

# DESIGNING FOR A BETTER FUTURE

The final-year thesis projects of students at the National University of Singapore's Division of Industrial Design ran the gamut from healthcare to service design, but there were also trends of social design and going back to one's Asian roots



**Chantal Sajan**  
Senior Correspondent

Ms Yasmine Cheng has designed a "postbox" for grandparents who are not tech-savvy to bond with their grandchildren, one that puts a whole new spin on the phrase: "You've got mail."

Called Post, the compact, portable system comprises a mailbox device and an app wirelessly hooked up to a smartphone. "The motivation for this is from personal experience," says Ms Cheng, 24, one of 37 students graduating this year from the National University of Singapore's (NUS) Division of Industrial Design. Post is her final-year thesis project.

"My cousins and I live in a different country from my grandparents. So I wanted to design something to bridge this gap despite the physical distance," she says.

The idea for Post came from a YouTube video about an elderly woman waiting daily for the postman, hoping to receive letters from her children. Ms Cheng says: "I wanted to recreate this anticipation during the wait and the joy when one receives a letter in the mailbox."

Her device allows people to send social media posts as physical photos via a cloud system using Zink printing technology. The Zink – or "zero ink" – system dispenses with ink cartridges and relies on specially coated paper to print smartphone screenshots into mementos.

Her work caught the eye of Theus Chan, founder of design studio Work and Designer of the Year at the inaugural President's Design Award in 2006.

"I like Yasmine's work as she embraces a sense of playfulness and naivete in her design," says Chan, 59, who has been called the "godfather" of Singapore design. "This emotive appeal is essential as we seek to have positivity, comfort and familiarity with things around us."

For Ms Cheng and her classmates, a major component of their four-year honours programme is close collaboration with industries, public institutions and government agencies, for project opportunities with a high potential for commercial development, to prepare them for real-world demand.

Associate Professor Christian Boucharenc, head of NUS' Division of Industrial Design, says that since the establishment of the programme 20 years ago, the team has been "continuously refining its programme and collaborating with companies from various sectors through workshops and studio platforms."

One of the many creative solutions from this year's batch of industrial designs is an eco-friendly alternative to styrofoam.

Ms Seah Li Ping's thesis project is called For Durian, By Durian. Made from durian fibre and starch extracted from the fruit's rinds and seeds, the material is designed, ironically, to package the thorny fruit.

The 24-year-old lets on that she has been a durian lover since she was young and was "extremely motivated" to repurpose durian waste. Up to 70 per cent of the fruit is its husk and seeds.

"Durian seeds can also be used as a binder for durian fibres," says Ms Seah, whose packaging features cavities to protect the fruit's fleshy pulp as well as an interlocking system to hold everything together nicely. "The design allows for easy handling for both sellers and consumers."

For design graduate Sherwin Ng, 24, seeing beyond the everyday desires of able-bodied people provided the substance for his final-year thesis project.

His exercise system for paraplegics, called Adaptix, is a home-based portable device which features wheelchair rollers for cardio and muscle-strengthening workouts, and comes with motor-assisted leg pedals for passive-motion exercises in the lower limbs.

"As an avid road user, the life consequences of road accidents are always at the back of my mind," says Mr Ng. "Spinal cord injury is one of these consequences and, through research, I realised that these victims have unique needs that are often overlooked by designers. They do not have a simple and accessible



**Adaptix** (far left), an exercise system for paraplegics designed by Mr Sherwin Ng (left), is a home-based portable device which features wheelchair rollers for cardio and muscle-strengthening workouts, and has motor-assisted leg pedals for passive-motion exercises for the lower limbs.



Designed as a night light, **Qi** (above) is illuminated using the existing light from a smartphone's screen. It was created by Mr Ryan Chin (above).



**Post** (right), a portable system comprising a mailbox device and an app wirelessly hooked up to a smartphone, lets users send social media posts to be printed as physical photos. It was designed by Ms Yasmine Cheng (above), who hopes the system can help less tech-savvy grandparents connect with their grandchildren.



