr Keith Tan, who studied business at Singapore Polytechnic, started a social enterprise called Start Now. PHOTO: KEITH TAN

Go Serve with a Heart

THE STRAITS TIMES | 19 AUGUST 2013

THE NEW PAPER | 26 DECEMBER 2013

THE STRAITS TIMES | 20 MAY 2014

SP students and staff involved in Project Nepal (from left): Le C’ on (Diploma in Applied Chemistry with Pharmaceutical Science), Kelvin Tan You Kai (Diploma in Chemical Engineering), Khoo Yu Ting (Lecturer, Diploma in Chemical Engineering), Ng Su Ling (Lecturer, Diploma in Applied Chemistry with Pharmaceutical Science), Muhammad Zafrin Bin Saini (Diploma in Applied Chemistry with Pharmaceutical Science).

SP students preparing a concrete mixture for building a classroom.

Photo insertion: Singapore Polytechnic

He started social enterprise after winning competition

My business administration course provided me with skill sets such as accounting and marketing.
Never too busy to go back to school
Stories of encouragement from among 10,000 graduating from NUS this year

FOR the first three years in law school, Mr Darren Tan kept to himself. Now he wishes he hadn’t.

The 35-year-old, one of over 10,000 to graduate from the National University of Singapore this year, was afraid that he would not be accepted because of the more than 10 years he spent in jail for drug and gang-related crimes.

But last July, he told his story to the media. “After I went public, I received messages of support from my classmates,” said Mr Tan, who will receive his law degree on Thursday.

He has secured a practice training contract with TSMP Law Corporation, but hopes to continue helping lawyers with pro bono work.

Fellow graduand Chua Koon Ting, the first polytechnic student to enter the Faculty of Dentistry, also said that he was not treated differently by fellow students.

“I learnt that in university, no one cares where you came from; it’s in the past,” said the former Singapore Polytechnic student, who is now practising at the National Healthcare Group Polyclinics.

This year, 10,282 will be graduating from NUS. They will include the first graduates from five programmes, including the master of Social Work and Public Health doctorate.

President Tony Tan Keng Yam presided over the main commencement ceremony yesterday, in which 160 students from the University Scholars Programme received their scrolls.

One of them was valedictorian Ow Yeong Wai Kit, 25, who received first class honours in English Literature.

He will be heading to University College London to do a masters in literature on a Ministry of Education scholarship.

“It’s not so much about whether one has a degree. What’s more important is that we have certain intangible skills that can be used regardless of one’s vocation, such as a sense of curiosity,” he told reporters.

The ceremony was also attended by Education Minister Heng Swee Keat. During his address yesterday, NUS President Tan Chorh Chuan spoke about former Prime Minister Lee Kuan Yew, who last month received an honorary Doctor of Laws from NUS.

Said Prof Tan: “The qualities and values he exemplifies, and in particular, his deep sense of purpose, these serve as a powerful beacon not just for all of us in NUS, but for the broader community in Singapore and beyond.”


From Failure to Success
Diploma in Business Information Technology (DBIT) graduate Vaishnavi Naidu shared about the challenges she faced in her academic pursuits. The former JC student attempted two tries in the GCE ‘A’ level exam, only to be rejected for admission into university.

She subsequently enrolled herself into SP where she did well in her studies and actively took part in CCAs. She is currently pursuing her degree in Business Management in Singapore Management University.
He overcomes gaming addiction to excel again

HE LOST his $500-a-year scholarship – no thanks to spending more than six hours a day battling monsters in an online role-playing game, MapleStory, when he was in Secondary 2.

But now, six years later, Mr Thomas Tham will be graduating as one of the top students from Singapore Polytechnic's Diploma in Engineering with Business graduates.

And the 20-year-old has been snapped up by Nanyang Technological University (NTU) even before he has officially graduated from SP.

Mr Tham was granted early admission into – and a new scholarship for – NTU's prestigious Renaissance Engineering Programme (REP), which accepts only 50 students a year.

But it was not like that when he joined Fulham Secondary School and was awarded the school's scholarship for $300 a year.

In his second year at the school, he was addicted to MapleStory. He did badly for his mid-terms, sliding 40 places in the school ranking to 61, and his scholarship was revoked.

"I started playing once I got home, and stopped only to sleep. I basically never studied," said Mr Tham.

"But when I got my results, it really was a wake-up call. I realised my addiction was screwing up my life."

Mr Tham pulled his socks up the next year and he became the top Secondary 3 student in his school.

The following year, he scored 5 points for his O levels.

His father, Mr Tham Tuck Heng, a driver and warehouse manager, earns just $1,700 a month. So, paying the polytechnic fees was a struggle for the family at first.

Mr Tham was initially rejected for the SP Scholarship in his first year, when he applied again with his Year 1 results, he was awarded the scholarship for the remaining two years of school.

While Mr Tham, who is on the Director's Honour Roll, may be in the top 5 per cent of his cohort of 80 students, he said he is not a big fan of studying.

"I'm not an academic guy. I'm more a hands-on guy. Before I entered SP, I was already interested in engineering, so I learnt electronics on my own," he said.

And he also achieved a Gold with Honours for his dedication to his CCA, the SP BP Mentoring Club.

Every week, Mr Tham mentors a group of Zhangde Primary School pupils.

The REP will expose Mr Tham not just to engineering modules, it will also allow him to dabble in business and humanities.

