

3 Year PhD Studentship – September 2010

Information Management Innovation (IMI) Research Group  
[www.northumbria.ac.uk/imi](http://www.northumbria.ac.uk/imi)  
School of Computing, Engineering and Information Sciences  
Northumbria University

**Architecting and Prototyping Collaborative Workflow Applications: Identifying, developing and evaluating best practice methods, tools and techniques for innovation in work design.**

***Aims:***

- To identify and develop innovative approaches to architecting and prototyping Collaborative Workflow Applications (CWAs) using emerging ‘cloud’ based applications service provision.
- To more fully embrace and enhance Socio-Technical, Institutional and Design Theories for the effective design of CWAs
- To develop more appropriate CWA model representations which are communicable and understandable to end users as well as professional Designers and Developers.

***Rationale:***

Next generation collaborative Web 2.0 and the emerging Web 3.0 semantic technologies link people, business processes and information across organisational and geographical boundaries. These technological developments and their potential for more innovative work and organisational design in the information systems, document and records management field is increasing at a rate faster than our ability to fully assimilate and translate the new capabilities into effective practice. There is an urgent need for a much deeper theoretical understanding of the complex issues and design factors that need to be addressed if we are to harness the full potential of collaborative workflow applications coupled with cloud computing technologies.

Collaborative technologies facilitate social networking, enrich communication, co-ordination, control, decision making, information sharing, use and workflow automation. These applications also provide content and records management features, enable reengineering of business processes, and enable access to information essential to realising organizational goals and competitive strategies. Collaborative technologies offer the potential for rapid design and prototyping of organisational work solutions. Software as a Service (SaaS) providers and Cloud computing are the natural delivery mechanism for many of these technologies. Gaining theoretical and practical knowledge from innovating, designing, developing, implementing and evaluating prototype collaborative systems and organisational scenarios, is vital to our understanding of best practice and how these new innovative technologies are being deployed in organisational contexts. This project will utilise a new IMI Group innovation ‘sandpit’ to rapidly architect systems using business process modelling methods, tools and techniques leading to the rapid construction of functional prototypes for specific business solution scenarios. State of the art collaborative workflow applications such as Microsoft SharePoint 2010 and Google Docs/wave will be utilised alongside open source BPM tools such as ARIS and workflow design tools including SharePoint Designer and Nintex workflow 2010. The prototyped systems will be evaluated from both the theoretical

and practical perspectives of information systems, document and electronic records management perspectives.

***Methodology:***

Current best practice in innovative design, development and implementation of CWAs will be evaluated through a comprehensive literature review, survey and a series of semi-structured interviews with organisations perceived to be innovative in their use of workflow automation. Outputs from this phase will identify collaborating organisations and drive the development of a series of work design scenarios (live case studies based on the collaborating organisation requirements) that will be fully process modelled and prototyped in the innovation sandpit environment. A participative action research methodology and co-operative inquiry approach will be adopted to guide model and prototype development, deployment, evaluation and double loop learning. The project ethos will be built around knowledge sharing and learning through continuous dissemination, feedback and dialogue using collaborative applications, social networking and blogging technologies.

***Funding:***

This is a 3 year fully funded PhD studentship with a total award of £14K per annum. Fees at the appropriate rate will be deducted from this total amount with the remainder allocated for student living allowances.

***Supervision Team:*** Information Management Innovation (IMI) Research Group, School of Computing, Engineering and Information Sciences.

Dr David Wainwright, Professor Julie Mcleod.

Closing Date for Applications: 25<sup>th</sup> August 2010  
Interviews will be held between the 1<sup>st</sup> – 3<sup>rd</sup> September 2010 (tbc).  
Anticipated Project Start Date: 20<sup>th</sup> September 2010.

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PhD Studentship Application forms can be obtained from the CEIS postgraduate research office, Ellison Building and on the website:

<http://www.northumbria.ac.uk/researchstudentships>

Please supply a completed application form together with a current CV: email these documents to:

[iz.research-admin@northumbria.ac.uk](mailto:iz.research-admin@northumbria.ac.uk)

Please Contact Dr Gillian Brooks for any further information.

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