

## How far beyond human-computer interaction is interaction design?

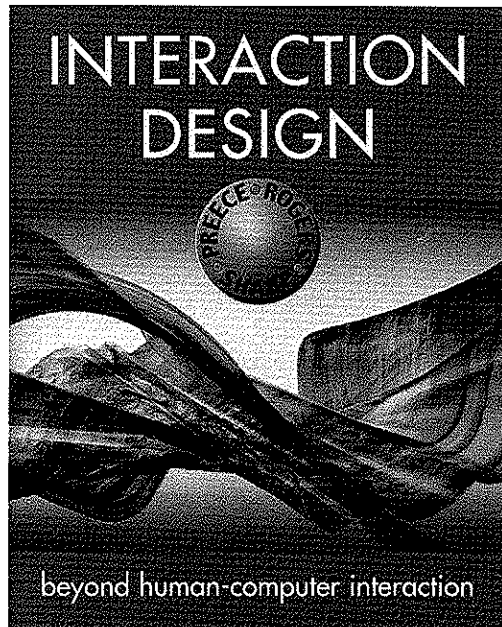
Review of Jenny Preece, Yvonne Rogers and Helen Sharp (eds.) (2002) *Interaction design: beyond human-computer interaction*. John Wiley and Sons, New York.

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While reading this book, I recognized my own reactions from several recent conversations, talks and papers. The feeling was familiar: the authors were adopting, and adapting, the design label a bit too loosely. The academic field of human-computer interaction (HCI) has strong roots in the traditions of behavioral science and engineering. Relabelling it as interaction design does not in itself move it 'beyond'.

Interaction design is a fairly recent concept, albeit growing steadily in terms of professional practice, higher education and even job descriptions. It clearly owes part of its heritage to HCI, even though the turns within established design fields — such as graphic design, product design and architecture — towards the digital material are every bit as important. There is no commonly agreed definition of interaction design; most people in the field, however, would probably subscribe to a general orientation towards shaping the use qualities of the digital material. The word 'interaction' in interaction design captures the time-based and at the same time nonlinear nature of the digital, a quality that sets it apart from most if not all other design materials. 'Design' is of course a multivalent word, but some typical connotations in more mature design disciplines and in design theory include the parallel emergence of question and answer, the activity of exploring possible futures, the synthesis of reason and emotion, the intervention on many simultaneous levels in a design situation.



review

The scope of interaction design opens up possibilities for genuinely better use experiences of information technology. HCI has contributed a great deal to the elimination of obvious problems for the users, but its focus on goals, tasks and usability makes it rather limited in terms of positive innovation. My concern is that this book by Preece et al. misrepresents the field of interaction design and hence limits its potential.

In the book there are some excellent interviews with prominent representatives of the interaction design field. In one of those interviews, Gitta Salomon states that,

*interaction design is a design discipline (33).*

What does that mean for the authors? More generally, how does an HCI perspective understand design?

In the preface, Preece et al. define interaction design as,

*designing interactive products to support people in their everyday and working lives.*

But does it make sense to say that a computer

game supports people? Even if it 'supports' the player's assumed goals of experiencing excitement or challenge, how does it 'support' the player's boyfriend's desire to see a bit more of his girlfriend? Is a teenager's experience of spending time in an online chat community primarily a 'supportive' one? Does a piece of technocritical digital art, such as the work by Anthony Dunne and Fiona Raby, 'support' the viewer? My point is not that 'supporting' is necessarily bad, only that it implies a certain ideology: an HCI perspective of goal-driven users whose use should be made as effective and efficient as possible.

Interestingly, the same paragraph goes on to quote Terry Winograd's suggested definition of interaction design as

*the design of spaces for human communication and interaction.*

The difference between the two definitions would be worth a book of its own.

On the nature of design, the authors rely on,

*the definition of design from the Oxford English Dictionary [which] captures the essence of design very well:*

(design is) a plan or scheme conceived in the mind and intended for subsequent execution.

(166)

This notion of design as a plan-then-act activity fits well with the software engineering approach permeating most contemporary HCI, but perhaps not so well with design theory. Planning is rather viewed as performed through acting, expressing, communicating. The execution is the planning; the planning is the execution. Together, they are part of the evolution known as design. The prominent design theorist J.C. Jones gives the following advice:

*First, recognize that the 'right' requirements are in principle unknowable by users, customers and designers at the start. Devise the design process, and the formal agreement between designers and customers and users, to be sensitive to what is*

*learnt by any of the parties as the design evolves.*

The implications of this view for practical IT development are substantial and largely unclear. That is precisely why gifted researchers and writers should devote their efforts to it.