Besides gaining early admission into a highly-competitive programme, Mr Tham also received the Ng Boon Eng Renaissance Engineering Scholarship, which will pay for his tuition and provide him a living allowance of $6,000 each academic year.

Mr Tham said: "When you start to work, they won't care about academics. Other things matter more besides grades and scholarships."

Bright sparks flock to engineering course

They opt for NTU course that combines engineering with business, liberal arts

It has long been one of the least appealing career choices for the country's brightest sparks.

But engineering could now be growing in popularity, with an overwhelming number of top-notch candidates applying for a course at Nanyang Technological University (NTU).

The elite programme, which combines the study of engineering with business and the liberal arts, offers 50 places. But more than 400 people have applied each year since it started in 2011.

This year, one in three applicants is an A-level student with three As, which means they fall into the top 15 per cent in their age group. As a result, NTU is ready to boost the number of places to 70.

Part of the attraction of the residential Renaissance Engineering Programme is that students will get to graduate with two degrees – a Bachelor of Engineering Science and a Master of Science in Technology Management. They also get to spend a year at the University of California, Berkeley and take up internship opportunities in Silicon Valley.

The cost over the full 4 1/2 years is $125,000, but students pay only about half in fees, thanks to tuition fee subsidies from the Government.

Professor Teoh Swee Hin, who heads the programme, said some of the best professors from NTU's engineering and business schools are co-opted to teach. Class sizes are kept to about 10.

He said he hopes the course will nurture a new generation of well-rounded "renaissance engineers" – modelled after Leonardo da Vinci, who was also a painter and sculptor. They could then go on to become chief executives and chief technology officers. This approach is important as "many of the complex problems facing the world today need an interdisciplinary solution," said Prof Teoh.

"I started playing once I got home, and only stopped to sleep... But when I got my results, it really was a wake-up call. I realised my addiction was screwing up my life."

– Mr Thomas Tham (left)
Of his music education in the Diploma in Music and Audio Technology (DMAT), Shun Ng said: “The time I had in SP was some of the best years of my life. I had great lecturers and met my closest friends. To have that opportunity to be around fellow passionate musicians at just 17-years-old was amazing. I grew with them in SP, and I found myself as a musician, artist and human being.”

Besides music, the School of Digital Media and Infocomm Technology nurtures talents in all fields of digital possibilities, including information technology, digital animation and visual effects and motion graphics.

“Of his music education in the Diploma in Music and Audio Technology (DMAT), Shun Ng said: “The time I had in SP was some of the best years of my life. I had great lecturers and met my closest friends. To have that opportunity to be around fellow passionate musicians at just 17-years-old was amazing. I grew with them in SP, and I found myself as a musician, artist and human being.”

Besides music, the School of Digital Media and Infocomm Technology nurtures talents in all fields of digital possibilities, including information technology, digital animation and visual effects and motion graphics.
SUCCESS: Local rapper ShiGGa Shay releases single in advance of his album. 

ShiGGa’s (real name Pek Jin Shen) passion for rap music was supported by skills he learnt during his time in SP’s Diploma in Media and Communication (DMC). He said: “I definitely learnt a lot. My lecturer Mr Loh Aik Khoon taught me how to direct, edit and produce my own videos. For me, ‘Lim Peh’ translates to my father, and is our embodiment of developing the whole man.

In top, left, it features two Ah Boys. To Men actors, Too-Too Zeng wrote and rap the second verse of the song, while Hokkien-speaking Wallace Wang directed a camera appearance explaining what “Lim Peh” means.

Ian Batey, founder of Batey Ads, helped develop Singapore Airlines, Raffles Hotel and Tiger Beer into global brands.

“We were hoping it would be something big and exciting, but even we have been surprised by the reaction. To have a number one on iTunes with no radio airplay and no music video is quite amazing.” – Mr Willy Tan, founder of local record label and music marketing company Aging Youth

$250,000 scholarship from Ian Batey for DMC students

Ian Batey, the creative honcho behind Singapore brands like Singapore Airlines and Raffles Hotel has started a $250,000 scholarship fund for SP students, with a matching grant from the Ministry of Education. Called the Batey Scholar Award, it will be awarded to deserving students from the Diploma in Media and Communication (DMC), the future branding and marketing experts. Said Mr Batey, “We – that’s all the old Batey team – are delighted to make this contribution. It’s an expression of our deep appreciation for the extraordinary opportunities given to us over three decades by Singapore Inc. And we have a dream that sees Singapore as the most exciting creative centre in Asia-Pacific for creating and developing global power brands, and for creating outstanding global advertising campaigns. We hope the Batey Scholar Award programme will help attract more talented young people to a career in marketing communication, and that Batey Scholars, together with their colleagues, will grow our dream into a dazzling long-term reality.”

DMC offers the most broad-based and comprehensive education in communication amongst the polytechnics. SP students learn how the various media platforms and the different communication disciplines work together to effectively and consistently deliver the right messages to the right people, which is critical in today’s fast-paced and ever-changing world.

Mr Batey received the Batey Scholar Award from SP President Mr Willy Tan, who also spoke about his own experience. He said, “I was so lucky to be in the right place at the right time and to be able to contribute to the growth of Singapore Airlines and Raffles Hotel. I hope the Batey Scholar Award programme will help attract more talented young people to a career in marketing communication, and that Batey Scholars, together with their colleagues, will grow our dream into a dazzling long-term reality.”
Grandma inspired his passion for medicine

First S’pore Poly grad to get into NUS med school

The path less travelled has led him to medical school.
Desmond Thiam, 20, is the first Singapore Polytechnic (SP) graduate to be admitted into the Yong Loo Lin School of Medicine at the National University of Singapore (NUS).

