



new media  
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[a mínima magazine](#)

[issues / números](#)

[prices adverts](#)

#### languages

[español](#)

[english](#)

[search](#)

#### categories

[architecture](#)

[ars electronica](#)

[sound art](#)

[art & science](#)

[bioart](#)

[films](#)

[computergames](#)

[danza](#)

[ensayo](#)

[entrevistas](#)

[hacktivism](#)

[info](#)

[installations](#)

[media art](#)

[digital narrative](#)

[netart](#)

[amínima projects](#)

[social networking](#)

[robotics](#)

[software art](#)

[data visualization](#)

#### rss links

[all posts](#) 

[all comments](#) 

#### blogroll

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[capsula](#)

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## "not just art" from media art to artware

By [christiane paul](#)

In its standard usage, the term "media" is used for communication, information, or entertainment systems in their various forms and, until the later part of the 20th century, was mostly associated with broadcasting media — one-to-many distribution systems. Since the 1950s, the spectrum of "older" media — most notably print, radio, film, and television — was broadened with the advent of technologies such as color television, news satellites, video recorders and tapes, videophones, cable television, laser techniques, as well as computer and networking technologies. It is the latter two forms of media, in particular, that finally enabled a substantial shift to a many-to-many communication and distribution system that diminished the boundaries between sender and receiver or producer and consumer.

While the potential of this shift to many-to-many distribution networks was recognized much earlier and was indeed one of the dreams of video art, the "new" (digital) media of the late 20th and 21st century finally allowed a fairly fluent and broader implementation of this many-to-many model. Digital media have facilitated a form of "re-mediation" in the sense of a reconfiguration of both the possibilities of media systems and the connections between art and media, in particular. While these reconfigurations have been an ongoing process throughout the history of media arts, the digital medium and its networked characteristics have proposed new models for questioning and restructuring these systems. A significant subcategory of new media arts essentially consists of alternative models for media systems and tools — "artware" that is "not just art" but a proposal for the restructuring or critique of existing media systems.

Artists have always used and reflected on the technology of their time and the so-called "media arts" have a history that is as long as the history of media itself. Artists also started to expand the possibilities of the one-to-many broadcasting media at a time when the concept of many-to-many distribution systems was hardly recognized by the public in general. In the 1960s, Max Neuhaus defined new arenas for music performance by staging sound works in public arenas and experimenting with networked sound as a form of "virtual architecture." In the first installment of his project Public Supply (1966), he established a connection between the WBAI radio station in New York and the telephone network, implementing a 20-mile aural space around New York City, where participants could intervene in the

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performance by making a phone call. When Sony portapaks became available in the 1970s, artists and activists used this portable recording power for establishing alternative media networks, addressing issues of documentation and representation in the context of control over media distribution. However, the attempt to establish distribution systems for the public at a larger scale ultimately failed. Apart from the fact that media systems can only be reconfigured with the combined creative endeavors of many individuals, earlier technologies such as video also still required far more complicated processing and distribution facilities than today’s new media do. Collaborative experimentation with independent media systems and with creativity and automated also tools can be found in the art-machines and robotics of the 1960s. This experimentation is also embedded in the larger context of value creation within the art market — an issue that was explicitly taken on by art movements of the 1960s and 70s, which tried to move art outside of an institutionalized context.

Using “new technology” such as video and satellites, artists in the 1970s began to experiment with live, networked performances that anticipated the interactions now taking place on the Internet and through the use of streaming media. The focus of these projects ranged from the application of satellite technology for extending the mass dissemination of a television broadcast to the aesthetic potential of video teleconferencing and the exploration of real-time virtual space that collapsed geographic boundaries. David Ross, among others, has examined the parallels between the video art practices of the 70s and networked media art in the 90s, which were both striving to establish new cultural systems of exchange.<sup>1</sup>

Many of the discussions surrounding the reconfiguration of media systems and questions about agency within these systems take place within the new media arts practice that is concerned with the creation of artware. The inherent hope and promise here is that software production can be seen in the broader context of cultural production or, as Pit Schultz has put it, “that writing code has more meaning than making a program run or crash or sell”.<sup>2</sup> Software always has to be seen as cultural construct, and the creation of artware addresses this construct from various angles, including the enhancement or re-engineering of existing software products; the creation of alternative, community-driven platforms of exchange; and the examination of agency, autonomy, or political agendas in software.

The creation and analysis of today’s artware and Do-It-Yourself networks is embedded in the larger context of what is referred to as “software art.” The term software art should be understood here as a specific filter applied to artistic practice that involves the writing of software, rather than a clearly

distinguishable category of new media arts.

