Peer Review and Design Fiction: "Honestly, they're not just made up"

Joseph Lindley

HighWire CDT Lancaster University United Kingdom joseph.lindley@gmail.com

Paul Coulton

Imagination
Lancaster University
United Kingdom
p.coulton@lancaster.ac.uk

Dr. Emmett. L. Brown

School of Inventing and Science
Hill Valley University
e.l.brown@hvu.edu

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Abstract

In the 10 years since the term was coined design fiction has become an increasingly common approach in HCI research. The practice involves working with 'diegetic prototypes', that is prototypes that need not exist in reality, but instead exist from within a 'story world'. Although fictional aspects are not unusual in HCI prototyping methods (e.g. storyboards, personas, Wizard-of-Oz), the breadth and flexibility of design fiction poses new challenges. This paper will illuminate those challenges by examining peer reviews of design fiction orientated papers submitted to ACM SIGCHI conferences.

Author Keywords

Design fiction; Review Process.

ACM Classification Keywords

H.5.m. Information interfaces and presentation (e.g., HCI): Miscellaneous

Introduction

The purpose of this paper is to explore difficulties that researchers and reviewers encounter when design fiction approaches are applied to HCI research. Quotes taken from peer reviews of three papers provide an empirical element to the paper. The paper is structured as follows. First, design fiction is introduced with a

'state of the art' section covering the breadth of design fiction's application in HCI. The middle section includes extracts from and commentary of peer reviews from three HCI research papers. The final section of the paper poses various questions that arise from the reviews and commentaries, these questions may be generally applicable to future HCI research papers that include elements of design fiction. The paper stops short of describing or proposing specific mediation strategies for these problems, and instead serves to provoke discussion (if not through publication then perhaps through alt.chi's open review process).

The work of peer reviewers is invaluable, necessary, and for the reviewers themselves can be a thankless task. Authors' perspective should also be acknowledged. Authors often feel as if reviews of their work are far from perfect. Archetypal accounts of 'bad reviewers' from authors include criticisms such as: the reviewer who classes themselves as expert on the topic but obviously 'just does not get it'; the reviewer who is probably the 'other person' working in the same specialized area that the paper addresses, but who takes an incompatible stance on it; the reviewer who writes an extremely positive review but then gives the paper a low score without full explanation. Although an ever-present frustration, the review process is, from both sides of this author/reviewer equation, a 'necessary evil'.

Directly quoting peer reviews in a paper is not a standard practice and has the potential to be unsettling. In particular, for the people who *wrote* the original reviews, who probably would not have anticipated their words being quoted in a subsequent research paper. In order to allay these concerns it is

worth noting the anonymity of all the reviewers quoted in this paper has persisted: we do not know who they are. In addition, we offer an unequivocal and substantive thanks for all these reviews, regardless of whether we are in agreement with the reviewer or not.

State of the Story: Design Fiction in HCI

The *exact* provenance of the term design fiction is unclear. Bruce Sterling is frequently cited as the originator in his 2005 book Shaping Things [23], but Sterling himself reports Julian Bleecker actually "invented the interesting term" [24]. Design fiction is a prototyping method where the 'prototyping medium' is fiction. As it relates to HCI research design fiction is 'something that creates a story world' and also 'has prototypes within that story world' [10]. Defined as such it can appear deceptively simple, when in fact it is rather nuanced and complex. This is illustrated if one considers that both invocations of the word 'something' in the definition above could actually mean 'almost anything'. In other words, design fiction can be 'almost anything that creates a story world' (e.g. a film, a poster, an advertisement, or a play) and could have 'almost anything being prototyped within that world' (e.g. an interaction, software, hardware, or a combination of many different prototypes). There are a number of precedents for *using* this incredibly flexible prototyping approach in HCI research.

The most obvious way of using design fiction in HCI is to prototype interactions with technologies that do not currently exist [e.g. 5,14,19,22,25]. However, there are more subtle and less obvious ways of using design fiction techniques in HCI research. For example, Markussen and Knutz demonstrate using design fiction to generate concepts, which are then articulated in a

