

New Horizons for HCI in South Africa

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Abstract: The goal of this paper is to review the status of Human-Computer Interaction (HCI) in South Africa today. The formation and development of CHI-SA, the South African chapter of ACM SIGCHI, is discussed together with the role this organization is playing in encouraging and fostering HCI in Southern Africa.

Keywords: HCI, HCI education, HCI research, South Africa

1 Introduction

The lack of developmental growth in the ICT industry in South Africa is aggravated by a lack of Human-Computer Interaction (HCI) training and expertise. A recent survey revealed that only 7 out of 25 universities (28%) in South Africa are actually teaching HCI as part of the typical Computer Science or IT undergraduate or postgraduate programme (Wesson 2001). Consequently, very few software engineers in South Africa have any real knowledge or understanding of usability and user interface design. This situation is further complicated by the diversity in technological knowledge and expertise of the typical computer user in South Africa.

The goal of this paper is to review the status of HCI in South Africa and to highlight the challenges and opportunities facing the HCI community in South Africa today.

2 Current Situation

The South African user population is very diverse, in terms of culture, language, education and technological expertise. Productivity in South Africa is notoriously low, badly designed software can only make this situation worse (Van Greunen and Wesson 2000). In a country with 11 official languages, it is clear that in order to understand user interface design and usability, we need to understand the complex interaction between culture, communication and technology (Hugo 1998).

At present, HCI in South Africa can be characterised as follows (Hugo 2002):

- A shortage of qualified practitioners and educators. There are only a few people involved in HCI teaching and research with the majority being academics.
- A lack of awareness and implementation at industry level. A local chapter of ACM SIGCHI, called CHI-SA, was formed in 2001 to address this issue (Section 3). At present, however, there are only sixteen SIGCHI members in South Africa.
- Isolation and fragmentation between academia, industry, private research, development and government.
- A lack of resources and inadequate training can result in inappropriate guidelines being adopted from the literature.
- A lack of knowledge of standards for usability and user-centred design such as ISO 9241 and ISO 13407 exists in industry.

3 SIGCHI in South Africa

CHI-SA, a South African ACM SIGCHI Chapter, was established in 2001, comprising local HCI experts and usability professionals (<http://www.chi-sa.org.za>). CHI-SA focuses on promoting HCI and usability in South Africa and provides a forum for CHI-SA members to share information and experiences. A joint membership agreement between the Computer Society of South Africa (CSSA) and ACM was signed in November 2001, making CHI-SA a joint ACM SIGCHI chapter and CSSA SIG.

South Africa's first conference on HCI was held in Pretoria in May 2000. The emphasis of this conference was on the unique needs of software users in a country characterised by a diversity of culture, language, education, economic means and computer experience. A second conference, CHI-SA 2001, was held in September 2001.

A Development Consortium on HCI in South Africa was presented at CHI 2002 in Minneapolis in 2002. The theme of this Consortium was "Changing the world, changing ourselves: in South Africa". Papers were presented on a number of different topics, including designing for multicultural users, digital libraries and international user interfaces.

A third conference, CHI-SA 2003, is scheduled for 10-12 November 2003 (<http://www.chi-sa.org.za/CHISA2003.HTM>). The goal of this conference is to highlight specific issues that relate to the conference theme: "New Horizons for HCI in Southern Africa". This theme reflects the growing influence of technology on our lives and the challenges and opportunities facing the HCI community in Southern Africa today.

4 Research & Activities

Most HCI teaching and research in South Africa is conducted at 7 universities, namely the University of Cape Town, Port Elizabeth (UPE), Natal (Durban), Natal (Pietermaritzburg), Free State, UNISA and Pretoria. The key HCI research fields at these institutions include E-commerce, E-learning, information visualization, mobile computing, user-centered design and usability testing.

Two South African academics are involved with international HCI research initiatives. The first author, Janet Wesson, represents South Africa on the IFIP TC.13 Committee on HCI and is also vice-chair of CHI-SA. Professor Paula Kotze of UNISA is the vice-chair of the IFIP WG13.1 on HCI Education.

Very few organisations in South Africa have embraced HCI principles and practice. The notable exceptions to this are Nedcor, Standard Bank and Liberty Life who are actively involved in CHI-SA.

A state-of-the art usability laboratory was installed at UPE in December 2000. This laboratory is the only such facility at any academic institution

in South Africa and represents an important resource for usability testing and research in this country.

4 Challenges & Opportunities

The effective exploitation of HCI in South Africa suffers from several barriers:

- Minimal awareness or lack of appreciation of HCI and usability within the industry.
- A lack of collaboration between the research and practitioner community.
- A limited number of researchers interested in HCI.
- Limited support for HCI research from government.

There are also certain factors which are critical for the success of HCI in this country:

- The research community needs to focus their efforts on the most promising opportunities for research and development.
- The level of awareness within the ICT industry needs to be raised from level 0 (unrecognised) to level 3 (considered) on the Usability Maturity Model.

5 Conclusions

This paper has reviewed the status of HCI in South Africa today. Several challenges facing South Africa were highlighted and opportunities suggested for research and development. CHI-SA has a vital role to play in promoting and encouraging HCI in this country.

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