



Innovation Showcase: 21st June 2011 Software Tools to “Find an Expert” and much more...

Objective & Significance

Skills Databases within organizations have largely failed to fulfill their purpose because they require significant input from the users in update their personal information and these users have neither the time nor motivation to do this. The basic capabilities of “Instant Knowledge” overcome such issues by dynamically building capability and skills profiles using tacit knowledge present in all organizations. Experts can be located without the need for direct database maintenance from users.

Thales, one of VCE’s industrial members, has built a skills profile evaluation system for their own company needs using the tools from the Instant Knowledge project which has shown how they can be tailored to suit a company’s operations. Their experience was described at a recent workshop, which shared this knowledge and explored how other companies can use the Instant Knowledge tools to benefit their own operations in a similar way to Thales in a range of application industries.

At the simplest level the Instant Knowledge tools use machine learning techniques to extract key words from documents, emails, etc, and associate these key words with their author to dynamically build a skills profile for all the individual users. The skills profile can then be interrogated from a web based user interface to “find an expert”.

Additional software tools created by Instant Knowledge provide major enhancements to this basic concept, to provide dynamic and automated access to information on the move, with potential not only to improve business efficiency, but also enable new business models. These tools could find application in assisted living, education, and many other fields as well as in the commercial enterprise.

The aim of this Innovation Showcase is to present these tools to a wide industrial audience from various sectors – companies with potential applications, and companies with a capability to take the prototype tools and develop them into products that can be used by VCE’s BigCo telecom members and in other application sectors.

More information...

Hands-on Demos will be available at the event. **Industrial Briefs**, and links to **Videos** of the tools, will be made available shortly to all who register. SME and midsize company partners to commercialise these technologies are being sought – we anticipate this workshop creating new contacts and stimulating new dialogues.

Software Tools

Each of the innovative software tools below have been developed for either self-standing use or for use in combination with other technologies to deliver more feature-rich capabilities, such as subscription-based contextual services that a telecoms operator, equipment manufacturer or IT service provider can offer to its enterprise clients.

Autonomous Social Network Creation uses information that flows between users from calls, texts, instant messages, emails, etc, to infer and score relationship strengths within a contact list. This can be accessed graphically over time or used to automatically deliver instant information to staff to enable them to do a better and quicker job.

Profile Generators analyze large bodies of text to form user profiles that can be used by the recommender system (see below). Input to the profile generators can be documents, such as Word or PDF, emails, and other text tools, such as a Wiki where authorship can be inferred.

Recommender is a Web services application returning rated matches from queries to stored profiles using relationship data. Such matches are output from the profile generators and the social network analysis software respectively. Queries can be explicit or implicit, e.g. text passed passively from another application, with the recommender alerting users when a significant match is found.

Context Recording is capable of storing device context clues, such as location and activity. Such clues can be used to refine the recommendations and in a wider use, control context-aware applications, adjusting how users are informed of alerts, for example, to foster service adoption.

UI Recording and Analysis is low overhead monitoring software suitable for recording interactions on smart phones. The software records user activity and screen display, allowing software developers to monitor and understand how their applications are actually used in practice.

Privacy tools offer both a Centralized and the more complex Distributed framework (without a central trust server) to enable different levels of anonymity within recommendations, as needed in different organizations, countries and jurisdictions. These privacy tools potentially have much wider application, e.g. to secure any electronic data exchange between mobile devices and for general identity management.

Contact Information:

Industrial Chair: Glyn Jones, Thales
Academic Coordinator: Dr James Irvine, University of Strathclyde