The jury of the Read\_me 1.2 festival<sup>3</sup> broadly defined software art as art based on code as formal instructions, or art offering a cultural reflection of software — definitions that cover a broad territory. If one takes a look at the subcategories listed on the runme software repository's site<sup>4</sup> one encounters a landscape that may be fairly confusing in its topography but nevertheless makes important distinctions and can still be roughly summed up under the above mentioned definitions. Labels such as algorithmic appreciation, generative art, code poetry, data transformation, as well as digital folk and artisanship (e.g. ascii art and screen savers) arguably seem to put an emphasis on the aesthetics of formal instructions. On the other hand, classifications such as existing software manipulations (cracks and patches or plug-ins) or political and activist software (e.g. cease-and-desist-ware and software resistance) as well as software tools point to the role of software art as critical reflection of software's cultural status, its encoded political or commercial agenda. It is mostly in this context where the development of artware unfolds. The "art aspect" manifests itself in the writing of software — or the re-writing / re-engineering of existing software — as an act that examines the underbelly, inscribed aesthetics, and agenda of the original construct and thus opens it up to discussion. The inherent hope and promise here is that software production can be seen in the broader context of cultural production or, as Pit Schultz has put it, "that writing code has more meaning than making a program run or crash or sell."<sup>5</sup>

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Obviously, artists today are working with different technologies than they did 30 or 40 years ago, but one still has to ask the question, is there anything that fundamentally distinguishes today's endeavors to reconfigure media and establish new cultural systems of exchange from previous ones? I would argue that a fundamental difference lies in the nature and specifics of the technology itself. Previous media, such as radio, video or television mostly relied on a technological super-structure of production, transmission, and reception that was relatively defined. The modularity and variability of the digital medium however constitutes a far broader and more scattered landscape of production and distribution. Not only is there a plethora of softwares, each responsible for different tasks (such as image manipulation, 3D modeling, Web browsing etc.) but due to the modularity of the medium, these softwares can also

potentially be manipulated or expanded. As a result, there are several potential points of intervention for artistic practice. As Saul Albert's diagram [Fig.1] shows, intervention could take place between software and media producers or producers and consumers. In the following, I will discuss some examples of artware or artistic tools that intervene at different points.

#### Browser and Search Engine Reconfigurations

Over the past decade, numerous art projects have either intervened with existing browsers and search engines or created applications that expanded these tools' functionalities.

The British group I/O/D single-handedly established browser art as artistic practice with their WebStalker 6 [Fig. 2], an application that allows users to draw "frames" in a blank window and select information they would like to display in them — for example, a graphical map of the site that presents all its individual pages and the links between them; the text from a URL and the source code of the HTML page; a "stash" of URLs users would like to save. Although the WebStalker didn't display graphics, it expanded the functionality of existing browsers in a way that questions the paradigms of the conventional information display and Internet 'architecture.' In his essay "A Means of Mutation," Matthew Fuller, "A Means of Mutation" 7 I/O/D's Matthew Fuller described the Web Stalker as "not just art" — a form of cultural practice that could have an impact outside of the relatively narrow confines of the art world or even sustain itself (although the latter did not quite happen).

While the WebStalker engages notions of the browser as culturally coded construct, one also shouldn't neglect its distinct aesthetics and their art-historical references. In his essay "Visceral Facades: taking Matta-Clark's crowbar to software,"<sup>8</sup> I/O/D's Matthew Fuller establishes a connection between the WebStalker's approach to information architecture and American artist

Gordon Matta-Clark's technique of literally "splitting" the existing architecture of buildings, an application of formal procedures that would result in a revelation of structural properties. Matta-Clark's as well as the WebStalker's "deconstructionism" and "anarchitecture" are as much statements against certain social conditions as they are aesthetic acts oscillating between reconstructions of the destroyed and destructions of closure.

While different in its approach, Maciej Wisniewski's netomat™<sup>9</sup> [Fig. 3] — a meta-browser abandoning the page format of traditional browsers and treating the Internet as one large database of files that can be searched by typing in keywords or questions — would fall in the same category of alternative browsers. Using an audio-visual language designed specifically

to explore the unexplored Internet, netomat™ reveals how the ever-expanding network interprets and reinterprets cultural concepts and themes and takes visitors for a ride into the Internet's "subconscious." Netomat ultimately came closer to the concept of "not just art" since it now exists as a company (Netomat Inc.) that turned the original Web browser's underlying software and technology into a product and alternative model for communicating online.

