

Article

# Curating on the Web: The Evolution of Platforms as Spaces for Producing and Disseminating Web-Based Art

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**Abstract:** By analysing a series of exhibition projects responding to central changes in web technology since its public unveiling (1991), this study identifies a historical trajectory for discussing the evolution of curating on the web. Such evolution highlights how curators have devised exhibition models that operate as platforms for not only displaying art specific to the web, but also for producing and disseminating it in a way that responds to the developments of web technology—and its socio-cultural and economic impact. With the massification of web tools, in fact, these platforms have generated distributed systems of artistic production free from the physical and conceptual limitations of the gallery and museum space. They have not only become spaces for displaying art, but also platforms that nurture its production, different modes of audience engagement and critique the canons of the institutionalised art world. Originating from the desire to reduce the historical fragmentation of this field of work and its partial mapping, this study follows a periodisation that starts from the early internet, with its BBS-enabled platforms such as *ARTEX* (1980), to introduce the 1990s experimentations with the web browser and the developments of projects like *āda'web* (1995). It then dives into the Web 2.0 when, with the platformisation of the technology, curators developed an array of approaches for adopting existing web services, as in the instances of *CuratingYouTube* (2007–present) and *#exstrange* (2017). Lastly, it outlines the trends of today's web, which saw the birth of projects like the blockchain-enabled *cointemporary* (2014), to then draw conclusions about the relevance of this historical trajectory in the field of curatorial studies and the production of web-based and digital art.

**Keywords:** curatorial studies; exhibition histories; digital curation; web-based exhibition; digital art; web-based art; net.art; digital culture

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## 1. Introduction: Rationale for This Study and Method of Research

Starting from a personal desire to explore the specificities of curatorial work on the web, in 2009 I launched a web-based curatorial platform for producing, displaying, and distributing art that I commissioned for thematic group exhibitions, *or-bits.com* (2009–2015). Benefiting from the networked environment I was working in, I used the platform to overcome the divide between “the container and the contained” (Greenberg 1996) when devising exhibition projects, and developed shows that could function as “contexts within existing contexts that are interconnected” (Lind and Gillick 2005). Through the commission of site-specific artworks, I began to expand my understanding of curating site-specifically for the web, and I started to see new possibilities for curating exhibitions across online and offline sites of display. This was because I saw the challenge of responding to different interfaces as a way to develop new modes of engagement with web-based art. Therefore, I began to curate exhibition projects that explored the relationship between the web interface and offline interfaces, such as galleries, radio broadcasts, books, and the printed page. Through these projects I

experienced, first-hand, the impact that digital technology was having not only on the curatorial work of commission, selection and contextualisation, but also on the production of digital art, the development of critical discourses about the evolution of digital technology, and the way viewers experienced and understood web-native content. This shaped my understanding of the web-based exhibition, which I see as a system of artistic production and display mediated not only by the curatorial role, but also by the communication patterns, formats of publishing and modes of distribution enabled by web technology—the mass media of our time.

As a consequence of my work with *or-bits.com*, I developed an interest in embedding my practice in a more historical context and in relation to other curators' work on the web. Because of the fragmentation of critical discourses about curating web-based exhibitions in the context of curatorial studies, and the lack of cohesive documentation of curatorial projects and the role of their curators, I felt the necessity to outline the genealogy of this area of work.<sup>1</sup> For example, there were gaps to fill in between the initial mapping of curatorial work on the web proposed by Dietz (1998), Paul's (2006) discussion of the characteristics of exhibition models emerging in the networked environment, and Dekker's (2013) research into contemporary digital art production and the creation of archives through exhibiting. These gaps were heightened by the fact that the mid 2000s saw the proliferation of curating in popular culture and entertainment<sup>2</sup>; this spread the idea that the rise of user-friendly web publishing platforms—where artistic and cultural production became available to the masses and was increasingly blurred with entertainment—was operating a democratisation of the curatorial profession.<sup>3</sup> This belief, however, was not supported by a coherent historical analysis of the role of the curator in the online environment in the context of curatorial studies. Curating in the online environment, in fact, became a predominant subject of discussion with the Web 2.0. Therefore, I set out to analyse the exhibition models and display mechanisms that emerged with the massification of the web; my intent was to outline their relevance, and the role of their curators, from within the curatorial field. This was because I believe that this type of work shows an important facet of the history of curating outside the white cube and builds upon the radical art practices of the 1960s generation, such as the work of artist Roy Johnson with mail art and of curators Lucy Lippard and Seth Sieglaub with conceptual art. By devising new formats for producing and displaying art outside the gallery, curating on the web embraces aspects that pertain to the relationship between the history of technology and how new tech-enabled modes of distribution and communication change the production of culture and its access. This, similar to the 1960s practices outside the gallery space, has enabled curators to develop web projects that supersede the canons and logic proposed by the institutionalised art system and give life to new ways of experiencing digital art and artistic production.

I started my quest for a genealogy by building on earlier research conducted by the already-mentioned Dietz, Paul and Dekker, to which I included the work of Lichty (2002) and his discussion of web-enabled decentralised modes of curating, as well as Cook and Graham's (2010) analysis of the changes that curatorial work underwent in response to exhibiting new art media. The method I adopted to analyse the case studies brought together my understanding of web-based exhibition with the theoretical work of Berry (2001), Goriunova (2012) and Miranda (2009, 2013). While Berry's research was important because of her understanding of how computer networks impacted the uniqueness and aura of an artwork and its relationship with the exhibition site, Goriunova (2012) provided a critical framework for discussing the art platform—theoretically and technically—as a space for artistic production. In relation to the latter, Miranda (2009, 2013) presented an expanded

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<sup>1</sup> To date the only timeline of web-based exhibitions, *An Incomplete Timeline of Online Exhibitions and Biennials*, was compiled by artist Laric (2013)—a work to which I am also indebted for this research.

<sup>2</sup> In *Curating in the Digital Age* (2019), Skorokhodova (2019) describes how “curating has slipped outside of the artistic field and becomes a sociological phenomenon that has been absorbed into current social structure and culture” the more social media platforms have become the way we communicate with each other.

<sup>3</sup> See also footnote 4.

understanding of the web platform by surpassing the opposition between online and offline sites of production and display, stressing that, despite of this coming together, each maintains its specific status. Because of the partial mapping of this field, my research was also based on interviews with some of the curators of the case studies discussed below, such as [van den Eeden \(2014\)](#), [Sakrowski \(2013\)](#), [Storz \(2014\)](#) and [Young-Hae Chang Heavy Industry \(2019\)](#) to understand their curatorial intent and work.

From a database of almost 200 web-based exhibitions and projects that I collected over the years, the choice of case studies examined in this study was determined by three key factors, one technical, one historical and one contextual. Technically, my selection reflected the distinction I make between curating online and curating on the web. In this I built upon [Dietz's \(1998\)](#) distinction between conceiving “exhibitions designed to be online” and those that operate a “re-formatting” of material presented in the gallery context with the intent to either provide more information or “augment” the viewers’ experience. Curating on the web is, to me, a subset of curating online, in that I understand the former as a site-specific approach to curating web-based exhibitions that enables new ways of producing and displaying digital art. While curating on the web is, at its core, responding to the characteristics of the web medium, its tools and interfaces, curating online is related to the practice that derives from displaying museum and gallery collections online. This ranges from the experimental approach of the Smithsonian’s *Revealing Things* (1998) project to the straight documentation of museum displays of the Google Arts and Culture project (2011-present), and now includes displays of visual material that was not originally intended for online consumption. Historically, I selected the case studies according to the way they responded, site-specifically, to the changes that web technology has brought about in publishing and distributing since the public availability of the web and its rapid commercialisation. Therefore, after briefly introducing early internet platforms based on Bulletin Board System technology<sup>4</sup>, such as *ARTEX* (1980), I discuss the curatorial projects that encapsulated the 1990s experimentations with the web browser, such as *äda'web* (1995). I then move onto curatorial projects that responded to the platformisation of the web that occurred with the Web 2.0, proposing examples that highlight the rising curators’ interest in experimenting with ready-to-use services, such as *CuratingYouTube* (2007–present) and *#exstrange* (2017), while also showing the ongoing interest in curating contexts for displaying art on bespoke platforms. I close this periodisation with an outline of the trends arising from today’s curatorial uses of the web, which sees the birth of projects like the blockchain-enabled *cointemporary* (2014) and a tendency to create platforms that reflect on the socio-technical context of the web. Contextually, I focused on projects—often devised by independent curators—that developed from within the contemporary art system because the aim of this study was also to stress the way in which they have given life to new exhibition models and display mechanisms. My interest in fact lies in understanding how curators operating in the online environment have generated distributed systems of artistic production that, by responding to the changes in web technology, nurture the creation of site-specific digital art, different modes of audience engagement and a critique of the canons of the institutionalised art world.

Although this study operates as a historical account based on categorising and comparing other curators’ projects, my understanding of the field of curating on the web originates from a practice-based approach to exploring this field. I see my curatorial work (*or-bits.com* and *#exstrange* in 2017) interwoven with my research in a process of “thinking through practice.” ([Duxbury et al. 2008](#))

## 2. The Domain and Characteristics of Curating on the Web

Since the web was made publicly available (1991), and with its particularly wide-spread adoption in the 2000s, curators have increasingly used it as an exhibition tool, triggering an evolution of

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<sup>4</sup> Bulletin Board System (BBS) is a technology that indicates a computer server to which multiple users can connect through a software on their own computer to access threaded messages in the form of bulletins and upload or download digital files.

curatorial approaches to commissioning, displaying and distributing art. Such history, however, is fragmented. After the fertile discussions by artists and media critics about online production and internet culture (net criticism) from the mid-1990s to the early 2000s, a critical hiatus occurred till almost the end of the 2000s, at which point the discourses started to focus on web-based art (intended more as screen-based art and as a subset of media art) and only a handful of critics discussed curatorial production in the online environment.<sup>5</sup> This, paired with the fact that the only few existing archival initiatives, such as *Rhizome ArtBase* and *net.artdatabase*, focused predominantly on preserving net.art<sup>6</sup> and web-based artworks (Ghidini 2019) generated a vacuum in critical discourses about curating web-based exhibitions. Moreover, while curating on the web regained critical interest even in non-specialist publications with massification of the technology, discussions predominantly centred around its entrepreneurial qualities, stressing only the curators' ability to "create and access their own (largely peer-led) audience" (Allen 2013) and to bypass the hierarchies of the institutionalised art world. Such mainstream perspectives, paired with the many discussions about the popularisation of curation in magazines, newspapers and blogs—such as "in the age of social media, everyone is a curator (or at least they think they are)" (South by Southwest, 2014)<sup>7</sup>—limited the possibility to look at this field of work with a renewed eye from within the field of curatorial studies. These widespread statements, in fact, often only referred to the activity of curatorial selection and arrangement, disregarding the curators' work of mediation.

By embedding the analysis of curating on the web in the context of technological developments and their impact on production, distribution and communication, this study identifies a historical trajectory for discussing key curatorial models and exhibition formats. The aim is to highlight how, with the massification of the web, exhibitions developed from spaces displaying web-specific art to platforms that nurture its production and different modes of audience engagement—often offering a critique of the same technology adopted by their curators.

