



Queensland University of Technology  
Faculty of Information Technology

# 'On the Edge'

## September 2006

Welcome to 'On the Edge', QUT's Faculty of Information Technology industry newsletter.

*This e-newsletter will be emailed on a regular basis to keep you up-to-date with our industry relevant activities. If you would like other people in your organisation to receive this newsletter or to unsubscribe from this newsletter, please see "About this Newsletter" for subscription information.*

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### From the Executive Dean

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For the September edition of 'On the Edge' we've chosen to focus on the area of e-health. Health care presents a complex challenge for the ICT industry.

In the management of health care information the benefits of ICT could provide include improved safety and efficiency resulting in better quality of care. ICT also has the potential to improve access to quality health care for people in remote areas as well as for those managing chronic diseases in their homes. Due to a range of issues, not the least of which is the sensitive nature of patient information, the health care sector has proven to be one of the most challenging environments to embrace ICT advances.

Two issues which are paramount to improving this situation are the security and privacy of confidential information. While often referred to as one and the same, security focuses on protection of information while privacy is concerned with appropriate information access.

Underlying both of these issues is the perception of trust. It doesn't matter how robust technology may be, if the users don't trust its capability then acceptance and uptake will be limited.

Through the e-Health Research Centre the Faculty of IT is undertaking a number of collaborative research initiatives to address these fundamental issues of importance. A brief snapshot of these activities is provided in this newsletter.

**Professor Simon Kaplan**  
**Executive Dean**  
**Faculty of Information Technology, QUT**

### Preventative measures strengthen privacy

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Privacy expert Professor Peter Croll and IT security expert Professor Bill Caelli have been collaborating on two separate projects which are both aimed at preventing unauthorised access to sensitive information.

Professor Croll and his team are about to release the first software prototype, developed by senior researcher Matt Hendrickson, which is aimed at improving e-security by developing new preventative measures which minimise the threats of staff making unauthorised access into private records.

Although aimed at electronic health records the software developed is suitable for all businesses where privacy is of paramount importance.

The prototype offers military standard, mandatory access controls to ensure privacy is enforced in commercially available, enterprise-level computer systems that makes it highly improbable that insider attacks such as staff snooping would be successful. The prototype, which has been funded by an ARC grant, provides strict access control technology to prevent unauthorised viewing of sensitive data.

In collaboration with the CSIRO, Professor Croll has developed another security measure that also protects privacy.

The web-based software tool asks questions of the user to ensure that the user is aware of the relevant privacy regulations and rules before allowing access to information.

It encourages privacy policy compliance and enforces access controls.

QUT's e-Health Research Group are also undertaking a number of other projects to produce higher quality IT solutions for the e-health sector by focussing on the tools and techniques that help managers of health information systems make more informed decisions.

More information by contacting Professor Peter Croll on 07 3864 9518 or [pcroll@qut.edu.au](mailto:pcroll@qut.edu.au) or at: [www.e-health.qut.edu.au](http://www.e-health.qut.edu.au)

## Healthcare information access via the web

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A team of researchers led by Professor Amanda Spink, co-leader of the Faculty's new Information Research domain, have published the results of a study which explored the use of the Web to access health care information. The analysis provided a number useful insights including:

- The operation and outcomes of commercial Web search engines still pose a significant barrier to usable health information. Many users do not understand how a Web search engine works in conjunction with their own information seeking and searching processes.
- When seeking health care information most consumers fail to understand the limitations of the Web search process, often ascribing human and advice-seeking abilities to Web search engines that go beyond current capabilities.
- Users are often frustrated and emotional during their Web search engine interactions. They wish to engage in an advice seeking interaction and can get frustrated by the inability of the search engine to respond to their personal needs.
- Queries tend to be short which is equivalent in length to nonmedical queries.
- Few users create queries that include synonyms or alternate terms.
- Users find information from the first 10 to 20 Web sites and don't look beyond the first two pages of Web sites retrieved in response to queries.

Findings suggest that the percentage of Internet users who conduct medical or health searches on large-scale commercial Web query logs may be a small proportion of Web searches.\* Findings also suggest an ongoing shift in Web users' search topics. From 1997 to 2001 queries related to entertainment or recreation and medical or health declined proportionally as queries related to e-commerce, travel, employment or economy and people, places or things have increased. This may reflect a shift by Web users to more specialised medical or health Web sites (eg WebMD - [www.webmd.com](http://www.webmd.com)), and a shift towards more e-commerce websites and Web searching.

The study recommended further research to explore the limitations of Web search engines and Web sites for medical or health information seeking including research focussed on the Semantic Web, as a means of bridging the gap between the language of the lay person and the technical language of medicine.

Further information is available by contacting Professor Amanda Spink on 07 3864-9583 or [ah.spink@qut.edu.au](mailto:ah.spink@qut.edu.au).

\*Findings based on a longitudinal study of medical/health related searches using commercial Web search engine query data (from the US and Europe) from 1997 to 2004.

## Reputation systems for the eHealth sector

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Reputation systems, which measure the quality of services and service providers, are emerging as an increasingly popular means of providing online trust. In a nutshell, reputation systems allow consumers to share their service experiences online, and for this information to then be used by other consumers to make more informed decisions. An example is consumer ratings on books or movies on some websites.

