FLEXIBLE CONTEXTS, DEMOCRATIC FILTERING AND COMPUTER-AIDED CURATING: MODELS FOR ONLINE CURATORIAL PRACTICE

Christiane Paul

+ When Internet art officially came into being with the advent of the WWW in the early 1990s, it immediately inspired a variety of dreams about the future of artistic and curatorial practice, among them the dream of a more or less radical reconfiguration of traditional models and 'spaces' for accessing art. As an art form that exists within a (virtual) public space and that has been created to be seen by anyone, anywhere, at any time (provided one has access to the network), net art does not necessarily need the physical space of an art institution to be presented or introduced to the public. It promises new ways of distributing and accessing art that can function independently of the institutional art world and its structures of validation and commodification. Net art seems to call for a 'museum without walls', a parallel, distributed, living information space that is open to interferences by artists, audiences, and curators - a space for exchange, collaborative creation and presentation that is transparent and flexible.

An online art world - consisting of artists, critics, curators, theorists and other practitioners - immediately developed in tandem with Internet art and outside of the institutional art world. In the late 1990s, institutions also began to pay attention to net art as part of contemporary artistic practice and slowly incorporated it into their programming. Curatorial practice in the online world began to unfold not only independent of institutions - through Web projects created by independent curators and (artist) collaboratives - but also in an institutional context - through websites affiliated with museums, such as the Walker Art Center's *Gallery 9*,[1] SF

MOMA's *e-space*[2] and the Whitney Museum's *artport*.[3] These curatorial projects differ substantially in their respective interpretation of selection, filtering, and 'gate-keeping' as fundamental aspects of the curatorial process. With its inherent flexibility and possibilities for customisation and indexing, the digital medium potentially allows for an increased public involvement in the curatorial process, a 'public curation' that promises to construct more 'democratic' and participatory forms of filtering. This text will outline the effects of networks and collaborative exchange on the curatorial process and give a brief survey of the different models for online curatorial practice, ranging from the more traditional model of a single curatorial 'filter' to multiple curatorial perspectives and forms of automated curating that integrate technology in the curatorial process. Among the issues that will be discussed are politics of selection and the degrees of agency of the curator/public/software in the filtering process.

Networks, Collaborative Exchange and Democratisation

The Internet, networked mobile devices - from cellphones to PDAs (Personal Digital Assistants) - and increasingly affordable software and hardware, have brought about a new era for the creation and distribution of media content. The utopian promise of this era is 'technologies for the people' and a many-to-many broadcasting system that returns the power over distribution to the individual and has a democratising effect. In its early days, the Internet was dominated by research and educational institutions and provided a playground for artistic experimentation. The dream of a 'network for the people' did not last long and, from the very beginning, obscured the more complex issues of power and control over media. Only a portion of the world is connected to the 'global' network, and some countries have been subject to government-imposed access restrictions. The Internet itself quickly became a mirror of the actual world, with corporations and e-commerce colonising the landscape. The burst of the 'dot com' bubble may have ended a lot of the hype surrounding the Internet economy and led to reconsiderations of e-commerce, but the industry of digital technologies is still very much alive.

Nevertheless, one could argue that networked environments enhance the potential for democratisation and increase the public's agency in several respects - for example through enhanced distribution, filtering, and archiving mechanisms that give importance to an 'individual's voice'; through the fact that interventions (in the broadest sense) are not necessarily bound to a geographic space any more; and through a largely decentralised rather than hierarchical structure. This obviously does not mean that authority itself has been eliminated. As Charles Bernstein has put it: 'Authority is never abolished but constantly reinscribes itself in new places. [...] Decentralisation allows for multiple, conflicting authorities, not the absence of authority' (Bernstein 2003). In general, agency has become considerably more complex through the process of technological mediation.

The fact that Internet art is potentially interactive, participatory, or even collaborative and potentially open to exchanges with trans-local communities, makes questions surrounding agency and the authority of authorship a central element of new media art practice. Agency manifests itself in the possibilities for influencing, changing, or creating institutions and events, or acting as a proxy. Degrees of agency are measured by the ability to have a meaningful effect in the world and in a social context, which naturally entails responsibilities. In media art, any form of agency is necessarily mediated, and the degree of agency is therefore partly determined by the levels of mediation unfolding within an artwork. The agency of the creator/user/public/audience is highly dependent on the extent of control over production and distribution of a work, which has been a central issue of the discourse on mass media.