In the manner of genealogy, such a trajectory also highlights how this type of curatorial work reflects the socio-cultural and economic impact of web-based tools and services, and has facilitated the production of digital art, which is not concerned with web technology as a medium itself but with the context of its production.<sup>8</sup> As will emerge from the analysis of the exhibition projects discussed in the next section, this is evident in the way curators have developed different modes of using web tools and platforms for displaying digital art. For example, with the increase in the number of web services at the curators' disposal, the exhibition evolved from being a container that validated web-native art by

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<sup>5</sup> Net criticism originated from discussions about internet culture and online art that took place on mailing lists such as Nettime, Rhizome and Eyebeam by net.art artists, critics, technologists and producers from the 1990s. These discussions were characterised by the cacophony of voices of their participants who came from different disciplines, had international perspectives, and discussed in a manner (because of the online medium) that was less rigid than that of art magazines, books and academic publications. Net art criticism started to "fade away" (Bosma 2011, p. 28) with the proclaimed "death" of net.art. And because, it did not comprehensively enter either new media art discourses or contemporary art ones, it was slowly replaced by discourses that often emphasised the visual aspects of art produced online rather than new media theory. Some of the critics who actively wrote about artistic production online during the hiatus are Stallabrass (2003), Greene (2004), and the already mentioned Cook and Graham, Cox and Krysa (2000), and Paul and Lichty, with reference to curatorial practice.

<sup>6</sup> The term net.art indicates a group of international artists, predominantly located in Europe, who met through the mailing list Nettime in the mid-1990s. They discussed, shared ideas and works that were based on their exploration of the possibilities of the internet and web technology as a "new communication space" (Bosma 2011, p. 130). One of the characteristics of this exploration was the group's interest in "fostering new independent art organizations and approaches to evade traditional structures" (Bosma 2011, p. 120). The term net.art was coined by Pit Schulz in 1995, and now indicates a period of artistic production that goes from 1995 to about 2002. Amongst these artists are Heath Bunting, Alexei Shulgin, Olia Lialina and JODI.

<sup>7</sup> Seemingly, the competition *Curate Award*, co-organised by Fondazione Prada and Qatar Museum in 2014, emphasised the figure of the non-professional curator. The call for submissions opened with the following statement: "The competition recognises that we are all curators."

<sup>8</sup> Artist and critic Bridle (2014) has argued that "'the digital' is not a medium, but a context, in which new social, political and artistic forms arise," stressing that, however, art "institutions are still trying to work out its relevance, and how to display and communicate it—a marker, perhaps, that it is indeed a form of art."



displaying it (the nineties counterculture), to a platform that nurtured different ways of producing art that responded to the modes of creation, publishing and distribution enabled by web technology (the Web 2.0)—often proposing alternatives to the canons of the institutionalised art world. At the same time, this study argues that curating on the web is “context-sensitive” (Lind 2013) in the same manner in which digital artworks are “context dependent” (Paul 2006), and therefore is connected to historical practices that have “turned communication media into their art media” (Chandler and Neumark 2005) and moved away from medium- and site-specific discourses. This fact opens up the curatorial field to perspectives pertaining to media studies and digital culture.

In terms of its characteristics, curating on the web involves re-calibrating the tasks of selecting, organising, exhibiting and archiving, as well as of mediating between an artwork and an audience, as they typically occur when curating offline. If Paul (2006) defined this as a “reconfiguration” of the curatorial role, in that curators have to “adapt to the demands of the art”, this study looks at how curatorial work has changed according to curators’ own understanding of the technology adopted for their projects. Different from curating a gallery exhibition, for example, curating a web-based exhibition requires the creation of an operational framework and structure—the website—to which the work of curators and artistic production have to conform (Ghidini 2015). Because the web is a tool that functions simultaneously as medium of production, display and distribution,<sup>9</sup> this operational framework often acts as a platform with many functionalities that ask curators to respond to the “interactive,” “modular,” “variable,” (Paul 2006) and distributive properties of the medium. This study also shows how curators who operated in the online environment started to respond to the “participatory condition” of the Web 2.0 by creating projects that addressed the increasing “simultaneous superposition of real and virtual space” (Miranda 2013) in a manner that liberated the exhibition from the conventions of the gallery and the museum space. In fact, curating on the web requires to reflect on the ecology of the adopted technology; that is, to understand websites not as “static and self-contained objects but, rather, as ecosystems that are inhabited and shaped by third parties through various interactions between the object (the website) and its larger context (the web)” (Helmond 2015). In this sense, to discuss curating on the web today, Goriunova’s (2012) perspective of looking at the web platform as “an open-ended and grass-roots process rather than a set of objects” and as a space that “focuses on a certain kind of cultural practice” is a useful method of observation. Comparing this field of work to curating in the gallery, or stressing the “notorious inattentiveness”<sup>10</sup> (Stallabrass 2003) of the online viewer compared to the gallery audience, is not useful on its own. This is because it is a comparison that does not include a comprehensive analysis of the contextual space in which curators operate online. Instead, it requires us to embrace an analysis of the conditions of its context, understood as an ecology. Not only does this concern the fact that curators operate in a “contextual network” where “everyone is engaged in a continuous process of creating context and re-contextualising” (Paul 2009), or that they “produce the context of an artwork” (Cook 2004), it also concerns the fact that they operate in a manner that responds to the logic of a platform, its uses, and its place in the history of the rapid massification of the web and its services.

As will emerge from the historical trajectory outlined below, curating on the web proposes modes of work and exhibitions where, on one side, the role of the curator is a “platform builder, filter, interpreter, context and service provider” and “a node networked with others”<sup>11</sup> (Cook and Graham

<sup>9</sup> Berry (2001, p. 9) was one of the first researchers to define the web as a medium that combines together “production, publication, distribution, promotion, dialogue, consumption and critique.”

<sup>10</sup> If Julian Stallabrass’ analysis of viewership and engagement online is useful for this study because it proposed a method that included a reflection on the socio-technical status of the web and web tools, his examination only pertained to the production of net.art and predominately focused on comparing artistic work online to the system of production enabled by the gallery and the museum.

<sup>11</sup> Many are the critics who have coined metaphors of curatorial work online, such as, the “filter feeder” of Schleiner (2003) that distils and edits the array of content everyone’s fingertips, to the “cultural producer” of Scholz (2006) that “sets up contexts for artists to provide contexts.”

2010) and where, on the other side, the exhibition becomes a platform to reflect on the socio-cultural and economic changes brought about by the software industry and its services.

### 3. The Genealogy of Curating on the Web and Its Technological Context

The way web technology has evolved since 1991 and has been adopted by its users runs parallel to the way curators have developed different approaches to curating exhibitions on the web. The periodisation proposed in this section follows that of the commercialisation of the technology to highlight how the massification of web-enabled publishing and distribution services has changed not only the way web-based art is exhibited and contextualised, but also the way it is produced by artists, experienced by an audience, and how it exists in relation to the institutionalised system of contemporary art. After the early explorations of the internet network as a node for communication and sharing by artists interested in internet culture (see Section 3.1), the nineties counterculture saw the growth of artistic and curatorial experiments with the web browser (see Section 3.2). Though the technology still required specific expertise, the development of platforms that nurtured and displayed web-based art, such as *ada'web*, allowed artists who did not possess technical skills to explore the web as a new medium of artistic production. Because these platforms started to become more 'browsable' thanks to the simplification of their interfaces, which became more visual, the audience of art in the online environment expanded beyond specialised and tech-savvy groups. With the platformization of the web of the first decade of the 2000s (see Section 3.3), the gap between the technology and the users increasingly diminished. Ready-to-use publishing services, broadcasting channels and social media entered the daily lives of many. This scenario generated a major shift in the production, display and engagement with art in the online environment, which was increasingly characterised by an entanglement between consumption and production, as well as culture and entertainment. Curatorial and artistic endeavours aimed at exploring the new modes of communication and publishing enabled by the technology flourished, as in the instance of *Surf Clubs* and *CuratingYouTube*. Their audience became anyone who could access a computer or smart device with an internet connection. This aided the development of platforms with multiple functionalities where the curator, as a mediator, set up spaces not only for the display of web-specific art but for devising new modes of audience engagement, and critiquing the canons of traditional art discourses and the same technology adopted for their projects. The website started to be increasingly understood as a space existing through various interactions with its larger context (Helmond 2015), which was online as much as offline. With today's "network of networks" made of apps and their services, to use Trebor Scholz's definition (Sifry 2016), this understanding was more evident. Curators responded to the fact that the web was even closer to the embodied space by becoming enablers of projects that offered a critique of (and also an alternative to) the larger context in which the technology they explored with their projects existed, such as *Art Micro Patronage* and *#exstrange*. This periodisation, therefore, highlights how web developments have offered curators different technical and socio-cultural grounds to explore the practice of exhibition-making, grounds that have opened up new ways of seeing the exhibition as a system of production, display, distribution and critique.

#### 3.1. The Internet: Experiments with the Network as a Preamble to the World Wide Web

The experiments with the network that preceded the public availability of the web were predominantly artistic endeavours that explored the internet as a new medium of communication. After DARPA (Defence Advanced Research Projects Agency) developed ARPANET (1969), which enabled remote communication through computer networking, artists and art collectives, most often in collaboration with critics, theorists and technologists, initiated projects that explored the new artistic opportunities arising from operating in the networked environment. Yet, the technology asked for specialised skills and hardware (performing tasks required user-typed command lines on screens that were not mediated by visual interfaces). Therefore, artists gave life to online environments that operated as service platforms. Their emphasis was not only on exploring the technology, but also on

discussing internet culture and “sharing server space to host and disseminate work” independent of existing infrastructures (Cook and Ghidini 2015). The art world, in fact, was not yet interested in supporting and displaying internet-based art.<sup>12</sup> This gave life to a community-oriented understanding of the internet, seen as an opportunity for interests outside the hierarchy of roles and spaces of the system of galleries and museums.

One of the first examples of this understanding of the internet in relation to the creation of technical platforms was ARTEX (*Artists’ Electronic Exchange System*). Created by I.P. Sharp Associates (an organisation initiated by Robert Adrian, Bill Bartlett and Gottfried Bach in Vienna, Austria) in 1980, the project was defined as an “intercontinental, interactive, electronic art-exchange program designed for artists and anybody else interested in alternative possibilities of using new technologies.” ARTEX enabled the creation of international artistic networks and, most importantly, of artistic projects based on the idea of online exchanges that existed ‘through’ the technology adopted. A case in point is *La plissure du texte* (1983) by Roy Ascott, which explored the possibility of telematic art and non-hierarchical authorship in a manner that is prescient of the communication patterns of social media platforms in the late 2000s (Figure 1). The project, which was conceived for the *Electra* exhibition curated by Frank Popper at the Musée d’art moderne de la Ville de Paris, was defined by his author as a “planetary fairytale”. Over the course of three weeks, Ascott’s initial input (“Once upon a time...”) developed into a narrative through the contribution of participants who, by being present in one of the fourteen nodes that were set up across the world (from France, the UK and the Netherlands, to Australia, Hawaii and the USA), added to the story by following a set of instructions. This generated a collaborative “asynchronous storytelling project” that developed online and existed in that environment made of servers, computers and people. This process-based project, whose only traces in the gallery were print-outs of the exchanges, offered an understanding of art on the internet as an art form that was inherently different from the defined, authored, and unique object presented in gallery spaces<sup>13</sup>—displaying it for an audience was unnecessary for its creation.

ARTEX and the later USA-based initiatives such as the *Art Com Electronic Network* (1986) and *artnetweb.com* (1993–2000) are significant for the fact that they introduced the idea of the art platform as an open online environment that functioned as a node for the production of artworks outside the institutional art world.

Another example of a community-understanding of the technology was *Cybercafe* (1994) by artist Heath Bunting, a BBS-enabled service for artists, critics, hackers and technologists. The focus of the project was to facilitate the development of a community of interest through the sharing of ideas and artistic material by the *Cybercafe* members, amongst whom were Rachel Baker, Minerva Cuevas, and Marc Garrett—who later continued to work in the context of internet and digital culture. The focus was on a type of communication that was immediate<sup>14</sup>, open to all members, and established ties between individuals—be them in person or virtual—in a manner that was “distributed away from a centre” (Chandler and Neumark 2005) and whose core was not the production of art to be showcased in a gallery space.