He is among a rare few who have taken this route. In 2007, The New Paper reported that two Ngee Ann Polytechnic graduates were the first poly graduates to make it to medical school.

Desmond obtained a diploma in biomedical science earlier this month.
He said that his ambition to be a doctor stemmed from watching his grandmother struggle to bring him up while she was saddled with many health problems.

He is the only child in a single-parent family. His parents separated when he was in primary school.
His mother, who works in IT, was the sole breadwinner, leaving his grandmother to take care of him since he was two.

Sacrifices

He said: “For the past 18 years, my grandmother’s sacrifices and endeavours were a source of motivation and strength for me to strive on in the face of continuous hurdles. Watching her suffer from multiple health problems, including depression and arthritis, helped me empathise with the elderly and made me want to do more for them.”

He was the organising chairman of “Health Mapping Exercise”, an on going community service project that the polytechnic organised with the Singapore Heart Foundation.
Between 2007 and early this year, he went from door to door at HDB blocks with one- and two-room flats all over Singapore, screening residents’ heart rate, and blood glucose and cholesterol levels to check for health problems.

He found that many of the elderly residents suffered from very high blood pressure.
He termed them “walking time bombs” because their condition was so severe they could suffer heart attacks or strokes any time.

He said: “Many of these patients reminded me of my grandmother and what it was like for her. They were a group of neglected people. Several residents were aware of their condition, but they had no money to pay for medicine. “We gathered data and presented it to the grassroots leader, who referred them to the relevant organisations to follow up.”

Desmond graduated with an L1R5 score of 5 from Commonwealth Secondary School, which would have qualified him easily for the science stream of top junior colleges here.

He said that the interviews were tough as he was asked technical questions that he could not answer.
He said: “I told them honestly that I did not know the answers to the technical questions.
“They also asked me many other questions... on topics like euthanasia and why I wanted to be a doctor. I think the important part was how I took a stand on the issues.”

He hopes to become a doctor in an emergency department as he prefers frontline work.
He said: “My experiences have taught me that warmth, compassion and understanding are crucial aspects of being a doctor, more so than the surgeon's knife or chemist’s drug.”

Madam Mah Mon Moey, the course manager of the diploma of biomedical science at SP and one of Desmond’s lecturers, said that he was a highly motivated student.
She said: “He is a team player and an inspirational leader, who has impressed his lecturers with his ability to juggle numerous co-curricular activities while maintaining an excellent academic performance.”

Desmond’s grandmother died in February this year and didn’t live to see his achievement. She was 70.
He said of the two women who brought him up: “Without them, I would not be who I am today.”

In total, 12 SP graduates have been accepted into medical schools in Nanyang Technological University and the National University of Singapore thus far.
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Scientist is first S’pore citizen to join elite network

By FENG ZENKUN

DR. JONATHAN LOH is the first Singaporean citizen to be elected to the prestigious global World Technology Network (WTN).

The 35-year-old scientist’s work with stem cells has been featured on the covers of science journals, and he helped to invent a new, safer method to create the cells. This method was ranked among the top 10 breakthroughs of 2010 by the prestigious journal Science.

The WTN, founded in 1997 by American entrepreneur James Clark, gathers the brightest minds in science and technology. Its members include Dr Craig Venter, one of the first scientists to sequence the human genome, and Mr Jonathan Iye, senior vice-president of innovation design at Apple Inc.

Dr Loh’s inclusion was formalised last month.

Each year, WTN members select finalists for awards, in categories that range from law and policy to biotechnology, medicine and health.

The finalists automatically become WTN fellows. Previous representatives from Singapore have been permanent residents.

Dr Loh, who is principal investigator at the Agency for Science, Technology and Research’s Institute of Molecular and Cell Biology (IMCB), was a finalist in the biotechnology category this year, but did not win.

The Singapore Polytechnic biotechnology graduate specializes in stem cells, which can transform into other types of cells and which thus have the potential to be used to replace damaged or diseased tissue.

When he was a post-doctoral fellow at Harvard Medical School in 2009, his team was the first in the world to convert human blood cells into stem cells. This created readily available sources of stem cells and is an alternative to harvesting the cells from embryos, a process which poses ethical concerns.

His team also came up with a new, safer way to create stem cells.

Previously, parts of viruses were used to reprogramme cells into stem cells. The new method eliminates the need for viruses, making the stem cells safer. This earned the team the Science journal accolade.

Harvard University faculty member James Collins, who was Dr Loh’s mentor, said: “His work has enabled a broad range of bio-tech applications. He is a young star in this field.”

Dr Loh said his current work at the IMCB involves developing new tools to create clinical-grade cells and tissues for medical use.

“My main interest is in finding out how to get the best stem cells. Science should be impactful and be beneficial to human health care,” he said.

CLEAN AND CLASSY CRAFTSMANSHIP

“A first glance, Mr Lengfei Tok and Mr Gareth Dean Lee look like your average, baby-faced young men. But they are not mere 23-year-olds.

The two friends, who have known each other since their days in Singapore Polytechnic, are the creators of Banwagon Bags/Wares, a line of simple and chic leather accessories founded in December 2012.

The idea for the brand first took shape while they were serving national service, Mr Tok explains.