One of the most fundamental differences between the degrees of control and agency in analogue and digital media lies in the nature and specifics of the technology itself. 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 technologies and softwares, each responsible for different tasks (such as image manipulation, 3D modelling, 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 numerous potential points of intervention for artistic practice and cultural production in general. In this respect, the Internet and 'new media' certainly have opened the field for artistic engagement, agency, and conflicting authorities.

In networked environments, collaborative exchange is a fundamental part of artistic and cultural production and has led to shifts in the understanding of the artwork and authorship, which in turn has fundamental consequences for curatorial practice. Curators need to place more emphasis on and develop strategies for documentation of works that are created by multiple authors and constantly develop over time. When it comes to online art, a collaborative process and model is almost a necessity and naturally affects the roles of the curator, artist, audience, and institution. Collaboration leads to an increased openness of the production and presentation process, it requires awareness of process, and its results are not necessarily predictable.

Participation and collaboration are inherent to the networked digital medium, which supports and relies on a constant exchange and flow of information, and are important elements in multi-user environments such as 3D worlds that allow their inhabitants to extend and 'build' their framework. The collaborative model also is a crucial concept when it comes to the artistic process itself. New media works in general often require a complex collaboration between artists, programmers, researchers, designers or scientists, whose role may range from that of a consultant to a full collaborator. This work process is fundamentally different from the scenario where artists hire people to build or create components for their work according to instructions, since collaborators in new media practice are often very much involved in aesthetic decisions. New media art tends to demand expertise in various fields, which one individual alone can hardly acquire. Another form of cooperation occurs in projects where an

artist establishes a framework in which other artists create original works. Lisa Jevbratt's *Mapping the Web Infome* (2001)[4] and *Carnivore* by Alex Galloway and the Radical Software Group (RSG) (2001-present)[5] are perfect examples of this approach. In both cases, the artists set certain parameters through software or a server and invite other artists to create 'clients', which in and of themselves again constitute art works. In these scenarios, the initiating artist occasionally plays a role similar to that of a curator, and the collaborations are usually the result of extensive previous discussions, which sometimes take place on mailing lists specifically established for this purpose. Many new media projects are ultimately created by audience input, which constitutes another level of participation, although not necessarily collaboration in the narrower sense. While the artists still maintain a certain (often substantial) control over the visual display, works such as Mark Napier's *P-Soup* (2000)[6], Andy Deck's *Open Studio* (1999)[7] or Martin Wattenberg's and Marek Walczak's *Apartment* (2001)[8] would all consist of a blank screen without the audience's contribution. These projects ultimately are software systems in which the creation of meaning to varying degrees relies on the content provided by the audience. The artist often becomes a mediatory agent and facilitator - both for collaboration with other artists and for audiences' interaction with and contribution to the artwork.

Network structures and collaborative models tend to create zones of cultural autonomy - often formed ad hoc by communities of interest - that exist as long as they fulfill a set of functions and then often disperse or move on. This does not necessarily mean that networks create new models of democracy or self-governance, since they are supported by numerous protocols and governing structures and are inextricably connected to the technological industry. The existence of networks has opened up new spaces both for autonomous producers and DIY culture, and the industry of market-driven media. Artistic production oscillates between the poles of openness of systems and restrictions imposed by protocols and the technological industry.

Flexible Contexts and Changing Curatorial Roles

All of the issues outlined above require that curators and art institutions, at least to some extent, reconfigure their roles and adapt to the demands of the art. The shifts brought about by collaborative models and networked exchange are not necessarily specific to online art but also apply to many other forms of new media art, such as installations, software art or mobile media pieces. In the organisation of an exhibition presenting any of these different forms, a curator may play a role closer to that of a producer, supervising a team of creators, as well as the production and public presentation of the work. The variability and modularity of new media works implies that there usually are various possible presentation scenarios: artworks are often reconfigured for the specific space and presented in very different ways from venue to venue. However, the changes in the curatorial role tend to become most obvious in online curation, which by nature unfolds in a hyperlinked contextual network. According to the US Department of Labor:

'Curators oversee collections in museums, zoos, aquariums, botanical gardens, nature centres, and historic sites. They acquire items through purchases, gifts, field exploration, inter-museum exchanges [...]. Curators also plan and prepare exhibits[...] Their work involves describing and classifying [...]. Increasingly, curators are expected to participate in grant writing and fundraising to support their projects [...].' (US Department of Labor)

While some aspects of the curatorial role - such as selection of works, organisation of exhibits and their art-historical framing - still apply to the process of online curating, transformations occur in the process of filtering, 'describing' and classifying within the online environment. The Internet is a contextual network where a different context is always only one click away, and everyone is engaged in a continuous process of creating context and re-contextualising. Linking to and commenting on other websites creates information filters, portals, and new contexts. The continuous flow of information creates fluctuating contexts that become a 'moving target' when it comes to establishing our frameworks for creating meaning. On the Internet, the spatial distance that would divide the

centre from the margin or text from context in the physical world, is subordinated to the temporality of the link.