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<sup>12</sup> With regards to art institutions’ neglect of networked art, Stallabrass (2003) quoted artist Robert Adrian to explain some of the reasons for the disconnect between artists working with the internet network and the institutionalised art world: “The older traditions of art production, promotion and marketing did not apply,” in that these projects did not have a specific product-based outcomes and were often collaborative in nature, “and artists, art historians, curators and the art establishment, trained to operate with these traditions, found it very difficult to recognise these projects as being art.”

<sup>13</sup> Miranda (2009) used the notion “unsitely” to discuss artworks and practices that make use of the internet as “a site of production and reception” and have an “audience spread across the globe in a ‘local’ context of reception.” Because of this, according to the author, they “disrupt our common notions of place and being in one place at one time;” hence they require a different type of art historical categorisation.

<sup>14</sup> Rachel Baker defined these exchanges as a mix of “ranting and poetry, maybe some music files, very short little music files, maybe an image file.” (Connor 2017).



**Figure 1.** Roy Ascott, *La Plissure du Texte*, 1983. Screenshot of one participant's contribution. ©Media Art Net www.medienkunstnetz.de, 2019.

In this scenario, the curator, as a mediator of the relationship between an artwork, a context, and an audience, was perceived as secondary. These platforms, in fact, were born from a desire to move away from the 'fixity' of art spaces and institutions both in terms of displaying and archiving, and experimenting with more fluid modes of communication. The encounters they sought were not with an audience, but amongst members. With the web and its increasingly visual environment, the idea of the platform developed further and started to encompass the exhibition, as a way of creating curated interfaces between artworks, the online context and viewers.

### 3.2. The Nineties Counterculture: Experiments with the Web Browser

With the introduction of the web browser (Mosaic Netscape in 1993) and the first blog spaces (Links.net and Yahoo in 1994), surfing the net—a phrase coined by librarian Jean Armour Polly in 1992—became an activity not only for technologists and experts. With its visualisation of computational processes,<sup>15</sup> the web browser became a new, more accessible medium for making and displaying art; a medium “composed by a network of heterogeneous media objects,” (Campanelli 2010) including visual, audio and video material. This led to a new generation of artists—the net.art artists—who, along with critics such as Josephine Bosma and Natalie Bookchin, explored the properties of the web and its language (HTML protocols and hypertext) as well as the relationship between user and interface.<sup>16</sup> It was then that web started to be understood as a new medium of artistic production and, most importantly for this study, as a creative space where native art was displayed and resided ‘comfortably’. The work of these artists slowly drove curators, who at this time were often attached to institutions or collaborated with software companies, to foster the discussion, production and

<sup>15</sup> JAVA, the software that allowed users to interact with websites, was released in 1996 and was incorporated in the Mosaic Netscape browser.

<sup>16</sup> See footnote 6.

display of web-based art, and to investigate the website as an exhibition space in its own right. Hence, networked platforms that operated as services developed into art platforms that embraced the concept of web-based exhibition, and its specificity to the web interface and hyperlinked environment.

An innovative curatorial model of that time was *äda'web* (1995–1998), the “digital foundry” co-founded by Benjamin Weil and John Borthwick as part of the enterprise Digital City, Inc (Figure 2). *äda'web* presented a series of web commissions of site-specific artworks in the *Projects* section of the website, whose characteristic was that most of the invited artists were not web-savvy and, therefore, developed their work in collaboration with *äda'web's* web programmers, such as Vivian Selbo. An example is the commission to Jenny Holzer (Figure 3), who created the artwork *Please Change Beliefs* (1995).

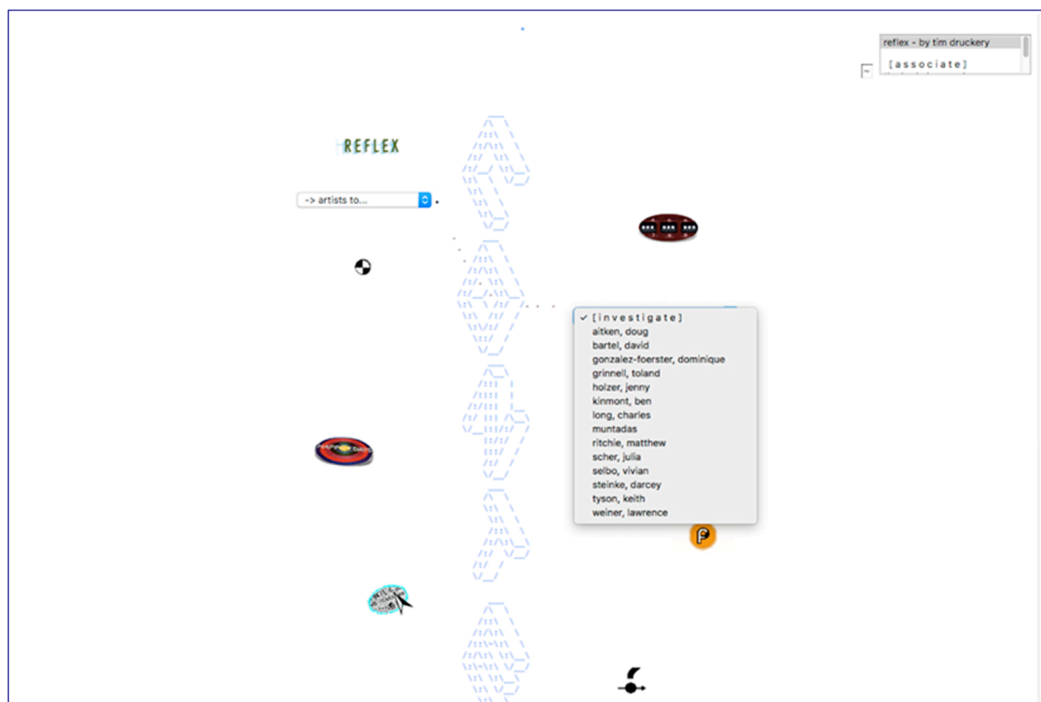
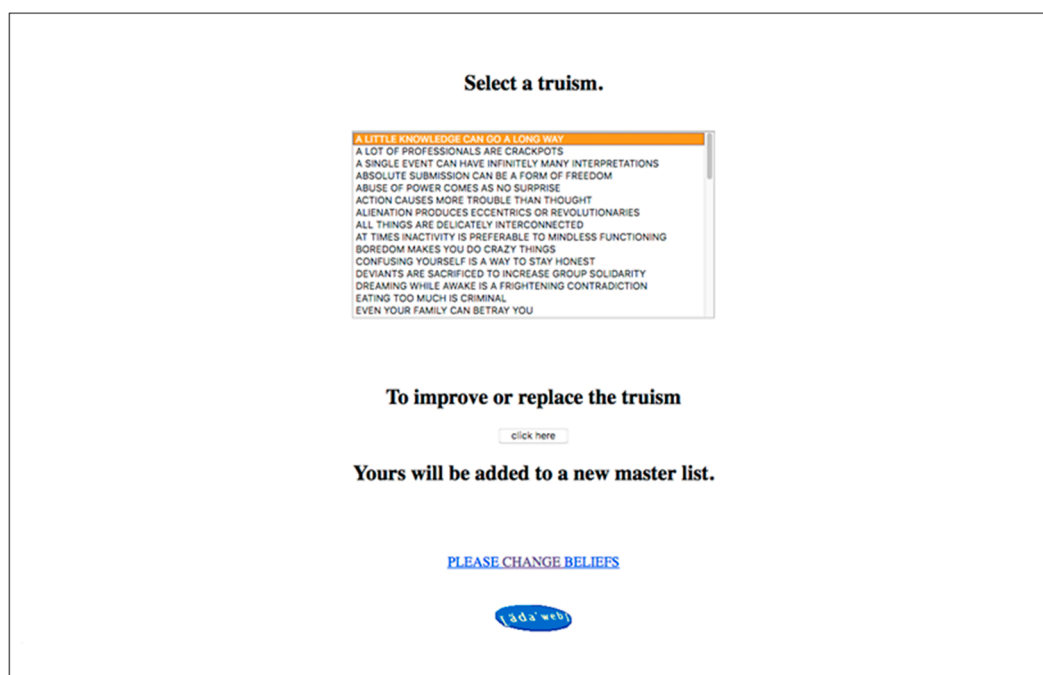


Figure 2. *äda'web*—context section, 1995. Screenshot of index page, 2019. © *äda'web*.

Following her practice disseminating text-based statements in public spaces, Holzer offered the online viewer a simply structured list of “truisms.” The work incorporated a section where the viewer could choose one of the artist’s statements and improve or replace it, so that the changes added to the artwork. By responding to the collaborative possibilities offered by the web medium, Holzer allowed *Please Change Beliefs* to develop through the audience’s interaction and to exist site-specifically in and for the ever-changing context of the network environment. *äda'web* is not only an example of an exhibition space online for site-specific commissions but also of a multifunctional platform whose activities (from an online forum to an e-store) were presented by exploiting the network and aesthetic possibilities of the web interface. For instance, the content navigation of *äda'web* stressed the fact that the website existed as part of a network of different contexts, which were at once textual, interactive and visual. The website offered the viewer a labyrinthine way of navigating its multimedia content, which was created using multiple hyperlinks and menu bars that sent the viewer across different sections of the website. Moreover, while facilitating multidisciplinary collaborations, such as those between artists and web programmers, *äda'web* also explored the relationship between the web space and the offline space in a manner that saw them, curatorially, as complementary spaces that could build onto each other. The section *influx* of the website, in fact, was the home of artists’ projects that existed both online and offline. It housed the documentation of the first phases of Antoni Muntadas’ *The Internet Project* (1997), a development of his ongoing artwork *On Translation*, which grew and



continued to grow through installations in gallery spaces. *Influx* also presented *Stir-Fry* (1997) by curator Barbara London, which was a video-based “travel-log” of the curatorial research she conducted in China. In this sense the innovation operated by *äda’web* in the online environment was two-fold. While nurturing experimentation with the web medium, both in terms of artistic production and curatorial framing, the project supported an understanding of displaying art on a website not as a task disconnected from those occurring in the spaces of the gallery and the museum but as complementary because of the possibilities offered by their differing characteristics<sup>17</sup>. Different from the projects of the following years—as will emerge in the next section—*äda’web* saw the curated exhibition on the web almost as a *Gesamtkunstwerk*, in that the exhibition was the website itself, whose meaning was created by the patterns of navigation and the viewer’s interactions determined by the built interface.



**Figure 3.** Jenny Holzer, *Please Change Beliefs*, 1995. Screenshot of the *Change* section, 2019. © äda’web.

The *äda’web* example acquires more significance when contextualised in the scenario in which digital art, and specifically web-based art, existed the late 1990s. Despite an increase in the number of institutions interested in supporting this art form, those years were the time of “power struggles” (Bosma 2007) because of the predominant hierarchical understanding of online and offline spaces. Since working with web technology still required technological expertise, few organisations and curators explored how the web could be used as a curatorial tool and an exhibition space in its own right to support site-specific artistic production. Two were *Gallery 9* (1997–2003), conceived by Steve Dietz for the Walker Art Center in Minneapolis (USA) and the Dia Art Foundation in New York. The latter, under the helm of director Michael Govan, launched the *Web Projects* in 1995, a series of web commissions curated by Lynne Cooke and Sarah Tucker. The idea was to provide artists with the opportunity to work with a new medium, and audiences with “direct and unmediated experiences with artworks” (Visser 2009). Different from *äda’web*, the Dia website displayed each web commission in a dedicated space that was accessed via a simple index, and not as part of a complex hyperlinked environment that emphasised the architecture of the website. Due to the fact that artworks were only accompanied by an introductory text, a biography of the artist and a concept description highlighted

<sup>17</sup> For a detailed analysis of *äda’web* see Domenico Quaranta’s *Net Art 1994–1998* (Quaranta 2003).

how the *DIA Web Projects* series was based on an understanding of the website as an exhibition space where the curator regained the role of the mediator. Cook and Tucker, beyond taking care of the commission process, mediated the art experience of the viewer. They created a conceptual framework for contextualising each artwork and the artist's practice, rather than just mediating the viewer's experience with the interface.