“When we were posted to the same camp during national service, I asked Gareth for his advice on bag sketches I had made, “ he says of Mr Lee, who had previously dabbled in making fabric bags and pouches for fun. “I always thought there was a functional appeal in bags. ”

The two craftsmen – whose appreciation for good design is apparent in their simple but interesting ensembles worn during the interview – then decided on a clean, classic style, free of frills or embellishment.

“Other leather brands tend to be more ‘biker’, with heavy looking designs, thick leather and chains, “ says Mr Lee. “We wanted something really simple and functional. ”

Self-taught through books and videos, the duo, who have diplomas in visual communications, also came to the conclusion that the brand name should reflect a consumer thoughtfulness that they believed was lacking in today’s market.

Says Mr Tok: “People should know where brands come from and what exactly it is they’re buying. We essentially wanted to stop the ‘bandwagon effect’ of people buying things just because other people were.”

Prices range from $30 for a key fob to $565 for a bag. About 20 pieces are sold on average each month.

The brand’s handmade goods take anywhere from a few days to a few weeks per piece to construct in their home-based workshops (Mr Lee lives in Jurong West and Mr Tok in Choa Chu Kang). They are made from leather sourced from American tanneries Horween Leather Company and Wickett & Craig, which supply material to brands such as American footwear label Wolverine and accessories brand Filson.

This is so that they can assure customers of the leather quality in addition to the craftsmanship, they say.

Perhaps the biggest stamp of approval Banwagon Bags/Wares has received during its journey so far would be from its stockists, which now include uber-chic multi-label boutiques Front Row and Maison Ikkoku.

“We were definitely happy to see our stuff at places like Front Row,” says Mr Lee. “It made us feel like we were doing something right.” Other brands carried at Front Row include French label Christophe Lemaire and Hynnow from Thailand.

That being said, the duo admitted they did not have an easy start.

In addition to making mistakes, such as miscalculating leather sizes for a tote and wasting material, which they both described as “expensive lessons”, their first public outing was a disaster.

“We first signed up to showcase our wares at a Handmade Movement Singapore event in January last year at Fort Canning Park, but when we got there we were shocked to be alongside home-made baby clothes and knick knacks,” says Mr Tok, with a wry smile, of the discrepancy between their expectations and reality.

Adds Mr Lee: “There was a price mismatch too – we were selling items for $200 while others at the event were selling stuff for $20. Plus it started to rain and we had to protect the more than 50 items we had brought.”

Despite not selling anything that day, Mr Lee says it was a good learning experience.

“We really started to question ourselves and what we were doing but we got feedback from the people there that our stuff was good, just probably in the wrong setting.”

Mr Tok and Mr Lee both say that getting day jobs to support themselves financially is a probable necessity as the brand has yet to break even.

But they intend to keep the brand to themselves rather than take on investors, so that they can execute their uncompromising vision and retain creative control.

“We don’t want to be liable to anyone but ourselves,” says Mr Lee.

Mr Tok, Mr Lee chimes in, adding: “We’re easy-going when it comes to life and each other, but not when it comes to design.”
Double success as other twin wins Golden Bayonet too

By ROYSTON SIM

YEo Jin Rui and his identical twin, Jin Run, have marched to the same beat since birth. They went to the same school, joined the same co-curricular activity and yesterday completed another double, this time in the army.

When newly minted Third Sergeant Jin Rui graduated from the Specialist Cadet School (SCS) with a Golden Bayonet, he matched his brother’s effort six months earlier. The Golden Bayonet is awarded to the top cadets from each branch of the army.

The Yeo brothers attended East Spring Primary together. Then Pasir Ris Crest Secondary, where both signed up for the National Cadet Corps, and then Singapore Polytechnic, where they took diplomas in business and information technology and served in the student union.

After enlisting for national service in November 2011 and serving their basic training, neither was selected for command school. Said 3SG Jin Rui: “This did not deter our commitment to serving, and we decided to do our very best in our vocations.”

They trained together at weekends to improve their physical fitness, and their efforts paid off.

The younger brother, Jin Run, who was posted to the Singapore Guards, was later selected to attend the SCS and is now undergoing the Officer Cadet Course.

3SG Jin Rui also expressed his interest in being a commander while serving as a signals operator in the 23rd Battalion, Singapore Artillery. His outstanding performance led his superiors to recommend him for the SCS.

Both brothers extended their national service after attending command school, and have not ruled out signing on with the Army. They said their father, general manager Clement Yeo, 51, had always told them to do their best during NS, which he believes is an important rite of passage.

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**GELATO PARADISO**

Where: Old Airport Road Food Centre, #30-01, 10am-9pm

Open: 11am to 10pm daily

Info: facebook.com/GelatoPanda60G

New hawkers stall Gelato Paradiso sticks out like a sore thumb amid its row of neighbours, which offer local delights such as prawn mee and rice porridge. For one thing, the signage is decedantly clean and uncluttered. It depicts the three colours of the Italian flag – green, white and red – and, unlike the other stalls, there are no pictures of food or drink on it.

The stall, which opened last December, sells homemade gelatos and offers about six or seven flavours at any one time. There is 16 flavours on rotation, including durian, pistachio, Cookies ‘n Cream, Strawberry Cheesecake and Fruits Of The Forest, a four-fruit sorbet with no added sugar.

Gelato Paradiso is owned by five friends, four of whom are 20 years old. The fifth one is 17.

Mr Winifred Quek and Mr Lim Zong Wei are finance graduates from Singapore Polytechnic who, according to the stall’s name, Mr Zong Wei is a business management undergrad at Singapore Management University, and Mr Lim Nicholas Lim is a commando in Singapore Air Force.