There is also the question of what to design. An HCI perspective encourages the view of adapting new technology as painlessly as possible to existing users and practices:

*one can be more principled in deciding which [interaction design] choices to make by basing them on an understanding of the users. This involves: taking into account what people are good and bad at, considering what might help people with the way they currently do things, thinking through what might provide quality user experiences, listening to what people want and getting them involved in the design, using 'tried and tested' user-based techniques during the design process. (5)*

But design is innovative; it is about exploring possible futures, where the users as well as the technology are different from today. In some situations, it even makes more sense to think in terms of designing the users. As Terry Winograd points out in his interview:

*one of the biggest challenges is what Pelle Ehn calls the dialectic between tradition and transcendence. That is, people work and live in certain ways already, and they understand how to adapt that within a small range, but they don't have an understanding or a feel for what it would mean to make a radical change, for example, to change their way of doing business on the Internet before it was around, or to change their way of writing from pen and paper when word processors weren't around. I think what the designer is trying to do is to envision things for users that the users can't yet envision. The hard part is not fixing little problems, but designing things that are both innovative and that work (71).*

## Assertion 1.

Interaction design is a design discipline, which means something other than the science-and-engineering perspectives of HCI.

How, then, can we approach the question of quality in interaction design? How can we tell good from bad, and how can we devise development processes and cultures of practice to increase the chances of reaching good designs? The HCI answer is to express quality in terms of measurable usability goals and to address 'the rest' as we please:

*Usability goals are central to interaction design and are operationalized through specific criteria. User experience goals are [...] less clearly defined. (19)*

The approach suggested by the authors to address the less clearly defined user experience goals results in equating a desktop video conference system for distance learning with an online community that provides support for people who have recently been bereaved (20). Again, the opportunities for genuine contributions are apparent. Some useful starting points may be to think in terms of design as knowledge construction within a praxis, to look at the benefits and shortcomings of current approaches to product semantics, and to consider genres as knowledge-organizing systems.

An issue of particular interest is the possible role of critics in interaction design. One can imagine a field of interaction design criticism in analogy with more mature design fields such as architecture or graphic design. This appears problematic from an HCI perspective:

*Finding measurable characteristics for the user experience criteria is even harder, though. How do you measure satisfaction, fun, motivation or aesthetics? What is entertaining to one person may be boring to another; these kinds of criteria are subjective and so cannot be measured*

*objectively. (182)*

However, it is possible to talk about good and bad interaction design also in broader contexts. A few examples exist of more relevant interaction design criticism, but there is clearly room for much development.

## Assertion 2.

The notion of quality in interaction design is not well developed. Neither are the social structures needed to develop and sustain the notion. An HCI perspective is not the most appropriate starting point.

The emphasis on usability and task support also carries a notion of aesthetic qualities as equivalent to visual embellishment. On the topic of simplicity in web design, the authors state that

*A certain amount of graphics, shading, coloring and formatting can make a site aesthetically pleasing and enjoyable to use [...] The key is getting the right balance between aesthetic appeal and the right amount and kind of information per page. (27)*

But if aesthetics concern the sensual and perceptual qualities of experience as a whole, how can there be a tradeoff between aesthetic appeal and the right kind of information? 'Right' is an aesthetic judgment in this context. In another interview in the book, Gillian Crampton Smith makes the following observation.

*Obviously there's the aesthetic of what something looks like or feels like but there's also the aesthetic of how it works as well. You can talk about an elegant way of doing something as well as an elegant look. (199)*

Separating the usability of a system from how it affects its users, factoring out 'the aesthetics' in terms of 'pleasing shapes, fonts, colors and graphical elements', is problematic. Every interaction involves affection as well as cognition; aesthetic qualities reside in the overall

interaction which is determined above all by the functions, structures, social action spaces and temporal qualities (the dynamic Gestalt) of the system.

**Assertion 3.**

It makes sense to talk about aesthetic qualities of interaction. We have no adequate language as yet to do that talking. The language of HCI is not the best place to look for inspiration.

To conclude, I think the book discussed here represents a larger movement within HCI towards design. My point is that this movement involves a shift in epistemological foundations as well as professional practice. The book is a very capable presentation of contemporary HCI, covering relevant technological developments as well as the growing insight that HCI 'users' in fact do their (effective and efficient) work in social environments. It is pedagogically well structured and presented, and would be an obvious recommendation for any foundational HCI class. But it does not go beyond HCI. More specifically, it is not a book about interaction design. I have tried to indicate above a few implications of taking the epistemological and practical shifts more seriously.