**For Durian, By Durian** packaging (above, right) is made from durian fibre and starch extracted from the fruit's rinds and seeds. Designed by Ms Seah Li Ping (left), it has spaces to protect the fruit's pulp as well as an interlocking system to hold everything together.



• To view the Division of Industrial Design 2020 showcase of projects, go to [sds.nus.edu.sg/did/gradshows/2020/#/](http://sds.nus.edu.sg/did/gradshows/2020/#/)

method for keeping fit." He developed the Adaptix system after extensive consultations with paraplegics and physiotherapists. The design took about nine months from idea to finished design concept, which also saw Mr Ng trying out a wheelchair himself to "understand many of the physical and emotional pain points of wheelchair users."

Apart from firing the imagination and developing strategic approaches to design, the Division of Industrial Design also emphasises industry collaborations on projects with commercial potential. This year's projects ran the gamut from healthcare and retail to apps and service design, but there were also trends of "social design" and going back to Asian roots to wow a contemporary world.

According to the division's Associate Professor Christophe Gaubert, the Caregiving101 project by Mr Shawn Ng is at the "frontier" of

industrial design, corresponding to an emergent trend in Europe called "social design".

"It mixes a multi-disciplinary approach, co-design with users, minimal intervention in terms of materiality and collaboration with public authorities for the implementation such as, in this case, the National Council of Social Service," says Prof Gaubert, 47.

Mr Ng's Caregiving101 is hinged on Solomon's Paradox – looking at oneself as a third party in the equation – to maintain distance from one's situation for clarity and to resolve struggles. Another recent trend which Prof Gaubert observes this year harks back to time-honoured cultural practices to inspire contemporary works, such as Qi by Mr Ryan Chin and Wei by Ms Sheryl Ang.

Qi, which draws inspiration from the traditional Chinese practice of taiji, is designed as a night light using existing light from the smart-

phone's screen. It does this while keeping the device at a distance, to prompt users to find a balance in a stressful daily life dominated by digital technologies.

Wei is a design tool that translates taste into shapes, generating tableware such as plates and bowls that help people pick up the finer points about Chinese Diet Therapy. It embodies the traditional practice of classifying food in terms of flavours and temperature which is usually passed down by word of mouth.

Wei and Caregiving101 have been selected for further development, says Prof Gaubert. He adds: "These visions of young designers contribute to a quest for meaning, claiming roots while projecting towards a mutating future – undeniably a remarkable contribution to a growing Singaporean culture."

[chantal@sph.com.sg](mailto:chantal@sph.com.sg)

## Eye on the market

Graduates from the National University of Singapore's Division of Industrial Design this year celebrated the division's 20th anniversary with a bumper crop of ideas. Here are three final-year projects which their designers hope to one day take to market.



**Reimagining window screens** (above)

Ms Zhang Hanwen (left), 24, created a series of window screens inspired by kirigami and origami (Japanese art of paper sculpture and paper folding).

"I explored various mechanisms to create interesting visual effects that let the viewer take a more active role in viewing through the window screen," she says. "Kirigami and origami mechanisms were selected because of their ability to offer partial coverage, creating states between being fully open or closed."



**Interactive journaling tool Ava** (above)

Ava is an interactive journaling tool designed to help children communicate their feelings when there are constant parental conflicts at home. It also allows them to seek professional help, nudging them towards a road to recovery.

"I believe that more can be done for children struggling with family issues so that no child has to suffer in silence," says Ms Ng Ai Ling (above, left), 24, who hopes to turn her project into an app.



**Breathing guide and aroma diffuser Bre** (right)

Bre incorporates a mechanism that guides people to focus on their breathing to keep calm amid the madding crowd.

"Bre is great for teenagers and adults who are almost always exposed to stress and have grown accustomed to the way stress has influenced their breathing mechanism and pace," says Ms Teng Yan Wen (above, left), 23, who took a year to complete her thesis project. She says the settings on the device are designed to release ring mist at a constant pace, representing the counts in a breathing exercise to cue its user to slow down and be mindful of inhaling and exhaling.

PHOTOS: NUS DIVISION OF INDUSTRIAL DESIGN