range of different media [18]. It has been put to work as a critical tool too: Lawson et al. point out an "emerging dissent in the HCI community regarding the often overly simplistic approach of quantifying everything, including the assumption that users themselves will find quantified datasets immediately useful" [26]. They use design fictions [e.g. 26] to explore the pitfalls of 'solutionism' [21]. Blythe et al. also explore solutionism using design fiction by creating advertisements for fictional products based upon the results of a real world study [1]. Critical stances have also been adopted in alt.chi publications using design fiction. Notable examples include Buttrick et al., who parodied the erotic novel Fifty Shades of Grey in their paper Fifty Shades of CHI, illustrating humansubservience in interactions with computers [3]. Meanwhile 'The Kirminator' et al. send up some tropes of HCI research with their retrospective describing how the HCI contemporary community is facilitating the future robot enslavement of mankind [7]. Imaginary abstracts have been mooted as a way of incorporating fictional elements directly into HCI research papers [2], a notion that is extended in a forthcoming publication in Pushing Design Fiction to the Limit: The Case for Fictional Research Papers [12]. The latter paper critiques Game of Drones [11], a paper published at CHIPlay 2015, which deliberately tries to appear real even though the prototype, user study, and results of that study, are all made up. This very brief review gives some idea of the diversity of ways that design fiction has been used in HCI research, and while this review has focused in HCI-related work, it is worth adding that design fiction is practiced outside of the HCI research community too (e.g. The Near Future Laboratory, Superflux, Design Friction, Auger Loizeau).

As well as providing an introduction to design fiction for readers without prior knowledge, this 'state of the story' section has another relevance to the rhetoric of the paper: it aims set the scene for why papers incorporating design fiction are such a minefield for reviewers. This design fiction 'reviewing minefield' exists because of ambiguity around what design fiction actually 'is' [10]. It is further confused by the sometimes absurd [3,26], occasionally satirical [7], but potentially serious tone of design fiction [2,11]. A further complication stems from the fact that a whole raft of 'things' that are entirely independent of HCI research, ranging from art gallery exhibitions [6], through ethnographic methods [15], to corporate marketing films [e.g. 4,20], also call themselves design fiction. For an uninitiated reader or reviewer, getting to grips with precisely what design fiction is and how to be meaningfully critical of it, is understandably difficult.

Scrutinizing Scrutiny

The object of this paper is not only to share content from reviews of design fiction orientated HCI research, but to *critique* those reviews with the intention of stimulating a discussion about the challenges of reviewing design fiction work, as well as critiquing the review of HCI research papers in more general terms. Reviews from three papers are featured below, the papers are introduced first, then extracts from each paper's reviews are quoted and discussed. The "Honestly, they're not just made up" part of this paper's title is in reference to the fact that given these reviews are anonymous, we could have simply 'made up' the reviews in this paper. The fact of the matter is, as the title suggests, 'honestly, they're not just made up'.

CHIPlay 2015: Game of Drones

This paper was submitted to the Work in Progress track of CHIPlay 2015¹. The paper was based around a typical design fiction scenario, in this case the question "What if local governments started using drones to do simple enforcement tasks like giving out parking tickets?". In addition to using drones for enforcement tasks, the concept involves 'gamifying' the system such that citizens, from the comfort of their own homes, could take part in the enforcement activity in a form of 'playbour'. The idea in its own right seems quite interesting, but what was really fascinating about this particular project was the decision explore the idea using design fiction in a novel way: to write a research paper that was entirely fictional but to submit it into a 'normal' conference track. You might expect that writing a paper that used design fiction to prototype this gamified civic enforcement system would begin with an introduction to design fiction, before then, perhaps, detailing the content of the idea. In this case though a 6-page extended abstract was written describing the system and the research as if it were real and without pre-qualifying it as design fiction. Alongside with the paper a 5-minute demo video was submitted. The video uses real drone footage, combined in post production with a potential user interface layered over the top of the footage. Although the paper may be construed as being deliberately deceptive, eventually the true nature of the paper is revealed in the following passage:

"The research in this paper and the associated artifacts are part of a design fiction. Therefore, whilst this paper

presents a fictional account of plausible future HCI research its purpose is not only to highlight potential usability or utility issues such systems might present but to also create a discursive space in which researchers can consider the wider societal and ethical issues of technological futures in which drones might be widely adopted. In future publications we will consider the effectiveness of this design fiction in addressing such challenges and design fiction more generally as a method for exploring issues related to introduction of technologies." [11]

Although as Work in Progress it was reviewed to a lower standard than, for example, papers in the main CHI conference, Game of Drones received two reviews. R1 scored their expertise as 2 out of 5, which was the same rating that they gave the paper. R1's review was conflicted, in particular about the role fiction played in the work:

"This project represents potential significant contributions to the gamification community. The video demo looks really cool and well-made too. However, a lack of focus in the paper discussions, a rather confusing and abrupt "design fiction" claim at the end, and sloppy writing has resulted in my recommendation for rejection."