In her article 'Fluidities and Oppositions among Curators, Filter Feeders, and Future Artists' (2003), Anne-Marie Schleiner points out that every website owner assumes the role of a curator and a cultural critic by creating chains of meaning through association, comparison, and juxtaposition. 'I am what I link to' is how Schleiner sums up the ontological status of online contextualisation through linking. The embeddedness of online art into a rich contextual environment creates various tensions and oppositions. The Internet both blurs boundaries between 'categories' of cultural production (fine arts, pop culture, entertainment, software, etc.) and creates a space for specialised interests with a very narrow focus. As Schleiner explains:
'The oppositions I outline arise from transformations in public art viewing practices and also from dissolving delineations between fine and popular art forms. Public space has shifted to the web and engages audiences located geographically distant from one other but perhaps with hobbies and tastes closer than those shared by the average museum patron. While some lament the creation of narrowly focused, "geeky", niche microcommunities, others are drawn into the specialized knowledge sharing and intense involvement of these communities. In art, these clades have subdivided from initial broader categories such as "net art", "electronic music" and "game mods" into narrower niches supported by email lists where "artists" and "curators" post links, announcements, and software updates.' (2003)

Online curation can hardly ignore the specifics of its environment and has to acknowledge these shifting contexts. An exhibition shown in physical space has a set opening and closing date, requires a visit to a physical locality and, after its closing, becomes part of the 'cultural archive' through its catalogue, documentation, and critical reception in the press. An exhibition of online art, however, is seen by a translocal community, never closes and continues to exist indefinitely (until some party fails in sustaining it). It exists within a

network of related and previous exhibitions that can be seen directly next to it in another browser window, becoming part of the continuous evolution of the art form. Depending on their openness, the artworks included in the exhibition (through linking) may continue to evolve over time. Ongoing discussions of the exhibition on mailing lists and in forums may include alternative versions of the exhibition through posts that feature links to additional artworks. For a curator of an exhibition of objects in a physical venue, selection is partly determined by space limits, budget, and availability of objects, all of which are not of immediate concern in online curation. The latter allows for 'large-scale' shows, and concept and focus become the main criteria for inclusion or exclusion of artworks. The distributed model of the networked exhibition environment affects the curatorial role, even if it is only a single curator and 'filter' who selects the work. From its very beginning, the exhibition is not bound by the framework of one institution but exists in a network where curatorial control tends to be more distributed.

Anne-Marie Schleiner summarises the differences between the traditional curator and 'filter feeder' in a deliberately polarising juxtaposition:

Past Curator:	**Future Filter Feeder:**
Museum or gallery exhibition space	Space peripheral, in tandem or 0
Art history education	Pop culture criticism, Tech history
Ties to wealthy patrons of art	Ties to other Filter Feeders and artists
Urban Metropolis-located	Dispersed locations
Navigates bureaucracy and institutions well	Flows around and avoids institutions
Art as Commodity	Ephemera, Extreme preservation challenges
Stays within Art Community	Infiltrates, subverts other communities

One could certainly argue that the role of a curator of contemporary art is increasingly shifting towards that of a filter feeder, since cultural production in general has become more 'networked' through current technologies and changed public art viewing practices. However, the politics of selection and the role played by art institutions undergo more substantial changes in the online curatorial process, which takes place in the non-locality of a distributed network.

Models of Online Curation

While online curation has brought about certain basic changes for the curatorial role through the possibilities of networked exchange, models for online curation still substantially vary, depending on their specific context. The models that will be discussed in the following range from online exhibitions organised by museums, non-profit organisations or a single independent curator, to those in which the public or a software system assumes a curatorial function.

