

Roving spycam opens up a world of possibility

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You're on holiday but wondering if all is well at your home, or you want to check if the bach has weathered a storm. Technology developed by engineering graduate Tom Yu Guan means you now have an extra pair of eyes when you can't be there, able to move anywhere you choose, with distance no object.

Mr Guan designed and built the Smart Eyes robot for his honours engineering project. An off-the-shelf remote control rally car has a cellphone-capable phone video mounted on the roof, modified so it can be operated via cellphone, feeding footage to a video-capable cellphone anywhere in the world.

Mr Guan says he had always planned to manufacture a surveillance product, and after he realised there were no products on the market that allowed the camera to move, he knew what he wanted to create.

“Visual data is very valuable to people and this thing captures visual data very easily - one picture paints a thousand words, they say! I hope it could be used for fun, or for security - even for entertaining pets while you’re at work.”

Mr Guan, who starts work in March for a major global technology company, purchased the remote control car off the shelf. He then designed and built the upgrade, putting additional technology “on top” and getting the system working in a matter of weeks. The Ford-modelled rally car proudly displays the Chinese flag, a gesture acknowledging Mr Guan’s homeland, and displays ‘Guan’ as the driver in the style of the World Rally Car flags.

Mr Guan has tested the car around the university and in his Palmerston North home, using the video to scout around his property. He is also planning to operate the car in New Zealand from Europe. “So long as the cellphone is in range it should work,” he says.

School of Engineering and Technology lecturer Amal Punchihewa supervised the project, and says he is impressed with the concept.

“My wife and I have her mother at home and one day when we phoned there was no answer - wondering what was happening we had to get a friend to go home and see what was going on. If we had something like this we could just have dialled in and known she was fine.”

Mr Punchihewa says the standard of fourth-year projects was very high this year, with others including smart home monitoring and control systems.

“It’s a chance to apply what they have learned in theoretical papers to practice, and to learn how to manage a project.”

Mr Guan has won several competitions so far with Smart Eyes, and will be competing in Australia soon to see if he will represent the South Pacific at the global IET competition in Europe, where Massey engineering graduate Stephen Irecki took second place last year. In the meantime, Mr Guan is working at the Institute of Information Sciences and Technology at Massey to build one more Smart Eyes robot.

“And I have an idea of putting a video system into a model helicopter, controlled robotically, to see if we can do that and avoid things like furniture or obstacles,” he says.

Massey’s Professor Janina Mazierska says the engineering programme at Massey University is oriented toward industrial innovation and wealth creation.

“As such, the students’ learning process includes several projects to acquire hands-on experience and problem-solving skills, which makes them very sought after by industry. Students usually get several job offers before they even graduate.”

Source: Massey University

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