

Dreaming up design-centric solutions at Nanyang Poly's MakerSpace



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Jan 18, 2018 06:00 am



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It's a chair that doubles as a bed and it also provides support for patients undergoing physical therapy.

And if all goes well, it could be in Tan Tock Seng Hospital (TTSH) by the end of 2019.

The chair was created in a 700 sq m space - about 2½ times the size of a tennis court - at Nanyang Polytechnic (NYP) called MakerSpace by a team from TTSH, along with three NYP students and a graduate of the polytechnic.

Mr Chua Jia Xiang, 31, a MyCares (Service Design) facilitator with TTSH's Kaizen Office - named after the Japanese philosophy of continuous improvement - approached NYP, his alma mater, to hold a two-day Make-A-Thon with students from MakerSpace.



Mr Chua Jia Xiang and the cardboard prototype of his chair.
TNP PHOTO: JONATHAN CHOO

Launched in June 2016, MakerSpace is open to students to experiment for free with technologies like 3-D printing and virtual reality.

Gadgets like laser cutters and materials like fabric and cardboard are provided for students to use in their projects. Those who complete training courses can in turn, teach their fellow students.

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Mr Chua said that the problem of uncomfortable chairs was brought up by nurses at a town hall for hospital staff.

During the Make-A-Thon, Mr Chua and three NYP students came up with a cardboard prototype that addressed some of their concerns.

"We found out that some caregivers may stay overnight with their loved ones, but the chairs provided are too uncomfortable to sleep in," said student Liu Guang Yuan, 20.

By the end of this year, a second prototype - made out of plastic - should be available. By next year, the team plans for the chairs to be placed in all wards in the hospital.

Mr Liu is an electronics systems diploma student who joined MakerSpace in September 2016.

He is now a student assistant coach who runs workshops on Arduino, an open source electronic prototyping platform where users create interactive electronic objects.

"Through MakerSpace, I've been able to get more out of my poly experience... the more skills you pick up, the more 'hireable' you are," he said.

Students from a range of diplomas have used the space to collaborate on projects, said Mr Yoon Eng Tong, 53, senior coach at the Innovation and Enterprise Office at NYP.

"We provide students from all schools with a middle ground to interact with each other and share knowledge," he said, calling the facility a space for open, non-linear, self-initiated experimentation outside of curriculum for both students and staff.

Mr Yoon said that MakerSpace is in talks for collaboration with other multinational companies and institutes of higher education.

"It's great that the students now have a space where they can test their wildest ideas." Mr Chua said.

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