



# Curating: A Disruptive Technique for Disruptive Technologies

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## Abstract

This paper focuses on curating interactive art in ways disruptive to the traditionally disparate disciplines of fine arts, creative robotics, business theory and philosophy. It takes the interdisciplinary design of interactive systems outside labs/studios and into institutions and cityscapes in the form of prototype exhibitions. The artworks become schema for hypotheses offered for evaluation through the medium of audience engagement. This PhD research focuses on authenticating the audience's experience of interactive art; first defining parameters for authenticity within fine arts and creative robotics, then examining how, through the application of evaluative frameworks to iterative exhibition processes, one might capture and utilize the audience as a material in itself. Through an examination of responsive systems, both artists and curator will be led through critical and creative spaces by speculative design, audience engagement and evaluation, and analysis of data collected. The exhibitions for examination are/will be produced by PhD researcher Deborah Turnbull Tillman through her research initiative New Media Curation (NMC).

## Keywords

Disruption; disruptive technologies, prototyping; authenticity; curating; action research; criteria; audience experience; interactivity

## ACM Classification Keywords

### J.5 – Arts and Humanities, Fine Arts General Terms

Design; Documentation; Experimentation; Human Factors; Measurement; Theory; Verification

## Introduction

This paper will present a curatorial technique of testing based on “disruptive ideas” within a PhD research framework. It will introduce variables to argue the main research question:

*Can contemporary curators apply prototype techniques to exhibitions comprised of digital interactive art at various stages to reveal new criteria for curating digital interactive art?*

The framework for this study will utilise variables such as authenticity, prototyping, audience evaluation, elicited response (as in creative robotics) and disruptive technologies (as understood in business theory). Authenticity will be investigated within the context of digital interactive art whilst emphasizing the prototyping

process as a disruptive force in the making of such art. It will also query the audience's role in eliciting reciprocity from computational systems and the ability to analyse this phenomenon via evaluation. Situating this curatorial study across traditionally disparate media and creative making practices will help in establishing specific criteria. These criteria will be informed by the contemplation of different definitions for authenticity across an interdisciplinary inquiry. Together these outcomes will assist in establishing a common language for the experience of this hybrid art form. If this task can be accomplished, the disruptive nature of the curatorial process in light of new - and arguably disruptive technologies made by disruptive practitioners - can at this point in visual and art histories, assist in establishing curating as a revolutionary act rather than an evolutionary constraint.

PhD candidate Deborah Turnbull Tillman is looking at the audience's role in authenticating the experience of interactive art through contemporary curatorial practice. To broaden the context of this interdisciplinary hypothesis, we will first examine the emergence of disruptive technologies on the larger global digital market, as in business theory. We will then transfer this understanding and application in a contemporary art context, wherein an analysis of the participation by an artist/technologist in a prototyping project will be put forward as a disruptive variable to the way that a curator would normally work with artists in the capacity of exhibiting finished, rather than in-progress works. This discussion will provide the specific context in which Turnbull Tillman is currently working to examine curatorial practice within an experimental environment. Within this context, she will demonstrate how she plans to test her theories on audiences, and begin to formally develop exhibitions in the way that artists/technologists develop the work, through a series of iterative exhibitions that may cause discomfort or anxiety on the part of both creators and consumers of digital interactive art. This discomfort, based on the experimental nature of the process, may lead to the discovery of new knowledge.

In presenting digital interactive works at the prototype phase, Turnbull Tillman is participating in a disruptive practice for all parties concerned (artist, technologist, exhibitors and audience members). She is positing possible solutions to fallouts based on refining the methods utilised in a case-by-case analysis of three of the exhibitions produced by the experimental research initiative that has formed her curatorial practice: New Media Curation

(NMC).<sup>1</sup> During this process, events, exhibitions and happenings will be staged and evaluated using the frameworks referred to below. These evaluations will establish a set of criteria that extends the current knowledge of what it means for an audience member who engages with digital interactive art to have an *authentic experience in the context of interactive art*.

