



User-Centred Interactive Search with Digital Libraries

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Summary

Effective working with information is central to most knowledge-based activities. There is an ongoing shift towards digital provision of information, including through digital libraries. However, few knowledge workers have strong information seeking skills, and existing digital libraries provide poor support for acquiring such skills. One reason for poor support for skill development is that the focus of most past research has been on the improvement of system capabilities (through work in information retrieval). Another is that there have been very few studies of how information seeking skills develop over time, and therefore of how this development can be supported. In parallel, although there is an established tradition of studying information seeking, little of this work has addressed how information seeking fits within the broader information task, such as writing, and how the detailed design of the system interface influences individual behaviour. This project takes a three-pronged approach: studying use in context with Humanities users (chosen as a group who typically have impoverished information seeking skills in digital environments); studying the development of expertise with information management students; and developing and testing novel interface features that support novice users and the development of expertise.

Objectives

The primary objectives of this work were to:

- specify user-centred requirements for designers of digital library systems, to support effective use, including the development of expertise through use.
- construct a detailed account of the development of expertise in information seeking with digital libraries.
- develop models of information seeking behaviour with digital libraries – both process and declarative – contextualised within an understanding of the broader information tasks (researching and writing) of Humanities academics.

We organised a workshop on “Digital Libraries in the Context of Users’ Broader Activities” (DL-CUBA) at JCDL 2006.

People

Core project team: Ann Blandford, Claire Warwick, George Buchanan, Jeremy Gow and Jon Rimmer.

External advisor: Prof William Newman.

Collaborators at Waikato: David Bainbridge; Ian Witten; Sally-Jo Cunningham.

Project outputs

Refereed international journal and conference papers:

Blandford, A., Adams, A., Attfield, S., Buchanan, G., Gow, J., Makri, S., ... & Warwick, C. (2008). The PRET A Reporter framework: Evaluating digital libraries from the perspective of information work. *Information Processing & Management*, 44(1), 4-21.

Blandford, A. (2006) Interacting with information resources: designing libraries for learning. *International Journal of Learning Technologies*. 2(2-3). 185-202.

Blandford, A., Gow, J., Buchanan, G., Rimmer, J. & Warwick, C. (2007) Creators, Composers and Consumers: experiences of designing a digital library. C. Baranauskas et al. (Eds.): *INTERACT 2007*, LNCS 4662, Part I, pp. 239–242.

Buchanan, G., Bainbridge, D. Don, K & Witten, I. (2005) A new framework for building digital library collections. In *Proc. JCDL 2005*. 23 - 31.

Buchanan, G., Cunningham, S. J., Blandford, A., Rimmer, J., & Warwick, C. (2005). Information seeking by humanities scholars. In *Research and advanced technology for digital libraries* (pp. 218-229). Springer Berlin Heidelberg.

Buchanan, G., Gow, J., Blandford, A., Rimmer, J., & Warwick, C. (2007, June). Representing aggregate works in the digital library. In *Proceedings of the 7th ACM/IEEE-CS joint conference on Digital libraries* (pp. 247-256). ACM.

Buchanan, G. & Hinze, A. (2005) A generic alerting service for digital libraries. In *Proc. JCDL 2005*. 131 - 140.

Buchanan, G. & Loizides, F. (2007) Investigating Document Triage on Paper and Electronic Media In *Proc. ECDL 2007*. 416-427. LNCS 4675.

Makri, S., Blandford, A. & Cox, A.L. (2007). 'I'll just Google it!': Should lawyers' perceptions of Google inform the design of electronic legal resources? *Proceedings of the Web Information-Seeking and Interaction (WISI) Workshop*. SIGIR 2007. 27 July 2007. Amsterdam, The Netherlands.

Makri, S., Blandford, A., Gow, J., Rimmer, J., Warwick, C., & Buchanan, G. (2007). A library or just another information resource? A case study of users' mental models of traditional and digital libraries. *Journal of the American Society for Information Science and Technology*, 58(3), 433-445.

Makri, S., Blandford, A., & Cox, A. L. (2008). Investigating the information-seeking behaviour of academic lawyers: From Ellis's model to design. *Information Processing & Management*, 44(2), 613-634.

Rimmer, J., Warwick, C., Blandford, A., Gow, J., & Buchanan, G. (2008). An examination of the physical and the digital qualities of humanities research. *Information Processing & Management*, 44(3), 1374-1392.

Rimmer, J., Warwick, C., Blandford, A., Gow, J. & Buchanan, G. (2006) User Requirements for Humanities Digital Libraries. *Digital Humanities 2006*, University Paris - Sorbonne, 5-9 July 2006.

Warwick, C., Rimmer, J., Blandford, A., Gow, J., & Buchanan, G. (2009). Cognitive economy and satisficing in information seeking: A longitudinal study of undergraduate information behavior. *Journal of the American Society for Information Science and Technology*, 60(12), 2402-2415.

Warwick, C., Galina, I., Rimmer, J., Terras, M., Blandford, A., Gow, J., & Buchanan, G. (2009). Documentation and the users of digital resources in the humanities. *Journal of Documentation*, 65(1), 33-57.

Warwick, C., Buchanan, G., Rimmer, J., Blandford, A. & Gow, J. (2006) Code, comments and consistency: a case study of the problems of reuse of encoded texts. In C. Sun, S. Menasri & J. Ventura (Eds.) *Proc. Digital Humanities 2006*. Paris: CATI Université de Paris-Sorbonne, 228-231.

Other outputs

Blandford, A., Rimmer, J. & Warwick, C. (2006) Experiences of the library in the digital age. In *Proc. 3rd International Conference "Cultural Convergence and Digital Technology"*. Athens, November 2006.

Blandford, A. (2004) Understanding users' experiences: evaluation of digital libraries. In M. Agosti & N. Fuhr (Eds) *Proc. DELIS Workshop on Evaluation of Digital Libraries*. pp. 31-34.

Blandford, A. & Gow J. (2006) Digital Libraries in the Context of Users' Broader Activities. JCDL 2006 Workshop Report. *D-Lib Magazine*. July-August 2006.

Makri, S., Blandford, A. & Cox, A. (2006) Studying Law Students' Information Seeking Behaviour to Inform the Design of Digital Law Libraries. In *Proc. DL-CUBA workshop (at JCDL 2006)*.

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Stelmaszewska, H., Blandford, A., & Buchanan, G. (2005). Designing to change users' information seeking behaviour: a case study. *Adaptable and Adaptive Hypermedia Systems*. London: Information Science Publishing, 1-18.

Warwick, C., Blandford, A. & Buchanan, G. (2005) User Centred Interactive Search: a study of humanities researchers in a digital library environment. In *Proc. ACH/ALLC 2005*(Poster presentation).

Warwick, C., Blandford, A., Buchanan, G. & Rimmer, J. (2005) User Centred Interactive Search in the Humanities. In *Proc. JCDL 2005*. (Poster presentation). p.400.