



Newcastle University ePrints

Taylor R, Schofield G, Hook J, Ladha K, Bowers J, Wright P. [Crafting interactive systems: learning from digital art practice.](#)

In: CHI EA 2013: Extended Abstracts on Human Factors in Computing Systems. 2013, Paris: ACM.

Copyright:

Copyright is held by the author/owner(s)

The definitive version, published by ACM, 2013, is available at:

<http://dx.doi.org/10.1145/2468356.2479652>

Always use the definitive version when citing.

Further information on publisher website: <http://www.acm.org>

Date deposited: 11th July 2013

Version of file: Authors' version



This work is licensed under a [Creative Commons Attribution-NonCommercial 3.0 Unported License](#)

ePrints – Newcastle University ePrints

<http://eprint.ncl.ac.uk>

Crafting Interactive Systems: Learning from Digital Art Practice

Robyn Taylor

Culture Lab
School of Computing Science
Newcastle University, UK
robintaylormusic@gmail.com

Karim Ladha

Culture Lab
School of Computing Science
Newcastle University, UK
karim.ladha@ncl.ac.uk

Guy Schofield

Culture Lab
School of Computing Science
Newcastle University, UK
g.p.schofield@ncl.ac.uk

John Bowers

Interaction Research Studio
Department of Design
Goldsmiths University of London
john.m.bowers@gmail.com

Jonathan Hook

Culture Lab
School of Computing Science
Newcastle University, UK
jonathan.hook@ncl.ac.uk

Peter Wright

Culture Lab
School of Computing Science
Newcastle University, UK
p.c.wright@ncl.ac.uk

Abstract

To create digital art, skillsets from a variety of disciplines are combined to form a finished aesthetic product. An artist may engage in hybrid practice, building his/her own technologies, or may collaborate with specialized technicians to form a creative team. This workshop will bring together participants from a variety of disciplines and backgrounds, including art, music, design, and engineering to explore how the technological aspects of digital art function not merely in service to artistic considerations but rather, have creative and communicative value in their own right. We will discuss how explicit valuation of technical process in interdisciplinary design affects the experience of digital art creation, and explore how technology itself is and can be aestheticized in digital art practice. We will use these concepts to frame an investigation of how engagement with digital art practice can be used to enrich HCI.

Keywords

Digital arts; interdisciplinary design; technology

ACM Classification Keywords

H.5.2 [Information Interfaces And Presentation]:
Miscellaneous;

General Terms

Design, human factors.

Copyright is held by the author/owner(s).

CHI 2013 Extended Abstracts, April 27–May 2, 2013, Paris, France.

ACM 978-1-4503-1952-2/13/04.

Introduction

The CHI community recognizes that digital arts practice offers a distinct vantage point from which to explore encounters with technology. Examining HCI issues through the framing of digital art practice allows us to interrogate participant experience, leveraging creativity and aesthetic sensitivity to inform our explorations. To complement existing research structured through the use of digital art and media as platforms for investigation, in this workshop we propose investigating how the practice of digital art creation itself can offer points of discussion relevant to the field of HCI. As digital art is fundamentally intertwined with issues of technical development and technological craft, we wish to explore how technical contribution factors into an interdisciplinary art form. Building upon previous workshops investigating the role of the user in interactive media [3] and liveness in digital art [2], this workshop invites submissions that address the relationship between technological contribution and creative design practice.

Considering Technical Work as Craft Practice

The importance placed upon the process of directly working with technologies to create digital art varies amongst practitioners. *The Algorist Manifesto* [6] exemplifies an extreme ideology: to be considered an *Algorist* one must not only create algorithmic mathematical art, but must also do so via the output of *one's own* personally-crafted algorithms. Their definition of creative authorship equally values investment in the technological means of production (the crafting of the algorithms) alongside the resulting generation of aesthetic output (the resulting visual art artefact). Algorists compare the form-generating algorithms they craft to other form-generating practices

in the art world such as the creation of musical scores or architectural plans. For algorists, simply borrowing from algorithmic toolkits to generate pleasing visualizations does not enable the expressivity and ownership over the finished outcome that they require in order to consider their work to be algorist art.

Personally engaging with the process of researching and refining the technologies that form the basis for other forms of digital media art gives the hands-on media artist a similar sense of ownership and investment over the tools with which they practice their craft. Isolating technical aspects of the digital media work, either through delegating them to an isolated team of *invisible technicians* [5] or through enacting them oneself in a perfunctory, ends-focused manner, risks overlooking the nuances of the medium within which the artist's message is being conveyed.

Exploring a technology, understanding its capabilities and limitations, and coming to terms with its peculiarities through first hand encounters allows the artist/designer to fully exploit the technology within his or her practice. In large-scale digital art projects, the technical skills required to make the work may well be beyond those of a single practitioner. However, when the materiality of technology is the subject of the work, it becomes difficult to justify delegating the manipulation of the material to an external body. The result of this can be more fundamental than the simple ethical matter of ownership of the work. By not fully engaging with the medium on its own terms, the artist risks compromising the communicative or exploratory capability of the final work. While a *design-as-engineering* approach [7] might regard technical problem-solving as mere requirements-fulfillment,

considering the practice of technical development as a form of *craft* recognizes that the process of engaging in technological experimentation also broadens the creative canvas within design can evolve.