This introduction was critical of some writing errors in the paper. On the plus side the reviewer did see potential and was a fan of the video that accompanied the paper. The main point of interest here is the mention of a 'confusing and abrupt "design fiction" claim' at the end. Later on in the review, R1 said:

¹ Currently the original call for papers is archived at http://chiplay.acm.org/2015/works-in-progress/

"I'm rather confused when suddenly the conclusion states 'The research in this paper and the associated artifacts are part of a design fiction'. Do the authors mean that there was no real system implemented and that the video was doctored? Pardon me if I understood "design fiction" incorrectly as I'm unfamiliar with the concept."

It seems that R1 had some idea of what design fiction might be, but could not imagine that it might mean that the whole paper might actually be fiction. Nor could R1 believe that the accompanying video had been made to look like a real system, it was 'doctored', it was not 'real'. It seems that the reviewer was fooled by the phrase "The research in this paper [...] are part of a design fiction", perhaps ironically because that is one of the few phrases in the paper that is a straightforward and uncomplicated truth. Similarly ironic is that R1 pointed out "a stark lack of references" in the paper. Of the scant references included, perhaps the most significant one was right next to the admission that the paper was fictional, it was referring to an article discussing design fiction in HCI research. Perhaps if the reviewer had followed that particular references, then they may have picked up on the extent to which the paper was fictional, and more importantly why it was fictional.

The second reviewer scored the paper 4.5 and their expertise was 3. R2 said:

"..although current paper does not provide any significant data or implications, this paper, as a work-in-progress, has high potential to make significant novel contributions."

R2 goes on to be very positive about the gamification element:

"Since this 'gaming' activity is not only an exciting thing but also a great social contribution, it will be a great social game!"

As well as being positive about the overall concept and its status as Work in Progress, R2 does make some criticisms of errors in the paper and suggests some directions for future research. The most interesting point vis-à-vis *this* paper though, is that R2 gave no indication that they thought the work was fictional or that they had acknowledged the passage *saying* it was fictional.

Because this was a Work in Progress track, the attention paid to reviews is probably less than for full papers. Also, the paper was deliberately trying to be ambiguous, and therefore the reviewers should probably be 'cut some slack'. With that said though, Game of Drones did conclude by 'fessing up', it did explain why and how whole paper was fictional, as well as what it hoped to achieve by being fictional. The nature of the paper and the content of the reviews, reveals a tension between the reviewers' perspective of the design fiction and the intent behind the authors decision to use design fiction. The reviewers were at best confused by Game of Drones, and at worst they were duped by it.

Mobile HCI 2015: An Ethnography of the Future
This paper tested a technique called anticipatory
ethnography [15]. Anticipatory ethnography
hypothesized that it might be possible to analyze
design fictions using techniques borrowed from design

ethnography. The research described in the paper involves considering Spike Jonze's 2013 film *Her* as a piece of 'incidental design fiction' [cf. 16]. A group of researchers watched the film and took notes about the world of *Her* before going through an affinity mapping process. Finally, 'actionable insights' were produced based upon the group's interpretation of the affinity mapped observations. In this example of the anticipatory ethnography process, the vast majority of the insights produced were about mobile devices, hence why the account of testing anticipatory ethnography was submitted to the Mobile HCI 2015 conference.

The paper explains background to design fiction and how anticipatory ethnography is proposed as a way of 'operationalizing' design fictions by interpreting and producing insights from them. As well as background to the concepts and a practical account of how the research was done, the paper describes the insights about mobile devices themselves. An Ethnography of the Future was rejected from the Mobile HCI conference (in our opinion *rightly so*; it was not a 'strong' paper). An updated and reworked version received positive reviews and has been published at EPIC 2015 [13]. The reviews quoted below are related to the submission to Mobile HCI, and are intended to shed light on another SIGCHI venue whose reviewers failed to meaningfully criticize the design fiction elements of the paper. Being a full paper the reviews were more extensive than those for Game of Drones.

R2 had expertise 4 and scored the paper 1. The reviewer begins by contrasting the approach used in the paper to their own experience of doing ethnographic fieldwork.

"Although I feel sympathetic to the design fiction argument, this paper was not a pleasant reading experience. I have done ethnographic fieldwork for about two years in my life and gone through a fairly rigorous language training for that. Now learn that you can do ethnography by showing a film for four researchers who then say what they think about the film, use post-it notes to organize their observations, and voila, there's an ethnography of the future. Apparently, I have wasted a lot: I could have put 1/100th of the effort, and achieved similar results. I could even have been anticipatory instead of just been descriptive."

