

COSI Completed Research Projects

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Electronic Health Records: Achieving an Effective and Ethical Legal and Recordkeeping Framework

Dr L. Iacovino, Dr D. Mendleson (Deakin University School of Law), **Dr B. McSherry** (Monash University Faculty of Law) and **Mrs M. Paterson** (Monash University Faculty of Law) - Discovery Project 2002-2004 \$79,453

This project takes place in the context of recent proposals for a nationally coordinated distributed system of electronic health records. Without any systematic ethical and legal safeguards or recordkeeping framework, the application of new technologies for networking health records lacks social credibility. This multidisciplinary study will provide a set of principles and standards relating to authenticity, ownership, access, privacy and confidentiality of doctor-patient communications in a networked environment, which, if implemented, will benefit patients and the medical community thus furthering the development of a more efficacious national health system.

Benchmarking Location Based Systems - the Potential of Location

Dr L. Dawson, Dr P. Sharma (University of Queensland), **Ms S. Foster, Prof. J. Zeleznikow** (Victoria University), **Mr P. Hawking** (Victoria University), **Mr A. Stein** (Victoria University) and **Mrs D. Nugent** (University of Queensland) - CRC Sustainable Tourism \$40,000

Location based systems (LBS) are computerised systems that depend on the automated detection of the location of a target (eg. A tourist on the move, a tour vehicle ...) to either deliver or collect information. Currently, mobile phones are seen as the obvious (but not the only) means of information delivery/collection for LBS. This technology has considerable potential for the Australian tourism industry. This project aims to assess the state of knowledge regarding LBS technologies in the Australian tourism industry, its potential usefulness for the tourism industry, recommend potential future commercial exploitation of LBS technologies in the tourism industry and to identify areas where further research may be needed.

Social Computing and complexity: human-centred design and deployment of ICT in large organisations

A/Prof. J. Fisher, Prof. G. Shanks (BusSys), **Prof. S. McKemish, Prof. A. Flitman** (BusSys), **Dr H. Linger, Prof. D. Green,** and other researchers from SIMS and Business Systems - MRF 2004 \$80,000, FIT \$50,000, SIMS \$25,000, BusSys \$25,000

The SIMS and School of BusinessSystems application for a Monash Research Fund grant in the area of Social Computing, was the only successful MRF bid for the Faculty of I.T. in 2004. It grew out of an application for an ARC Research Network in 2003, which was unsuccessful in obtaining seeding funding. However this application brought together a critical mass of researchers and collaborators. This MRF project will aim to build a network from the ground up, starting within our own Faculty, by helping to identify cross-school collaboration opportunities in the area of Social Computing.

Improving Meteorological Forecasting Practice with Knowledge Management Systems

Dr H. Linger, A/Prof. F. Burstein, Dr K. Korb (CSSE), **Dr A. Nicholson** (CSSE), **Mr C. Ryan** and **Mr J. Kelly** (Bureau of Meteorology) with the Bureau of Meteorology - Linkage Project 2002-2003 \$240,000

Twenty-first century weather forecasting presents a number of challenges. Meteorologists need to assess a vast amount of data under strict time constraints, incorporate predictive numerical modeling and their collective experiential knowledge into the forecast process, learn from the forecast process, and meet increasing user demand within limited resources. This project seeks to help forecasters meet these challenges by changing the information technology paradigm which has traditionally underpinned meteorology from one exclusively comprised of predictive numerical models to one which incorporates the knowledge and experience of forecasters.

This research builds on a longstanding and very successful collaboration between the Bureau and Monash.

Empowerment for the West: Technologies & Knowledge Management for Community Service Providers in Melbourne's Western Region

Ms Kerry Tanner and **Dr Graeme Johanson** - MSG 2004 \$10,000

The purpose of this research is to introduce information and knowledge management planning to community-based human services providers in the disadvantaged Western region of Melbourne. The research will act as a pilot for a potential Linkage application with partner Commonwealth Department of Family and Community Services.