The presentation of Internet art within the physical gallery space of an art institution constitutes one of the most problematic scenarios of new media presentation. Net art exists within a (virtual) public space, it does not necessarily need a museum to be presented to the public and seems to be particularly difficult to 'connect' to the public space of a gallery. The 'online only' exhibition of net art at a museum website seems to have advantages in that it preserves the original context of how the art is supposed to be seen, but poses the problem that the institution has only limited control over how a work is experienced by the viewer. Net art projects have numerous requirements, ranging from browser versions to plug-ins, minimum resolution, window size, etc.. Some of these requirements can be accommodated on the museum's side, but most of them have to be fulfilled at the viewers' end. While this obviously applies to the experience of net art in general - for example, on someone's home or office computer - lack of accessibility seems to become more of an issue if the work is presented as part of a curated exhibition on a (museum) website. Viewers may perceive their inability to view a work (because their computer, monitor, or connection does not support its technical requirements) as more annoying if they took the time to 'visit' an exhibition organised by a museum or arts organisation, which they hold responsible for providing a certain quality of the experience of art.

The basic function of museum websites usually is to represent the respective institution by providing visitors with information about the museum and its exhibitions, programmes, collection, etc. This type of museum site tends to be more focused on the singularity of the institution rather than the context of the

art world that surrounds it, although museums increasingly make an effort to turn their online assets into more comprehensive resources and study collections with educational initiatives, blogs and forums. The predominantly 'centralised' model proves to be largely insufficient for institutional websites devoted to online art, which by nature inhabits a 'living', discursive environment, with multiple perspectives beyond the institution that need to be considered. The Walker Art Center's online exhibition space *Gallery 9*, developed from 1997 until 2003 under the direction of its founding director Steve Dietz, acknowledged this need from its inception and was created as an online venue for both the exhibition and contextualisation of Internet-based art. As Dietz explains in his introduction to the site, the space features 'artist commissions, interface experiments, exhibitions, community discussion, a study collection, hyperessays, filtered links, lectures and other guerilla raids into real space, and collaborations with other entities (both internal and external)'.[9]

Gallery 9 also became a permanent home for content that was not originally created by the Walker Art Center, such as Benjamin Weil's *äda'web*,[10] an online gallery and digital foundry (created in 1995) that featured work by net artists as well as established artists, for instance Jenny Holtzer and Julia Scher, who expanded their practice with the new medium. After *äda'web* lost its financial support, the gallery and its 'holdings' were permanently archived at *Gallery 9*. Another part of the gallery's archive is G.H. Hovagimyan's *Art Dirt*,[11] an online radio talk show that was originally webcast from 1996 - 98 by the Pseudo Online Network. *Gallery 9* quickly became one the most recognised online venues for net art worldwide and the leading initiative of its kind in the United States. The Walker Art Center abandoned its new media initiative in 2003 - presumably unaware of the fact that it was the most important program of its kind in the US (and probably worldwide).

Gallery 9 also was a model for the Whitney Museum's *artport*, a website designed as a portal to Internet art and online gallery space, which I conceived and created for the museum in 2001. In the case of *artport*, contextualisation

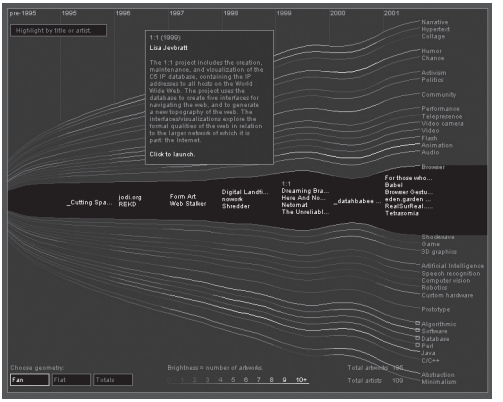

Figure 1: Martin Wattenberg, Idea Line (2001), screenshot.

takes the form of a 'resources' section - with links to new media organisations and virtual galleries on the Web, net art exhibitions worldwide, festivals, as well as publications devoted to new media - and a 'gatepages' section that archives splash pages created by artists for the site. Artists are invited on a monthly basis to create a page or small artwork that becomes a gateway to the artport site and contain links to the respective artist's projects, so that the gatepage archive functions as a database of net art projects. Filtering and contextualisation also were at the core of the first project commissioned for *artport*, *Idea Line* by Martin Wattenberg [Fig. 1],[12] which was launched in the fall of 2001. The *Idea Line* - a database and visual timeline of net artworks - is designed to show the variety of themes, technologies, and media that net art has been using, as well as the relation of each artwork to the larger tapestry of all these diverse approaches. The timeline - a visualisation of a database of net art projects that have been created from 1995 until today - is arranged in a fan of luminous threads. Each thread corresponds to a particular kind of artwork or type of technology. The brightness of each thread varies with the number of artworks that it contains in each year, so that one can watch the ebb and flow of different lines of thought over time. The lines open up to reveal titles of artworks and access information about them, as well as the artworks themselves. The database behind the *Idea Line* contains more than 200 artworks by over 100 artists. An invitation to contribute to this database was sent out as a public request to several net art forums. In

addition, data on popular or influential artworks that were not covered in the responses were added. Information about net artworks can still be submitted to the project by sending an e-mail to a designated address.