To date, a key problem in this field of inquiry is the meaning of *authenticity* itself. Universities, such as the Institute of Aesthetics in Denmark,<sup>2</sup> are beginning to utilise the philosophical definition of authenticity [being true to one's own experience in relation to external forces, pressures, and influences which are different from, or other than, oneself] and applying it to courses on digital art (Wood, et al. 2008). In Lotte Philipson's course, students are encouraged to understand all definitions of authenticity and apply them to the digital medium (Philipsen, 2010). Drawing on the work of Dennis Dutton, two closely examined definitions in this course are *nominal* and *expressive* authenticity. Nominal authenticity is more in line with traditional curatorial techniques. It follows the practical history of a work, correctly identifying materials, authorship, provenance, and origins when its practices are applied. Expressive authenticity is more about critiquing experience through emotions that act as a marker of the artist's society or an individual's belief (Dutton, 2003). Where the nominal definition is useful in terms of taxonomy, the expressive definition would be more difficult to evaluate. In relation to digital interactive art, evaluating *affect* would be more advantageous as it "refers to the *experience* of feeling or emotion" and "is a key part of the process of an organism's interaction with stimuli" (VandenBos, 2006). Most interesting is that this "...word also refers sometimes to *affect display*, which is "a facial, vocal, or gestural behavior that serves as an indicator of affect..." (Ibid). As evaluative markers, it would be simpler to identify and capture *expression* than it would to capture *emotion*.

In defining the parameters of an *authentic experience*, this research will draw from the relevant fields of creative robotics, fine art, and business theory. Where authenticity in fine art may include nominal curatorial practices as defined by Dutton, authenticity in creative robotics may require the ability to replicate expressive authenticity via computer science and engineering. Authenticity across these fields means establishing a provenance precluding a genuineness and truthfulness about the work; however, in drawing on the work of Julienne Greer (Senior Lecturer in Theatre) and Sherry Turkle (PhD in Sociology & Personality Psychologist), authenticity also means a successful transmission, a pleasurable experience and an emotional connectedness at the conclusion of an engagement or interaction (Turkle, 2007) (Greer, 2011). (Turnbull, et al., 2015).

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<sup>1</sup> [www.newmediacuration.com](http://www.newmediacuration.com). Accessed 29 February 2012, 08:43.

<sup>2</sup> <http://www.au.dk/en/facultiesdepartmentsetc/humanities/aest-fag/>. Accessed 29 February 2010.

Disruptive technologies as understood in a broader context, are rather exciting in terms of the evolution of materials for making thought about them. The term 'disruptive technologies' was coined by businessman and technologist Clayton M. Christensen in 1995 (Bower and Christensen, 1995). Throughout the end of the 90s and 2000s, Christensen wrote with and in response to various researchers on this topic, posing dilemmas and offering solutions through various publications. Where he argued for market stability by keeping disruptions minimal and offering explanations when markets were interrupted by what he later termed 'innovations,' there were several theorists who countered that disruptions were totally negative to any marketplace. Oliver Gassman describes technology as being considered "a form of social relationship," that is "constantly evolving." In fact he defines these ecologies and the variables within them as unfixed (Gassman, 2006).

It is at this point that the authors are reminded of the very nature of speculative design, in which experimental practice, and perhaps even prototyping, may be disruptors that find a common purpose. There may be some merit in articulating that the way the materials of interactive art (digital technologies) and the processes for exhibiting (prototyping) and designing (speculative) exhibitions featuring digital interactive art overlap, interweave and develop. Where speculative design tends to find a provocation to start from rather than a design problem to solve, prototyping is a scenario- or event-based type of testing where each iteration is either a little or a lot better than the previous model. The development of the digital component of these works are further outlined below.

Gassman continues, "Technology starts, develops, persists, mutates, stagnates and declines – just like living organisms." Within this particular ecology are different technologies battling it out with each other for the label of high technology (in comparison to creative practice of different aesthetics battling it out for the label of high Art). Life-cycles emerge as new technologies are created and utilized by target markets. When a high technology is determined as the best and most used it challenges the current Technical Support Nets (TSNs) which facilitate and govern market value in terms of technology. Instead of dying out, the governing system has the option of co-evolving (Ibid). Where Christensen is critical of this interpretation, colleagues of Gassman and Christensen argue for the power of disruptive technologies. For example, Joseph Bower speaks to how disruptive technologies can transform an industry (Bower, 2002), and Milan Zeleny speaks of how disruptive technologies can cause resistance, not to the technologies themselves, but to the change they bring to people already reliant on the current dominant system to thrive in the changing of language and practice (Zeleny, 2009).