Strategic planning will facilitate information and knowledge exchange through information and communications technologies. Currently, there are weak inter- and intra- organisational information and knowledge structures. The sociological theory of structuration will underlie an action research process in order to identify current and potential patterns of engagement between agencies through technology.

Social Computing in Health Care and Communication

Prof. S. McKemish, Dr H. Linger, Dr L. Seldon (NetComp), Prof. L. Dooley (GSCIT) - FITR 2003

This program brings together a multidisciplinary team to develop social computing in health care and communication as an area of new research strength for the Faculty of Information Technology. It will focus on: (1) development of a strategic research plan for the extension of social computing research, building on existing strengths and research partnerships with industry in this field; (2) extension of networks and industry support, improving the number and quality of links between the Faculty and industry; (3) establishment of links between this area and other Faculty initiatives in the Intelligent and Pervasive Computing areas; (4) building collaborative alliances with national and international researchers and research groups involved in all aspects of social computing; (5) the development of intelligent interfaces for delivery of customised health consumer information, knowledge management in healthcare and the social and business impacts of mobile devices in healthcare and communication, and e-health services.

Towards Mobile Real-time Multicriteria Decision Support for Open-field Triage in Contingency Management

Dr Jocelyn San Pedro, Dr Leonid Churilov, A/Prof. Frada Burstein, A/Prof. Arkady Zaslavsky (CSSE), and Dr Julie Hodgkin (University of Stirling), A/Prof. J. Wassertheil (Medicine) - MSG 2004 \$10,000

Contingency management, whose purpose is to reduce the level of risk associated with emergencies and disasters, is currently one of the Australian national priority areas. The generic process of *triage* (comprehensive real-time initial assessment) is a key part of contingency management. The proposed multi-disciplinary research project investigates the issues of planning, design, implementation, and monitoring of a mobile real-time multicriteria decision support system that is aimed at improving the quality and responsiveness of open-field triage. The research team will utilise the results to provide evidence of prior research and international collaboration to support future ARC Discovery/Linkage applications.

Community Points of Presence Evaluation

G. Johanson - MSG 2003 \$13,000

This research project will carry out a multi-dimensional evaluation of an interrelated group of state government supported community networking projects in a regional area. The community networking projects will develop locally managed "Points of Presence" and other ICT infrastructure. Our research will develop and implement a range of appropriate evaluation methodologies, data capture processes and information management structures for the action research cases, and will report on the progress of individual cases. This research project will develop and implement a systematic evaluation methodology which is participatory, which allows for local context and variations, and which is replicable.

Knowledge Management Strategies in Australia and New Zealand: A Comparative Study

F. Burstein, G. McCullough and G. Oliver (Open Polytechnic of New Zealand) - MSG 2003 \$10,000

A replication of the Monash survey of the uptake of knowledge management in Australia is currently being conducted in New Zealand. This project will compare the results obtained in New Zealand with Australia. This collaborative study will enhance the value of the initial project and promote Monash research internationally. Publications outlining findings will be distributed to government bodies and more widely to the interested organisations in both countries and this will publicise the work of the School at a national and international level. The initial project got very high industry acceptance including sponsorship for the follow-up studies. This project has the same potential.

Web-based Intelligent Multicriteria Decision Support System for Weather Forecasting

J. San Pedro, F. Burstein, J. Hodgkin (University of Stirling) - MSG 2003 \$10,000

This project aims to upgrade a prototype decision support system for tropical cyclone forecasting into a world-class web-based decision support system. This presents a big step towards international recognition of the research activities and systems development initiatives of the Faculty of IT. The project will result in the development and implementation of an advanced web-based intelligent support system architecture for weather forecasting. It will involve a visit from an international expert in intelligent multicriteria decision support systems (MDSS). The project will further strengthen collaboration with international MDSS communities and the Bureau of Meteorology, and will provide support to an early career researcher.

