Republic Polytechnic showcases innovations at Wireless Tech Day for RFID Technologies

Singapore – December 1, 2010 – The swift proliferation of technologies in recent years has seen the development of numerous devices to enhance productivity and security. In light of this fast changing environment, and to ensure it is fully engaged with developments in industry, Republic Polytechnic (RP) regularly runs industry-partnered sessions called Wireless Tech Days at which teams from both Republic Polytechnic and selected industry partners provide updates on developments and innovations.

At one such session today which was titled, “Towards a Productive, Secured Environment with RFID Applications & Wireless Technologies”, RP showcased various wireless technologies, including the iPhone based brain-computer interface system which was developed by a team from its School of Engineering (SEG), which could potentially be a world’s first.

iPhone based brain-computer interface system

Utilizing the iOS platform – the team developed an iPhone-based portable brain control system, which uses the iPhone to process brain signals and direct corresponding commands to a wheelchair. Where users of such a brain control system previously had to lug around a laptop computer, this represents a huge improvement from a mobility standpoint.

Leveraging the widespread use and availability of smart phones, Dr David Jiang, the team lead for the project, expects the innovation to provide a convenient and low-cost solution to those suffering from physical impairment, and reduced mobility, namely those who suffer from physiological disorders such as Amyotrophic Lateral Sclerosis (ALS) or injuries such as high-level spinal cord injury which can disrupt the communication path between the brain and the body. People with severe motor disabilities sometimes lose all voluntary muscle control, including eye movements, and are forced to accept a reduced quality of life, resulting in dependence on caretakers and escalating social costs.

“While technology has long been leveraged for productivity in various environments, today, the sheer accessibility and robustness of mobile devices provides infinite potential to seek solutions for communities that most need them. We are thrilled with this innovation, and hope to see it deployed for active use soon,” said Dr Wang Jianguo, Director of SEG at RP.
Golden Years SOS system

As the population ages, elderly and chronic disease sufferers who live alone can face numerous risks. The SEG team at RP developed a notification system called Golden Years SOS, which enables the elderly or people suffering from chronic diseases such as heart disease to notify caregivers if they were in some kind of distress, be it an accident or mishap at home or if a chronic ailment act up. If these occur, they could use the system to send a distress signal to caregivers, who can then provide help to them in the earliest possible time.

3G-based In-car Video Surveillance System

Currently, most security video monitoring is limited to on-site video monitors that security personnel view continuously, or by delayed viewing of disks. Remote monitoring over the internet requires the use of PC and access points, limits its usage to within buildings, homes or offices, as internet access is presently not widely available to users outdoors. A 3G cell phone allow users to continuously monitor the camera’s video feed while on the move. The project explores the use of wireless 3G for remote video monitoring, surveillance and asset management, in particularly for in-car security.

RP’s Wireless Tech Day also saw presentations from various industry partners such as Agilent Technologies, National University of Singapore and Wavex Technologies.

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About Republic Polytechnic

The first educational institution in Singapore to adopt the Problem-Based Learning approach for all its diploma programmes, Republic Polytechnic (RP) has six schools and one centre offering thirty four courses in Information and Communications Technology, Engineering, Applied Science, Technology for the Arts, Sports, Health & Leisure, Events and Hospitality, and Culture and Communication. Republic Polytechnic is committed to nurturing innovation and entrepreneurial learning in an environment that develops problem-solving process skills and a life-long learning attitude. Its holistic, broad-based curriculum, covering culture, enterprise development and cognitive processes, prepares students for an active and meaningful role in society. Republic Polytechnic strives for excellence by achieving various international and national accreditations, including ISO9001, ISO14001, OHSAS 18001, TR19, People Developer Standards, Singapore Quality Class and Singapore Innovation Class. For more information, visit http://www.rp.sg