

Position Paper for HCI2008 Workshop 13 “The challenges faced by academia preparing students for industry: What we teach and what we do”

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Position

My position is that we need to

- a) recognise that progress is necessarily slow and steady and requires surprising amounts of consolidation
- b) harmonise with the emerging competency frameworks – SFIA and Skillset in the UK, and global skills ontologies reflected in HR-XML, RDCEO, SCORM
- c) stop worrying about what we “teach students” but start to create a more effective climate for their learning
- d) Develop for HCI at least and IT in general the kind of structured careers to enable us to compete with Medicine, Law and Accountancy the high entry tariff disciplines that currently draw female students and school leavers away from IT.

Background

In the last five years the UK HCI community has been more successful in breaking into professional industrial practice, as opposed research (whether academic or industrial). Two key factors have been involved:

Usability and accessibility finally became mainstream concerns, more than a decade after the DTI’s Usability Now campaign of 1990

The British HCI Group (As BCS Interaction SG used to be known) successfully lobbied for an expansion, from 2 to 5, of the HCI-related categories in the Skills Framework for the Information Age (SFIA)

Assuming that this workshop is mainly focused only on academia preparing *HCI* students for industry, we need to build upon these two areas.

Consolidation

As Jared Spool pointed out at HCI2007 (quoting the CUE studies by Molich et al), we still need to “get our act together to define usability” (and accessibility) to ensure that we can measure it, prevent its lack, optimise methods to minimise problems. But we shouldn’t be surprised that 20 years after we thought we had defined usability and how to achieve it, the academic knowledge remains ill-defined in practice. As Gaines BRETAM model would have it we are still 4-12 years away from “mass-produced” usability.

While every undergraduate needs to learn about research skills to some extent and there are many inspirational reasons to provide them with an insight into the latest HCI research, we need to focus more on ensuring the HCI fundamentals are learned effectively and deeply.

Harmonisation with structured competency frameworks

The five categories we embedded in SFIA represented for those involved a less than ideal compromise for several reasons

- The term “non-functional needs” is one we find difficult to live with – it appears to marginalise human factors to secondary importance to “functional needs” and of course there are many functionalities – from Fitts Law issues to fit for purpose issues.
- Some areas that the HCI community have a well developed interest in are the province of other BCS specialist groups – for example those concerned with Requirements Engineering, Sociotechnical, etc
- Some of our areas are closer to the Skillset (the sector skills council initiative for the digital media industry) than SFIA
- Areas such as Information Architecture remain undefined

Nevertheless the solution is not to ignore such initiatives – not least because the global outsourcing of human resources (HR) issues is leading to organisations having to exception-handle roles that are not in the frameworks, further increasing our marginalisation. We need to comment and lobby – as we have the chance to do now for SFIA-4.

Constructivist Approaches to Learning

HCI has so much in common with constructivist approaches to pedagogy that it's hard to see the difference. Yet a surprising amount of human-centred researchers revert to instructivist mode when seeking to increase HCI understanding in students. “Ultimately, is academia responsible for teaching the general theoretical grounding and ensuring a well rounded understanding of the field or is it also responsible for providing real life craft skills?” is the question in the proposal. Academia is not responsible for teaching or providing skills – it is responsible for cultivating intrinsic rather than extrinsic motivation, and for encouraging deep rather than strategic approaches to learning. We need therefore to shift our thinking from defining “a body of knowledge to be taught” to instead revealing the causes and consequences of incompetence in the professional practice of human-centred information systems design, which in turn would motivate students to develop the required competence.

The Disappearing Female

When I was working for a multinational IT company in 1990-93 there was an equal gender split at all levels of applications software development and quality assurance, the result of conscious strategies by HR departments over the previous 5-10 years. Current data suggests the IT industry is around 20% female and the situation in undergraduate courses seems even lower.

Women by comparison are the overwhelming majority in Medical, Law and Accountancy courses, and it seems no coincidence that these are disciplines with apparently better pay and more structured qualification-based career paths. Taking a user-centred approach we need at least to talk to the women who choose these paths and find out what it would have taken to tempt them into IT.