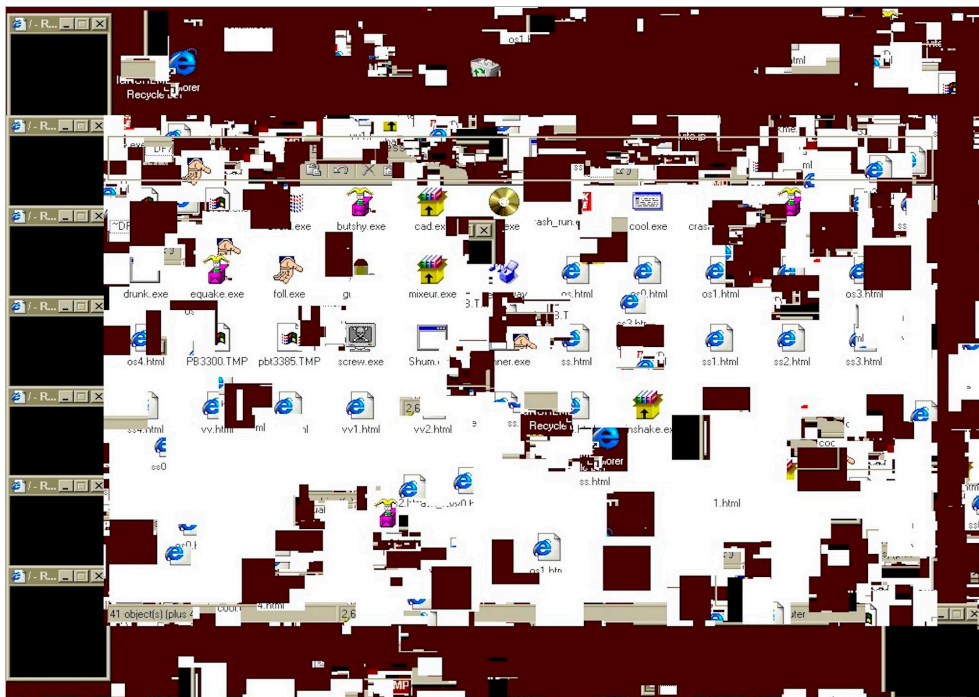
Despite these efforts, which also included the first web-based commission by the Guggenheim in 1998 (the year-long performance *Brandon* by artist Shu Lea Chang), the reticence to consider the web as an art space independent from the relationship with the gallery and as a context where the curator had a role in producing and archiving art was still widespread. An example of this was *Documenta X* (1997) curated by Catherine David in Kassel (Germany). The curator, in fact, commissioned Simon Lamunière to organise a net.art exhibition both on a purposefully built website and offline. The reason this example is significant is two-fold. First, the curators gave more prominence to the offline exhibition (*The Hybrid Workspace*), which was an office-like display where the artworks were "presented as standalone objects" (Bosma 2011, p. 152) in an environment that little had to say about the art. Second, they decided to take the website down at the end of the quinquennial event. This demonstrates how both David and Lamunière failed to understand the characteristics of net.art, its liveness, interactivity and temporality, and the fact that it is an art form specific to the online environment, which is its 'natural' display context. The fact that no one, apart from one of the participating artists<sup>18</sup>, thought about preserving the project by archiving it is also indicative of the unpreparedness of institutions and curators to enact their roles as mediators on and for the web.

In this scenario it was mostly artists who generated "media awareness" of their art and practices, and created spaces for showcasing and archiving their web-based art. An example is Olia Lialina who launched *Art.Teleportacia* (1999–present) as a personal website that also offers a parody of the mainstream art world. Acting as a company, in fact, *Art.Teleportacia* offers "on-demand net.art works over the Internet" (Lialina 2013) (the mid-1990s were the time of the first online marketplaces, such as Amazon, eBay and Craigslist), including services like certifications and critical essays to authenticate and corroborate the marketable value of the artist's own artworks. In a similar ethos, artist Kiran Subbaiah adopted the free web-hosting service Geocities (launched in 1995) to create a personal website, *geocities.ws/antikiran* (Figure 4). Yet, since he worked from a geographical context where digital and new media art had little exposure and few members,<sup>19</sup> the artist used the service as a way to experiment with his artistic ideas, communicate with an international audience, and learn from peers (Maithani 2015). Subbaiah's website is also an example of appropriating existing services to showcase and distribute web-based art independent of the figure of the curator—a gesture that became key for curators exhibiting web-based content in the Web 2.0 environment.

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<sup>18</sup> It was artist Vuk Ćosić who, critical of the curators' approach to the project, copied the original website and put it online on a different server with the title *Documenta Done*.

<sup>19</sup> Media and digital art started to be discussed in India, where Subbaiah was based, in the early 2000s, predominantly through the work of SARAI, the Academy of Electronic Arts, and Apeejay Media Gallery. New Delhi. The scarcity of initiatives across the country made, therefore, the sharing of ideas and collaboration difficult to happen in person from the place where artists were located.



**Figure 4.** Kiran Subbaiah, *CrashRun.exe*, 2002. Screenshot of the artwork, 2016. © Kiran Subbaiah, 2019.

### 3.3. The Web 2.0: Experiments with the Proprietary and Scripted Web of Platforms

In the first decade of the 2000s software companies began to invest in providing services that rapidly turned the internet into a software development platform. They created increasingly lightweight and user-friendly interfaces that covered services from publishing, such as Wordpress and Blogger (2003), to broadcasting, such as YouTube (2005), to social media, such as MySpace (2003) and Facebook (2004). These service platforms not only facilitated users' content production and circulation, but also allowed them to do so without intermediaries or specific expertise, and for free. This, according to Tim O'Reilly, created a major change in the way the web was understood and used (Helmond 2015), a change that also had a significant impact on artistic and curatorial production on the web. In fact, this 'new' web of platforms provided "an already scripted space for users to play around with and have a good time," as Olia Lialina put it (Campanelli 2010). Many, and not only artists, hackers and curators, turned into independent producers and publishers with a click. They became the "prosumers" of Cloninger (2009), producing while consuming online and creating conceptual and technical frameworks of knowledge while appropriating low and high cultural material available on the internet. Such technological scenarios triggered renewed approaches to curating on the web, especially in relation to appropriating ready-to-use platforms, responding to existing publishing services, and addressing the widespread belief that the Web 2.0 turned *anyone* into a curator—putting the curatorial profession in the online environment (but also in the cultural context at large) into question.

Before diving into the exhibition models emerging from these technological developments in the sections below, it might be useful to look at a project, *Runme*, that this study sees as the bridge between the nineties counterculture and the Web 2.0 (Figure 5). This is a bridge between curating spaces for showcasing web-based site-specific content, with the web seen as a technical context made of interfaces and hyperlinks, to experimenting curatorially with already existing services by creating platforms for art that is context responsive, where the web is understood as a part of a context larger than its technology.

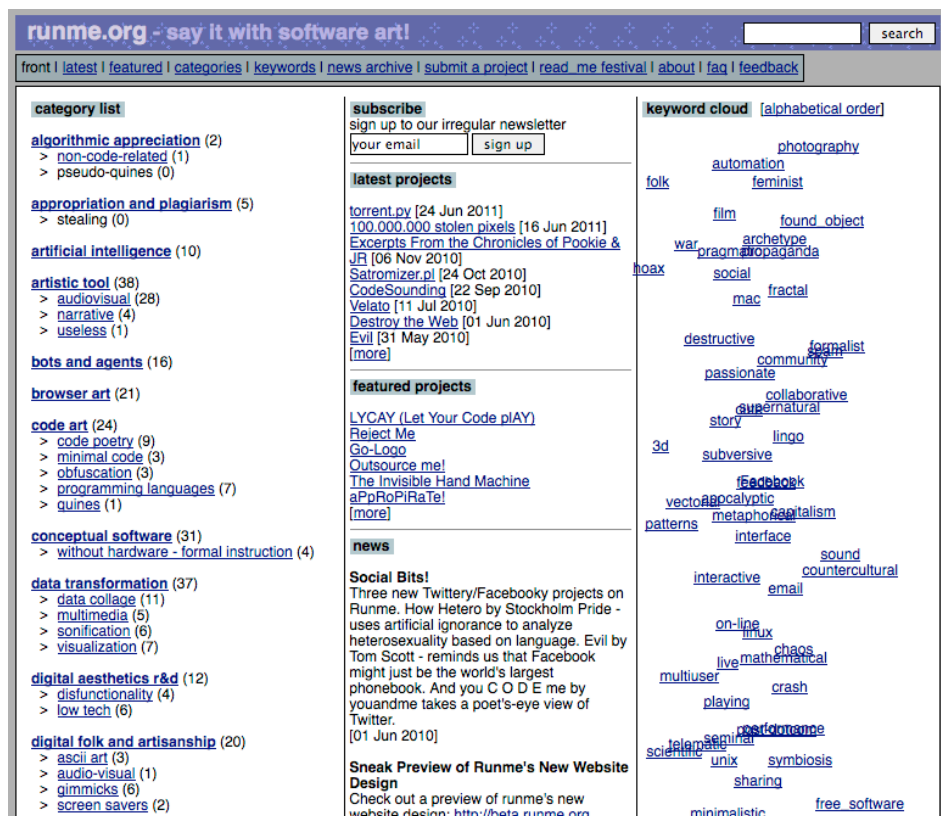


Figure 5. *Runme*, 2003. Screenshot of index page, 2015. © Runme, 2019.

*Runme*, initiated by Amy Alexander, Olga Goriunova, Alex McLean and Alexei Shulgin in 2003, operated as a display platform and database for software art that was submitted by artists to be included for display on the project website. Similar to earlier curatorial projects, *Runme* nurtured the production of an art form that was overlooked by the institutionalised art system because it did not ‘fit’ the gallery display and museum categories. Yet, it incorporated an additional function; it was a repository for digital art that was based on an alternative mode of categorising to that of the contemporary art world, for which the curator assumed the role of an archivist. The submitted artworks, in fact, were archived not only according to software categories (from “artificial intelligence” to “code art”) and subcategories (from “code poetry” to “minimal code”), but also through a cloud of tags that could be modified by users and viewers and therefore incorporating popular keywords (from “symbiosis” and “feminist” to “folk”). This collaborative mode of historicising digital art used folksonomies and borrowed from the mechanisms of publishing platforms like the blog. Yet, the curators used such mechanisms as tools for critiquing the limits imposed by the conceptual frameworks of the contemporary art discourses. In this way, *Runme* provided an exhibition model whose characteristics, like the idea of a display growing over time through artistic interventions and an open archive based on collective categorisation, gave life to “an art platform in the making” (Goriunova 2012). For the first time, a web-based exhibition not only responded to the specificities of the medium by commissioning artworks for its environment but it reflected on the context of production enabled by web technology—and the way web-enabled publishing impacted on the production of knowledge.