Browser art has become a broad field of artistic exploration that has produced many well-known interventions, among them Jodi's Wrongbrowser, Nullpointer's Web Tracer or Mark Napier's Shredder and Riot 10, all of which address specifics of the browser in very different ways (from aesthetic to political). An example of the expansion of browser functionalities would be Martin Wattenberg's and Marek Walczak's Wonderwalker 11, a project commissioned by the Walker Art Center and alluding to the Wunderkammer or cabinet of curiosities. [Fig. 4] The Wonderwalker allows users to create a shared, public map of favorite sites and thus turns the Web browser's bookmark function into a participatory space for exchanging sites of interest.

The area of search engine reconfigurations has been equally prolific and has produced a wide array of projects.<sup>12</sup> Andy Deck's Culture Map <sup>13</sup>[Fig. 5], for example, gives its users a comparative view of the contents of the Web according to certain topics. The project allows users to choose from up to 32 categories (such as News, Shopping, Economy, Arts) and then uses data from different search engines to determine the "scale" of the topics according to the predominance of the term in Web pages. The resulting visualization assigns a colored region to each of topic, its size varying according to the occurrence of the term. Culture Map — a piece of "meta-cartographic information art," as Deck calls it — critically examines how people find information through the categorical entry points and key themes of search engines and throws light on the bias of the engines themselves.

A search engine intervention that focuses on privacy rather than data analysis is offered by TraceNoizer<sup>14</sup>, a project by LAN, a varying group of students, media workers, artists and designers. Billing itself as "Disinformation on Demand," the project addresses issues surrounding the "databody" — the accumulated traces of information that people leave on the Web through their homepages, institutional affiliation, participation in conferences etc. While some people consider their databody a useful necessity that provides them with exposure (for example regarding their research and publications), others regard it as an unwelcome nuisance that makes them vulnerable to intrusion by marketers etc. TraceNoizer is a tool that uses disinformation as a strategy for data protection. The project finds data related to a person's name and / or e-mail address (for example, information

connected to people with a similar name and address) and clones it into a number of homepages in a fully automated process. These homepages are then automatically uploaded to servers that provide free web space and thus become accessible through search engines and other Web surfers. The result is a multitude of data clones for one person that make it impossible to arrive at valid information about the individual in question. As a combined search, analysis, and publication tool, TraceNoizer misleads through a process of open cloning.

#### Media Production Tools

Apart from artistic expansions of the software utilities that are used by Internet "media consumers" on a daily basis (Web browsers, search engines), there also is a large body of artistic tools that establishes a framework for the production of media content. Some of these works explicitly allude to or transform the standards of commercial software for drawing or image manipulation. Andy Deck's Open Studio<sup>15</sup>, for example, a multi-user online "drawing board," offers its user a palette of options for "spray-painting" with their mouse. What most radically distinguishes this application from any of its commercial counterparts is the ability to draw together with multiple people in remote locations in real-time. In most cases, the focus of users shifts from the creation of their respective painting to "responding" to the other people simultaneously occupying the space. The experience becomes closer to a live, graphic jam and constitutes a break with the usual context of computer drawing applications.

One of the most well known artistic graphic design applications remains Adrian Ward's Signwave Auto-Illustrator 1.116, developed on the basis of his earlier project Autoshop 1.0 17.

Both applications obviously allude to and parody Adobe™ Photoshop™ and Illustrator™, respectively. Auto-Illustrator is an explicit statement about the conventions and standardization of commercial graphic design applications and at the same time explores the beauty and elegance of generative graphic design. As opposed to most other artistic tools, Auto-Illustrator deliberately follows a commercial model, being sold as a software package with a limited edition user license — a fact that both highlights its validity as a tool and suggests an alternative model for selling art.

Using an industry standard-interface, Auto-Illustrator uses a familiar tool palette — including a pencil, brush, oval, rectangle, and text tools — but extends the regular options by offering sliders that can automatically create a rectangle in a shabby or precise childish or adult design, for example. The filters allow users to generate 1970s boxes or architectures; parody sportswear logos; or insert instant Murakami eyes (with the "SuckMyPixel" filter).

Using the "Bug" tool, one can place bugs (with modifiable behaviors) into the document that will crawl around, drawing lines behind them. [Fig. 6] In an ironic way, Auto-Illustrator "illustrates" the limits of commercial design applications by frustrating the expectations one might have of them and thus highlighting the standardized operations on which they are based.