Is it crucial to get one's hands dirty in the making of digital media artworks? What do we miss in 'farming out' technical problems to other practitioners? What can we learn from the autobiographical design practices [4] often employed by hybrid artists and practitioners who leverage skillsets from multiple disciplines to craft digital art?

Aestheticizing Technology

Digital arts practice often involves a conscious subversion of the aesthetics of mainstream technology. Artists interrogate, explore or react against the way consumer technology looks and feels, creating new aesthetic genres, which are in turn subverted. Perhaps the most obvious of these are the cyberpunk and steampunk movements, whose practitioners look respectively forward and backward in time to align their work against a perceived contemporary visual status quo. However, these scenes could be seen as orthodoxies themselves, relying as they do on a consensual set of common visual referents. Other artists eliminate surface polish in favour of legibility and transparency by keeping exposed the machinery of their work. Still others interrogate the materiality of the digital via its side effects: glitches, noise and short circuits.

Intriguingly, these sub-aesthetics each carry heavy connotative weight. 'Your work is so beautiful,' a fellow artist once said to one of the authors; a statement which at first seems a compliment but was actually -

given the speaker's love of glitch and noise – a fairly scathing criticism. For her, beauty was the opposite of truth: a façade, uncomfortably redolent of the technological orthodoxy, which her own work critiqued.

Can digital media art be too pretty? Are there unacceptable aesthetics? Is there an aesthetic 'Geek Ghetto'?

Applying this Knowledge to HCI

We argue that digital media art presents models of best and worst practice with which to frame HCI. In many collaborative media art projects, the technical work of digital artists goes largely uncredited, as the 'work' is perceived to reside in the conception and planning of the piece rather than the technical detail of its implementation. By looking closely at the assumptions implicit in this all-too-common scenario, we can shed light on many problems intrinsic to HCI research. The often unresolved tension between theory and practice, the ethical questions surrounding ownership of a technical idea, along with a lack of common centres of value between disciplines can lead to disjoint and discord in interdisciplinary work, as exemplified by the following statements:

You aren't qualified to talk about this: you didn't make it.

I don't care how it works, so long as it works.

Let's get an artist in to do the UI.

On the other hand, digital media art production often provides examples of successful integration of traditionally separate aspects of design practice.

Looking at successful collaborations such as Benford's work with Blast Theory [1] can give us clues on how best to structure complex research projects, by allowing contributors co-ownership of core concepts and values central to the work. Aesthetic approaches form an integral part of each artist's personal practice, often arrived at through thought, experience and experimentation over the course of a career. They allow the artist to align or distinguish himself or herself from a community or school of thought. This self-referentiality is often thought of as intrinsic to individual art practice.

Can this stance also be useful in considering the role of the designer/researcher in HCI?

Workshop Approach

We aim to bring together attendees with varying backgrounds ranging from art, design and sociology, to the more technical disciplines of engineering and computing science. Our workshop organization team itself spans a range of disciplines, with team members specializing in art, music, design, and engineering. By inviting a wide range of voices to the discussion, we hope to access a diverse range of perspective from which to explore the topic of interdisciplinary collaboration in digital art creation. The workshop position papers solicited by this proposal will be used in order for our organization team to become familiar with the perspective of each of our participants. We encourage participants to be bold in their submission! Artists pride themselves on their passion, but we know from our experiences working on interdisciplinary projects, that engineers and social scientists also have strong opinions about how their contributions to creative projects are received.

Our workshop will consist of structured group activities. Firstly, we will engage in panel discussions, strategically grouping participants so as to stimulate interesting discussion and debate. Each panel will be presented with a series of 'provocations', synthesized from the paper submissions, in order to initiate discussion. Next, we will examine case studies selected from participant-submitted instances exemplifying both good and bad practices in interdisciplinary art creation. Finally, the results of our discussion, as well as being summarized in a poster presentation will form the basis of a live 'intervention' scheduled during the conference.

References

1. Benford, S., and Giannachi, G., *Performing Mixed Reality* The MIT Press, 2011.
2. Hook J., Schofield, G., Taylor, R., Bartindale, T., McCarthy, J., and Wright P. Exploring HCI's Relationship with Liveness (CHI'12 Workshop). In Ext. Abs. of CHI'12, ACM, 2771-2774.
3. Leong, T.W., Gaye, L., Tanaka, A., Taylor, R., Wright, P. The user in flux: bringing HCI and digital arts together to interrogate shifting roles in interactive media. (CHI'11 Workshop). In Ext. Abs. of CHI'11,45-48.
4. Neustaedter, C. and Sengers, P. *Autobiographical Design in HCI Research: Designing and Learning through Use-It-Yourself (DIS 2012)*, ACM Press.
5. Shapin, S. The Invisible Technician. *American Scientist* 77(6): 554-563, 1989.
6. Verostko, R. The Algorists. <http://www.verostko.com/algorist.html>
7. Wright, P., Blythe, M. and McCarthy, J. User experience and the idea of design in HCI. *Interactive Systems*, 12th:1- 14, 2006.