While new models of curating web-based exhibitions were emerging, there was a decrease in the number of institutional initiatives nurturing web-based production (*Gallery 9* closed in 2003), and only a few institutions used the web as a space for curatorial experimentation. Amongst them there were the *Korea Web Art Festival* (2001) in South Korea, for which the Ministry of Culture invited the

artist duo Young-Hae Chang Heavy Industry to be a curator,<sup>20</sup> the *artport* (2001–present), conceived by Christiane Paul as “a portal to Internet art and online gallery space” (Paul 2006) for the Whitney Museum in New York, and Genco Gulan’s *Web Biennial/Net-Art Open Exhibition* (2002–2014) for the Istanbul Contemporary Art Museum (Turkey). However, while institutional experimentation almost reached a standstill, the massification of web technology and the spread of its ready-to-use services, created a fertile ground for independent curatorial endeavours in the online environment. Such endeavours also started to encompass geographical areas outside the Western art capitals, opening up the field of curating on the web to a reflection on the limitations inherent to understanding this technology as universal rather than shaped by digital (and socio-cultural) local contexts. In India, for example, *The IDEA* (2000–2004) by Shankar Barua presented a series of seven HTML-based CD-ROMs that, using the format of the online magazine, distributed and archived digital artworks simultaneously, displayed on a dedicated website.<sup>21</sup> The later *Open Place (Sarai Interface Zone)* (2001) by Sarai in New Delhi focused on nurturing a community of interest. A platform for browsing web-based artworks where the sharing of ideas, knowledge and creativity was, in fact, paired with a programme of events, face-to-face meetings, and public space projects, often exploring digital technology and culture in connection to the city’s ecology (Sarai Media Lab. 2001).

The work of independent curators that will be discussed below shows how, with the commercialisation of the web, web-based exhibition became a system of production and a display of digital art that incorporated a multitude of functions, which often originated from appropriating (and disrupting) the communication patterns, formats of publishing and modes of distribution enabled by web technology of the mid-2000s.

### 3.3.1. Curating through Publishing Platforms: From the Blog to Visual Displays

In the early 2000s, the number of personal blogs, with their diary-style communication, tags to index content and feeds to track users’ frequent updates, started to grow widely. This consolidated a specific format for publishing content online, the post. With the introduction of tools like comments in the mid-2000s, the blog also started to acquire a social function. The comment, in fact, helped to establish relationships among bloggers and between bloggers and readers. Because of this, artists and curators soon started to adopt it for their projects. Those years were marked by investigations into the production of digital art in the online environment that were based on adopting or mimicking the mechanisms of publishing platforms. The projects analysed below proposed a model of curating on the web that appropriated commonplace uses of web tools. They used reposting and tagging as curatorial mechanisms to give life to art platforms based on collective endeavours, and where the boundaries between the role of artist, curator, archivist and user blurred together.

One of the first adoptions of the blog as a medium for artistic production and nurturing a community of artists happened with the *Surf Clubs* from *Nasty Nets* (2006) to *Loshadka* (2009–2014).<sup>22</sup> Characterised by an exploration of internet-generated cultural material (GIFs and .swfs files), its existence in the online environment, and its display in spaces that would legitimise its value (the gallery), these projects proposed an approach to curating that was collective, informal, and discursive. They used the format of the post and the repost to generate a chain of production and a mode of work online that led to

<sup>20</sup> Besides providing a fee to the invited artists, the curators included a Net Art Contest open to Korean artists, to further nurture net.art production and discourses in South Korea. However, despite a cash prize, there were—to the surprise of the curators—very few entries and of low quality (Young-Hae Chang Heavy Industry 2019).

<sup>21</sup> The spread of internet access on a geographic and demographic mass scale in India, in fact, happened with the mobile networks and smartphone devices (early 2010s); which explains the reasons for Barua to adopt the CD-ROM format.

<sup>22</sup> *Surf Clubs* are one of the most discussed phenomena in the context of artistic production online. In fact, the artists involved in these projects, from Olson (2009) and Ramocki (2008) to Cloninger (2009) and Troemel (2010), were widely active in promoting a critical discussion of their art and the work they conducted on their platforms.



the definition of post internet art and practices.<sup>23</sup> If *Club Internet* (2008–2009) by artist Harm van den Dorpel investigated these ideas by hosting exhibitions curated by various artist-members (such as, Guthrie Lonergan's *Tag Team* and Constant Dullaart's *K.I.S.S.*), *Dump.FM* by artists Ryder Ripps, Scott Ostler and Tim Baker operated as an "image-based chat room for real-time communication" (Howard 2010). Although these projects originated from the work of artist collectives, they also acted as curators and critics and it was with them that criticism of the hierarchical understanding of online and offline spaces by institutions became mainstream. In fact they also operated by presenting the work they produced online in gallery spaces, such as the exhibition *DUMP.FM IRL* (2010) curated by Lindsay Howard at 319 Scholes in New York and *Surfing Club* (2010) by Raffael Dörig at plug.in in Berlin. The way they moved between online and offline environments was much more fluid than the experimentations of the 1990s, in fact they increasingly saw them as two spheres conceptually and practically connected, and as a way to experiment with making art that "mutated to," a *fitted in*, "the conventions of the art world" (McHugh 2011). In this sense, these projects became platforms for the production and distribution of artworks created by community interest that used the informal patterns of communication of the online environment as a way to blur the boundaries between low and high culture.

Reposting and tagging became curatorial mechanisms adopted by several other artist collectives who acted as curators. *VVORK* (2006–2012), founded by Aleksandra Domanovic, Christoph Priglinger, Georg Schnitzer and Oliver Laric, used the blog as a site for exploring artistic ideas<sup>24</sup> and processes of legitimisation of art (Figures 6 and 7). Not focused on commission but on the creation of associative visual clusters of found images on the internet (mostly documentation of artworks), *VVORK* was an example of using web functions to challenge the categories conventionally used to classify art—tags ranged from "abstract" and "black and white," to "furniture" and "plant." If the challenging of categories is similar to *Runme*, what differentiates the two projects is that *VVORK* started a reflection both on the increasingly visual environment of the internet (Tumblr, the micro-blogging platform, which bridged the mostly text-based nature of blogs and the mostly image-based environment of social media platforms, released in 2007) and on the key role of the re-post in creating public consent—curators from all over the world also used *VVORK* as a database to conduct research on new artists and aesthetic trends (Slocum 2016). This proposed a form of collective historicisation that put into question the roles of the professional art curator and critic as imparters of value. Similar to *Surf Clubs*, *VVORK* was also active in offline spaces. Yet their focus was not on translating artworks for the offline environment but on expanding their curatorial interests outside the platforms. For instance, *Variety Evening* at the New Museum in New York was an event that explored the possibility of "describing plastic forms" through performances" and whose aim was to "to render a certain form of protagonist presence to the body of the curator." This, besides showing how the conceptual boundaries between online and offline spheres were starting to fade away, demonstrated how art platforms started to incorporate different curatorial functions.

What was also significant about these projects was that they proposed a different interpretation of what constitutes digital art, putting forward that its specificity was not just medium-related but "context-dependent," (Paul 2006) and whose documentation was often "more widely dispersed than the object itself." (McHugh 2011)

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<sup>23</sup> Jennifer Chan proposed, alongside many others, one of the definitions of postinternet art and artists. According to Chan, postinternet art "differs from the formalist play on code and information architecture that was more visible in late-nineties net.art," and post internet artists are "more willing to exhibit in galleries [ . . . ] and modifying artworks for different contexts of presentation in physical space and cyberspace." (Chan 2012).

<sup>24</sup> In an interview with Connor (2015), *VVORK* curators stated that "seeing the sequences [of digital images] was useful [to them] to understand tendencies and to view the potential of different interpretations of an idea."

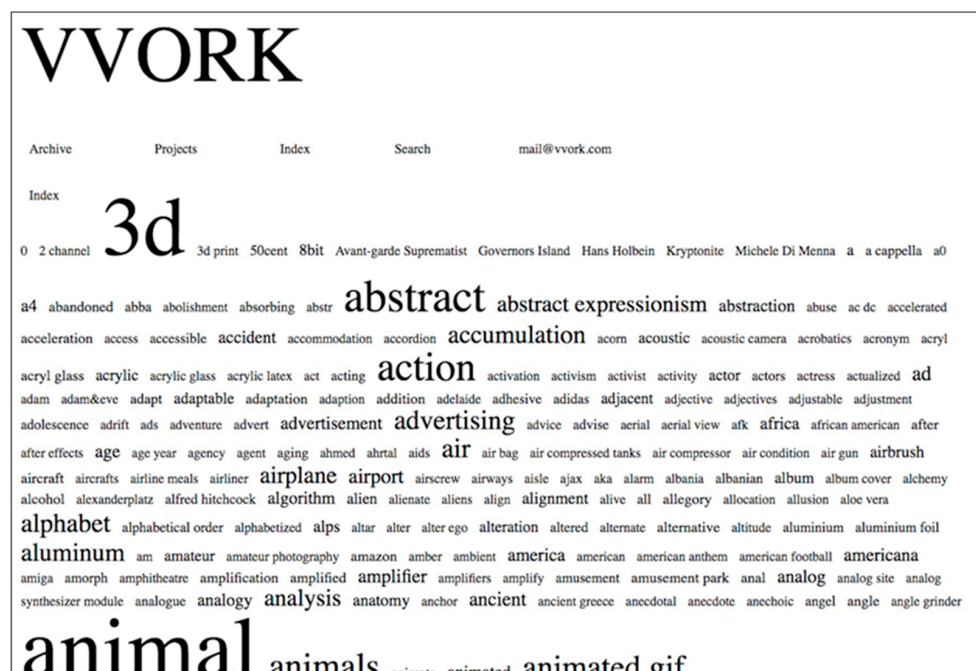


Figure 6. VVORK, 2006–2012. Screenshot of index page, 2019. @ VVORK, 2019.

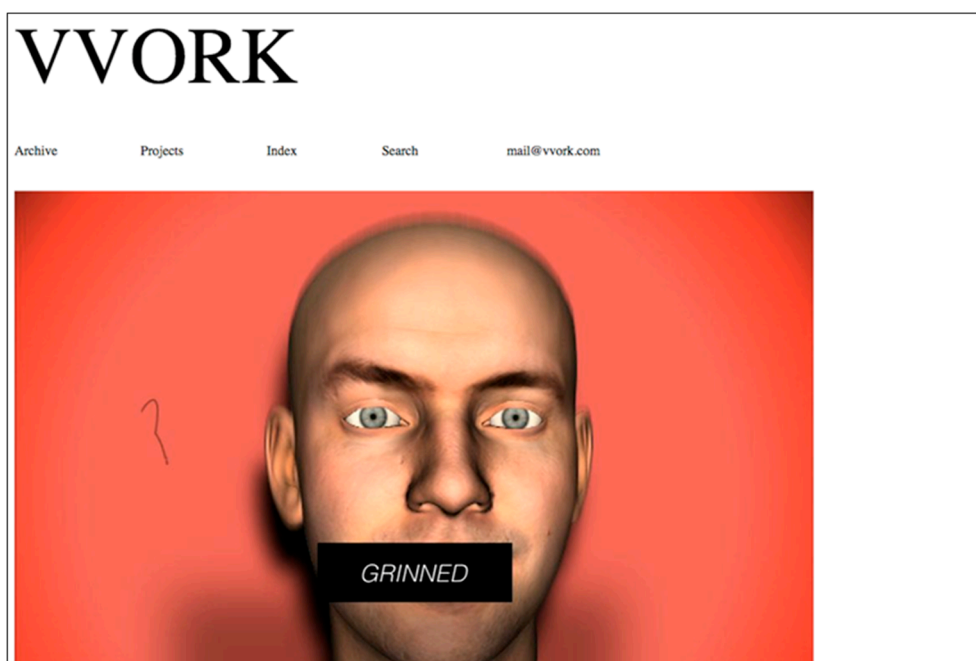
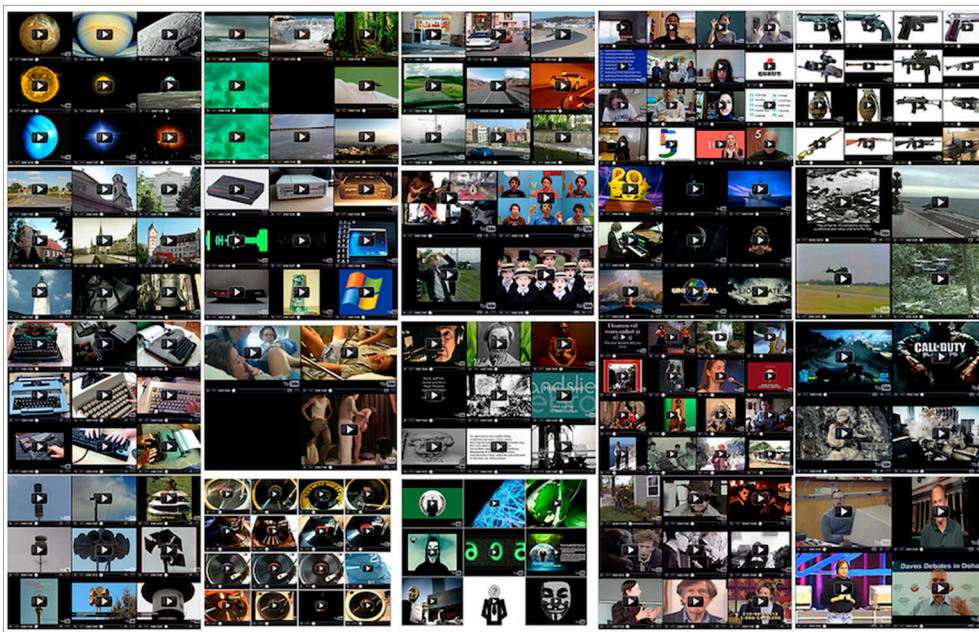


