Artificially intelligent web monitoring system

Hours wasted dredging through internet sites may be a thing of the past with the help of a "smart" internet monitoring system being developed at UTAS.

UTAS School of Computing and Information Systems academic Associate Professor Byeong-ho Kang has placed himself at the forefront of Tasmania's telecommunications revolution with the development of an artificially intelligent internet monitoring system.

Assoc. Prof. Kang's innovation is particularly timely, given the possibilities that will flow into Tasmania with the Federal Government's rollout of the national broadband network (NBN) and the imminent arrival in Tasmania of pioneer of the internet, Professor Larry Smarr, who will be advising government and businesses on the best way to utilise the NBN.

 Assoc. Prof. Kang said that the planned NBN, which will provide a 100Mbps broadband service to 93% of Tasmanian households, will remove the 'digital divide' between Tasmania and the mainland and place Tasmania at a similar infrastructure level as world leading countries in ICT technology.

"However, the NBN cannot close the 'knowledge divide' by itself, Assoc. Prof. Kang said.

"We need to provide technical skills and the tools to use this super-fast internet service and these skills and tools should come at the same time as the optic-fibre rollout."

Assoc. Prof. Kang has developed one such tool - a 'smart' web monitoring system.

His research in developing an artificially intelligent web monitoring system has led to projects being developed for the US Air Force. Assoc. Prof. Kang's system is also now in routine-use at some large companies in South Korea.

 "With an estimated 238 million websites on the internet it is no longer practical to use the internet as a passive noticeboard that you manually search or use directory service-type search engines such as Google," he said.

"Individuals and organisations want to find a new place where useful information is stored and be able to retrieve updated information faster than their competitors.

"However, we are never going to have unlimited access to the internet – it is not technically possible and the only way to check if there are updates to websites is to monitor those websites and for the new updates to be sent to you.

"But your computer cannot monitor 100 websites every minute in case there is an update, so we had to develop a system that can smartly know when a website is updated and that can also sort out what is useful information and what is rubbish."

Assoc. Prof. Kang's smart system identifies new information on the internet, filters out useless information and also suggests additional sites that the user may be interested in. It can also learn from observing the computer user, any new interests the computer user develops, and gather new web updates.

"We wanted to develop a more personalised service for the user rather than having to sign up for multiple RSS feeds, where the website controls what and when information is sent to you," Assoc. Prof. Kang said.

The artificially intelligent system can also detect when there is a major news event or announcement in the computer user's area of interest and will automatically go search other similar sites for updates.

"The system infers from the increase in updates that there has been an important event and then this triggers it to tell the user that something is happening."

Professor Larry Smarr, a pioneer of the internet and Director of the California Institute for Telecommunications and Information Technology, will be in Tasmania on August 10-11 to talk with government, businesses and educators about how to make best use of the new high-speed internet infrastructure.

For more details on the "smart" internet monitoring system, please call Associate Professor Byeong-ho Kang on 6226 2919.