When one thinks through disruptive technology theory and then introduces its techniques to traditionally ordered processes, like curating art exhibitions, a space opens up wherein experimental enquiry can take place. Many cross-disciplinary practitioners write in this way about the emergence of technology and its effects on

aesthetics. As with any emergent technology, some fear it (for example, Sherry Turkle), others embrace it (Julienne Greer), and eventually a co-existence emerges that challenges the previous dominant norm. The effects of technology on the body and on works created performatively are of particular significance to this study, and are examined in particular by artists like Stelarc<sup>3</sup> or Erin Manning<sup>4</sup>. Many of these disruptive techniques were previously initiated and observed by Turnbull Tillman and her mentors and collaborators through the Beta\_space project, but also in her current research environment at the Creative Robotics Lab (CRL) at the National Institute of Experimental Art (NIEA) at the University of New South Wales (UNSW).

### **Beta\_space: a disruptive force for curating in The Museum**

The problems associated with digital interactive art include its immateriality and repositioning of time and space, thus making the act of authenticating one's interaction with it problematic. As discussed in Graham and Cook (2010), these problems place a particular need on the curator to revise traditional practice. Relevant recent work in this field includes that of Ernest Edmonds' research group the Creativity and Cognition Studios. Through their work in Beta\_space, a publicly housed laboratory at the Powerhouse Museum, Sydney, they have set up an infrastructure, a methodology for measuring experience and emotion in digital interactive art. The writings about this work form an important basis for the PhD research. Reports on the curatorial practice of Lizzie Muller, Matthew Connell, and Deborah Turnbull Tillman all detail the making and evaluating of interactive art at various iterative phases in a public laboratory. Lizzie Muller's PhD and related writings report the core research that forms the background to this study (Muller, 2010). The significance of the Creativity and Cognition Studios work was innovation in:

1] bringing the work out of a university lab and into the public domain before it was finished (Muller, L., Edmonds, E. and Connell, M. (2006);

2] establishing a set of criteria for measuring audience experience (Bilda, Z., Candy, L., and Edmonds E. A. (2007))(Costello, B. (2007));

3] offering this process to the public as an exhibition on display for public consumption (Turnbull D. and Connell, M. (2011) p. 79-93).

4] taking these processes out of the realm of culture and into the community as creative practice for corporations and institutions as well as artists and curators (Muller, L. et al, (2006)(Turnbull, D. (2011)).

5] producing three models for curating digital interactive art, two of which hold preliminary criteria for exhibiting digital and interactive art (Turnbull, D. and Connell, M. (2014) p. 221-241).

These activities are best captured en masse in Candy and Edmonds' book *Interacting: art, research and the creative practitioner* (Libri, UK: 2011). This publication not only details the methodologies followed during the 7 years Beta\_space was actively programmed in the museum, but provides a history of digital interactive art, with Candy and Edmonds outlining the current categories, aesthetics, influences, paradigms, creative spaces, and cultural shifts in relation to the artist and audience; the producers and consumers of art (Turnbull, et al., 2015).

### **Inside the Creative Robotics Lab (NIEA, UNSW)**

Where her work at the Creativity and Cognition Studios strongly informs her independent practice, it is but one of many places interested in investigating the potentially disruptive nature of prototyping. In her current research environment at the Creative Robotics Lab at NIEA, UNSW, Turnbull Tillman has again found that artists and technologists are working closely together to create technically sophisticated, but artistically subtle, prototype artworks that engage and respond to the humans interacting with them. Dr. Mari Velonaki, co-author and director of the CRL, is currently collaborating with the Object Design Centre in Sydney on a prototype curatorial project through CUSP.<sup>5</sup> CUSP, curated by Object's Creative Program Manager Danielle Robson, is a platform whereby artists can present their design ideas regarding the way we inhabit the world as humans within a complex set of digital systems. Sometimes in institutions, sometimes out in the cityscape, CUSP is pushing the boundaries of experimental design practice to see what designing the future might be like for artists, technologists, engineers, and architects.<sup>6</sup>