Australian Trade Union Heritage Gateway

This one year project was completed in 2002. It was funded by the Australian Research Council and funded and supported by industry partners University of Melbourne Archives, Australian National University, University of Wollongong, Monash University School of Information Management and Systems and Australian Science and Technology Heritage Centre. Key researchers were Mr Michael Piggott, (University of Melbourne), Dr Sigrid McCausland (Australian National University), Mr Michael Organ (University of Wollongong), Professor Sue McKemmish (SIMS), Mr Gavan McCarthy (Australian Science and Technology Heritage Centre) and Mr Bruce Smith.

Archival records of trade unions in Australia are scattered between a number of university archives, state libraries and state archives. This project arose out of a recognition that there is no central access point to the information about these collections, and that those access points which are available to researchers lack the contextual detail necessary to fully understand the records. The project therefore developed a database of structured data about Australia's trade unions and their archival records and to establish a web based 'front end' gateway.

[Australian Trade Union Archives Website](#)

Characteristics and Choices of Public Access Internet Users

G. Johanson, G. Hardy (CCNR), C. Sherman (Communities Online) - MSG 2002 \$16,000

Little is known of the characteristics of public library public access internet users, or of the uses which they make of public access internet provision. To aid a deeper understanding of issues, and to evaluate appropriate methodologies, this study examined: (1) the demographic characteristics of Public Library public access internet users compared with the broader municipal demographic, (2) the content and applications most utilised by those public access users, and (3) the extent to which public access internet provision met the needs of those users.

Information and Communications Technology, Capacity Building and Meeting Community Needs: Interdisciplinary Concept Exploration and Search Conference Evaluation

S. McKemmish, L. Stillman - MSG 2002 \$19,000

This process of systematic knowledge inquiry through a structured concept exploration process brought together for the first time Australian and international experts in information technology, social work, public policy. The intended impacts of the knowledge exploration process were: (1) the setting of new research agendas for studying the impact of information and communication technologies on the social, community and non-profit sectors; (2) influence upon the development of public policy through the participation of key public sector stakeholders; (3) the development of partnerships for future collaborative research or public enterprise. In addition, the knowledge exploration process was evaluated as a technique for future research agenda setting in the Faculty.

Knowledge Management in the Financial Services Sector

This research was funded by FujiXerox Australia Ltd (\$15 000 cash, plus \$10,000 software) and conducted in 2002 by Assoc Prof Frada Burstein and Ms Suzanne Zyngier.

This Monash/Fuji Xerox collaboration investigated the current state of knowledge management within the Australian financial services industry. It built on the results of an exploratory survey of the current views, awareness and knowledge management strategies of the top 1000 Australian companies. The Australian survey findings were compared with data from a similar study examining European financial institutions.

A key finding was that although many financial services organisations are ahead of their European counterparts in developing knowledge management strategies, they tend to lag behind in implementation. In particular, very few Australian companies have established a repository to manage knowledge.

Knowledge Management for Information Communities

Funded by the Strategic Monash University Research Fund, the Faculty of Information Technology and SIMS in 2000 and 2001. Key researchers were Assoc Prof Frada Burstein, Prof Sue McKemmish, Prof Don Schauder, Dr Kirsty Williamson (all SIMS).

An umbrella research program rather than a specific project, Knowledge Management for Information Communities addressed the need for a comprehensive approach to enterprise knowledge management and sought to harness the range of complementary experience and perspectives amongst SIMS/EIRG researchers and to nurture strong alliances with industry and academia.

Recordkeeping Metadata Project

The Recordkeeping Metadata Research project was an eighteen month (1998/99) project jointly funded by the Australian Research Council and a National Archives of Australia led coalition of industry partners involving State Records NSW, Queensland State Archives, the Records Management Association of Australia and the Australian Council of Archives.

With the priority of getting Australia online has come the urgent challenge of finding ways to maintain authentic, reliable and useable evidence of business in cyberspace. Working in the context of a range of metadata related initiatives in Australia and elsewhere, this research aimed to comprehensively specify and codify the metadata necessary to identify, authenticate, describe, manage and make accessible documents created in the course of business of all kinds. The project's main outcome is the Australian Recordkeeping Metadata Schema.

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