The youngest, Mr Kendrick Quek, is Winifred’s younger brother. He will soon head to Australia for foundational studies and university. The business has another student investor who declares to be named.

They each put in about $10,000 – a combination of savings and loans from their parents – to set up shop.

Three of them – the Quek brothers and Mr Lim – had to fly for three weeks last year to form to make gelato at The Carluccio Gelato University near Bologna. The course cost them about $13,000 each.

Mr Winifred Quek handles media relations while Mr Lim does the accounting. Mr Lim is in charge of operations while Mr Winifred handles sales and strategy. Ms Kendrick Quek comes up with the gelato flavours and recipes.

Whether is running the stall that day makes the gelato site on. They have also hired staff to help them out.

The group of young entrepreneurs had initially wanted to open a gelato shop in a mall, but changed their mind when they discovered the spot in the popular Old Airport Road Food Centre.

The avoid ice cream and gelato lemons but noticed a niche as few hawker centres offered desserts other than ice kachang and ice cream. Gelato at their stall starts from $3 a scoop and comes with a free bottle of water. Their price is about 50 cents to $1 cheaper than other gelato shops that make gelato in-house.

Mr Winifred Quek, says: “When people ask why we choose to open in a hawker centre, we ask them, ‘Why not?’”

“By opening in a hawker stall, we hope to save some of the stigma – such as cheap and poor-quality food – associated with hawker centres,”

The group has also started a gelato catering arm, Gelato On The Move, to serve gelato at events. They are also keen to expand their gelato franchises with another physical store in Singapore.

Mr Winifred Quek adds: “Our gelato is made with fresh milk. We used Kraft’s Philadelphia Cream Cheese in our Strawberry Cheesecake gelato. We serve only what we would eat.”
企业家们不忘初心

几年 ago, SP alumna Ereen Toh (Diploma in Business Administration - DBA) started Stirring Hearts, a business selling handmade environmentally-sustainable gift and greeting cards. Last year, she collaborated with the Muscular Dystrophy Association Singapore and the Movement for the Intellectually Disabled of Singapore to conduct lessons for special needs children in making these cards.

University scholarships for SP graduates

Over the years, many SP graduates have been awarded prestigious bond-free scholarships from the local universities to pursue degree programmes. This is in addition to the scholarships awarded by ministries, companies, and organisations that you read about in this issue of SP News. Here are some of them:

- **Ho Keen Hoe**
  - Awarded the National University of Singapore Kent Ridge Undergraduate Scholarship.

- **Steven Ong**
  - Awarded the Global Merit Scholarship by National University of Singapore.

- **Lim Zhao-Yi**
  - Awarded the College Scholarship by Nanyang Technological University.

- **Selene Bay**
  - Awarded the Lee Kong Chian Scholarship by Singapore Management University.

- **M Sabareesh Nair**
  - Awarded the Singapore University of Technology and Design Scholarship.

- **Nerissa Tiong**
  - Awarded the Nanyang Scholarship by Nanyang Technological University.

- **Nurzahidah Bte Mohd Yusoff**
  - Awarded the Singapore Institute of Technology Scholarship.

"Stirring Hearts"与新加坡肌肉营养症

协会合作，举办工作坊教导有特殊

需要的儿童制作爱心手工卡片。
Instead they step back and listen to us. In classroom discussions, but here they can't get students to shut up. Teachers needed to prompt students,
Saving the environment may sound like a lofty ambition, but an engineering course at Singapore Polytechnic (SP) aims to help students turn it into a reality. Previously known as Diploma in Clean Energy, it has been relaunched as the Diploma in Energy Systems and Management (DESM).

While the earlier course touched on clean energy and electrical power systems, there will be an additional focus on energy efficiency and management in the relaunched course, said Dr Jiang Fan, course manager of the diploma in energy systems and management. The course plans to take in 80 students.

To create a cleaner environment and reduce resource wastage, students will learn and design energy systems such as power generators and energy supply networks. Clean energy technology, such as solar panels and electric vehicles, will also be included in the syllabus. Dr Jiang pointed out that renewable energy could meet up to 10 per cent of Singapore’s power demand by 2020. "Over 10,000 jobs will also be created over the next 10 years as agencies increase support for energy management and efficiency to transform Singapore into a sustainable city for the future," said Dr Jiang.

If you are curious about the materials behind everyday products, another newly-relaunched course, the Diploma in Applied Chemistry with Materials Science is a good option. It was previously known as the Diploma in Materials Science, under SP’s School of Chemical and Life Sciences. In the relaunched course, students will learn to understand the structures, properties and behaviours of materials and apply the knowledge to develop advanced and innovative products like biomaterials, nanomaterials, and eco-friendly materials for use in almost any industry.

By 2015, about 45 per cent of each Primary 1 cohort is expected to enrol in a polytechnic. To cope with the rising intake, Singapore’s five polytechnics have been undergoing upgrading and expansion works. At a cost of about $1 billion, current and prospective students can look forward to a range of new facilities, from classrooms to cafes.

THE STRAITS TIMES | 19 APRIL 2014

THE NEW PAPER | 7 JANUARY 2014

Almost all the 837 students progress to diploma courses

By PEARL LEE

THE first Polytechnic Foundation Programme – set up to prepare students for polytechnic entrance without having to take O levels – boosted a 99.5 per cent success rate, it was revealed this week.