While sites such as *Gallery 9* or *artport* are geared towards creating a contextual network, they still follow a traditional model in that they are overseen by a single curator rather than open to a multiplicity of curatorial 'voices'. These institutional sites find their counterpart in online exhibitions that are organised by individual, independent curators - not affiliated with an institution - and often tend to take more experimental formats. Since these curatorial efforts are mostly distributed throughout the specialised community of the online art world, they do not necessarily need to consider a broader audience and museum patron who might not be familiar with net art but visits an online gallery since it is affiliated with a major institution. Since the inception of net art, numerous independent curators have created online exhibitions at their own site and promoted them through mailing lists and forums. Occasionally, these exhibitions have been incorporated into museum programming after their online launch and have become part of exhibitions, where they assume a status closer to a (collaborative) art project rather than a 'travelling show'. The curatorial project *[R][R][F]* (Remembering-Repressing-Forgetting) (2003-present)[13] by Wilhelm Agricola de Cologne - one of the most prolific online curators - for example, has been shown at the National Museum of Contemporary Art in Bucharest, Romania, and the Electronic Art Center of Bergen, Norway, as well as several festivals.

A shift from the model of the single curator to that of multiple curatorial perspectives is more likely to be found at websites of non-profit organisations devoted to online art. The British website *low-fi net art locator*,[14] run by a collaborative team, regularly invites guests to 'curate' a selection of online projects within a theme of the guest's choice. The selections are accompanied by a curatorial statement and brief texts on each of the projects. Over time, *low-fi* has grown into an impressive curatorial resource, consisting of numerous online exhibitions. A range of perspectives can also be found at *turbulence*,[15] a project

of New Radio and Performing Arts and its co-directors Helen Thorington and Jo-Anne Green, which, in addition to commissioned projects, features curated exhibitions (often organised by artists) as well as 'Artist Studios' that present artists' works and provide context for them through writings and interviews.

Independently curated online exhibitions and websites such as *low-fi* and *turbulence* blur institutional boundaries and question the role of the art museum in the networked environment. Even though it may not be their explicit goal, these projects implicitly challenge the structures of legitimation created by the museum system and traditional art world. A broader art audience may still place more trust in the selection, and therefore validation, undertaken by a prestigious museum, but in the online environment, the only signifier of validation may be the brand recognition carried by the museum's name. It is not unusual that the websites of non-profit organisations are better designed, more comprehensive, and technologically more sophisticated than a museum's site. While relatively few museums have allocated a substantial budget for their online assets, non-profit and independent sites are often created and run by a team of devoted individuals who work for little or no pay.

The potential openness of the Internet and software also allows for more audience involvement in the curatorial process. The development of ideas of 'public curation' currently still is in the experimental stages but is increasingly gaining momentum within the museum world, through initiatives that attempt to go beyond feedback in online discussion forums. In 2001, the Massachusetts Museum of Contemporary Art (MASS MoCA) invited gallery visitors to use a curatorial software program that allowed them to project their selections from over 100 digital images of 20th-century works of art onto the walls of the gallery. The project, *(Your Show Here)*,[16] gave visitors an opportunity through the database of images, to choose up to five, write a statement about their choices, and title the show. Through the interface, visitors could filter works according to artist name, medium, date and keyword [Fig. 2]. By clicking a button, the digital images could instantly project onto the walls of the gallery at the scale

Figure 2: Tara McDowell, Letha Wilson, Chris Pennock, Nina Dinoff, Scott Paterson, Your Show Here (2001). Left: Gallery view. Right: The interface where visitors are able to select the artworks to be projected.

of the original objects. The virtual exhibition remained in the gallery only until the next participant 'installed' his/her own choices but print-outs of the visitors' curatorial decisions were posted on a bulletin board at the gallery entrance. This process of public curation could obviously also take place through a Web interface. A similar system was developed in 2001 in a class at the Interactive Telecommunications Program (ITP) at New York University, organised in conjunction with the Whitney Museum and devoted to the development of interfaces that would enhance the experience of visitors to the Whitney. One of the student works - *Connections* by Jon Alpert, Eric Green, Betsy Seder and Victoria Westhead - consisted of an interactive environment in which visitors could select works of the Whitney's collection (most of which is never shown) and display them in the gallery. The 'Connections Gallery' consists of three display walls with screens and one interaction wall, which uses the metaphor of the mechanical switchboard and consists of a grid of columns organised into categorised columns, each with a cable and small monitor [Fig. 3]. By plugging a cable into the socket corresponding to an image, visitors would make the artwork appear on the small monitor. If the visitor presses the launch button, the work will appear on one of the screens on the display walls. The project concept also included a website that allowed for the same form of public curation and archiving. Both projects use the possibilities of instant recycling, reproduction, and archiving facilitated by the digital medium to propose an alternative model of presenting and viewing art, that moves away from a traditional pre-scripted model and allows the art to take on new meanings in multiple contextual reconfigurations.