Although clearly not a 'fan' of the paper, R2 does state that they are 'sympathetic to the design fiction argument', which when combined with their level of expertise and prior experience of ethnography, would suggest that their ability to appropriately review the use of design fiction should be sufficient. However, the following passage reveals that the reviewer actually had no understanding of how design fiction artifacts and the anticipatory ethnography theory related to each other in this particular research paper:

"To put it in no uncertain terms: this is not ethnography. The paper is well written and intelligent, but its underlying contempt to ethnographic research is out of place, especially when there is a far better alternative at sight, which is design fiction. The paper is about fictional objects in fictional story, and could have been written as such."

Saying design fiction could be a 'far better alternative' suggests a lack of understanding about what role design fiction was playing in this research. Anticipatory

ethnography, as is described in the paper, takes design fiction as an 'input'. The input is then 'processed' by ethnographic techniques. The 'outputs' are a selection of insights. Given that anticipatory ethnography *uses* design fiction in this way, it seems clear that R2 has not grasped the proposition in the paper (which was to *test* if the anticipatory ethnography could produce relevant insights by analyzing design fictions):

"if the paper can be rewritten as design fiction without the silly ethnographic metaphor which adds no value to the work and is badly misused, it may make a contribution to Mobile HCI."

In contrast, R3 (expertise 3), despite scoring the paper same as R2 (score of 1), had a level-headed understanding of what the relationship between design fiction and anticipatory ethnography was:

".. the application of ethnographic methods to study examples of "design fiction", which are books, films, etc. that describe a future world of devices, practices, etc. Design fiction is science fiction with an emphasis on the world the story takes place."

In the case of both reviews the score was the same – 1 – however it is clear that something about the design fiction element of the paper underpinned R2's failure to meaningfully criticize it. Perhaps this is related to the relative expertise of the reviewers: it's plausible that R2 was an expert in ethnography and mobile HCI, may have had some passing knowledge of design fiction, and as such *thought* they were fully aware of how those constructs were interacting in the paper.

The remaining two reviewers scored the paper 4 and 5 respectively, mainly focusing on the novel nature of the paper and arguing for its acceptance on that basis. Their reviews seemed to indicate a good understanding of how design fiction and anticipatory ethnography were working together. The meta review for this particular paper was took into account the full range of reviews, noting in their closing remarks:

"..this paper received lots of discussion in the PC meeting. The general feeling is that this is more on an alt.chi paper"

CHI 2016: Pushing the Limits of Design Fiction [...] This is a paper is based on contrasting 'imaginary abstracts' [cf. 2] with the related, but more extreme, 'fictional paper' approach to design fiction exemplified by Game of Drones [11,12]. The paper was ultimately accepted into CHI 2016, however the reviewers agreed this paper was not without flaws, had its internal tensions challenges, and was a 'borderline alt.chi' paper. R1 (expertise 3):

This was indeed a tricky paper to review. It is very well-written and if we look at the approach applied as well as the references used in this paper it is very well-anchored in the area of HCI. So, why was it hard to review? Well, when I read it the first time I though that this was maybe a good candidate for an alt.chi best paper nomination [...] For this review I have decided that it should not be read as an alt.chi paper, but rather as a paper which might contribute to understand and fuel this shift in our community."

It's also worth noting that the paper itself is resonant with, yet distinct from, the rhetoric of *this* text: "There







Figure 1. The nested Russian dolls of design fiction research.

is a case for pushing design fiction to the limit in the form of fictional research papers. However, doing so without undermining research rigor means that conventions must be established to facilitate the creation, review, and publication of fictional research papers that are ethical-and-effective" [12]. The contrast is that *Pushing the Limits of Design Fiction* [...] articulates the internal problems with fictions as research artifacts, *this paper* highlights the challenges fictions bring into the review process.

Lightheartedness is arguably a trope in design fiction research papers [e.g. 3,7,9,17], most likely because incorporating 'made up' prototypes into 'scientific' research papers, has some intrinsically 'funny' qualities². That lighthearted view is echoed by this reviewer's sentiments (R3 expertise 4):

"If the paper does get accepted I look forward to seeing the authors' careers take increasingly russian-doll style trajectory³, with levels upon levels of future papers talking about each other all the way down. If it gets rejected, just submit it to a fictional conference!

[...1

At moments, the paper seems to fold in on itself, sometimes a satire of its own existence in a sort of selfsatisfied fog of academic wankery. Many of the papers dealing with the use of fiction in academia are very pofaced and thoughtful, but the gleefully anarchic tone of writing used here lampoons this staid perspective and embraces the weirdness of this topic. Indeed, and I quote, this is 'taking the piss'."

R3's review concludes "p.s. this review is not fictional".

