

Students develop smooth way for wheelchair users to enter flats

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An automated wheelchair ramp, designed to make it easier for the elderly and disabled to enter Housing Board (HDB) units which have steps at the entrance, is one of the projects featured at Singapore Polytechnic's (SP) Engineering Show 2016.

The wheelchair elevator, which took five final-year students in SP's Diploma of Aeronautical Engineering about eight months to develop, costs less than \$3,000.

The project could benefit residents of about 75,000 HDB units in Jurong, Bukit Batok, Yishun, Ang Mo Kio and Tampines which have steps at the entrances.

Project team leader Dylan Conceicao, 19, said: "Older HDB units have about three steps lead-

ing to the front of the house and they pose a problem for wheelchair users such as the elderly and disabled.

"We wanted to come up with a solution for these people to overcome the steps and enter their homes conveniently. Currently, residents with wheelchairs use a wooden ramp that is very steep, and the amount of force needed to push the wheelchair up is tremendous."

Older HDB units were designed with steps at the door for privacy, according to Mr Conceicao.

"Owners wanted their homes to be higher so when people walked past, they could not look through the windows," he said.

He added that the machine can be used in other places too.

"It is a lift to cross a flight of steps, and can be implemented in shopping centres, bus stops or bus inter-

changes – anywhere that needs wheelchair access."

A total of 110 projects by about 400 final-year engineering students were exhibited at the fifth SP Engineering Show, which has been held annually since 2012. In another project, students developed a drone which can spray chemicals to destroy bee hives, for instance, or spray pesticides to prevent mosquito breeding on rooftops, so pest controllers do not have to scale heights or get close to the danger.

The SP Engineering Show started yesterday and is on till today from 9am to 5pm.

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WATCH IT ONLINE
How the wheelchair elevator works: <http://str.sg/ZVR4>



The team, comprising (from left) Tan Jun Ren, Roy Tan Jia Jing, Dylan Conceicao, Lim Lu Xin and Clarence Theng, took eight months to develop the wheelchair elevator. ST PHOTO: CHEW SENG KIM