Professor Audun Josang of the Faculty's Software Engineering & Data Communications School has completed a study into the potential applications and implications of reputation systems for a number of sectors. His findings show that while reputation systems can be used in a wide range of applications, there is no standard set of measurement criteria that can be used in all situations. Instead reputation systems must be designed to suit the type and availability of input information.

For the health care sector his analysis showed that a number of powerful groups exist such as professional associations, drug manufacturers and hospitals while patients themselves have less influence. Reputation systems have the potential to shift this balance in favour of patients. It is therefore expected that the establishment of such systems within the health care arena could be met with resistance from the groups with vested interests in the status quo.

However as reputation systems can be driven by patient input they have the ability to operate effectively without cooperation from these groups. For example, drug manufacturers may cooperate with a reputation system-based community which allows patients to obtain additional information about medications. It seems less likely that surgeons or hospitals would cooperate with establishing reputation systems if they were to be subject to patient ratings as the already established internal procedures give them better control of how this information is published.

Further information is available at by contacting Professor Audun Josang at [a.josang@qut.edu.au](mailto:a.josang@qut.edu.au) or 07 3864 2960.

### **National eHealth privacy and security symposium**

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The inaugural National e-Health Privacy and Security Symposium (ehPASS-06) is being hosted by QUT in Brisbane from 24-26 October 2006.

This event has been established in response to the fast developing movement towards e-services for the health care sector in Australia and overseas. It seeks to address privacy and security issues surrounding access to and use of sensitive information in e-health, telematics and other related health information systems. Whilst primarily focussed at the issues faced by health care providers in both the public and private sectors, the event is relevant to all organisations holding personally identifiable information.

Sponsored by the Australian Research Council, QUT's Information Security Institute and CSIRO's Preventative Health National Flagship and e-Health Research Centre as well as Red Hat (Australia) and DOTSEC, ehPASS-06 will bring together key ICT,

Health, Policy and Legal professionals in practice, in business, in government or undertaking research.

To register for this subsidised event or for more information on ehPASS'06 please go to: <http://isi.qut.com/go/ehpass2006/>

### **QUT BPM Roundtable and BPM Group announce formal partnership**

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The recently announced partnership between QUT's BPM Roundtable and the BPM Group (BPMG), the largest BPM community in the world, will provide members of both groups with greater benefits both in terms of the breadth of exposure to BPM knowledge and depth of content. The integration between the two groups was seen as a natural progression as both have similar goals in consolidating and enhancing the local body of BPM knowledge.

The partnership will provide all current and future members of the Australian BPM Roundtable with even better access to BPM-relevant knowledge. At the same time it acknowledges the mature nature of the BPM Roundtable, which was established by QUT in 2004, by making it Australia's only national and regular BPMG meeting point.

The format and running of the two groups will remain largely unchanged though the closer working relationship is likely to see better alignment and integration between research, industry training, tertiary education and industry experiences of BPM.

Organisations involved in the BPM Roundtable include AMP, Australian Bureau of Statistics, Australian Federal Police, Centrelink, Commonwealth Bank of Australia, Department of Defence, Energy Australia, Ergon Energy, GWF, National Bank of Australia, Rio Tinto and Suncorp.

For further information please contact Professor Michael Rosemann on [m.rosemann@qut.edu.au](mailto:m.rosemann@qut.edu.au) or phone 07 3864 9473.

More information also available at:

[www.bpm.fit.qut.edu.au/roundtable/](http://www.bpm.fit.qut.edu.au/roundtable/)  
[www.bpmg.org](http://www.bpmg.org)  
[www.bpm-roundtable.com](http://www.bpm-roundtable.com)

## Dean's Industry Working Breakfast series

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The monthly Dean's Industry Working Breakfast series is providing a regular forum for open discussion on emerging technologies, trends and issues common to a broad spectrum of business sectors. Recent breakfast themes include:

- July 2006: "**Australia's e-Health Landscape**" presented by Professor Bill Caelli, AO with Dr Andy Bond, General Manager Interoperability, National E-Health Transition Authority (NEHTA) as our guest industry expert.
- August 2006: "**Technology for Small Business – the RACQ CareFlight Case Study**" with Mr Brett Hooker, CEO of Sauce Software in conjunction with Ms Leanne Angel, Marketing Manager of RACQ CareFlight.
- September 2006: "**Business Process Management**" with Mr Nagarajan Venkatachalam, Principal – Program Management, Infosys Technologies as our guest industry expert.

The presentation slides will be made available at [www.fit.qut.edu.au/industry/deansbreakfast/](http://www.fit.qut.edu.au/industry/deansbreakfast/)

## About this newsletter

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QUT's Faculty of Information Technology newsletter, '**On the Edge**', is emailed on a regular basis to communicate the Faculty's industry-relevant activities.

Further information on the content of this newsletter can be obtained by visiting [www.fit.qut.edu.au/industry/](http://www.fit.qut.edu.au/industry/) or by sending an email to [fit.industry@qut.edu.au](mailto:fit.industry@qut.edu.au)

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