While automating creativity in a generative process, Auto-Illustrator explores the interrelationship and agency of the author / user / software at any given point. As Ward explains, the Artificial Intelligence routines (previously employed in Autoshop) "randomly" seed incoming data but then filter this data based on rules of logic established by the author. While the computer uses random data to determine certain factors, these come into play only when they produce suitable results. Since the role randomness plays in software projects is often overrated and misrepresented, it is important to note that — as Ward puts it — "a computer can only move data about. It cannot — under any circumstances — generate a truly random number by itself." 18 For Ward, a system's ability to feed data back into itself — thereby becoming chaotic, complex, and dynamical — is comparable to the unpredictability of creativeness itself.<sup>19</sup> In works such as Auto-Illustrator, the concept of "feedback" becomes a complex interplay between the author, user, and software. The agency of the code may be considerable but it is certainly not the only party "speaking."

Ward states that "While some consider technology totalitarian, others forge ahead by expressing their creativity as technological tools, treating technology not as a system of control, but a system of growth." 20 Without neglecting the amount of control that technology in general can exert, programming certainly offers unprecedented possibilities for shaping technology. Code is not only an artistic "medium" comparable to paint or clay, it also allows artists to write their own paint brushes and chisels.

A considerable body of "media production tools" has been developed within the field of music, DJing and Vjing and often takes the form of interactive sound processors (for example, Netochka Nezvanova's b1257+1221 or musical "instruments," such as John Klima's software glasbead. John Klima, glasbead. 22 Informed by multi-user environments, gaming, and file-sharing, glasbead is a multi-user collaborative musical interface and instrument that allows players to import and share sound files and create a myriad of soundscapes. The interface consists of a rotating, circular structure with stems that resemble hammers and bells. Sound files can be imported into the bells and are triggered by flinging the hammers into the bells. [Fig. 7] While glasbead creates a contained world where sounds and visuals enhance each other, it allows up to 20 players to remotely "jam" with each

other. The project was inspired by Hermann Hesse's novel *Das Glasperlenspiel* (The Glassbead Game, published in English under the title *Magister Ludi*), which applies the geometries of music to the construction of synesthetic microworlds.

A wide area of artware consists of "social software" — tools that are aimed at providing platforms for community-based exchanges and publishing. An example of this type of project would be *Nine(9)* by the British collaborative *Mongrel*. *Nine(9)* is a continuation of *Mongrel's* project *Linker23* and was created by *Mongrel* member *Harwood* while he was artist-in-residence at the *Waag Society Amsterdam*. The project is an open-source software structure that allows individuals and communities to "map" their experiences and "social geographies." *Nine(9)* consists of a server-based application that can incorporate 9 groups x 9 archives x 9 maps = 729 collective knowledge maps. An important part of the project as "social software" is an ongoing dialogue between users and programmers in order to transcend standardized social relations. In a very different way and context, both *Nine(9)* and *Auto-Illustrator* play with limitations — in structure or functionality, respectively — to test and explore possibilities of software.

Other projects, such as *Liken* by *criticalartware* (*Ben Syverson*, *Jon Cates*, *Jon Satrom* and *Bliithe Riley* — core developers) investigate community-driven interfaces for social software.<sup>24</sup> *Liken* is a Web interface (with various different manifestations) to *criticalartware's* database of shared resources that present themselves as self-connecting nodes to which users can contribute. The pathways connecting the nodes change on the basis of usage, with more "traveled" paths growing stronger and paths attracting less interest fading away. *Criticalartware's* approach is that of hybridization, a self-reflexive crossbreeding of interfaces and connected threads that becomes a social document in itself.

An excellent portal for exploring free software tools for collaborative networking and media production is the *DIVE CD-ROM*, which was created by <KOP> (*Kingdom of Piracy*) and commissioned by the *VirtualCentre-Media.Net* and *FACT, UK*. The CD-ROM includes projects such as *Mongrel's Nine(9)*, *Radioqualia's Frequency Clock*, and *LAST.FM*, a peer-to-peer network for streaming customized selections of music.<sup>25</sup>

The "re-mediation" unfolding in the above-mentioned projects takes the form of models for mediated exchange that transcend simplistic receiver / transmitter structures. These models explore inherent possibilities of media systems and offer alternatives outside of the media industry. The new "art media" may not radically redefine connections between art and media but they certainly have opened the field of artistic engagement and agency. Whether alternative media systems and artware projects will have a mass

appeal and profound impact on existing structures remains debatable. While they are mostly community-driven, they certainly can make use of a distribution system of unprecedented scale, and there is no doubt that art projects have been noticed by the industry. The rise of Linux (a topic in itself) is an indication that open-source systems can offer alternatives that are taken seriously and implemented on a larger scale. Even if the impact of artistic media reconfigurations remains limited, they are a much needed "reality check" — a critical examination of today's media and proposal for alternatives.

