

University ICT students to showcase research and innovation



Gig Robot, built by ICT students was the hero of the 2009 final year projects exhibition.

The Faculty of ICT at the University of Malta is to hold its annual ICT final year students' projects exhibition on July 7.

In the spirit and nature of the faculty, this exhibition will be presenting this year's final year projects to demonstrate student achievement and promote and enhance research and innovation through the dissemination of the students' effort. These projects have different backgrounds and come from various fields of study including computer science, communications engineering, microelectronics and embedded systems, information systems and artificial intelligence.

Looking at the list of projects, one can easily note that most projects have clearly defined applicative potential. A good number of projects tackle important problems relating to transportation and parking issues, such as the design of an on-demand public transport system, an intelligent campus parking system, a driver fatigue monitoring system, a traffic sign recognition system for local drivers together with an integrated traffic management system and an urban planning simulation.

Other projects involve work on security and surveillance systems such as a real time human tracking system, identity theft prevention within an e-commerce environment, vulnerability analysis of client machines and a system which detects foreground for video surveillance applications.

ICT is also promoted as a tool for aiding physically impaired persons as demonstrated by the work in auditory processing modelling used in cochlear implants, the implementation of Braille language through e-learning and a so-called 'White Cane Device', which is a mobile assistant for visually challenged people.

Consumer systems and gaming are other important driving forces in ICT research. The exhibition will present a number of such systems including a home appliance network controller, a digital graphic visual unit meter display for sound mixers implemented using a programmable digital device, an elevator controller, an intelligent home automation system, real time motion tracking for digital games and an augmented reality racing game.

Communication and mobile technology are constant fixtures in this exhibition. This year the student projects will feature a TCP/IP communication system implemented on a programmable device, video streaming over a wireless optical link, a system which implements proximity estimation methods by opportunistic use of WiFi, and GSM fingerprint and localised adaptable mobile information retrieval.

The exhibition also showcases projects which develop artificial intelligence and augmented reality systems such as digital implementation of neural networks, which are systems which mimic the processing in the human brain, automatic rendering of objects in movie images and a graphical animator for stick puppets.

An interesting ICT field showcased this year is the development and implementation of space-related applications such as telescope scheduling, a galaxy simulation, scalable run time monitoring of radio telescope signals and sunspot classification using machine learning techniques.

The ICT projects exhibition will be open to the public on July 7 from 5 p.m. to 8 p.m. and it will be housed in the Computing building and the Engineering building, which are both accessible from Car Park 2 located between the campus main library and the Faculty of Science building.