Where Velonaki has previously participated in CUSP in presenting talks on a train that runs from Central Station to Casula (Talks in Transit series), a more recent work of hers is being presented in a prototype way as "chapters" across several venues, the first currently exhibiting at the State Library of Queensland.<sup>7</sup> The work that Velonaki and her technological collaborators are staging at various stages in CUSP is called *Blue Iris*. This is an interactive work that presents like digital wallpaper, but acts as a both a repository and narrator for those who participate with it. It activates the histories of buildings and their occupants by itself occupying space and recording how spaces and surfaces are experienced by audience via engineered screens comprised of thermo-

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<sup>5</sup> Mari Velonaki. CUSP.

<http://cusp-design.com/designer/mari-velonaki/>. Accessed 8 December 2014.

<sup>6</sup> CUSP. <http://cusp-design.com/about/>. Accessed 8 December 2014.

<sup>7</sup> CUSP @ State Library of Queensland. <http://cusp-design.com/event/cusp-state-library-of-queensland/>. Accessed 19 December 2014.

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<sup>3</sup> <http://stelarc.org/>. Accessed 18 December 2014.

<sup>4</sup> <http://erinmovement.com/>. Accessed 18 December 2014.

chromic/thermoresistive patterns and a gold nano-particle-based floral motif.<sup>8</sup>

Velonaki finds the prototyping process disruptive in the making of digital interactive art. The physical disruption, however, takes a backseat to the rewards gained from discomfoting herself and her team. This discomfort extends to the exhibition phase, where she feels no one is really happy with the prototype being on display because it is not yet representative of the bigger picture everyone has in mind. In living this discomfort, she also finds the process invaluable. In being exposed in this way, in exhibiting a raw model of her aesthetic ideal, in fashioning a “good enough” version of the idea and then standing back and releasing the concept as a simpler version/form of the whole idea to the audience, she, as the designer, becomes removed from it. Velonaki can let it be experienced this way because she knows that the feedback from this process will inform future design decisions across the team. Together everyone, the artist, the engineer and the computer scientists, have all taken a step back and viewed how the audience engages with the work. Velonaki now finds this incremental processing so fundamentally helpful that she wouldn't do it any other way. The discomfort has become more ideologically disruptive, with the rest becoming and remaining her process.

One of Velonaki's collaborators, mechanical engineer David Silvera-Tawil, considers the prototype process to be incredibly disruptive, particularly in terms of construction briefs. In the engineering world, prototypes to test an idea can be ‘quick & dirty’ with minimal consideration to aesthetics. Alternately, one of the predominant concerns of any collaborating artist would be aesthetics, so ensuring a prototype system looks cohesive enough to both exhibit and engage/hold an audience is a challenge. In participating in this interdisciplinarity, Silvera-Tawil thinks of research outcomes first and what they might learn from the project as a whole. Where he finds creative prototyping “incredibly disruptive” to his engineering practice, he also finds much value in approaching these challenges differently than he would traditionally, with the end goal of producing a different kind of data set or a different kind of new knowledge.<sup>9</sup>

### **Curating as a disruptive technique: posited methodologies**

As a curator, representing institutions and funding bodies whilst also working quite closely with artists and technologists, disruptions come in different forms; those of observing, recording and analyzing the intentions, actions, and reactions of artists, technologists and audience members. The PhD study by Turnbull Tillman proposes to reflect on a series of her exhibitions, treating them as curatorial prototypes for analysis in order to form the foundation

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<sup>8</sup> Blue Iris. <https://www.sites.google.com/site/silveratawil/Research>. Accessed 18 December 2014.