1 David Ross, "Net.art in the age of digital reproduction" ("Art and the age of the digital"), lecture at San Jose State University (Cadre), March 2, 1999:

<http://switch.sjsu.edu/web/v5n1/ross/index.html>.

Edited version reprinted in *Camerawork: A Journal of Photographic Arts*, Vol. 26 No 1, Spring / Summer 1999.

2 Pit Schultz, "QuickView on Software Art,"

3 Read\_me

4 Runme; developed by Amy Alexander, Florian Cramer, Matthew Fuller, Olga Goriunova, Thomax Kaulmann, Alex McLean, Pit Schultz, Alexei Shulgin, and The Yes Men

5 "QuickView on Software Art"

6 I/O/D, WebStalker

7 Matthew Fuller, "A Means of Mutation" (March 1998),

8 Matthew Fuller, "Visceral Facades: taking Matta-Clark's crowbar to software,"

9 Maciej Wisniewski, netomat™

10 Jodi, Wrongbrowser

Nullpointer, Web Tracer

Mark Napier Shredder / Riot

11 Martin Wattenberg & Marek Walczak, Wonderwalker

12 See for example Julia Page and Tommy Walker, "The Art of the Engine,"

13 Andy Deck, Culture Map

14 LAN, Tracenoizer

15 Andy Deck, Open Studio

16 Adrian Ward, Signwave Auto-Illustrator; an upgrade to 1.2 was amde available in 2003.

17 <http://www.signwave.co.uk/products/autoshop>

18 Adrian Ward, "How I Drew One of my Pictures" in *Auto-Illustrator Users Guide* (Signwave: London , UK ,

2002), p.73, 72;

19 Ibid., p. 73

20 Adrian Ward, excerpt from 4×4: Life and Oblivion: Generative Design in Auto-Illustrator Users Guide (Signwave: London , UK , 2002), p. 96

21. Netochka

22 John Klima, glasbead (1999/2000)

23 Mongrel, Nine

24 Criticalartware, Liken

25 <KOP>, DIVE

Radioqualia, Frequency Clock

Michael Breidenbruecker, Felix Miller, Martin Stiksel, Thomas Willomitzer, LAST.FM,

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Is the Adjunct Curator of New Media Arts at the Whitney Museum of American Art and the director of Intelligent Agent (<http://www.intelligentagent.com>), a service organization and information resource dedicated to digital art. She has written extensively on new media, net art, information architecture, hypermedia, and hyperfiction, and her articles have been published in magazines such as Sculpture, Leonardo, and Intelligent Agent,. Her book "Digital Art" (part of the World of Art Series by Thames & Hudson , UK ) was published in July 2003. She is currently editing an anthology on Curating New Media. She teaches in the MFA computer arts department at the School of Visual Arts in New York and has lectured internationally on art and technology.

At the Whitney Museum, she curated the show "Data Dynamics" (2001), which dealt with the mapping of data and information flow on the Internet and in the museum space; the net art selection for the 2002 Whitney Biennial; as well as the online exhibition "CODeDOC" (2002) for artport, the Whitney Museum's online portal to Internet art for which she is responsible. Other curatorial work includes "Evident Traces" (Ciberarts Festival Bilbao, 2004); "eVolution — the art of living systems" (Art Interactive, Boston, 2004); "CODeDOC II" (Ars Electronica, 2003); the New York Digital Salon's 10th anniversary exhibition (NYC, 2003); "Mapping Transitions" at the University of Boulder, Colorado (2002); "Re-Media" (Fotofest, Houston, Texas, 2002); and a net art selection for "Evo1" (Gallery L, Moscow, October 2001).

Christiane Paul has participated in numerous panels on new media and presented at conferences worldwide. Her speaking engagements included the symposium "Media Art - Art Media," ZKM (Center for Culture and Media), Karlsruhe, Germany; ARCO Forum 2004 and 2005, Madrid, Spain; the Tate Museum, London; the Museum of Contemporary Arts (MACBA),

Barcelona, Spain; the Boston Cyberarts Festival; the Royal Academy of Arts, Stockholm, Sweden; the Royal Academy of Arts, Copenhagen, Denmark; the annual College Art Association conference (New York); the International Summit on Multimedia and the Internet (Abu Dhabi, UAE); invenção thinking the next millennium (São Paulo, Brazil); consciousness reframed 2 (CAiA, Wales, Newport, UK); and the Governor’s Conference on the Arts (San Francisco).

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