

EDITORIAL

Soft Artifacts

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Evidently, the softness of computers was recognized with the invention of the term “software”, which the Oxford English Dictionary includes for the first time in 1960. The literal meaning of software is the opposite of hardware, which is fixed and immutable, while software is reconfigurable. Most people find it somewhat puzzling that both serve the same purpose in a computer and that the boundary between software and hardware is a matter of convenience, not necessity. Indication for this is found in the word “firmware” for the kind of software that is incorporated in hardware.

The meaning of software was explored in 1970 with the exhibition *Software – Information Technology: Its New Meaning for Art* at the Jewish Museum in New York. The catalogue – with the title *Labyrinth* – was the first publicly available hypertext by Theodore H. Nelson, inventor of the concepts hypertext and hypermedia. The Architecture Machine Group from the Massachusetts Institute of Technology headed by Nicholas Negroponte contributed the installation *Seek* where live gerbils were contemplating the intentions of a robotic arm, which constantly rearranged their surroundings. The artist Les Levine displayed video recordings of himself working in his studio and audio recording of his telephone conversations. In an earlier project documented in the catalogue, Les Levine described software as the result of “all activities which have no connection with object or material mass”, claiming immediately afterward that “all software carries its own residuals. The residual may take the form of news, paint, television tapes or other so-called ‘media’ “. In 1975 Nicholas Negroponte reversed the dystopic *Seek* vision. In *Soft Architecture Machines*, Negroponte argued that computers might enable a participatory design process that allows the end user to become active in the creation of the final solution.

What has changed since 1975, of course, is the availability of small and powerful computers, described by Mark Weiser as ubiquity. The description of media as residuals of software no longer applies. The ubiquitous computer is now inside a plethora of media commodities such as the now seemingly indispensable mobile phone/PDA/digital camera. Ubiquitous computing has left hardly any analogue medium untouched. In this issue of *Artifact*, Lev Manovich describes the Velvet Revolution of image manipulation pioneered by software such as Aldus PageMaker (1985) and Adobe Photoshop (1990), which changed the visual media in the 1980s and 1990s, just as programs such as Adobe After Effects (1993) have changed the moving image industries since the 1990’s.

However, ubiquity did not stop with media. Designers can now incorporate computers in just about every other artifact. Some call this intelligent design. The Swedish design researchers Jonas Löwgren and Erik Stolterman simply call software “a design material without properties”. Jonas Löwgren contributes to this issue of *Artifact* with an article about the pliability of the digital design process.

As if to sum up the combined impact of pliability and the remixability revolution of video editing software, Adrian Miles’ softvideography essay describes the untapped potential of video in theory and practice. The print version of *Artifact* contains only the text version of Miles’ essay – to fully understand its implications, please go to the web version.

The last two articles both fall under the heading Digital design processes. Mattias Arvola and Henrik Artman have investigated the bodily gestures employed more or less consciously by interaction designers and provide a theoretical framework that makes it possible to employ gestures methodically

as a design language. Greg Van Alstyne and Robert K. Logan provide a theory for understanding how design processes produce artifacts. They argue that design processes are iterative and emergent, i.e. that artifacts are created in a massively iterative, unfolding process and not in a consciously linear goal-oriented process.

Soft artifacts may not be soft to the touch, but the “material without properties” is the solid matter in a design universe that we have barely begun to explore.

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