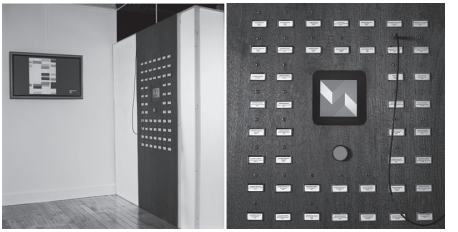

Figure 3: Jon Alpert, Eric Green, Betsy Seder and Victoria Westhead, Connections (2001). Left: The Connections prototype with display monitor and a model of the interaction wall. Right: Detail of the Connections interaction wall with "image" sockets, cable, and preview screen.

The models for 'public curation' outlined above still consist of pre-defined archives but blur the boundaries between public and curator, allowing for models that potentially could establish a more direct reflection of the demands, tastes, and approaches of an audience. Due to the increasing development and popularity of mobile technologies, public response to and discussion of art has also begun to evolve on a self-organised grass-roots level. Students of Marymount Manhattan College recently created 'unofficial' audio tours for artworks at New York's Museum of Modern Art in the form of podcasts, and made their *MoMA Audio Guides* (2005)[18] available at the website of Art Mobs,[19] an organisation dedicated to exploring the intersection of communication, art, and mobile technology. The public is invited to create their own audio guides and submit them to the site.

Some of the most advanced implementations of public curation have occurred in projects that explicitly consider software as a framework for curation, such as the software art repository *runme.org*[20] and Eva Grubinger's *C@C - computer aided curating*, both of which are further discussed in this book. Within a technological framework, curation is always mediated and agency becomes distributed between the curator, the public, and software is involved in the filtering process. As Sharon Daniel argues (2004), the increasing reliance of culture(s) and social systems on networks of exchange and economies of relation has induced a shift in art practice from individual authorship to models based on self-organising systems. However, the openness of so-called self-organising systems still varies considerably. Katherine Hayles has pointed out that such systems are still often 'informationally closed' since they respond to stimuli based on their own, internal self-organisation (1999). The transformation of a system through input

from collaborating participants occurs in the acts of interpretation, translation, manipulation, contribution and recombination of data.

Eva Grubinger's *C@C* (1993), with software development by Thomax Kaulmann, probably was the earliest attempt at creating a software-driven framework and tool that responded to the needs of artistic and curatorial practice in an online environment. *C@C* was visionary at its time in that it developed a space that combined the production, presentation, reception and purchase of art, and thus erased several boundaries between delineated practices within the art system. The concept included individual artist studios with built-in editing tools; a branching social network structure in which artists could introduce other selected artists; an area for discussion by the public and curators; as well as spaces that could be 'purchased' by art dealers in order to present and promote their activities. In terms of curation, *C@C* proposed a fluid environment that did not separate production, reception and presentation, and ideally enabled artists and the public to play a curatorial role to varying degrees. In this case, the software was mostly a supportive tool and framework and did not assume a curatorial function per se.

The idea of 'automated curation' and software-based filtering becomes more pronounced in the *runme* software art repositor; an open, moderated database that emerged out of the *Readme* software art festival (first held in Moscow in 2002) and launched in January 2003. The introduction to the latter site describes software art as a crossover between two seemingly unrelated realms, software and art: while software culture is considered a 'living substance' that to a large extent evolves on the Internet and stems from and permeates various cultural realms, art is traditionally presented in exhibitions in galleries and museums or at festivals ('About', runme.org). The 'software art' fusion consequently introduces software culture into the art world and at the same time expands art beyond its institutional boundaries. *Runme* does not abandon the curatorial role but shifts its emphasis in various ways. The site is an open database to which anyone can submit their project, accompanied by commentary and contextual