Figure 7. VVORK, 2006–2012. Screenshot of 3D index page, 2019. @ VVORK, 2019.

### 3.3.2. Curating through Social Platforms: From Entertainment Services to Social Media

In the mid-2000s, the easy-to-use interfaces of the Web 2.0 started to offer free access to vast databases of user-produced cultural content—from pop-culture videos to personal documentaries, film excerpts and tutorials, as in the instance of YouTube. The vaster the amount of content available, the more limited the way to interact with interfaces. In fact, they were increasingly embedded in closed systems where content could not be directly referenced across platforms, such as Facebook and Twitter—the 21st century ‘walled gardens’ based on the social buttons such as the like.

Soon curators began to adopt these services to explore the limitations inherent to interacting with their interfaces. They devised new exhibition formats and curatorial strategies that originated from appropriating their publishing mechanisms to produce, display and frame digital art. The project *CuratingYouTube* (2007–present) by historian and curator Robert Sakrowski, for example, applied the logic of the broadcasting platform YouTube to curatorial work (Figure 8). By creating a free and public tool for curation in collaboration with artist Jonas Lund, the *Gridr*, *CuratingYouTube* became a platform for anyone to create video assemblages of material sourced on YouTube—the *HTML soundbank*—and display them as audio–visual mixes on the project website and in galleries. *CuratingYouTube* radicalised some of the YouTube features by making them part of the curatorial process of selection and production (the related videos and the shared and embed features, for example) and using them to determine the formal and aesthetic qualities of the exhibition. By dictating “the choices of material and then the conditions in which one plays” and curates the exhibitions (Sakrowski 2013), the project raised questions about the role of the curator in the age of algorithmic services and their user’s tailored archives. It also provided a critique of cultural production in the age of ready-to-use broadcasting platforms that turned anyone with an internet connection and a smartphone into a cultural producer.

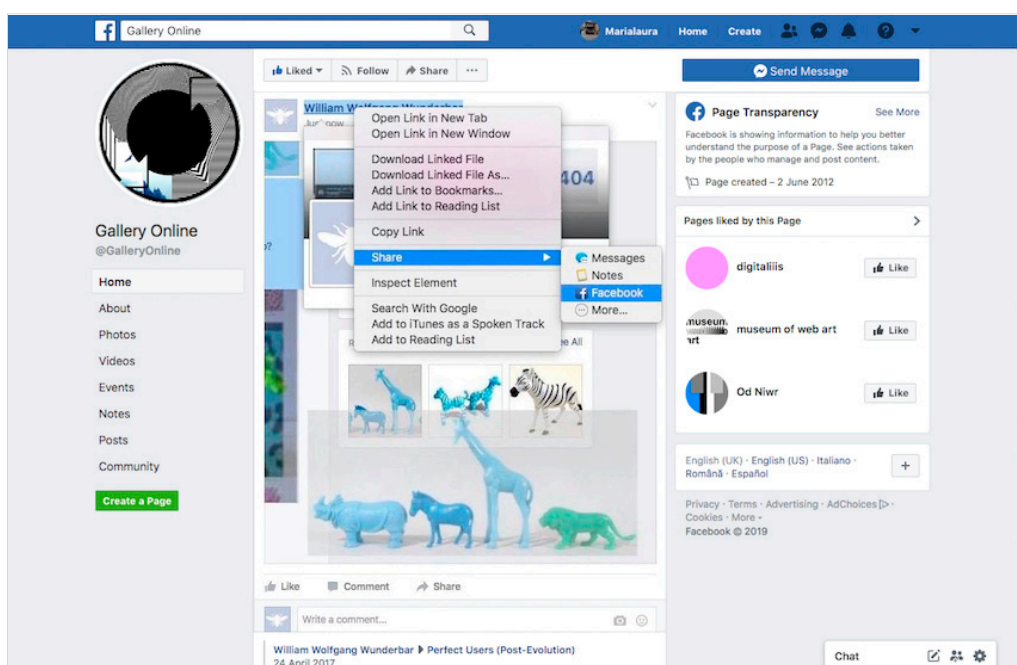


**Figure 8.** *CuratingYouTube: An Acoustic Journey through YouTube*, 2011. Screenshot of HTML soundbank, 2015. © CuratingYoutube, 2019.

Other exhibition projects explored curatorial production on social media platforms by relying heavily on their infrastructure and architecture, such as, on Facebook, *#0000FF* (2012–2014) by Georges Jacotey and *Gallery Online* (2012–2018) by Ronen Shai and Thomas Cheneseau. The latter was conceived to offer digital artists a platform to display and organise their work “as they wished,” so that the project curators acted as platform providers more than mediators who created a conceptual framework for the work of the artists they commissioned (Figure 9). The project stressed the possibility for the artist to generate exhibitions of their work “as live performances” and interact with an audience in real time (Shai and Cheneseau 2012). An example is the exhibition *Joyfully mutating curiosity* (2012) by William Wolfgang Wunderbar, whose name is a nickname that was chosen by the anonymous artist(s) to reference the World Wide Web. The works that Wunderbar presented during the six-week exhibition included screenshots, glitch art and GIFs in the form of Facebook-responsive images and posts. Such material was posted both on the *Gallery Online* main page and across Facebook groups and pages, such as *Willigang Wolfban Wunderspam*, other groups that incorporated the word *Wunderspam* in



their name, and *Perfect Users*, of which Wunderbar was a member. The latter group stood for an artist collective whose focus was not only on challenging the “pre-fabricated” (Wunderbar 2017) status of the image on social media platforms but also on exploring how it was categorised and existed in the online realm. This movement of material across online platforms shows the fluid relationship that artists started to have with sites of display online, which they appropriated to mimic the patterns of online communication and sharing of content in popular culture. By inserting themselves into the environment of their adopted platform, these exhibitions proposed a model of curating on the web that, while conforming to the logic of the appropriated service, twisted its mechanisms. They emphasised the semi-automated nature of curatorial work, the seriality of the production and communication patterns of social spaces on the web,<sup>25</sup> and the disruption of the viewers’ browsing routines—where private and public, work and leisure, consumption and production increasingly merged. Most importantly, these projects began to question the way the production of culture at large was shaped by the modes of communication enabled by web services; shifting the focus from the web platform as a space of production and distribution of digital art, to a space that foster a critique of the same technology it adopts, and the socio-cultural habits this generates.



**Figure 9.** Gallery Online—William Wolfgang Wunderbar’s *Joyfully mutating curiosity*, 2012 (curated by Ronen Shai & Thomas Cheneseau). Screenshot of one of the artist’s posts on Facebook, 2019. © Gallery Online, 2019.

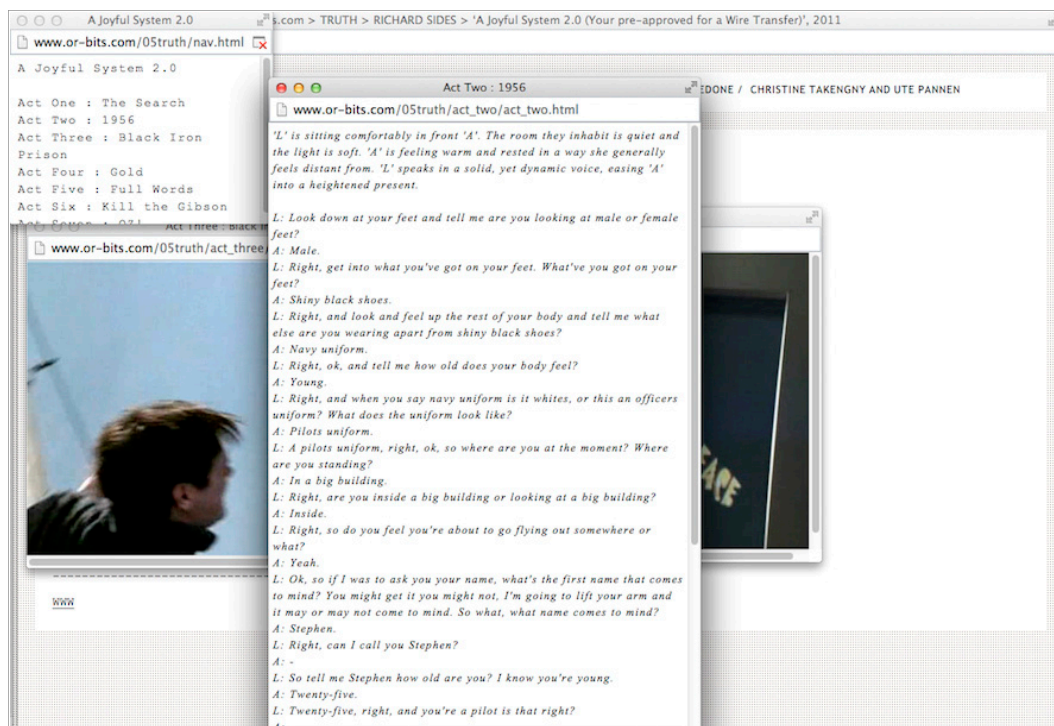
### 3.3.3. Curating through Bespoke Platforms: From the Themed Group Exhibitions to Online–Offline Displays

The easy-to-use publishing tools and platforms of the Web 2.0 did not weaken curators’ fascination with creating bespoke websites to showcase and commission web-based art, more specifically exploring the nature of the thematic group exhibition online, and the context it inhabited.<sup>26</sup>

<sup>25</sup> The serial format of web services was also widely explored in relation to broadcasting art on people’s computer screens, as in the instances of Mitch Trale’s *Idle Screening* (2012–2014) and Rebecca Birch and Rob Smith’s *Field Broadcast* (2011–2017).

<sup>26</sup> Ault (2011) aptly described the web context in relation to viewership when discussing online databases, where viewers feel “disoriented and confused” because of the “overloading of short-term memory and user’s difficulty in forming a mental model of the information space.”