<sup>9</sup> Views expressed by David Silvera Tawil in an interview with Deborah Turnbull Tillman on 8 December 2014, 11am-12:30pm.

of a larger iterative cycle involving practice-based research and curatorship. The three exhibitions proposed for analysis are:

1] *Memory Flows*, Sydney Olympic Park Authority (May 2010)  
<http://www.newmediacuration.com/projects/past>

2] *Grid Gallery, Ausgrid* (June 2010)  
<http://www.newmediacuration.com/projects/past>

3] *genart\_sys*, the Australia Council for the Arts (Jan 2011)  
<http://newmediacuration.com/genartsys/> |@genart\_sys

This analysis becomes important in relation to the question of authenticity and accessibility when a curator is faced with issues like a second iterative cycle of the same group of artworks. If one wanted to re-create the conceptual message of original exhibitions in another space, analysis of the first iterative cycles would assist in curating the next cycle, which would lend to an authentic experience of the artworks via a stronger transmission of their message. The results of this formal analysis will inform 2 new case studies featuring:

1] a time-based and distributed performance in Sydney, Australia featuring emergent practitioners from UNSW | Art & Design's student body. Audience experience will be measured, data collected and analysis performed.

2] an exhibition in the UNSW | Art & Design gallery spaces featuring time based and interactive works by established practitioners where the audience's experience is measured, the data fed back, and analysis performed.

The methodology to be employed for the case studies will be practice-based, drawing upon the action research approach (Stringer, 2003). Stringer's approach of LOOK -> THINK -> ACT is based in social reform and draws on Lewin's “spiral of steps” that attempt to depict “comparative research on the conditions and effects of various forms of social action, and research leading to social action.” (Smith, 1996). Johnson, a social scientist from the 1970s, has revised Lewin's spiral utilising words such as UNFREEZING -> CHANGING -> REFREEZING.

It is important to note that these research cycles are modifiable and iterative and may be performed more than once during the inquiry into authenticity of audience's experience of the work. When applied to the proposed case studies, it is expected to follow the below flow, attempting to capture affect and expression both at the prototype and final exhibition phases, so that the resulting criteria might be useful despite the stage of production:

1] *time-based and distributed performance in a public space utilising prototype interactive works produced by emergent practitioners; ie/ students. The audience's experience will be measured and the data collected and analysed:*

## Acknowledgements

Lecture and work with the students attending the studio courses at a post-graduate level -> watch the way they work to produce artefacts & ideas -> perform evaluation on their prototype pieces -> act by providing feedback in terms of conceptual and physical design for the spaces where the works will be exhibited -> allow for development and revision of these ideas -> plan themes and exhibitions based on the end results of these studios -> exhibit the works as planned -> document this exhibition via photography and video -> evaluate the audience's experience of these works -> collate and analyse this evaluation -> establish a set of criteria for performing these tasks in future -> repeat these tasks in a second case study with an improved knowledge of the experience

2] *an exhibition in the UNSW Art & Design Galleries UNSW Art & Design with established practitioners featuring time based and interactive works where the audience's experience is measured and the data collected and analysed:*

Establish relationships with select artists with an established practice -> visit their studios/workspaces and watch the way they work to produce artefacts & ideas -> perform evaluation on their prototype pieces -> act by providing feedback in terms of conceptual and physical design for the spaces where the works will be exhibited -> allow for development and revision of these ideas -> plan themes and exhibitions based on the end results of these studios -> exhibit the works as planned -> document this exhibition via photography and video -> evaluate the audience's experience of these works -> collate and analyse this evaluation -> establish a set of criteria for performing these tasks in future -> publish the findings of both case studies and attend conferences to deliver new knowledge discovered (Turnbull, et al., 2015).

## Conclusion

The proposed outcomes of this study will be a set of criteria for curating digital interactive artworks, taken from exhibitions, events and happenings, and distributed via publications like this one. These criteria will be determined by applying an iterative and action-based approach to analyzing techniques disruptive to an already experimental curatorial practice situated within the contexts of experimental fine art, creative robotics research and business theory. The main aim is to understand the benefits of these disruptions of iterating, evaluating and modifying within a curatorial framework. Though discomfoting, these techniques are already assisting artists, curators, and institutions to embrace their own discomfort around engaging with prototype and speculative design practices at any stage in its iterative cycle, encouraging the recreation of experience authentic to the moment an audience engages with and influences a work. This will ultimately provide practitioners with innovative methodologies that though disruptive, hold the potential to generate new knowledge, some of which may already be embedded in the action research of New Media Curation.

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