Almost all the 837 students who enrolled in last year’s Polytechnic Foundation Programme (PFP) “have progressed to the first year of their respective diploma courses”, the Education Ministry said.

The PFP is open to Normal (Academic) students who have done well in N-level exams and allows them to skip Secondary 3. Instead they take a year-long programme at the polytechnic of their choice – featuring compulsory modules such as English and Maths, and others selected by the polytechnic. It is designed to prepare them for direct entrance to the course they are interested in.

Almost 80 per cent of the 1,277 students offered places on this year’s PFP have signed up. While the polytechnics differ in how they assess their students, most use a combination of projects, presentations, quizzes and exams.

Nanyang Polytechnic said its foundation-year students are graded in a similar way to its diploma students. “By using an assessment system that is similar to the polytechnic system, we are preparing our students to transit more seamlessly into their polytechnic diploma courses,” a spokesman said.

Singapore Polytechnic student Victoria Tan, 19, who was among 194 students enrolled in its first foundation course and is now a first-year civil engineering and business student, said: “It opened more doors for me than I had imagined in Secondary 4.” She said: “We were not as tough as the first-year polytechnic students as we had more time, I used that time to take part in about five co-curricular activities, I’m happy and given a lot from the experience.”

The programme helped fellow student Sarah, 19, to cope with the transition from secondary school to Singapore Polytechnic. “In secondary school, even if you didn’t do your homework, your teachers would still be there to push you,” she said. The mechanical engineering student, “in polytechnic, it is about self-directed learning. You definitely need more discipline. This one year in the foundation course has prepared me to be able to hit the ground running.”

Nanyang Polytechnic student Thumie Singh, 18, said it allowed him to enter the polytechnic course of his choice “but without the stress of taking the O-level exams”. He will begin pharmaceutical sciences lectures on Monday. “I’ve heard from people in the industry that the pharmaceutical sciences course is not an easy one,” he said. “But FIV spent the past year getting used to the polyfestyle and it will help me to cope better.”

Students who do not complete the foundation programmes can opt to apply to the Institute of Technical Education’s Higher Nitec programmes, take O-level exams as a private candidate, or approach their former secondary schools for reintegration in the following year, said an Education Ministry spokesman.

She added that a foundation student’s transfer to a different course “will only be assessed on a case-by-case basis if there are interesting circumstances”.

THE STRAITS TIMES | 19 APRIL 2014

SINGAPORE POLYTECHNIC

New energy course to focus on environmental goals

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At a cost of about $1 billion, current and prospective students can look forward to a range of new facilities, from classrooms to cafes.

SINGAPORE POLYTECHNIC

• In the pipeline for completion in the next two years are a brand-new building that will house the SP Business School and an Aerohub.
• The Aerohub will feature ultra-modern interactive learning and social spaces and house all the aircraft, aeronautical labs and workshops under one roof.
• There will also be a new building for the SP Design School that will boast new learning studios and exhibition spaces for projects by students.

THE NEW PAPER | 7 JANUARY 2014

$1 billion for new poly facilities

Five polytechnics tell Linette Heng (linheng@spf.com.sg) about their campus expansion plans as they gear up to take in more students.

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Dr Jiang pointed out that renewable energy could meet up to 10 per cent of Singapore’s power demand by 2020. "Over 10,000 jobs will also be created over the next 10 years as agencies increase support for energy management and efficiency to transform Singapore into a sustainable city for the future," said Dr Jiang.

And if you are curious about the materials behind everyday products, another newly-relaunched course, the Diploma in Applied Chemistry with Materials Science is a good option.

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In the relaunched course, students will learn to understand the structures, properties and behaviours of materials and apply the knowledge to develop advanced and innovative products like biomaterials, nanomaterials, and eco-friendly materials for use in almost any industry.
Slingshot is the main character in a 3D action-adventure game by SP game design students. Puzzle game Drip was a finalist in the Viope Game Development World Championship.

The SP Design School (SD) enables students to turn drawings, brushstrokes, and visionary ideas into new products, games, ad campaigns and room interior designs. These works of SD students have won at various local and international competitions, and have even made it to exhibitions as far away as Milan, Italy.

Everlasting fun

MDA scholar Daryl Bong wants to design games that will put Singapore on the world gaming map.

Creating games that people enjoy gives Mr Bong great satisfaction. Photo: Chong Jun Liang

by jamie ee

GAMES design is not all fun and games. Just ask aspiring game designer Daryl Bong.

The 22-year-old began his Bachelor of Arts in Game Design program at Digipen Institute of Technology Singapore last September, and so far, the course has been "imposing".

"We get close to no sleep, and we’re pushed to our limits with each assignment and project," he says. "The toughest part is having to do three projects in just six weeks, and that’s just one module.

"I’ve learned that there’s no easy way to solve problems, " he adds.

It was important for Mr Bong to focus on his studies without having to worry about the financial burden on his parents. So after he secured a place to study at Digipen, he applied for the Media Education Scheme, a scholarship initiated by the Media Development Authority (MDA) to groom professionals and industry leaders in the media industry, and was successful.

"It’s wonderful that MDA is doing something to help students who want to pursue media-related studies. It shows that Singapore is starting to take media and design seriously, not just as an industry, but as a form of education," he says.

Mr Bong was also intrigued that the selection process was mostly based on his portfolio and an interview instead of just marks and grades on his resume. He appreciated the fact that he was acknowledged for his abilities, rather than for his Grade Point Average, he says.

