

ROBOTS STOLE THE SHOW AT DEPARTMENT OF ELECTRICAL ENGINEERING EXHIBITION

“Why is that robot crawling?” “Because it’s a baby.” “Nonsense, it’s a hit man.” The conversation was heard last week during the exhibition held by the Department of Electrical Engineering. Upon opening, the exhibition attracted a large crowd, who not only looked at the exhibited items but also asked the guides lots of questions. Many students had a hands-on experience of the fun of playing robot games. Even after leaving the exhibition, some continued to discuss what would be the result if the “robot Beckham” met the “robot hit man” face to face.

“We have five main types of exhibits, all of which are newly designed,” said smilingly Prof. Wong Ching-chang of Department of Electrical Engineering. “Human-shaped robots, six-foot robots, automatic parking system, omni-directional movement game platform, and Robo Cup medium-sized robots: all of them are the latest researches!” The focus of attention at the exhibition was on the five latest researches of the Intelligent Control Laboratory as well as the World Cup Robot. The robots took turns showing their skills: in addition to World Cup robot footballer “Beckham” showing how to kick a football, the “robot hit man” performed precise shooting, and the agile “remote controlled game platform by USB joystick” won rapturous applause.

The “robot hit man” is a human-shaped robot, which imitates the movements of human joints in crawling. It is capable of forward movement and shooting, and of judging the shooting distance according to the size of the target. Having aimed at the bright red target, the “hit man” would shoot with a laser beam. Hsu Chia-ling (junior, Electrical Engineering) said, “I was inspired by my friend’s military service to research into robots with military capabilities; I hope robots will

replace humans on the battlefields in the future.”

In the future, people will not have to fight on the battlefields, and their cars will be parked automatically. Wang Yun-ting (junior, Electrical Engineering) explained that the automatic parking system uses remote control to move the car forward and backward, and adjust the car speed easily; the system also has an infrared anti-collision function. At the exhibition research students used inflated dice to stand for pedestrians and fallen rocks and demonstrated the safety of the automatic parking system. The “remote controlled game platform by USB joystick” is a new application program in the world and the first omni-directional movement mechanism in Taiwan. The platform uses three motors to control speed and direction: with remarkable smoothness, it can move around in any angle, in zigzags and in double loops, and it has a motor feedback precise control. Li Ya-ling (1st year of Graduate Institute of Electrical Engineering) explained: “This research has tremendous possibilities: it has potential for application in education, remote controlled games, and multi-directional cars. We are now waiting only for manufacturers to contact us.”

The other exhibits included the fingerprint identifier by the Optical Fiber Communication Laboratory, and the “pterosaur” remote controlled helicopter by the High Speed Network Laboratory. The latter exhibit was accompanied by a kind of G2 simulator software to give the spectators a chance to try flying the helicopter. Wang Chia-hong (sophomore, Information Engineering) said, “They give us films, moving exhibits, detailed explications, and games to play: this year’s electrical engineering exhibition is real cool!”

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