

Human-Computer Interaction Education and Diversity

Tom Gross

Human-Computer Interaction Group, University of Bamberg, Germany
(email@tomgross.net)

Abstract. In this position paper I discuss the pros and cons of homogenising education in the field of human-computer interaction.

The field of Human-Computer Interaction (HCI) has diverse origins, which led to its multidisciplinary nature still prevailing today. As Grudin puts it: ‘different views of human-computer interaction are presented as a way of understanding forces that have kept the field fragmented. In some cases, different theoretical and methodological approaches were sensible consequences of different priorities, and differences will remain’ [Grudin 2006, p. 59].

Researchers and teachers in HCI have early on reacted to the challenges related to this multidisciplinary nature by elaborating on and negotiating on shared understandings for curricula of the education of HCI. I use the following two examples to illustrate this phenomenon. The German Informatics Society (Gesellschaft fuer Informatik, GI) has published recommendations for ‘Software Ergonomics Education’ already 20 years ago [Maass *et al.* 1994]. They specified nine desired qualifications as a result of the HCI education such as analysing and describing work and tasks, determining an appropriate human-computer functional separation, and designing human-computer interaction, but also organising the cooperation process between users and developers. In the USA the Association for Computing Machinery (ACM) suggested a curriculum for HCI in 1992 and 1996 that besides offering a valuable structure to the contents that should be taught in HCI also offers a definition of the field: ‘Human-computer interaction is a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them’ [Hewett *et al.* 1992]. Later, the ACM and the Institute of Electrical and Electronics Engineers (IEEE) Computer Society had a joint task force on ‘Computer Curricula’ in general and in their report from 2001 state that Human-Computer Interaction should be a part of computer science majors and they point out that: ‘emphasis will be placed on

understanding human behaviour with interactive objects, knowing how to develop and evaluate interactive software using a human-centred approach, and general knowledge of HCI design issues with multiple types of interactive software' [IEEE & ACM 2001].

Very recently Churchill et al. have compiled an informative report on 'Teaching and Learning Human-Computer Interaction: Past, Present, and Future' [Churchill *et al.* 2013]. This report analyses one of the big challenges of teaching HCI—that is, the rapid evolution of the field. The authors write: 'during the past 15 years, the speed of change has been particularly dramatic, with the emergence of personal mobile devices, agent-based technologies, and pervasive and ubiquitous computing. Social networking has also profoundly changed the way people use technology for work and leisure. ... In response to these technological changes, user populations have diversified and grown' [Churchill *et al.* 2013, p.44]. And the authors point out that in their interviews 'a common refrain we hear is "We need a mission statement or a value proposition that people can hang their hats on." Our survey respondents and interviewees call for some form of unity or consensus; there is a desire for "a unified theoretical perspective" and "a common curriculum."'

In this workshop on 'Challenges from the Future: Bridging the gaps through HCI Education' at INTERACT 2013 I would like to discuss these developments and particularly identify stimulating dichotomies such as the following: should and can we aim at a unified theoretical perspective or do we need to preserve plurality? What are the pros and cons of globalisation and standardisation versus diversity and locality? What emphasis should the HCI education put on concepts versus on technology—and how can user-centred design and technology-driven innovation be combined? How much specialisation versus generalisation is needed in our HCI curricula?

References

- Churchill, E.F., Bowser, A. and Preece, J. Teaching and Learning Human-Computer Interaction: Past, Present, and Future. *ACM interactions* (Mar./Apr. 2013). pp. 44-53.
- Grudin, J. Is HCI Homeless? In Search of Inter-Disciplinary Status. *ACM interactions* 13, 1 (Jan./Feb. 2006). pp. 54-59.
- Hewett, T.T., Baecker, R.M., Card, S.K., Carey, T., Gasen, J., Mantei, M.M., Perlman, G., Strong, G. and Verplank, W. <http://old.sigchi.org/cdg/index.html>. ACM, N.Y., 1992. (Accessed 13/8/2013).
- IEEE & ACM. Computer Curricula 2001 - Appendix A CS Body of Knowledge. IEEE Computer Society & Association of Computing Machinery, http://www.acm.org/education/curric_vols/cc2001.pdf, 2001. (Accessed 13/8/2013).
- Maass, S., Ackermann, D., Dzida, W., Gorny, P., Oberquelle, H., Roediger, K.-H., Rupietta, W. and Streitz, N. Recommendations for Software Ergonomics Education in Informatics Curricula at German Universities. German Informatics Society GI, <http://www-cg-hci.informatik.uni-oldenburg.de/GI-Recommendations/>, 1994. (Accessed 13/8/2013).