Usability of Digital Libraries: Editorial

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1. Introduction

The issue of usability has concerned the Digital Libraries community, at least peripherally, over many years. There is, after all, little point in delivering sophisticated libraries with novel features if those systems are then ignored by the intended users because they are too difficult to use or do not offer the key features that users require. However, the challenge of how to deliver Digital Libraries that are truly useful and usable remains elusive, often given second place to solving novel technical challenges.

This was the thinking behind our organisation of a workshop on the topic of usability which was held at JCDL'02 [1]. This collection of papers derives indirectly from that workshop. At the workshop, ten papers on different aspects of usability were presented, interspersed with extensive discussion on key issues arising from those papers. Papers covered both practical issues, including empirical and analytical evaluations of existing systems, and theoretical issues – for example, developing taxonomies of aspects of digital library use. Following this successful workshop, we put together the call for papers for this special issue of JDL, soliciting papers from both attendees at the workshop and others in the community. At this point, we brought in Matt Jones as a third editor, so that papers on which any of the editors were co-authors could be dealt with by two editors with no involvement of the authoring editor.

The circumstances in which Digital Libraries are being developed vary widely – from those for the internal use of commercial organisations, to academic institutions and public bodies and services of all forms. Users may be predominantly expert in electronic information seeking, or novices, or a diverse mix; domain experts seeking detailed specialist knowledge, students approaching new and unfamiliar subjects, or casual browsers with a passing interest. The papers in this special issue highlight the diversity of context and user goals that researchers and developers need to understand and accommodate. So, for example, there's a study of commercial image libraries (Parker) alongside others on medical user needs (Adams & Blandford) and systems for academics (Hartson *et al*; Stelmaszewska & Blandford).

The Web user-experience has a significant impact upon Digital Library design and use. For example, there are trends towards "Google-isation" of search (a modern day analogue, perhaps, to the "qwerty-isation" of keyboards): users seem to be unable to comprehend traditional, fielded, bibliographic querying, preferring simple keyword input and ranked list outputs. It is pleasing, then, to include a paper (Chen *et al*) that involves an analysis of the Google, Altavista and Lycos directories, which are widely-used Web information access structures.

Over the past forty years, the Human Computer Interaction discipline has developed a wide range of tools, techniques, models and methods aimed at ensuring interactive systems are designed in an user-centred way [2]. This collection of papers illustrates how the insights elicited, skills required and time and resource costs can vary depending on the approaches employed. For instance, Adams & Blandford conducted 98 in-depth interviews with users to explore the social and organisational issues of medical and academic DLs; in contrast, Hartson *et al* used a small number of expert evaluators to critique the NCSTRL system, uncovering interface problems in the process.

While many of the approaches – think-aloud, observation, interviews, focus-groups, usability inspections, artefact analysis etc – presented in the papers are qualitative in nature, Chen *et al*, highlight the role quantitative, empirical methods can play. They present a laboratory-based, controlled experiment to investigate the relationship between a user's approach to information seeking and the design of information access structures.

Taken as a whole, this collection gives a flavour of the challenges digital library researchers and designers face when trying to meet human needs, while at the same time, presenting sound and varied approaches for user-centred progress. It is our hope that the DL community will be encouraged to further research and employ usability methods. If this happens, users will be saved from the frustrations, confusion and disappointment that characterises many of their technological experiences today.

2. Acknowledgements

3. References

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