The project *or-bits.com* (2009–2015), originated from my desire to build a platform that would differ from the index-based displays showcasing documentation of existing artworks rather than art specifically produced for the web browser (Figure 10). Each exhibition presented on *or-bits.com* looked at the way digital technology impacted the life of its users, and presented artworks that, although existing on dedicated pages, were connected to a centre through both the curatorial concept and interface design. While the initial focus of the project was on the web page (artists not necessarily working with digital tools were commissioned to create artworks responding to the web environment) and the interface (the viewer's browsing patterns), soon the project started to explore the connection between online and offline interfaces, and how artworks would translate when transitioning from one space to another. Gallery exhibitions such as *On Accordance* (2011), the week-long radio broadcast *128kbps objects* (2011), and the publication series *On the Upgrade* (2011–2013) explored such connections by putting in conversation the embodied space of the gallery and a website, the immaterial nature of digital art and object-based art, as well as publishing in print and online. This expansion of the programme, the *Offsite projects*, led the platform to present exhibitions that did not end with viewing on a computer screen but continued when they inhabited different spaces that were curatorially put in conversation with each other. In this, *or-bits.com* functioned as an art platform that encompassed different curatorial activities, from the commission and display of web-based art and developing public programmes to running a blog dedicated to art writing and publishing online and offline.<sup>27</sup> These activities responded to the existence of ready-to-use publishing services by, conversely, putting an emphasis on site-specific curation. In this instance the tasks of curatorial selection and contextualisation were emphasised and not 'compromised' by the negotiation with given interfaces and algorithms; they were specific to the functions enabled by the bespoke website and its relationship with offline interfaces.

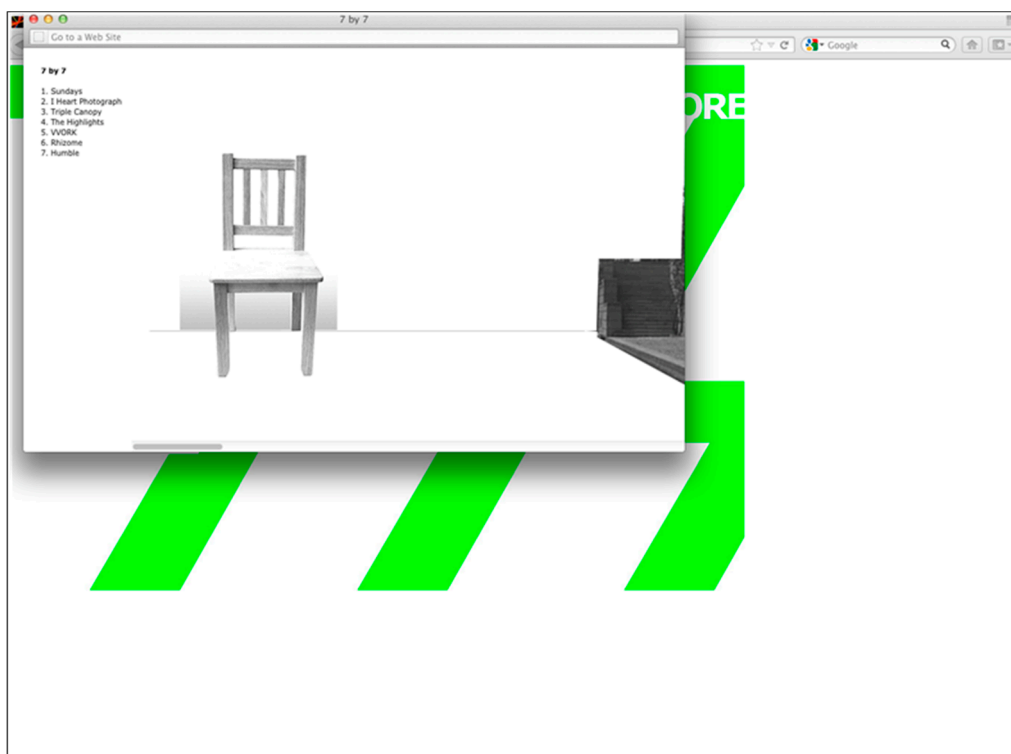


**Figure 10.** Richard Sides, *A Joyful System 2.0 (Your pre-approved for a Wire Transfer)*, 2011. In *or-bits.com: Truth* exhibition, 2011. Screenshot of artwork page. © *or-bits.com* and the artist, 2019.

<sup>27</sup> I argued elsewhere (Ghidini 2019) how print publishing can function as a way of archiving web-based art.



Other curators experimented with the format of the web-based exhibition by putting an emphasis on site-specificity and commissioning artworks that would respond to the logic of their own curatorial platform. Some examples are *Why + Wherefore* (2007–2011) curated by Nicholas Weist and Lumi Tan in New York, *Temporary Stedelijk* (2011–2012) curated by Amber van den Eeden and Kalle Mattsson in Amsterdam (The Netherlands), and *Beam me Up* (2010) organised by Reinhard Storz of XCult in Basel (Switzerland). Each of these projects investigated different exhibition models that would allow them to present their curatorial narratives not only conceptually but also in relation to the workings of the interface the curators built for their website. The curators of *Why + Wherefore*, for example, presented a series of group exhibitions housed in pop-up windows<sup>28</sup> so that each artwork was only connected to the curatorial narrative of each show (Figure 11). *Temporary Stedelijk* showcased artworks on its main web page and used iFrames to allow “the artworks to interact with each other, and become a whole, a unity in one show” (van den Eeden 2014).



**Figure 11.** *Why + Wherefore*—7 by 7 exhibition, 2007. Screenshot of exhibition page, 2012. © Why + Wherefore, 2019.

A different example is offered by *Beam me Up*, for which Storz developed a filtering function to create a navigable database that would take the viewer through a series of guest-curated exhibitions that he had commissioned to guest curators as part of the project (Figure 12). Interested in web-specificity and its relationship with the gallery space, Storz also presented *Beam me* as a group show at plug.in gallery, an opportunity, according to the curator, to emphasise “different embodiments” of web-based art (Storz 2014).

By devising their own interfaces, these projects proposed a model of curating on the web that, for their intent to provide a platform to artists (and curators) to explore the medium’s possibilities, continued the legacy of previous endeavours like *äda’web*. However, they enacted a type of curatorial

<sup>28</sup> In conversation with Nicholas Weist about their curatorial work, Lumi Tan expressed her concerns with showing online the work of artists that required “a physical encounter with objects.” She stressed how curators, in dialogue with artists, should understand in which way the artwork would “translate, if at all, to the internet.” (Tan and Weist 2008).

approach that put specific focus on the contextualisation of web-based art, browsing behaviours, and the creation of curatorial narratives online, in a way responding to the ‘demise’ of the curatorial profession in the online environment of the Web 2.0<sup>29</sup>.

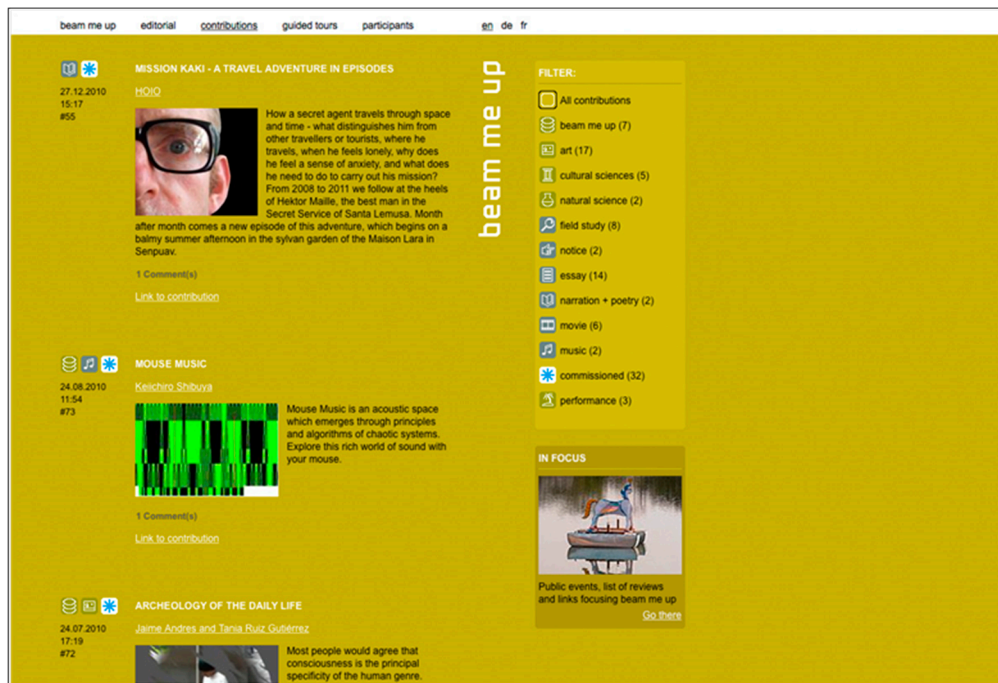


Figure 12. *Beam Me Up*, 2009. Screenshot of contribution page, 2015. © Reinhard Storz, 2019.

### 3.4. Today's Web: Experiments with the Commercial Network of Networks

From the mid-2010s onwards, further developments in the “platformization of the internet” (Helmond 2015) have started to greatly alter the way people interact with the web. With the mass-production of ever-faster and cheaper smartphones and mobile networks, the platform economy with its service apps has begun to replace the web browser with mobile interfaces. This has led to a new generation of users to whom the internet is that which can be accessed through command-buttons and swipes from within systems that are more compartmental than those of the Web 2.0. While this scenario is discussed (by the digital industry) as a process of decentralisation that enables more democratic systems of production, exchange, and access, it is instead an environment where distribution of content happens predominantly within centralised systems, where *everything* is interconnected.

In the wake of this development, it is the commercial art world rather than the institutional system of museums and art organisations that has started to use web technology, and specifically its interconnected services, to create new formats for distributing art. However, many such endeavours are commercial initiatives that, although presented as alternative to the canons (and the market) of art institutions, reinstate the age-old system of gatekeeping (Catlow and Garrett 2018). The initiative *s[edition]* (2012–present), for example, uses the idea of a community of interest and decentralised distribution enabled by web technology to run a “platform for selling and collecting art in digital format.” In fact, by adopting cloud computing and IP tracking technologies, *s[edition]* operates by creating scarcity of digital artefacts (the numbered limited editions) and a community of collectors who

<sup>29</sup> This approach differs from the various independent web festivals that emerged in the same period, whose focus was on creating nodes of distribution. An instance is *The Wrong New Digital Art Biennale* (2013, 2015, 2017, and 2019 forthcoming), founded by David Quiles in Alicante (Spain), which hosts a multitude of web-based projects—the *Pavilions*—for each edition, often giving life, according to reviewers, to a difficult space for “tracking down individual works” for the lack of a curatorial narrative (Farley 2015).

view art and each other's collections (stored in a secure vault) on their screens.<sup>30</sup> In a similar ethos, yet using blockchain technology, the "artist-run, curated, online platform" *cointemporary* (2014–2015), founded by Andy Boot and Valentine Ruhry in Vienna (Austria), offered art that could be bought for a fixed Bitcoin price during 10-day long one-artwork exhibitions. Using *ascribe.io* (a service founded by Masha McConaghy to allow artists to register their artworks into the blockchain), the curators aimed for the platform to become "an actual internet of space" that rather than focusing on scarcity creation would focus on "the value of [their] webspace" (Lopez 2016)—a more commercial development of previous artistic explorations into the process of establishing the value of web-based art through the use of unique URLs.<sup>31</sup> Even if both initiatives employed the platform to reengineer transactions outside the traditional system of the art world, their workings were telling of a change in the understanding of the web. The web, here, was seen as a monetisable channel of distribution rather than a medium made of many media and functionalities allowing production and distribution of digital art responsive to the technical and socio-cultural context in which it existed.

