Towards the aesthetics of Human-computer interaction

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Abstract
We argue that the field of HCI needs a new aesthetic perspective to develop further, and to transcend current shortcomings.

Towards a new discipline
For years the ruling paradigm in human-computer interaction has been use oriented. From mechanistic approaches such as GOMS, over “user centred design”, to participatory and radically process oriented approaches, minimising the intrusiveness of the interface in the situation of use has been the overall goal. Users should be able to do their work instead of dealing with the computer. The computer should be a tool, not the object of work.

Similarly in HCI, learnability has traditionally been looked upon in terms of how long it takes to master standard tasks (Shneidermann, 1990). More recent approaches based on activity theory have focused on how to support development in use, assuming that use basically cannot be anticipated at design time (Bertelsen & Bødker 2002). Whereas the traditional approach to learnability implies that “use” – what the application is used for – as well as the interface and the user are static entities that are being optimized against each other, the later approach implies a basic dynamics of the whole use situation, including the user, the task, the interface etc.

Designing for development in use means that design is extended into the process of use; the work arrangement of which the interface is part is continuously adapted to the evolving requirements of the supported practice. Even though the dialectic relation between tool and task is acknowledged, development is most often understood as aiming for smooth, transparent performance.

Experience oriented approaches that emerged in the mid 80’s, in parallel with the use oriented, argued that interfaces should support the users enjoyable experience. Ironically, the Aristotelian poetics that e.g. Laurel (1986) built upon had the result that experience was reduced to the means for achieving efficient interaction. Aesthetics has largely been understood as the icing on the cake; the means for something else. Art should build the spectators character, invoke sensitivity to some important societal problem etc. In short, art and aesthetics has been said to have a purpose. With this “purposeful” (or intentional) aesthetics, experience orientation is at risk of becoming just a certain form of use orientedness (see e.g. Norman (2002) for a severe case of).

Concerns for transcending the well-known and well-defined, has to a larger extend existed in the design literature. However somewhat subsumed under the tenet that new artefacts must fit the considered practice and that use should be brought into design through simulated work. In general approaches concerned with the cooperative design process have acknowledged a basic discontinuity between the old and the new design (Bertelsen & Bødker 2002). Thus, use-orientedness not only means a concern for technologies seamlessly fitting the working culture in question, but it also implies an emancipatory and transformative program. But because design tends to be understood as the response to a state of need in some concrete practice innovation is often reduced to the mere adaptation of the technical work arrangement to changing conditions. Thus, the problem we are facing in HCI and design is the paradoxical one of meeting needs that don’t yet exist, supporting the development of practice that we cannot yet imagine.

We suggest that considering the interface as a field of aesthetics can solve some of the current problems in HCI. To avoid sliding back into the dominating functionalism we further point to cultural and literary analysis as necessary elements in such a new discipline of HCI. The key to an instrumental understanding of the dynamics in the interface and the expansive potentials in design is aesthetics.

Questions of aesthetics are not new within HCI, but until recently the aesthetics has mainly been subordinated under functionalism as the icing on the cake. But computers and interfaces are not limited to workspaces and use situations where functionalism and effectiveness is key. With digital art, the Internet and computer games, what have been termed as cultural interfaces (Manovich, 2001) are flourishing -- interfaces that are not transparent or functional but evident, quixotic, and highly visible. In fact most cultural interfaces (within art, computer games, web design) are aiming at originality instead of standards and guidelines -- some of them are, like modern art, searching for original ways to express themselves and their mediated nature. Instead of the standardized transparent interface, these interfaces aim for entertainment, experience and self-expression. Besides, functionalism has in HCI as well as elsewhere (architecture, urban planning) demonstrated its shortcomings in both dull interfaces and/or the function-obsessed interfaces of e.g. modern office software and operating systems.

Viewed from the perspective of the history of aesthetics, the interface is in the process of developing a formal language of its own. From being seen merely as a transparent
tool emulating something else (an office tool, a control board of a machine, a traditional media technology, etc.), the interface gets increasingly visible as a phenomenon in our culture and as a formal, aesthetic category developing its own expression, art and culture. Just like photography before it, the interface becomes an aesthetic form in itself, and in the process changing both the cultural potential and perception of itself, but also of other media and aesthetic forms. In fact, as argued by dialectical materialists (Benjamin, 1974; Wartofsky, 1973) and various media theorists (McLuhan, 1994, Debray, 1994) it is the very constituents of our sense perception that is undergoing changes when our media change. The interface is, as media technologies before it, changing the range and scale of our sense perception; with the interface information becomes visible, interactive and thus is increasingly becoming an important part of our perceived reality.

We aim to work with a materialist perspective in order to sketch out new theoretical and practical perspectives for HCI considered as an aesthetic discipline. Our current slogan is:

Computers and interfaces are real, not virtual, and computer applications have effects on reality, on how it is perceived, and how it is constructed.

We must leave the utopian, 'virtual' thinking so common around computers and learn from the materialism found in literary and art historical realisms in order to put interfaces in material and cultural context. This could mean interfaces that are provocative, user-unfriendly (Dunne, 1999), humorous instead of aiming at being transparent, universal etc. Human-computer interaction is a difficult translation, a dialectics -- sometimes even a dichotomy -- between human and machine, and this translation should not always appear automatic, smooth, and seamless. Instead some of the underlying structures of the software and machine should be displayed, just like good works of art display and contain material and representational self-reflection. This could lead to critical interfaces, that gives the user insight into to the workings of the machine and software, which would also give the user better possibilities to develop unforeseen and 'un-designed' uses. Perhaps a deconstructive interface design under the slogan "What You See Is What It Does". A new design praxis aiming at honest interfaces which deliberately and evidently negotiate between the logic of the computer, the intended and designed interaction and the possibility of new, unforeseen interpretations of the user.

First step in our work is detecting and discussing whether this is already taking place in experimental interfaces, computer games, digital art, etc. In this sense, we intend to discuss interface design that is culturally, perhaps sub-culturally, coded instead of universal and user friendly; seducing instead of transparent. Interfaces with atmosphere and style, perhaps even other styles than the renaissance windows (try with some baroque opacity or surrealist inscrutability), other ways of staging the interaction between human and computer (what about staging the computer as something other than servile?), alternative figurations (why has HCI only discovered metaphor and not mene- tony and allegory?), critical interfaces, essayistic interfaces. In short interfaces, where the aesthetics is on equal level as the functionality and not subordinated to it. As ways of designing we might look at how artists and artistic designers work with the materiality.

HCI needs aesthetic perspectives. Recent developments within HCI have explored such directions (e.g. RCA, Play Research, ID Studioslab). Still there are lots of problems with how to introduce aesthetics in HCI and what the outcome of it could and should be. It is obviously, that computer games, artistic and entertainment-oriented interfaces need aesthetic approaches, and that HCI cannot deal sufficiently with these kinds of interfaces today. However, work-related interfaces need aesthetics too. We continually run into conceptual and practical problems suggesting that the balance between functionality and aesthetics is very uneasy indeed. We do not see any easy an fast solutions, beyond establishing a long committed joint discourse involving HCI, literature and other aesthetic disciplines.

References