The lighthearted aspects of the paper were, thankfully, acknowledged by the reviewers *without* detracting from the underlying serious rhetoric of the paper. The meta reviewer even points out that perhaps the main contribution goes beyond design fiction and into more fundamental discussions about research and HCI:

"Overall, the reviewers gave the paper a high score. The reason is that they all, despite their concerns found the paper to be highly interesting and able to engage the reader and the CHI audience. [...] I found the paper interesting and I can see it leading to some quite fundamental discussion in the CHI community."

The reviews of the paper included plenty of critical perspectives too though, opening up a complex problem space with regard to matters of design epistemology, among other things. For example:

".. what about the wider context of HCI or even academic labour. After all, can it not be argued that all design papers are design fiction of some form?"

It is clear from the reviewers' critique that they all had well-rounded working knowledge of design fiction, as well as a good understanding of the ways in which design fiction has been incorporated into HCI research in recent years. Despite the reviewers' sensitivity and

² Being intrinsically funny does not, however, mean that something is immediately unscientific or without meaning, for example consider the nominees and winners of IG Nobel awards: http://www.improbable.com/ig/winners/

³ See figure 1.

awareness of the topic's complexity, they *still* found the task of reviewing the paper difficult though.

Discussion

The Game of Drones paper presented a unique problem because it was deliberately deceptive (challenges that are explored in [12]) and although Game of Drones is an extreme example, it and its reviews raise a substantive issue for design fiction in HCI. How should authors respond to reviews that clearly did not notice that the design fiction element of a paper was not actually real? Or, put differently, what assistance could or should be provided to reviewers in order to ensure fictional elements are recognized as such? This is especially pertinent if the reviewers are not familiar with how design fiction can be applied in HCI research.

The discussions arising from the reviews of *An Ethnography of the Future* hinge around R2's apparent lack of effort to familiarize him/her self with anticipatory ethnography. Making the assumption that anticipatory ethnography was something R2 understood seems to be the root cause of their review not *really* addressing the paper as it was meant to be interpreted. Instead the text of the review *actually* addresses R2's *assumptions* about the paper. Although R3 scored the paper equally badly, *their* review demonstrated critique that was empowered by a good comprehension of what the paper was actually about. The meta reviewer for this paper commented on its possible applicability to alt.chi, as well as the considerable discussion it stimulated in the committee meeting.

The challenge demonstrated by these reviews is actually to do with 'unfamiliarity' rather than design fiction per se. How can new or novel methods find their

way into 'non-alt' venues or indeed should they? This is not a question isolated to design fiction, rather it seems to be related to unfamiliar ideas. By definition, 'new' technologies, methods, or concepts are unfamiliar, however these new devices or ways of working often represent the most exciting and relevant spaces for innovation. Hence the most pertinent questions here are perhaps about how the structure of research papers and/or the peer review process could be altered such that unfamiliar ideas are less likely to be dismissed outof hand as 'too alternative' for mainstream publication. This question perhaps highlights the relevance of the work of Sociologist John Law who discusses how the assemblages of methods used by a particular discipline help construct a 'research reality' for that discipline [8]. Thus, Game of Drones 'works' because it constructs its fiction in the form that is acceptable to the HCI research reality, but also subverts that reality when revealing itself as fiction.

Reviews of the final example paper, *Pushing the Limits of Design Fiction: The Case for Fictional Research Papers*, include many reasons to be optimistic and positive about the review of design fictions for presentation at the main CHI proceedings. Despite the paper being significantly more complex than the other two examples, none of the reviewers were deceived, confused, or lacked in their ability to critique it effectively. Although the worldview of the reviewers did not necessarily always marry with that of the paper, ideological disparity did not cause a wholesale breakdown of the reviewers' ability to be meaningfully critical (as it did for one review of the *An Ethnography of the Future* paper). The lighthearted tone of the paper itself, which then inspired some lightheartedness in the

reviews, raises other questions about design fiction in HCI research.

What is it about 'making stuff up' that we find inherently funny? If the ideas and theories that provide design fiction's foundation have any validity, then, applying the technique, should not in itself, be amusing. On the other hand, if the ideas and theories are not substantiated, then why are we even considering design fiction as a valid method in HCI research? Perhaps the most interesting point raised by these reviews is not to do with design fiction itself, but rather how design fiction asks fundamental questions about the nature of contemporary HCI research. Whether it does it intentionally or not, and whether it is best demonstrated in papers about design fiction, or as is the case here through the reviews of design fiction, design fiction certainly sheds light on what HCI research aims to achieve and how it does that. As R1 put it:

"[...] given that we also have had Margaret Atwood as one of the keynote speakers for CHI then maybe we are indeed undergoing a shift in our community towards fictional approaches to HCI [...] I can see it leading to some quite fundamental discussion in the CHI community."

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