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Sunday, 4 December 2016

Car with M'sian input going places

BY MENG YEW CHOONG

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THE NANYANG Technological University's (NTU) award-winning electric racecar was the undisputed centre of attraction at the 12th QS-APPLE conference exhibition at Putrajaya last week.

The first 3D-printed electric car from Asia to take part in this year's Shell Eco-marathon in Manila has some Malaysian input from the hands of Richmond Ten Wy-Xin, 21, currently a third year mechanical engineering student at NTU.

"A fellow Malaysian introduced this project to me during my first year. And that's how I became interested in this 3D printed car called Nanyang Venture 8.

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I then volunteered to learn more, and ended up with it for three years," he said at the NTU booth at the conference.

Together with his teammate from Singapore, Ilmi Abdul Wahab, 26, a final year computer engineering student, they had been working on the electrical and electronic components of the car for the past two years.

Ten, Ilmi and five other students from various faculties of NTU spent four months huddled around NTU's 3D printers as printing a single part of the car practically took up the whole day.

Their challenge became clear when they learned they had to print 153 parts to make up the car, other than some steel and carbon fibre parts.

As it takes a whole day just to print a single part, they had to enlist the help of the private sector by borrowing their printers, an arrangement that no doubt required them to use their soft skills – persuade and negotiate.

For Ten, all the hard work has been worth it after the car, named Nanyang Venture 8, won four awards during the Shell Eco-marathon: top prize for Vehicle Design, Communications and Safety, as well as bronze in the Urban Concept (Battery Electric) track race.

The Shell Eco-marathon Asia is an annual international race where teams from academic institutions compete on fuel efficiency and in innovation.

Together with another NTU eco-car, the Nanyang Venture 9 which won two awards – top for Technical Innovation and bronze for the Prototype (Battery Electric) race, NTU emerged as the best performing university at the Shell Eco-marathon which saw 117 entrants from 17 countries.

With its six awards, team NTU emerged as the best performing university this year, turning in Singapore's best performance.

Ten's parents also visited the Putrajaya International Convention Centre to see what their son has been doing.

"My parents were impressed by what they saw, and understood what I had been doing for the last two years," said Kuala Lumpur-born Ten, who joined NTU after finishing A-levels from Taylor's College Sri Hartamas.

He gamely took on the challenge of taking up to four months to print and assemble the parts together with his Singapore coursemates that included Ilmi.

Ilmi, who was also present at the Putrajaya exhibition, said seven of them worked on the project.

"We have students from different schools of engineering. I took care of the operating system, as well as the electronic cluster of the car that included the motor and battery.

As many were purchased off the shelf from many component manufacturers, the trick is to optimise them after they are integrated as a package.

"Students with business backgrounds helped us to link up with sponsors, as well as component manufacturers and suppliers.

"The fun part is students are allowed a lot of leeway in fabrication as long as they don't burn the lab down. But with that freedom, comes responsibility. When you propose something, then it must work," said Ilmi.

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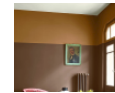
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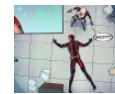
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Assoc Professor Ng Heong Wah, who mentored the students, said his charges used many innovative ideas to improve the cars.

“Not only did the students use their engineering knowledge, they also went beyond what they learnt in their curriculum to find ways to improve fuel efficiency and performance while ensuring safety.

These awards are proof of the students' relentless perseverance, determination, and drive to want to do NTU proud.”

NTU's College of Engineering is one of the world's largest engineering colleges with six schools that offer a wide array of multidisciplinary programmes and specialisations.