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Nurturing a passion

It has been a worthwhile experience for Mr Bong, who spent much of his childhood creating games – using toys to craft different stories and scenarios – to keep his two younger siblings and cousins entertained.

When he grew older, he began to introduce more structures and rules to his games, and even came up with a few games made out of cardboard and drawing paper.

"By the time I was in secondary school, I knew this was what I loved doing," he says. Creating games and having people enjoy your creation – it’s the most amazing feeling ever!

"I enrolled for the game design and development course in Singapore Polytechnic, and graduated with a Diploma in Games Design and Development in 2011. The most important thing about my time at Singapore Polytechnic, it was meeting very talented and passionate people, and getting to work with them. The new group of classmates were hard-core gamers; they expanded my mind and helped me develop my design sense," he says.

"The course also opened up the world of media design to me. I got to see how much it took just to make a game, and if everyone knows, nobody would ever say games are a waste of time or resource.

It was also during his time at Singapore Polytechnic that he created his award-winning board game, Sunlight in the House, which was the winner of the category at the National Games Design Competition 2010.

Honing his skills

Furhering his studies at Digipen was a natural choice, as it is one of the world’s best game-design schools with a Singapore-campus, and is known for its high standard.

Already, in his first semester, Mr Bong has developed two games: a turn-based strategy puzzle game called Strategiand a Flash game called Geotron Wars. Upon his graduation from the three- and a-half year course, he will serve a four-year bond at telecommunication company SingTel, which is co-sponsoring his scholarship under the scheme.

His dream is to set up his own studio to design games that will put Singapore on the world gaming map.

"There’s probably a lot of competition by the time I graduate, but the best part about the games industry is that we’re one big dysfunctional family. Rather than pit ourselves against each other, we continue to inspire one another and to play each other’s games.

"I hope to create something greater than myself: something that will leave a lasting impression on the world.”
张赞成：本地大学可媲美外国优秀学府

随着我国高等学府的知名度提升、学生越来越国际化，公共服务委员会主席张赞成认为，本地大学已可媲美外国优秀学府，所提供的求学体验不亚于到外国留学。

在今年92名PSC奖学金得主中，只有15人选择在本地大学求学。张赞成在致词中指出，许多学生在申请奖学金的面试中，表明希望到外国留学，开拓视野并与不同国籍的学生交流。

他说："这些原因都有道理，但我们的学生或许没有发现到本地的高等教育景观已经改变，而他们希望到外国寻找的东西，其实本地也有。"

张赞成认为，本地大学如今在国际排名中被列为顶尖学府，吸引了更多外国学生前来，氛围也更全球化，再加上本地大学与一些海外学府联办新学院和课程，这些都“有助于加强本地教育的吸引力与独特性”。

比如新科大作为美国麻省理工学院（Massachusetts Institute of Technology）和中国浙江大学的结合体，就吸引了新加坡政府奖学金得主梁熙勤（20岁）。

艺术学院毕业生要赴美修音乐

毕业自新加坡理工学院工程系的他说："我很欣赏新科大将工程与设计结合的新颖概念，所以一开始就锁定要进入这所大学，甚至在假期时申请到新科大实习，进行研究工作。"他相信："工程学所教导的解决问题技能，未来在公共服务部门工作时能派上用场。"
MS TAN Shi Hui used the computer at home just once a month while in primary school. At that time, she was still using a dial-up connection, and used the computer only for project work.

When she joined Fairfield Methodist School (Secondary), she was still not all that interested in information technology (IT). Nevertheless, she picked the Media Club as her co-curricular activity (CCA) and this kindled her passion for IT. She picked up web design skills and built and maintained CCA websites. She also explored digital art and designed banners and pamphlets.

Competitions like the British Council Digital Art Competition were good experiences, and being a top 10 finalist at the N.E.mation! digital animation contest organised by NEXUS (National Education Singapore) was a confidence booster.

She also learnt Flash, Dreamweaver and Photoshop, picking up skills through books and asking senior students about the things she did not understand.

After her O levels, Ms Tan chose the Business Information Technology diploma programme at Singapore Polytechnic’s School of Digital Media and Infocomm Technology as she “liked its balance between information technology and business, and also for future prospects”.

She liked what she saw in the prospectus, with modules covering areas like project management, report writing and presentation skills.

It was when she was invited to the Integrated Infocomm Scholarship (IIS) Day that she came to know about this scholarship option for outstanding O-level students to pursue infocomm-related diploma and degree courses from polytechnic to university.

The Infocomm Development Authority of Singapore (IDA) administers the IIS. Attachment opportunities with major organisations both locally and overseas are part of the programme. At the polytechnic level, full tuition fees at a local institution as well as computer and annual allowances are part of the scholarship package.

Ms Tan, who was sure about pursuing IT till university level and as a career, applied for and secured the scholarship. She also saw it as a way to be more self-reliant.

In school, she has picked up programming languages such as Java and PHP: Hypertext Preprocessor, a coding language for web development, she has also created mobile apps for the Android platform. On the business side, she has learned topics like accounting, marketing, digital marketing and business analytics.

Ms Tan, 19, is currently in her final school term at Singapore Polytechnic. For her final-year project, she is working with SAS Singapore (Statistical Analysis System Singapore).