Despite the increasingly commercial environment in which digital art exists and artists operate, independent curators have developed new exhibition models that offer critical alternatives to tech-enabled modes of producing, sharing and accessing art. The online exhibition space *Art Micro-Patronage* (2011–2012), for example, gave life to a collective art platform to create an autonomous market based on new strategies of production and cooperation. Founded by The Present Group (Eleanor Hanson Wise and Oliver Wise) in Oakland (USA), *Art Micro-Patronage* hosted group exhibitions of digital art organised by invited curators and artists on their platform, such as *Psychogeographies* by artist Andrew Venell and *C.R.E.A.M* by Lindsay Howard. The curators developed a system of micro-patrons of digital art by encouraging the exhibition viewers to "associate their appreciation of the works with small monetary values" (The Present Group 2011). In this sense, the platform generated distributed systems of artistic production that, through the exhibition, operated a critique of both the role of the digital artist in the market and the increasing commercialisation of digital art. A later project, *#exstrange* (2017), which I curated with artist Rebekah Modrak, used eBay as a site of production, display and distribution of artworks to explore the type of artistic and cultural exchanges that could occur in an online marketplace (Figure 13).

Artists and designers working in various mediums—from digital art, to sculpture, to performance—were invited to participate and create an artwork specifically for eBay, an artwork-as-auction that used the eBay listing as its constitutive material for descriptive text, images, pricing, and categories. The artworks were presented as seven-day auctions each across the various national eBay websites, and could be found amongst the multiple eBay sales categories though the use of the hashtag *#exstrange* in their title. During the course of the four-month long exhibition, *#exstrange* gave life to a collective strategy of production, exchange and communication online where the curatorial narrative developed through the interventions of artists, viewers, collectors, and researchers, as well as the guest-curators invited to devise their own exhibitions within the framework of the project. By following a set of instructions anyone could participate in the show or post auctions independently, and several group actions and collaborations formed around specific locations across the world. In this way, *#exstrange* not only highlighted the mechanisms of online commerce, but also explored the relationship between artistic, cultural and monetary value and the way it was assigned in relation to the built interfaces of commercial services.

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<sup>30</sup> When collectors buy an artwork on *s[edition]* they receive a numbered limited edition in digital format, a unique certificate of authenticity and free online storage where the artwork and the certificate are held. Terms and Conditions regulate the use of the purchased art—it cannot be printed for example. *s[edition]* also offers a subscription service to stream rented digital art.

<sup>31</sup> In the mid-2000s, the unique URL became an intrinsic component of web-based artworks, as in the instance of the practices of Constant Dullaart and Rafaël Rozendaal—an exploration that led to Rozendaal's *Art Website Sales Contract* (2011–2014), which was made publicly available to other artists.

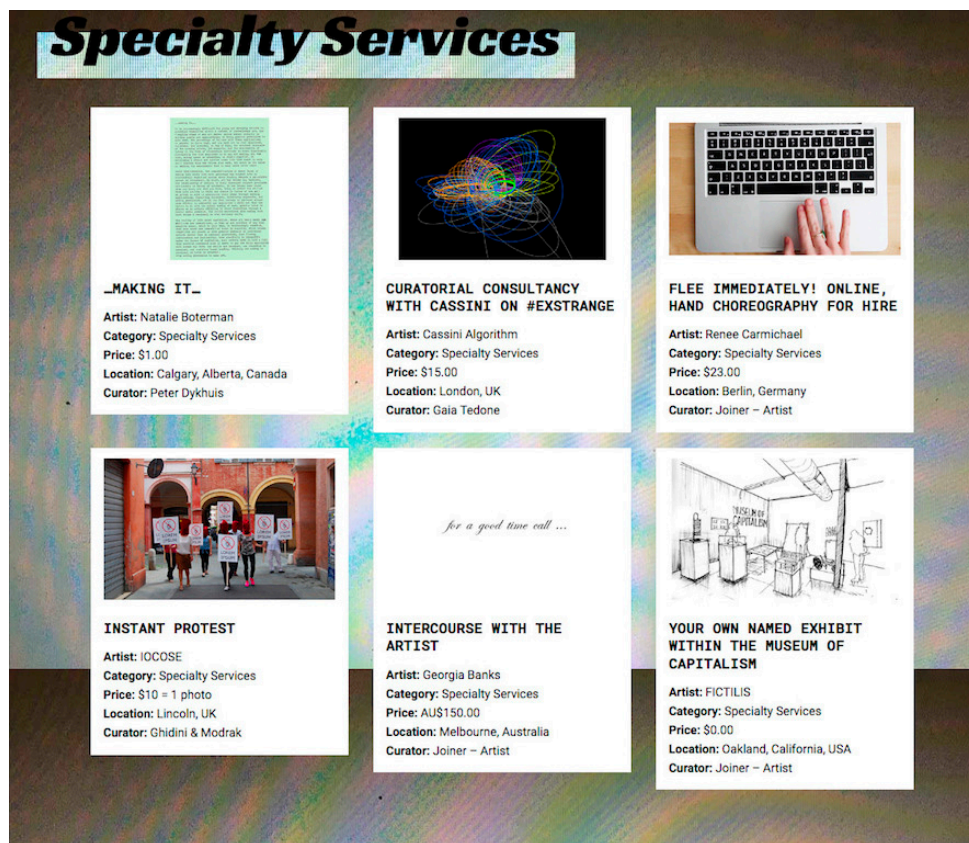


Figure 13. #exstrange—Archive, 2017. Screenshot of archive page (partial). © #exstrange, 2019.

If “today’s network of networks” (Sifry 2016) sees a blatant commercialisation of the medium’s distributive functions, renewed curatorial approaches to web technology and its services are also emerging, approaches that more directly embrace the socio-cultural and economic specificity of the context created by the platforms adopted by curators for their projects, and the larger ecosystem they inhabit. This marks a shift in the practice of curating in the online environment that started from the 2010s, a movement towards understanding the web-based exhibition as a system of production and display where the curator, as a mediator, supports uses of the technology that often differ from the type of interaction, distribution and behavioural patterns intended by the software industry.

#### 4. Conclusion: An Assessment of the Relevance of This Historical Trajectory

The genealogy of curating on the web proposed by this study shows the close correlation that this field of work has with the history of its own technology, and the increasing commercialisation of its services. On one side, curatorial work of commission, display and contextualisation has developed according to the technical tools at the curator’s disposal. On the other side, the massification of web technology has allowed curators to devise exhibitions with extended functions. Because curatorial work on the web has changed in parallel to the curators’ own understanding of the web as a curatorial tool (and not just in response to the (digital) art they display), the exhibition has started to operate not only as a platform through which to produce and disseminate art but also as a distributed system that encompasses multiple functions—from nurturing discourses about web-based art and activities across online and offline spaces to fostering a critique of the same technology adopted and its ecosystem.

After the 1990s forms of collaborative production, open access and peer-to-peer sharing was spearheaded by net.art artists who provided service platforms *Cybercafe*—when the code and computer were seen as tools that enabled bypassing any third-party mediation (including that of the curator). Curators then began to operate as platform providers for the production, display and distribution of



web-based art. With an understanding of the web as an alternative space of production for art that did not have a house in the gallery and museum, those curators started to act as nodes of distribution, supporting exchanges and criticism concerning the institutional art world's neglect of net.art and web-based artworks as art in their own right—as in the instance of *äda'web* and later *Runme*. With the Web 2.0 and the rise of platforms for self-publishing, the web became both a tool for experimenting with curatorial tasks of selection, categorisation, display and contextualisation and a space through which artists and curators developed discourses about artistic production online. Curators—and artist collectives acting as curators—increasingly started to mediate art produced on and through the web by contextualising it in relation to the properties of the web medium, and in response to popular uses of web tools, so that the art responded to the context of its production—as in the instances of *Surf Clubs*, *VVORK* and *or-bits.com*. At that point in time, curators also began to display the art created on their platforms across different spaces to explore the relationship between the online and offline spheres whose conceptual separation became increasingly blurred. Because of this, the exhibition became distributed as part of a system generated by the curated platform, and started to have a more direct impact on the role that digital art and practices had in the mainstream art world by infiltrating its spaces and breaking its fixed gallery configurations. The more web technology became commercialised and embedded in the process of platformisation led by the software industry, the more curators started to conceive projects that not only nurtured new forms of artistic production and formats of display but also responded to the mass media of their time—the web—and its impact on the creation and sharing of culture, communication and distribution, as in the instances of *CuratingYouTube* and *#exstrange*.

The exhibition formats discussed in this study show how curating on the web has encouraged, directly or indirectly, discourses about digital art, which in many instances have developed through the creation of platforms and showcasing art on them. Such discourses have had an impact on the way in which selection, categorisation, and collection are understood in art historical and curatorial contexts. This raised questions about (and solutions for) displaying digital art online and in the gallery, contextualising digital artistic practices beyond fixed categorisation, and archiving 'mutable' artworks through web platforms and offline archival formats. These projects also paved the way for the creation of independent art spaces that did not follow the logic of the art market and its hierarchical organisation, showing a different facet of curatorial work. Curating on the web, in fact, is a practice that along with its object of research (web-based art) is context-sensitive and responds to the web not just as a medium but as an ecosystem that is socio-cultural, political and economic. Much of the curatorial work that was conducted from the early 2000s to the inception of today's semantic web has opened up discourses that go beyond contemporary art criticism to embrace a reflection of the role that digital platforms and services have had on the creation of culture and its access. This has given form to discursive exhibition systems that integrate artistic and curatorial production with an enquiry into media studies and digital culture. Many of these projects proposed a "method of action" (Sakrowski 2013) that derived from the employment of ready-to-use services and platforms, as well as their logic. Through this, curators developed strategies for reflecting on the mass production, consumption and communication facilitated by the commercialisation of the web.

In order to avoid discussing this field of work in a vacuum, I would like to close this study by arguing that these uses of the exhibition as an expanded site with multiple functions bear resemblance to the radical art practices of the 1960s generation, such as the work of artist Roy Johnson with mail art and the New York Correspondence School, and of curators Lucy Lippard and Seth Sieglaub with conceptual art. These were practices, in fact, that "turned communication media into their art media" (Chandler and Neumark 2005) to move away from medium- and site-specific discourses pertaining to gallery and museum exhibitions. Alberro (2003), for example, described the work of Lippard and Sieglaub as responding to "novel modes of communication and distribution of information, new types of consumption, an ever-more-rapid rhythm of fashion and style changes, and the proliferation of advertising to an unprecedented degree." This definition resonates with the way the curators of the exhibition projects discussed above responded to the emergence of the web as a mass medium.



Their work, similar to that of Sieglab with *The Xerox Book* (1968) and Lippard with the *Numbers Shows* (1969–1974), created new contexts for presenting and engaging with art whose nature did not meaningfully fit the context of the gallery. This further trajectory of study is one that sees the curator as an enabler of platforms for artistic production, collaboration, and exchange that supersede the one proposed by the museum. As alternatives to a mode that is “determined by oligarchic hegemony issuing forth from centres of capitalist, academic, and political power” (Lichty 2002) where the museum functions as “‘materialist cathedral’” with a “‘top-down’ approach to culture,” the curatorial mode of work arising from this study is one that is decentralised and embraces a critique of the larger context of cultural production.

There are still many challenges to overcome in order to outline a comprehensive historical trajectory of curating on the web. If one of the problems is the sustainability of these projects, which are often independent endeavours, another challenge is posed by the lack of ad-hoc archival projects dedicated to web-based exhibitions necessary to trigger further interest and research. Lastly, the blatant commercialisation of the web asks for developing renewed models of curatorial experimentation responding to today’s network of networks, in a manner that is critical of, rather than complacent about, the technology adopted.

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