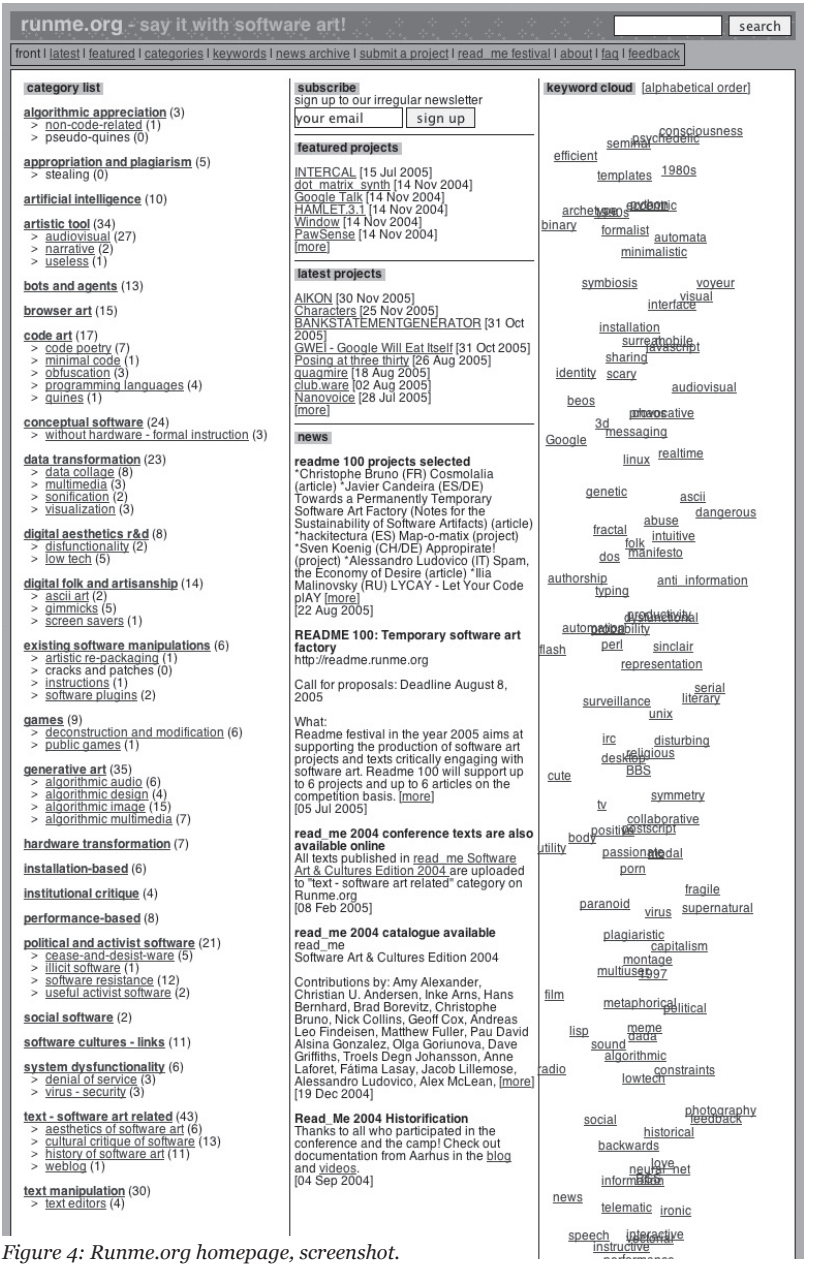

Figure 4: Runme.org homepage, screenshot.

information. Selection only occurs in the reviewing process conducted by the *runme* 'expert team' who evaluate whether a project fits the basic objective of the site and makes an interesting contribution before the work becomes available for viewing to the public through the Web interface. While the team has final say over inclusion of a project, the basic criteria for submission are fairly broad, and the initial filtering process certainly could not be described as 'highly selective'. Further filtering occurs in the classifying and labelling that occurs through the taxonomical system established for the site: projects are classified according to a list of categories of software art as well as a 'keyword cloud' that further describes projects and allows viewers to navigate them [Fig. 4]. Both the categories and keywords are open to additions/revisions by the public, so that classification occurs in a process where agency is distributed between automation and 'human input'. If one takes a look at the subcategories listed on the runme repository's site, one encounters a landscape that may be fairly confusing in its topography but nevertheless makes important distinctions. 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) point to the role of software art as critical reflection of software's cultural status, its encoded political or commercial agenda. Games, artistic tools, and conceptual software can fall into either of these two groups, depending on the execution of the respective project and the weight it places on formal aspects or critical reflection. *Runme*'s classification system is not aimed at rating the value of projects but at allowing a more subtle understanding of the variants of software art. What makes the project particularly interesting is the interplay between the process of filtering, classifying and labelling - which always entails an imposition of boundaries - and the 'democratic possibilities' of an open repository and database.

