Universal Usability for Public Access and Community Web Sites

Penny Collings
University of Canberra, School of Computing,
Canberra, ACT 2601, AUSTRALIA
+61 2 6201 2423
pennyc@ise.canberra.edu.au

ABSTRACT

"Universal Usability will be met when affordable, useful, and usable technology accommodates the vast majority of the global population: this entails addressing challenges of technology variety, user diversity, and gaps in user knowledge in ways only beginning to be acknowledged by educational, corporate, and government agencies." Ben Shneiderman, quoted at [5] My particular areas of interest are the achievement of universal usability for government sites designed for public access and for online communities. This is particularly relevant in Canberra, the capital of Australia and the source of many local and federal government public access web sites. My focus is on developing universal usability guidelines for designers and on developing universal usability evaluation processes.

Keywords

Universal usability, collaborative work, online communities, cooperative design, usability evaluation.

INTRODUCTION

My interest in universal design and universal access has arisen in several practical ways:

1. through consulting work to the Australian Government undertaking usability evaluations of widely used intranets and public access web sites;

2. through the creation and evaluation of an online community to support teachers and interns in the ACT education system (primary schools) and

3. through online teaching and learning development projects, funded by grants, at the University of Canberra, School of Computing;

4. through my involvement as a co-chair of the Fellowship Program and Workshop at the recent Conference on Universal Usability, Arlington, Virginia, USA.

Through these activities, in collaboration with students, IT practitioners and community groups, myself and my collaborators aim to assist in the development of guidelines for designers and universal usability evaluation processes. We have some lessons that we can offer for consideration. Our emphasis is not on technical issues, rather it is on social issues that must be considered for universal design and universal usability. I am offering our experiences as input to the workshop.

ISSUES IN UNIVERSAL USABILITY – LESSONS FOR DESIGN

Lessons from the Design of Collaborative Work Processes

1. Universal design implies that users or participants, who have never met, may be involved in interactions with each other through collaborative workspaces or communication areas via the internet. In order to engage in constructive interaction, we have found that some form of agreement to collaborate needs to take place.   We found that providing a place where participants can meet and chat before they collaborate on a work process can facilitate the development of such an agreement. An example [1] involved students from the University of Canberra and the University of Melbourne in evaluating each others' web sites.

   This same exercise illustrated another point related to universal usability. That is that collaborative work through a web site will benefit from:

   ? ? a structure that makes the task clear and

   ? ? the ability for collaborators to communicate clearly, in the shared workspace, while undertaking the task (in case any questions arise).

   This enables the participants to be in control of their online work environment and work process and makes their collaborators "real".

2. In a similar exercise, we set up a collaborative learning exercise between students at the University of Canberra and students at a university in Hong Kong. However, this exercise was unsuccessful because cultural differences led to misunderstandings of the process and failure to create an appropriate environment for collaboration. This design project illustrates some of the complexity of facilitating

participation in collaborative work across different cultural groups.

Lessons from Usability Evaluation Processes

We have been involved in usability evaluation work with Australian Government online public access sites and a widely used intranet application. We have also designed and offered (to Masters students) a course in online communities in which students consider evaluation processes. In these design and evaluation tasks students worked with and modified a questionnaire originally developed at the University of Manchester Institute of Science and Technology. Empirical testing of the questionnaire has led to the one we currently use to assist in the commencing or reviewing an evaluation of web sites and online communities [4]. We use this short questionnaire and the detailed guidelines at sites such as the one developed in conjunction with the Conference on Universal Usability [5]. We use [5] to help in the development of scenarios for usability testing and evaluation. We have found that technical issues are important but that social issues are equally so for the design and evaluation of such public access sites and online communities.

Lessons from the design of an online community space.

Our work in developing an online community to draw together and support teachers and interns (teacher trainees) in the ACT (Australian Capital Territory) Primary School system highlighted further social and educational issues related to access to and use of such community spaces [2]. Students and teachers had unequal skills in accessing the online resource and community spaces, they had unequal power in any online relationship and widely varying motivation for using the spaces. They did not feel that they had real reason to be involved in the initial workspaces. There were too many problems and not enough motivators for involvement. Nevertheless they had many constructive suggestions about why such a community was important and how to make it succeed [2]. We found that the users (participants) are critical to the success of such systems and need to be actively involved in their design and evolution through use. This is not a new discovery but it is important to re-iterate it frequently.

Lessons from the Conference on Universal Usability

I became involved in the Conference on Universal Usability after being invited to participate as an Associate Program Chair (by Ben Shneiderman); after visiting Vietnam and meeting Information Systems designers there; also through my involvement with University of Canberra students with particular disabilities studying computing subjects. It seemed to me that the conference could benefit from input from diverse users and designers. It eventuated that the Fellowship Program and Workshop offered such an opportunity and I became a co-chair of the program and workshop (the overall Fellowship Chair was Joelle Coutaz). This program illustrated the critical nature of user input to the design process in seeking universal design and

universal usability.

The Workshop commenced online, people got to know each other before the face-to-face workshop. At the workshop participants decided to develop stories that illustrated a diversity of needs representing some issues in universal access. These included issues arising from different cultures, different physical abilities and differing dependencies on the ease of use of technology. These stories were told in a panel presentation to the conference and provided a powerful illustration of the contribution that is made by users and participants to the design of IT-based systems. The workshop has been reported [3] and its message is significant for design practices for universal access. The CUU Fellowship Program and CUU itself offers a model for engagement between designers, technical experts, users, developers and government and industrial managers in the move towards universal usability.

CONCLUSION

I am offering the above examples of our work as a starting point for discussion. They all contribute to our understanding of issues in universal design and hence to the development of guidelines for designers and the development of universal usability evaluation processes.

ACKNOWLEDGEMENTS

REFERENCES

1. Collings, P., Pearce, J. and Walker, D. Learning usability testing: a collaborative approach in Scott, J. and Dalgarno, B. (eds) *Interfaces for the Global Community, OZCHI'99 Proceedings*, Charles Sturt University, 128-130

2. Collings, P. Teaching Internship Computer Supported Collaborative Learning Pilot Project: Report and Recommendations (submitted to the ACT IT Forum, unpublished, 1999).

3. The CUU 2000 Workshop Fellows. An experiment in users envisaging, and generating actions for universal design: A report from the Fellows Workshop at the Conference on Universal Usability, CUU2000, 15 November 2000, Arlington Virginia, USA, *SIGCHI Bulletin,* March/April, 2001, p10

4. http://simnotes.ise.canberra.edu.au/IT2/IT22001.nsf?OpenDatabase - the evaluation form is attached to the assignment for web site evaluation.

5. http://universalusability.org/