Ms Tan became interested in IT while in secondary school and now sees it as an interesting career.
新加坡工院培训学生 制造香水 前途吃香

本地消费行业在过去五年不断增长，家居与个人护理、食物与营养产品等公司纷纷在新加坡投资，设立总部、品牌管理与创新团队。这些投资到2015年预计会为本地经济增加21亿元、提供2400份就业机会。

新加坡经济发展局助理局长田桂英日前受邀为新加坡理工学院新开设的香氛与化妆品科学中心主持推介仪式时，提到上述数据。根据化妆品设计产业期刊的资料显示，新加坡已快速成为个人护理消费市场的区域中心，目前，世界规模最大的十家香精与香料公司，有五家的总部在新加坡。在2017年之前，亚洲的个人护理产品市场预计年增长率至少40%，达1600亿美元（约203亿新元）。

投资百万设科学中心

在这趋势下，新加坡工院耗资100万元建设香氛与化妆品科学中心，为香氛与化妆品科学文凭课程的学生提供香水与香气制造、个人护理产品配方等方面的全面培训，提供完善的设备让学生能进行研究与制作各种相关的产品。

面积达575平方米的香氛与化妆品科学中心共分成三个培训部分，包括概念室、结晶室和交流室。概念室提供设备让学生在良好环境下进行构思后，在结晶室的实验空间，将所构思的概念通过专业器材进行测试与实验，制作个人护理产品，最后在交流室，除了展出成功的作品外，也让学生对产品进行评估，以确定其实际应用及商业市场价值。目前就读香氛与化妆品科学文凭课程的陈湘伶（20岁，三年级）希望将来能成为香水调配师，她受访时说：“中心的设备齐全，我可以用这些器材将所学过的知识尽情发挥，进行各种实验，从中学习更多。”

新加坡工院日前也与美国消费品公司宝洁（Procter & Gamble）、香水和化妆品代理商Nuance-Watson、路博润公司（Lubrizol）和新加坡科技研究局（A*STAR）旗下的化学与工程科学研究院（Institute of Chemical and Engineering Sciences，简称ICES）签署备忘录。在接下来两年里，它们将为香氛与化妆品科学中心提供材料、为学生提供本地与海外实习机会，及参与相关领域的计划。

新加坡工院院长兼总裁陈俊祥致词时指出，个人护理领域在新加坡不仅充满活力且有利可图，这方面的人力需求量不断增加，新设立的中心为学生提供应用学习经验，及建立联系的机会。

新生儿消费行业在过去五年不断增长，家居与个人护理、食物与营养产品等公司纷纷在新加坡投资，设立总部、品牌管理与创新团队。这些投资到2015年预计会为本地经济增加21亿元、提供2400份就业机会。

新加坡工院培训学生 制造香水 前途吃香

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Marrying subject with others has attracted more top students

By AMELIA TENG

WHAT does a kangaroo have to do with aeroplanes?

Enough to inspire Singapore Polytechnic student Bryan Lim into making a “bendable” landing system to help aircraft land more smoothly.

“Kangaroos’ muscles compress as they jump, reducing the landing impact,” said the 17-year-old, after being taught during his engineering systems classes how to apply animal movement in product design.

He is one of 40 pioneer students taking the new diploma programme, which merges social science and management with engineering. This is just one of the latest “hybrid” courses introduced by Singapore’s polytechnics to change the face of engineering, long seen as “boring.”

Dr Thi Thian Boon Meng, who oversees the new Singapore Poly (SP) course, said: “Students prefer to study engineering alongside other areas. That’s why more hybrid courses are sprouting.”

Polytechnics give engineering a new face

Marrying subject with others has attracted more top students

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“CATERING TO DEMAND

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– Dr Thi Thian Boon Meng, who oversees the new SP course

With SP, it’s So Possible

A cyber war game in progress yesterday during the launch of the new centre in Singapore Polytechnic. It is the first cyber war game centre to be based in a tertiary institution here and was set up with the help of partners including info-security provider e-Cop, ST Electronics and Paraben, a firm specialising in computer forensic software. ST PHOTO: NEO XIAOBIN

Students go into ‘battle’ at new Cyber Wargame Centre

By AMELIA TENG

IT WAS far from the typical classroom scene.

Huddled under red and blue neon lights, the students kept their eyes glued to their computer screens while furiously clicking away on keyboards. But then again, this was not your typical class.

The students were taking part in a cyber war game yesterday at the launch of a new centre designed to teach them how to handle online threats.

It involved one team of “attackers” trying to access the network of a hypothetical bank while the “defenders” attempted to block them.

The Cyber Wargame Centre at Singapore Polytechnic is the first to be based in a tertiary institution here. It measures 400 sq m, about the size of four classrooms, and is used by second- and third-year students in the Infocomm Security Management diploma course.

In its laboratories, they learn how to attack and defend networks, analyse malware systems and investigate cyber security problems.

The centre was set up with the help of partners including info-security provider e-Cop, ST Electronics and Paraben, a firm specialising in computer forensic software.

Course manager Liew Chih Chuan, 36, said the information technology security industry was growing. He added that the number of students in each cohort in the course had risen from 40 when it started in 2005 to 60 today.

Other schools such as Temasek Polytechnic and Nanyang Polytechnic also teach the same topic.

“Cyber security has gained importance due to Internet hacking, fuelled by growth in online commerce and social networking,” said e-Cop chief executive Walter Lee, 49.

The new labs are designed to give course members a more authentic learning experience.

“Usually, we learn only from lectures, but with this new facility, lecturers can demonstrate concepts,” said third-year student Gerald Tan, 19.

His course mate Jolene Chan, 18, who is in her second year and hopes to join the police force one day, added: “I learn better when I have hands-on experience and now I know what to do in different situations.”

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