In different ways and to varying degrees, all of the above models for online curation illustrate the changes that the online environment has brought about for the curatorial role. New collaborative, networked forms of creation and distribution, as well as the context-dependent nature of digital works, require an increased openness of curatorial presentation and new strategies for documentation of collaborative work, that keeps evolving through versions. These issues are obviously relevant for both online and offline curation. The online space, in particular, naturally supports distributed filtering and classifying, and therefore a distribution of curatorial control. In networked environments, selecting and filtering can be undertaken by curators, artists and audiences, as well as processes automated by software. The previously discussed examples of online curation describe a trajectory from a single curatorial voice and multiple invited curators operating under an organisational umbrella, to curation by the audience or through software-enabled processes. The reconfiguration of the roles of curator, artist, audience and museum, necessitated by the nature and demands of digital media, will certainly meet some resistance and might not live up to its potential for quite some time. However, this reconfiguration simply is a reflection of the potential of digital technologies themselves, which enable an 'open-source' model for the creation and presentation of art. The idea of open source - making the source code of a project/software available to the public for further expansion without traditional proprietary control mechanisms - could also be applied to the curatorial process. This distributed, open source curation could be considered either in a more metaphorical way, where exhibition concept and selection become expandable by the audience; or in a narrower sense, where curation unfolds with the assistance of open source software that can be further developed by a community of interest.

NOTES:

1. *Gallery 9*, Walker Art Center <http://gallery9.walkerart.org>.

2. *e-space*, San Francisco Museum of Modern Art <http://>.

3. *artport*, Whitney Museum of American Art <http://artport.whitney.org>.

4. Lisa Jevbratt, *Mapping the Web Infome* <http://128.111.69.4/~jevbratt/lifelike/>.

5. Alex Galloway and Radical Software Group (RSG), *Carnivore* <http://www.rhizome.org/carnivore>.

6. Mark Napier, *P-Soup* <http://www.potatoland.org/p-soup>.

7. Andy Deck, *Open Studio* <http://draw.artcontext.net>.

8. Martin Wattenberg & Marek Walczak, *Apartment* <http://www.turbulence.org/Works/apartment>.

9. Steve Dietz, *Gallery 9*, Walker Art Center <http://gallery9.walkerart.org>.

10. Benjamin Weil, *äda'web* <http://www.walkerart.org/archive/B/B373713F1F19312F6165.htm>.

11. G. H. Hovagimyan, *Art Dirt* <http://www.walkerart.org/archive/4/AE7371B8F9A559B36164.htm>.

12. Martin Wattenberg, *Idea Line* <http://artport.whitney.org/commissions/idealine.shtml>.

13. Wilhelm Agricola de Cologne, *[R][R][F]* (Remembering - Repressing - Forgetting) <http://www.newmediafest.org/rrf2005/index.html>.

14. *low-fi net art locator*, organised by Kris Cohen, Rod Dickinson, Jenny Ekelund, Luci Eyers, Alex Kent, Jon Thomson, Chloe Vaitsou; and other members including Ryan Johston, Pierre le Gonidec, Anna Kari and Guilhem Alandry <http://www.low-fi.org.uk>.

15. *turbulence*, New Radio and Performing Arts <http://www.turbulence.org/>.

16. *(Your Show Here),* Massachusetts Museum of Contemporary Art <http://www.massmoca.org>.

17. Jon Alpert, Eric Green, Betsy Seder & Victoria Westhead, *Connections* <http://www.redcubed.com/erk/installations/connections.html>.

18. MoMA Audio Guides <http://homepage.mac.com/dave7/ArtMobs/FileSharing52.html>.

19. Art Mobs <http://mod.blogs.com/art_mobs/>.

20. *Runme* software art repository, developed by Amy Alexander, Florian Cramer, Matthew Fuller, Olga Goriunova, Thomax Kaulmann, Alex McLean, Pit Schultz, Alexei Shulgin and The Yes Men <http://www.runme.org>.

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Anne-Marie Schleiner (2003) 'Fluidities and Oppositions among Curators, Filter Feeders, and Future Artists', in *Intelligent Agent* magazine, Vol. 3 No. 1 <http://www.intelligentagent.com/archive/Vol3_No1_curation_schleiner.html>.

US Department of Labor, 'Archivists, Curators, and Museum Technicians' <http://www.bls.gov/oco/ocos065.htm>.

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